5.4

IBM OMEGAMON for Db2 Performance Expert on z/OS Classic Interface User's Guide



SH12-7068

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This edition applies to Version 5 Release 4 of IBM® OMEGAMON for DB2® Performance Expert on z/OS (product number 5655-W37) and to all subsequent releases and modifications until otherwise indicated in new editions.

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About this information

IBM OMEGAMON for Db2 Performance Expert on z/OS (also referred to asOMEGAMON for Db2 Performance Expert) is a performance analysis, monitoring, and tuning tool for Db2 on z/OS® environments.

The document is part of the OMEGAMON for Db2 Performance Expert documentation library which provides instructions for installing, configuring, and using OMEGAMON for Db2 Performance Expert and is designed to help database administrators, system programmers, application programmers, and system operators perform these tasks:

- Plan for the installation of OMEGAMON for Db2 Performance Expert
- Install and operate OMEGAMON for Db2 Performance Expert
- Customize your OMEGAMON for Db2 Performance Expert environment
- Diagnose and recover from OMEGAMON for Db2 Performance Expert problems
- Design and write applications for OMEGAMON for Db2 Performance Expert
- Use OMEGAMON for Db2 Performance Expert with other DB2 products

Tip: To find the most current version of this information, always use IBM Knowledge Center, which is updated more frequently than PDF books.

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Chapter 1. Overview

OMEGAMON for Db2 Performance Expert is a performance analysis, monitoring, and tuning tool for Db2 on z/OS environments that enables you to perform a variety of tasks such as reporting, trend analysis, and buffer pool analysis.

Where to find information

The OMEGAMON for Db2 Performance Expert documentation set includes the following documents.

Full documentation library (Knowledge Center)
SC27-9821-00

The OMEGAMON for Db2 Performance Expert Knowledge Center library includes all OMEGAMON for Db2 Performance Expert content.

https://www.ibm.com/support/knowledgecenter/SSUSPS_5.4.0/kdp54/kdp54_welcome.html

Program Directory
GI19-5019

http://publibfp.dhe.ibm.com/epubs/pdf/i1950190.pdf

Full documentation library (PDF)
SC27-9821-00

The IBM OMEGAMON for Db2 Performance Expert User's Guide PDF includes all of the OMEGAMON for Db2 Performance Expert content. It is the PDF version of the Knowledge Center library.

https://www.ibm.com/support/knowledgecenter/SSUSPS_5.4.0/kdp54/kdpuge4.pdf

The OMEGAMON for Db2 Performance Expert documentation is also divided into smaller individual documents for ease-of-use. These documents contain a subset of the topics in the full documentation library.

Planning, Customization, and Migration Guide
GH12-7072

https://www.ibm.com/support/knowledgecenter/SSUSPS_5.4.0/kdp54/ko2cc540.pdf

Buffer Pool Analyzer User's Guide
SH12-7075

https://www.ibm.com/support/knowledgecenter/SSUSPS_5.4.0/kdp54/bpobp540.pdf

Reporting User's Guide
SH12-7071

https://www.ibm.com/support/knowledgecenter/SSUSPS_5.4.0/kdp54/ko2ru540.pdf

Classic Interface User's Guide
SH12-7068

https://www.ibm.com/support/knowledgecenter/SSUSPS_5.4.0/kdp54/ko2ci540.pdf

ISPF Client User's Guide
SH12-7070

https://www.ibm.com/support/knowledgecenter/SSUSPS_5.4.0/kdp54/ko2mi540.pdf

Enhanced 3270 User Interface User's Guide
SH12-7074

https://www.ibm.com/support/knowledgecenter/SSUSPS_5.4.0/kdp54/ko2ui540.pdf

Performance Expert Client User's Guide
SH12-7069

https://www.ibm.com/support/knowledgecenter/SSUSPS_5.4.0/kdp54/ko2mp540.pdf

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Report Reference
SH12-7065

https://www.ibm.com/support/knowledgecenter/SSUSPS_5.4.0/kdp54/ko2rr540.pdf

Report Command Reference
SH12-7066

https://www.ibm.com/support/knowledgecenter/SSUSPS_5.4.0/kdp54/ko2rc540.pdf

Parameter Reference
SH12-7073

https://www.ibm.com/support/knowledgecenter/SSUSPS_5.4.0/kdp54/ko2pr540.pdf

Messages and Troubleshooting Guide
GH12-7067

https://www.ibm.com/support/knowledgecenter/SSUSPS_5.4.0/kdp54/ko2me540.pdf

Other documents

These OMEGAMON for Db2 Performance Expert documents are available for users who need information about special topics.

***Quick Start Guide* - GI19-5019**
Quick start information for the SQL Dashboard and the end-to-end SQL monitoring functions.

http://publibfp.dhe.ibm.com/epubs/pdf/h1270640.pdf

DB2 Performance Expert for Multiplatforms
SG24-6867

A guide to installing, configuring, and using OMEGAMON for Db2 Performance Expert.

http://www.redbooks.ibm.com/redbooks/pdfs/sg246470.pdf

Service updates and support information

You can access support information for IBM Tivoli®OMEGAMON® for Db2 Performance Expert on z/OS and IBM OMEGAMON for Db2 Performance Monitor on z/OS on the Support home website, or you can use the IBM Support Assistant.

Support home

On the *Support home* website, you can find service updates and support information including software fix packs, PTFs, Frequently Asked Questions (FAQs), technical notes, troubleshooting information, and downloads.

Accessibility features

Accessibility features help people with a physical disability, such as restricted mobility or limited vision, or with other special needs, to use software products successfully. This Knowledge Center is developed to comply with the accessibility requirements of software products according to Section 508 of the Rehabilitation Act of the United States.

The accessibility features in this Knowledge Center enable users to do the following tasks:

- Use assistive technologies, such as screen-reader software and digital speech synthesizer, to hear what is displayed on the screen. In this Knowledge Center, all information is provided in HTML format. Consult the product documentation of the assistive technology for details on using assistive technologies with HTML-based information.
- Operate specific or equivalent features using only the keyboard.
- Magnify what is displayed on the screen.

In addition, all images are provided with alternative text so that users with vision impairments can understand the contents of the images.

Navigating the interface by using the keyboard

Standard shortcut and accelerator keys are used by the product and are documented by the operating system. Refer to the documentation provided by your operating system for more information.

Magnifying what is displayed on the screen

You can enlarge information in the product windows using facilities provided by the operating systems on which the product is run. For example, in a Microsoft Windows environment, you can lower the resolution of the screen to enlarge the font sizes of the text on the screen. Refer to the documentation provided by your operating system for more information.

How to send your comments

Your feedback is important in helping to provide the most accurate and high-quality information.

If you have any comments about this information or any other documentation, you can complete and submit the *Reader Comment Form*.

Chapter 2. Using the Classic Interface

OMEGAMON for Db2 Performance Expert monitors your Db2 subsystems in realtime and near-term history.

The sections that follow describe the online monitoring functions that are accessible through the Classic Interface (also called the VTAM® interface).

Realtime component

The realtime component consists of a realtime monitor that you can use to monitor Db2. It provides a classic user interface, with conventional menus and panels to facilitate navigation through the product. Through these menus and panels you can access the most current Db2 performance data, like thread use, locking conflicts, SQL calls, and so on. They also enable you to start and view an application trace to obtain realtime information about application flow and resource consumption.

Near-Term History Data Collector

The Near-Term History Data Collector gathers statistical and accounting information (including distributed database information), and limited performance information from a Db2 subsystem and stores it in VSAM data sets or sequential files, as the activities occur. Use the near-term history panels to view statistics and thread information that was gathered a few minutes or a few hours ago and to view the current Near-Term History Data Collector specifications.

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Chapter 3. Main menus

When you start OMEGAMON for Db2 Performance Expert from ISPF (start EXEC FPEJINIT), the main menu is displayed.

```
FPEFMENU      IBM OMEGAMON for DB2 Performance Expert on z/OS

 Select one of the following.

 __ 1. Create and execute reporting commands
    2. View online DB2 activity - Classic Interface
    3. View online DB2 activity - PE ISPF OLM
    4. Maintain parameter data sets
    5. Customize report and trace layouts
    6. Exception profiling


 Command ===> _____________________________________________________________
  F1=Help    F2=Split   F3=Exit    F9=Swap   F12=Cancel
```

Figure 1. IBM OMEGAMON for DB2 Performance Expert on z/OS main menu

Note:

- Some menu options or panels might not be available, depending on the installation and configuration options that were chosen at your location.
- If the PF key F11 (Zoom) is indicated in the upper right corner of a panel, you can usually select a particular listed item (by positioning the cursor on the corresponding line) and press F11, which then displays additional or detail information about the selected item.
- Several panels can highlight information to raise your attention to important information, for example, to thresholds that exceed predefined values. If panels provide highlighting capabilities, the potentially highlighted fields are described, together with reasons, in the relevant topics under the heading "Highlighting". If this heading is not shown in a panel description, the panel does not provide highlighting.
- OMEGAMON for Db2 Performance Expert supports 64-bit integers. A number can have one of the following suffixes:

  K
  Represents 1000 or 1024.

  M
  Represents 1000 x 1000, or 1024 x 1024.

  G
  Represents 1000 x 1000 x 1000, or 1024 x 1024 x 1024.

  T
  Represents 1000 x 1000 x 1000 x 1000, or 1024 x 1024 x 1024 x 1024.

  ?
  Indicates that the number is larger than T.

Creating and executing reporting commands

This menu option navigates to the Interactive Report Facility (IRF), where you can interactively specify reports and create and execute the corresponding batch report command stream, which then generate the requested report.

The Interactive Report Facility (IRF) is an alternative to creating batch report command streams by using the ISPF editor. The IRF is described in the *Reporting User's Guide*.

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View online DB2 activity

Select this menu option to navigate to the OMEGAMON for Db2 Performance Expert Classic Interface panel, where you can specify certain parameters and log on to the Classic Interface Realtime Monitor.

Logging on to the Classic Interface

Before you can log on to the Classic Interface Realtime Monitor, you must specify or change several parameters.

If you have selected the View online DB2 activity - Classic Interface menu option, the following panel is displayed:

```
-KO2MPSPF------- Invoke OMEGAMON XE for DB2 PE Classic Interface ---------------


 Specify Classic Interface parameters:

 DB2 subsystem ID ===> SDA2         VTAM APPLID  ===> IPAUD2C
 User profile     ===> #P           Logical rows ===> 999   (24-9999)


Optionally, specify an immediate RETURN PF key to immediately close the
Classic Interface Realtime Monitor and return to the OMEGAMON XE for DB2 PE
main menu. This overrides the default (00) Classic Interface PF key.

 RETURN PF key    ===> 00

 Enter L to Logon to Classic Interface Realtime Monitor.  Enter END to exit.


 Command ===>
  F1=Help    F3=Exit    F12=Cancel
```

Before you can log on to the Classic Interface Realtime Monitor, you must specify or change the following parameters.

DB2 subsystem ID
The identifier of the DB2 subsystem to be monitored.

VTAM APPLID
The VTAM application ID to be used for the session.

User profile
The member of the user profile to be used for the session.

Logical rows
The number of logical rows to be used for the session.

If you encounter problems when browsing larger data sets, increase this value.

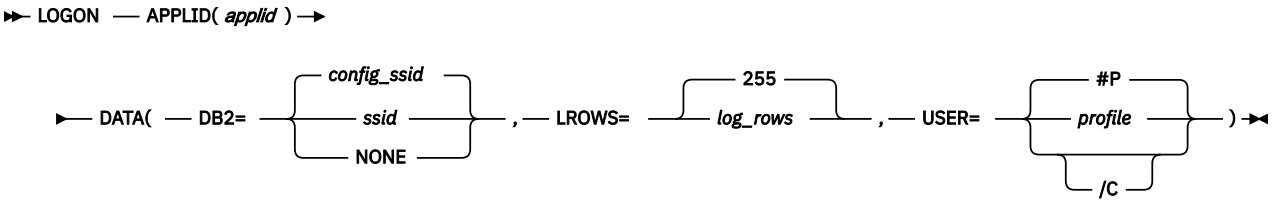
RETURN PF key
You can specify a PF key to *immediately* close the Classic Interface Realtime Monitor and return to the OMEGAMON XE for DB2 PE main menu. This PF key can be used from *any* of the following VTAM session panels, regardless of the menu depth. The default definition (00) requires that you close each VTAM session panel separately with F3 (Exit).

Type L on the command line and press Enter to log on.

Directly logging on to the Classic Interface from native VTAM

You can also log on to the Classic Interface Realtime Monitor from native VTAM.

If you prefer to start an OMEGAMON session directly from native VTAM, you can enter the following logon command, including parameters, in a VTAM panel.



applid
The VTAM APPLID specified to OBVTAM when it was started.

ssid
The identifier of the DB2 subsystem to be monitored. If not specified, the subsystem identifier that was established during configuration is used.

If NONE is specified instead of a *ssid* identifier, or if the specified or default DB2 subsystem is not up or does not exist, you are navigated to the Redirect Monitoring to Another DB2 panel;. In this panel, you can view the status of available subsystems and choose a different one.

log_rows
The number of logical rows to be used for the session. If not specified, the default number is 255.

profile
The member of the user profile to be used. If not specified, the default profile is #P.

The Classic Interface main menu

After a successful log on, use the Classic Interface main menu to select a function and navigate through subsequent menus and panels.

After a successful log on, the following menu is displayed:

```
_________________ ZMENU    VTM     O2       V540.#P DA41 S 11/04/13  8:57:28 2
>  Help/News/Index PF1             Exit PF3                   PF Keys PF5
>    Type a selection letter at the left end of the top line and press ENTER.
================================================================================
 MENU     OMEGAMON CLASSIC INTERFACE -- REALTIME MAIN MENU
_ S  SUMMARY ............. Summary of DB2 activity
_ E  EXCEPTIONS ........... Current or potential system problems
_ T  THREAD ACTIVITY ...... Thread activity information
_ U  THREAD ACTIVITY ...... Thread activity information by package
_ L  LOCKING CONFLICTS .... Locking conflict information
_ R  RESOURCE MANAGERS .... Resource manager, other DB2 subsystem information
_ A  APPLICATION TRACE .... Trace and view application activity
_ D  DISTRIBUTED DATA ..... Distributed database system information
_ O  OBJECT ANALYSIS ...... Object and volume information
_ G  DB2 CONNECT SERVER ... DB2 Connect/Gateways with connection to DB2
_ C  MVS CONSOLE .......... MVS console to issue commands and view messages
_ B  DB2 CONSOLE .......... DB2 console to issue commands and view messages
_ M  MISCELLANEOUS ........ Address space information, OMEGAMON commands, etc.
_ P  PROFILE .............. Customize OMEGAMON session and exception settings
_ H  HISTORY .............. Near-Term History information
_ V  SQL PA REPORTS........ View SQL PA reports
_ Z  OTHER DB2 ............ Redirect monitoring to another DB2
================================================================================
```

The following options are available from this menu:

SUMMARY
This option displays a summary of critical system-wide DB2 activity and resource utilization.

For more information, see Chapter 4, “Summary,” on page 17.

EXCEPTIONS
This option lists current exceptions that have exceeded their threshold conditions and might indicate a current or potential system problem.

For more information, see Chapter 5, “Exceptions,” on page 23.

THREAD ACTIVITY (by plan time)
This option lists activity information of all threads with non-blank plan name (ordered by thread plan time).

For more information, see Chapter 6, “Thread Activity,” on page 39.

THREAD ACTIVITY (by package)
This option lists activity information of threads with non-blank packages only that are currently connected to DB2 (ordered by thread elapsed time).

For more information, see Chapter 6, “Thread Activity,” on page 39.

LOCKING CONFLICTS
This option lists existing locking contentions.

For more information, see Chapter 7, “Locking Conflicts,” on page 191.

RESOURCE MANAGERS
This option provides access to information about resource managers, such as Buffer Manager, Log Manager, Bind Statistics, and others.

For more information, see Chapter 8, “Resource Managers and Other DB2 Subsystem Information menu,” on page 215.

APPLICATION TRACE
This option provides access to the Application Trace Facility (ATF).

For more information, see Chapter 9, “Application Trace Facility (ATF),” on page 435.

DISTRIBUTED DATA
This option lists Distributed Data Facility (DDF) related information.

For more information, see Chapter 10, “Distributed Data Facility,” on page 481.

OBJECT ANALYSIS
This option lists allocation-related object and volume information at the database level.

For more information, see Chapter 11, “Object Analysis,” on page 487.

DB2 CONNECT SERVER
This option lists DB2 Connect Servers that serve as DB2 Connect gateways to the selected DB2 subsystem.

For more information, see Chapter 12, “DB2 Connect Server,” on page 521.

MVS™ CONSOLE
This option provides access to the MVS system console, where you can issue commands and view messages.

For more information, see “MVS System Console and Message Traffic” on page 20.

DB2 CONSOLE
This option provides access to the DB2 system console, where you can issue commands and view messages.

For more information, see “DB2 System Console and Message Traffic” on page 133.

MISCELLANEOUS
This option provides access to information about address spaces and permits to issue OMEGAMON commands.

For more information, see Chapter 13, “Address Space Information,” on page 529 and Chapter 14, “OMEGAMON Commands,” on page 543.

PROFILE
This option provides access to the Profile Maintenance Menu, where you can customize sessions, set exception thresholds, and maintain installation- and user-specific profiles.

For more information, see Chapter 15, “Profile Maintenance Facility,” on page 579.

HISTORY
This option navigates to the Near-Term History Information menu, where you can work with near-term history statistics information and near-term thread information. You can also view the current specifications about the Near-Term History Data Collector.

For more information, see Chapter 16, “Near-term history information,” on page 611.

SQL PA REPORTS
This option provides access to various SQL Performance Analyzer (SQL PA) reports about current SQL performance.

For more information, see Chapter 17, “SQL Performance Analyzer Reports,” on page 789.

OTHER DB2
This option permits to redirect monitoring to another DB2 subsystem.

For more information, see “Redirect Monitoring to Another DB2” on page 20.

For detailed information about this panel and on subsequent panels, press F1 (Help). If applicable, place the cursor in an entry field for specific field help.

Switching among DB2 subsystems and data sharing group members

It is often necessary to monitor a subsystem that is different from the one you specified when you logged on to the Classic Interface Realtime Monitor. Several panels in the Classic Interface are enabled to switch the subsystem, the member of a data sharing group, or even a data sharing group without the necessity for leaving the Classic interface for a re-logon to a different subsystem.

On panels that are enabled for switching, the top row provides a slightly modified layout, with two fields serving as input fields. The following Thread Activity panel is an example. The two fields of interest are emphasized for the discussion.

```
_____________ ZALLT    VTM     O2       V540.#P DA41 S 11/04/16  8:58:46 2
> Help PF1      Back PF3       Up PF7      Down PF8     Sort PF10    Zoom PF11
> T.A
>         Thread Activity:  Enter a selection letter on the top line.

> *-All-Idle    B-TSO      C-CICS      D-IMS     E-Background   F-Dist Allied
> G-Dist DBAC   H-Util     I-Inact     J-Filter  K-Functions    L-Stored Proc
> M-Triggers    N-Sysplex  O-Enclaves  P-Worksta Q-All+Idle
================================================================================
>                    Threads Summary Excluding Idle Threads
 THDA
+ *
+ Elapsed      Planname  CPU    Status       GetPg  Update Commit CORRID/JOBN
+ ----------   --------  -----  ------------ ------ ------ ------ ------------
+ 04-18:15     KO2PLAN   00.0%  NOT-IN-DB2        0      0      0 DA41DM52
+ 04-18:15     KO2PLAN   00.0%  NOT-IN-DB2      354      0      7 DA41DM52
+ 04-18:14     KO2PLAN   00.0%  NOT-IN-DB2        0      0      0 DA41DM52
+ 03-15:25     KO2PLAN   00.0%  NOT-IN-DB2        0      0      0 DA41DMBS
+ 03-15:25     KO2PLAN   00.0%  NOT-IN-DB2        0      0      0 DA41DMBS
+ 00:01:38.6   KO2PLAN   00.0%  NOT-IN-DB2        0      0      0 DA41DMGS
+ 00:01:38.5   KO2PLAN   00.0%  NOT-IN-DB2      103      0      7 DA41DMGS
================================================================================
```

Meanings and usages of the input fields

The field showing the currently monitored DB2 subsystem (here DA41) allows for switching to a different subsystem by entering a different DB2 subsystem name.

The accompanying indicator shows S for a single DB2 subsystem or a member of a data sharing group, or G for a data sharing group.

Invalid DB2 subsystem or data sharing group names cause an error message.

The 3270 Tab key can be used to navigate the cursor from the command area to the DB2 subsystem field.

If a panel is not enabled for switching, both fields serve as display fields. No input is possible.

View online DB2 activity - PE ISPF OLM

This menu option navigates to the Online Monitor Main Menu, where you can access the IBM DB2 Performance Expert ISPF Online Monitor.

Note: The IBM DB2 Performance Expert ISPF Online Monitor is described in *Monitoring Performance from ISPF*. It is kept available until an equivalent function is provided by the OMEGAMON XE for DB2 PE Classic Interface.

Maintain parameter data sets

This menu option navigates to the Data Set Maintenance menu, where you can maintain exception thresholds, correlation translations, time zone information, and MAINPACK definitions.

If this option is selected, the following menu is displayed:

```
                        Data Set Maintenance Menu

 Select one of the following.

    1. Maintain exception thresholds
    2. Maintain correlation translations
    3. Maintain time zone information
    4. Maintain MAINPACK definitions

 Exception data set
-------------------------------------------------------------

 DPMPARMS data set
-------------------------------------------------------------

 Command ===>
  F1=Help      F2=Split     F3=Exit      F6=History   F9=Swap     F12=Cancel
```

On this menu, you can customize certain DB2 monitoring parameters by modifying parameters in an Exception Threshold data set and in defined members of the DPMPARMS data set. These data sets must be allocated before they can be edited.

Maintain exception thresholds
Use this option to edit exception thresholds in the Exception Threshold data set.

Exception reporting identifies DB2 threads and statistics intervals that have fields with values outside the thresholds specified in the Exception Threshold data set. Exception processing is available in batch Accounting and Statistics report sets and in the Online Monitor thread and statistics functions.

Maintain correlation translations
Use this option to edit correlation translation data in the CORRDATA member of the DPMPARMS data set.

The correlation ID is a 12-byte field within the DB2 correlation header of the instrumentation trace records that is used to identify the task being executed by DB2.

The correlation ID contains different information about the task depending on the type of connection. For this reason, OMEGAMON XE for DB2 PE provides a correlation translation data set, which is used to divide the correlation ID into a correlation name and a correlation number as follows:

CORRNAME
Correlation name, which translates to the first eight bytes of the correlation ID.

CORRNMBR
Correlation number, which translates to the last four bytes of the correlation ID, padded out with 4 blanks.

Note: The correlation translation data set is only required for two-phase-commit environments such as CICS and IMS.

Maintain time zone information
Use this option to edit the time zone information in the LOCDATA member of the DPMPARMS data set member.

The time zone information is used to adjust differences in the times of the data to be reported. Adjust the times if:

- The CPU clock of your MVS system is not set to the local time, but you want to use the local time in your reports.
- You want to generate reports or traces that show activity at more than one location and the CPU clock settings of the locations are different. This is often the case when the locations are in different time zones.

When you have entered the time zone information to the DPMPARMS data set member, you can use the TIMEZONE option of the GLOBAL command to adjust the times used in reporting.

Maintain MAINPACK definitions
Use this option to edit MAINPACK definitions in the MAINPACK member of the DPMPARMS data set member.

In the Accounting report set you can use the MAINPACK identifier to distinguish plans according to the packages they contain. You can define certain aspects of the MAINPACK identifier:

- Whether the first or the last package executed within a plan is used as the MAINPACK.
- Whether you want to use the package ID, the collection ID, or the location name of the package as the value of the identifier. In the case of a DBRM, the program name is always used.

You can specify different MAINPACK definitions for data from different environments and from different plans.

Exception data set
Use this field to specify the name of your Exception Threshold data set. The data set must be preallocated and cataloged before you can edit it.

To specify the data set, enter any fully qualified name by enclosing it in apostrophes. If you omit the apostrophes, your TSO prefix is appended to the data set name.

If you want to use a new Exception Threshold data set, it must be allocated using the following attributes:

DSORG
A data set organization of PS (sequential).

RECFM
A record format of VB or V.

LRECL
A record size of at least 255.

BLKSIZE
The block size must be at least 4 bytes more than LRECL.

DPMPARMS data set
Use this field to specify the name of your DPMPARMS data set. Any modifications you make to time zone specifications, correlation translation, or to the MAINPACK identifier definition are recorded in the individual members of the DPMPARMS data set.

The data set must be preallocated and cataloged before you can edit it.

To specify the data set, enter any fully qualified name by enclosing it in apostrophes. If you omit the apostrophes, your TSO prefix is appended to the data set name.

If you want to use a new DPMPARMS data set, it should be allocated using the following attributes:

DSORG
A data set organization of PO (partitioned).

RECFM
A record format of FB or F.

LRECL
A record size of 80.

BLKSIZE
A block size that can be any multiple of LRECL.

Customize report and trace layouts

This menu option navigates to the User-Tailored Reporting Layout Generation panel, where you can tailor Accounting and Statistics report and trace layouts.

If this option is selected, the User-Tailored Reporting Layout Generation panel is displayed:

```
                User-Tailored Reporting Layout Generation

 Select one of the following report set functions and then enter the
 DPMPARMS data set to be used.

    1. Accounting report
    2. Statistics report
    3. Accounting trace
    4. Statistics trace


 DPMPARMS data set
------------------------------------------------------------------


 Command ===>
  F1=Help      F2=Split     F3=Exit      F6=History   F9=Swap     F12=Cancel
```

In this panel, you can choose one of the sample layouts to be used as a basis for your own Accounting or Statistics report or trace layout. All layouts must be based on the sample layouts. For example, to tailor your own Accounting report layout, select Accounting report from this panel. In the subsequent panels, you can choose whether you want to base your report on the short or long sample layout and define blocks of information and individual fields to be added on your layout. You can also delete blocks of information and fields from the sample layout and change the labels of fields.

When you have finished customizing your report or trace layout, it is saved to the DPMPARMS data set that you specify in this panel.

For detailed information about this panel and on subsequent panels, press F1 (Help). If applicable, place the cursor in an entry field for specific field help.

Exception Profiling

This menu option navigates to the Exception Profiling panel, where you profile exception settings, such as thresholds settings, input data sets to be used, and reports to be generated.

If this option is selected, the Exception Profiling panel is displayed:

```
                          Exception Profiling

 Complete the following control information, then press Enter.

 Warning exceptions . . . . . . . . . . . _____  (% of input data)
 Problem exceptions . . . . . . . . . . . _____  (% of input data)
 Produce profile report . . . . . . . . . _      (1=yes 2=no)


 Input data set
 ---------------------------------------------

 Input threshold data set
---------------------------------------------

 Output threshold data set
---------------------------------------------

 Output report data set
---------------------------------------------


 Command ===>
  F1=Help      F2=Split     F3=Exit      F6=History   F9=Swap     F12=Cancel
```

In this panel, you can specify the required data sets and profiling criteria that are required to calculate the thresholds in an Exception Threshold data set. A report that shows the details of the distribution and the expected number of exceptions for each field can also be produced. The panel contains the following fields:

Warning exceptions
You can specify the percentage of input data that is to trigger a warning.

Problem exceptions
You can specify the percentage of input data that is to trigger a problem.

Produce profile report
You can specify whether you want to produce a profile report containing details about each field. The profile report includes a table of expected number of exceptions for various threshold entries.

Input data set
Specify the name of the data set containing data from your DB2 subsystem. The data set can be a GTF, SMF, or DPMOUT data set. The records in this data set should be representative of the type of data that you usually monitor. The input data should also contain a sufficient number of records to enable the profiling to be performed with reasonable accuracy. The data should also cover an appropriate span of time.

Input threshold data set
Specify the name of the data set that contains entries for the fields you want checked. It can be one of the Exception Threshold data sets provided in SDGOSAMP or your own data set.

Output threshold data set
Specify the name of the data set that the calculated threshold values are to be written to.

Output report data set
Specify the name of the data set that will contain the profile report (if requested).

Chapter 4. Summary

Select this main menu option for summary and overview information of current DB2 activity and DB2 connections.

For more system-related information, see Chapter 8, “Resource Managers and Other DB2 Subsystem Information menu,” on page 215.

Summary of DB2 Activity

This panel provides an overview of current DB2 activities and resource utilization, along with summaries of DB2 connection activities (grouped by connection types IMS, CICS, TSO, batch, utilities, distributed, and stored procedures).

```
_________________ ZSUMM    VTM     O2       V540.#P DA41 S 11/04/13  9:03:53 2
>       Help PF1                   Back PF3                    Zoom PF11
> S.
================================================================================
>                          SUMMARY OF DB2 ACTIVITY
 DSYS
+  SSAS+DBAS+IRLM+DIST CPU  =    00.0%       Thread Commit Rate  =      .0/sec
+  Create Thread Rate       =      .0/sec    Thread Signon Rate  =      .0/sec
+  Synch Read I/O Rate      =    26.0/sec    Prefetch Req Rate   =      .0/sec
+  Update Request Rate      =  1291.5/sec    Write I/O Rate      =      .0/sec
+  Getpages/Read I/O        =    95.35       Pages/Write I/O     =      .00
+  Current Lock Suspensions =       0        Locking Timeouts    =       0
+  Locking Deadlocks        =       0        Locking Escalations =       0
+
+  Connection Type     Connections  Threads   CPU    Getpage Rate  Elapsed Time
+  ------------------  -----------  -------   -----  ------------  ------------
+  IMS                       0          0     00.0%         .0/sec   00:00:00.0
+  CICS                      0          0     00.0%         .0/sec   00:00:00.0
+  TSO Foreground            1          2     05.3%    3024.3/sec   00:01:05.8
+  Batch                     3          7     00.2%         .0/sec   03-02:02
+  Utilities                 0          0     00.0%         .0/sec   00:00:00.0
+  Distributed               1          0     00.0%         .0/sec   00:00:00.0
+  Stored Procedures         0          0     00.0%         .0/sec   00:00:00.0
+  All Connections           5          9     05.5%    3024.3/sec   02-09:35
================================================================================
```

If in data sharing group mode or if monitoring a remote DB2, N/A is displayed for some of the fields.

Highlighting

The following table shows the fields that might be highlighted in the panel above to indicate that an exception that is related to this field exceeded its threshold value:

Table 1. Highlighted fields on Summary of DB2 Activity panel

Field	Exception	Reason
Synch Read I/O Rate	RIO	The synchronous RIO rate is high.
Prefetch Req Rate	PREF	The asynchronous prefetch request rate is high. Includes sequential, dynamic, and List Prefetch.
Current® Lock Suspensions	SUSL	The total number of threads suspended waiting for locks is high.

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Table 1. Highlighted fields on Summary of DB2 Activity panel (continued)		
Field	**Exception**	**Reason**
Connections	IDFR	The total number of IDFORE connections is high.
	IDBK	The total number of IDBACK connections is high.
Threads	TMAX	Number of active threads is high.
CPU	TCPU	CPU rate for threads in the connection type is high.
Getpage Rate	GETP	The Getpage to Read I/O ratio indicates poor read efficiency.
Utilities	UTIS	One or more utilities were started but did not complete running due to abnormal termination.

Navigation

For additional information about

- a connection type, move the cursor to the connection line and press F11 (Zoom).
- other topics, use the PF keys.

Fields

DB2 summary information: All rate information is computed by dividing the reported value by the elapsed time since the previous OMEGAMON XE for DB2 PE cycle. For example, OMEGAMON XE for DB2 PE computes the synchronous Read I/O rate by dividing the number of synchronous Read requests since the previous OMEGAMON XE for DB2 PE cycle by the elapsed time since the previous cycle.

SSAS+DBAS+ IRLM+DIST CPU
The CPU rate (percent) used by these DB2 address spaces. It includes both TCB and SRB time. DB2 use of cross memory services causes the majority of DB2 CPU time to be attributed (by SRM) to the user's address space. Therefore, the CPU value does not include DB2 CPU time attributed to the user's address space as a result of cross memory services use. For more information, see "Analyzing DB2 CPU Usage".

Thread Commit Rate
The number of Commits per second.

Create Thread Rate
The number of Create Thread requests per second.

Thread Signon Rate
The number of Thread Signon requests per second. Thread signon processing is only applicable in the CICS and IMS DB2 attachment environments.

Synch Read I/O Rate
The number of synchronous Read I/Os per second.

Prefetch Req Rate
The number of Sequential Prefetch and List Prefetch requests per second.

Update Request Rate
The number of Update requests per second. The Update count is incremented each time a row in a page is updated.

Write I/O Rate
The number of Write I/Os per second. Write I/O is normally performed asynchronously. Updated pages are queued by the data set until written. Updated pages are physically written using the DB2 Deferred Write algorithm.

Getpages/Read I/O
The Getpage to Read I/O ratio. This value helps in measuring read and buffer pool efficiency The value is computed by dividing the total number of Getpage requests by the total number of synchronous read I/O requests since the last OMEGAMON XE for DB2 PE cycle.

Pages/Write I/O
The average number of pages written per Write I/O. This value is computed by dividing the number of pages written by the number of Write I/Os since the last OMEGAMON XE for DB2 PE cycle.

Current Lock Suspensions
The current number of threads that are waiting because of a lock request issued for a resource that is unavailable.

Locking Timeouts
The number of locking timeouts since DB2 was started. Timeouts occur because lock requests were suspended for a time in excess of the locking timeout value.

Locking Deadlocks
The number of locking deadlocks that occurred since DB2 was started. Deadlocks are a result of locking contention.

Locking Escalations
The number of lock escalations that occurred since DB2 was started. This count includes the number of escalations to both shared and exclusive modes.

DB2 connection information: A summary of connection information by DB2 connection type.

Connection Type
A single line is displayed for each DB2 connection type.

Connections
The number of active connections originating from the connection type. For Distributed, it is the count of remote DB2 connections in which the DB2 subsystem being monitored has active DB2-to-DB2 system conversations.

For remote DB2 subsystems and in Data Sharing Group mode, this field is marked as not available (N/A).

Threads
The number of active threads that are originating from the connection type. This number includes active parallel task threads that are initiated by threads that are originating from the connection type. For Distributed, it is the number of active database access threads that are active on the DB2 subsystem being monitored.

CPU
The total CPU rate (percent) attributable to the connection type. For non-CICS connection types, this value is the total CPU rate of all address spaces within the connection type with active threads. For CICS connections, this value is the total CPU rate attributable to all active threads originating from CICS connections. For more information about CPU use, see "Analyzing DB2 CPU Usage".

For remote DB2 subsystems and in Data Sharing Group mode, this field is marked as not available (N/A).

Getpage Rate
The total Getpage rate per second for active threads originating from the connection type.

Elapsed Time
The average elapsed time for an active thread within the connection type. This value is computed by adding the elapsed time of all active threads within the connection type and dividing it by the total number of active threads.

MVS System Console and Message Traffic

Use this panel to issue MVS commands and to display MVS console messages.

```
 _________________ ZCOMVS1  VTM     O2       V540.#P SE12 12/05/14  9:16:53   2
>       Help PF1           Back PF3           Up PF7           Down PF8
> C.
================================================================================
>                    MVS SYSTEM CONSOLE AND MESSAGE TRAFFIC

> To issue an MVS command, type the command after OCMD and press ENTER.

-OCMD

> Change 10 to the number of lines of MVS messages you want to display.

 CONS           Console 01C0 ( Id=0000000A )
 line10
+  -  REMOTE   MEMBER DBE1     PMO3
+  - 09.16.52 PMO4 STC04859  FPEV0188I  MSTR SN11 IGNORED   N         910
+  -  LOCAL    SINGLE          PMO4
+  - 09.16.52 PMO4 STC04859  FPEV0188I  MSTR SN12 IGNORED   N         910
+  -  LOCAL    SINGLE          PMO4
+  - 09.16.52 PMO4 STC04859  FPEV0188I  MSTR SAD  IGNORED   N         910
+  -  LOCAL    SINGLE          PMO4
+  - 09.16.52 PMO4 STC04859  FPEV0188I  MSTR D941 IGNORED   N         910
+  -  LOCAL    SINGLE          PMO4
+  - 09.16.52 PMO4 STC04859  FPEV0057I  MSTR DISPLAY COMMAND OUTPUT ENDS
================================================================================
```

This panel might require special authorization before you can enter DB2 commands. Type /PWD on the top line of the panel, enter a valid password when requested, then press Enter. Then follow the instructions to issue DB2 commands.

Navigation

For additional information about other topics, use the PF keys.

Commands

OCMD
After you type an MVS command and press Enter, OMEGAMON XE for DB2 PE displays a message that indicates whether the command was issued successfully. See the output of the MVS messages below CONS to see the results of the command you issued. For information about valid MVS commands, see *z/OS MVS System Commands*.

CONS
Determines the ID of the console buffer to display.

line10
Displays the last *nn* lines of the output buffer for the MVS operator console. Here, it displays the last 10 lines.

Redirect Monitoring to Another DB2

Use this panel to change the DB2 system you are monitoring or to redirect OMEGAMON XE for DB2 PE to a restarted DB2 system.

```
_________________ ZRLOG    VTM     O2       V540.#P DB1H 08/16/16  1:55:13   2
>  Help PF1    Back PF3    Up PF7    Down PF8                Redirect PF11
> Z.
================================================================================
>                   REDIRECT MONITORING TO ANOTHER DB2

> You can redirect OMEGAMON to another DB2 subsystem in one of the
> following ways:
> - Place the cursor on the line of the DB2 subsystem and press PF11.
> - Enter the name of the DB2 subsystem after RLOG.


 RLOG
+             Command            Group
+      Name   Prefix     Scope   Attach   Ver    Status      LPAR     Usable
+      ----   --------   -----   -------- ------ ----------- -------- ---------
+      SC21   -SC21        M     DBC2     121500 Active      PMO1     Yes
+      DC11   -DC11        S              121500 Active      PMO1     Yes
+      DB1H   -DB1H        S              1110   Active      PMO1     Yes
+      DA11   -DA11        S              1010   Active      PMO1     Yes
+      SZ11   -SZ11        M     DBZ1     1010   Active      PMO1     Yes
+      SC22   -SC22        M     DBC2     121500 Active      PMO2     Yes
+      SZ12   -SZ12        M     DBZ1     1010   Active      PMO2     Yes
+      SZ13   -SZ13        M     DBZ1     1010   Not Active  PMO2     No
+
+      8 DB2 Subsystems found
================================================================================
```

In this panel you can redirect OMEGAMON to another DB2 subsystem in one of the following ways:

- Place the cursor on the line for the DB2 subsystem that you want to monitor and press F11.
- Enter the name of the DB2 subsystem after RLOG.

The OMEGAMON logon panel is displayed. Press ENTER to start a new session. For the new session, the current user profile is used.

If you do not want to redirect to another DB2 system, press PF3 to return to the Main Menu.

Navigation

For additional information about

- A different DB2 subsystem, data sharing group, or member of a data sharing group, enter the name of a DB2 subsystem, group, or member in the topmost row and press Enter. For more information, see “Switching among DB2 subsystems and data sharing group members” on page 11.
- other topics, use the PF keys.

Fields

Name
The name of the DB2 subsystem.

Command Prefix
The name of the DB2 command prefix.

Scope
The scope for the command prefix. Possible values are:

S
The indicated DB2 subsystem is a single subsystem that is not a member of a data sharing group.

M
The indicated DB2 subsystem is a member of a data sharing group.

M*
The indicated DB2 subsystem is a member of a data sharing group and controls the DB2 Connect monitoring for the group (the subsystem is the current DB2 Connect group-scope monitoring master, abbreviated as "DB2C Master").

When the PE Server subtask acting as DB2C Master terminates, the value changes from M* to M and DB2 Connect data is no longer monitored.

If another PE Server subtask in the data sharing group takes over DB2 Connect monitoring and becomes the new DB2C Master:

- The value changes from M to M*.
- The name of the DB2 subsystem now acting as the new DB2C Master is shown on the corresponding DB2 Connect panels.

Note: During the transition of the DB2C Master role (which might take several minutes) DB2 Connect data cannot be monitored, no DB2 subsystem is marked as DB2C Master, and on corresponding DB2 Connect panels the name of the DB2C Master is shown as N/A.

Group Attach
The group attachment name, used for data sharing. This field is blank if the DB2 subsystem is not defined as a member of a data sharing group.

Ver
The version of the DB2 subsystem is displayed if the DB2 subsystem is active.

Status
The following values are possible

Active
DB2 subsystem is active.

Not Active
DB2 subsystem is not active.

Unreachable
Unable to connect to the DB2 subsystem.

Unsupported
DB2 lower than version 10 or higher than version 12 is not supported.

Restricted
DB2 is in restricted access mode.

Wait RRS
DB2 is waiting for RRS connection.

LPAR
The logical partition (LPAR) defined for your system.

Usable
An indication whether the resources defined for your system can be used.

If a DB2 subsystem has not been fully configured for monitoring or is not active, it will be indicated as No.

Chapter 5. Exceptions

Select this main menu option for exception information of thread, CICS, IMS, and DB2 system activity that OMEGAMON XE for DB2 PE has found to be outside specified thresholds.

OMEGAMON XE for DB2 PE continually monitors the system for problems related to threads, CICS, IMS, and DB2 system operation. If a condition goes above or below a user-specified threshold or if an unexpected condition occurs (an exception is said to have tripped), OMEGAMON XE for DB2 PE displays a corresponding message. You can access online recommendations for tripped exceptions by using F10 (Recommendations).

Because each system is different, adjust the exception thresholds to reflect potential DB2 performance problems for your site. For more information, see Chapter 15, “Profile Maintenance Facility,” on page 579.

Exception Messages

These panels show exception information about a selected group of exceptions. Use these panels to select a different exception group (All, Thread, CICS, IMS, or DB2 System) or to obtain information about the status of the currently selected exception group. Online recommendations for exceptions are accessible through F10 (Recommendation).

The following Exception Messages panel is an example for *all* exceptions. The panels for Thread, CICS, IMS, or DB2 System exceptions look similar.

```
_________________ ZEXSY    VTM     O2       V540./C DA41 11/04/13  9:06:12   2
>       Help PF1  Back PF3  Up PF7  Down PF8  Recommendation PF10  Zoom PF11
> E.A
>           EXCEPTIONS:  Enter a selection letter on the top line.

>    *-ALL      B-THREAD      C-CICS      D-IMS      E-SYSTEM      F-STATUS
================================================================================
>                   EXCEPTION MESSAGES FOR ALL EXCEPTIONS
LEXSY     OMEGAMON Exception Analysis
+
============  THREAD EXCEPTIONS  ============
+      PLAN=KO2PLAN   CONNID=RRSAF    CORRID=OMEGAMON      AUTHID=OMPEUSER
+ ETIM Elapsed Time is 04-18:22                                        *HIGH*
+ IDBC In-DB2 CPU Time Is 16.36 seconds                                *HIGH*
+ IDBT In-DB2 Time is 00:00:19.4                                       *HIGH*
+
+      PLAN=KO2PLAN   CONNID=RRSAF    CORRID=              AUTHID=OMPEUSER
+ ETIM Elapsed Time is 04-18:22                                        *HIGH*
+ GETP GetPages/Read I/O is 7.5 (354 getpages in 47 reads)             *LOW*
+
+      PLAN=KO2PLAN   CONNID=RRSAF    CORRID=              AUTHID=OMPEUSER
+ ETIM Elapsed Time is 04-18:22                                        *HIGH*
+
+      PLAN=KO2PLAN   CONNID=RRSAF    CORRID=OMEGAMON      AUTHID=OMPEUSER
+ ETIM Elapsed Time is 03-15:32                                        *HIGH*
+ IDBC In-DB2 CPU Time Is 1.42 seconds                                 *HIGH*
+
+      PLAN=KO2PLAN   CONNID=RRSAF    CORRID=              AUTHID=OMPEUSER
+ ETIM Elapsed Time is 03-15:32                                        *HIGH*
+
+      PLAN=DSNESPRR  CONNID=TSO      CORRID=MIS           AUTHID=MIS
+ COMT Updates/Commits is 6140 (6140 updates in 0 commits)             *HIGH*
+ PGUP Page Update rate is 1278.7/sec                                  *HIGH*
+ RIO  Synchronous Read I/O rate is 24.2/sec                           *HIGH*
================================================================================
```

You can select a different exception group as required.

- Option **A** (All exceptions) displays all groups (Thread, CICS, IMS, System) alphabetically, ordered by group. Groups are separated by headers.
- If you select option **B** (Thread exceptions), OMEGAMON XE for DB2 PE identifies the thread to which the exceptions apply, and displays all exceptions that have been tripped for that thread.

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- If option **C** (CICS exceptions) is selected, OMEGAMON XE for DB2 PE provides information about exceptional conditions occurring within the CICS/DB2 attachment of CICS regions connected to DB2.
- If you select option **D** (IMS exceptions), OMEGAMON XE for DB2 PE provides information about exceptional conditions occurring within the IMS/DB2 attachment of IMS dependent and control regions connected to DB2.
- If you select option **E** (DB2 System), OMEGAMON XE for DB2 PE provides information about the current condition of DB2 system resources and functions, including DB2 connections and threads, buffer management, log management, and locking.

If you select **F** (Status), OMEGAMON XE for DB2 PE displays the Current Status for Exceptions panel for the currently selected exception group (the group displayed in Exception Messages panel). For more information, see the description of panel "Current Status for Exceptions".

Navigation

For additional information about

- an exception, move the cursor to the exception line and press F11 (Zoom).
- exception recommendations, move the cursor to the exception line and press F10 (Recommendation).
- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Each of the exceptions on the Exception Messages panel has the following default characteristics:

- Bell=OFF
- Boxchar=NO BOX
- Boxclr=NONE
- Boxattr=NONE
- Display=CLR3
- Attribute=NONE
- ExNcyc=0
- Stop=0
- Cumulative=0
- Auto=OFF
- Log=OFF
- Limit=200
- Repeat=YES
- Persist=1

To change a characteristic of any exception, see "Profile Maintenance Facility".

A description of possible exceptions (arranged in alphabetical order) follows:

ARCM
Thread backout processing is waiting for an archive tape mount.

OMEGAMON XE for DB2 PE displays the ARCM exception when a thread is waiting for a tape mount. DB2 requires the archive tape mount during abort processing to backout changes made in the current unit of recovery. The thread does not do any processing until the tape is mounted, and holds DB2 resources until the abort request is complete.

ARCM is a member of the thread (TH) exception group. This exception monitors an action, not a value; its threshold is always N/A. The default state for ARCM is ON. If State is ON and a DB2 thread is waiting for a tape mount of an archive log, OMEGAMON XE for DB2 PE displays the exception.

ARCV
A DB2 recovery log archive is currently waiting for a tape mount.

A tape mount is necessary if DB2 recovery log archiving is to tape. Log data set archiving is an automatic feature of the DB2 log manager. Log archiving is initiated internally by DB2 when an active log is full. It runs as a subtask within the DB2 subsystem, and as a result, no job or started task is initiated.

ARCV is a member of the DB2 system (SY) exception group. This exception monitors an action, not a value; its threshold is always N/A. The default state for ARCV is ON. If State is ON and an archive is waiting for a tape mount, OMEGAMON XE for DB2 PE displays the exception.

BMTH
Warns that a particular buffer pool has exceeded a user-specified percentage of its capacity. This exception can also warn that use of the buffer pool has reached one of three DB2 buffer manager thresholds: SPTH, DMTH, or IWTH.

When the percentage is below 90%, you get the basic exception message, assuming that you have set the threshold at 90% or lower. This message simply reports the percentage of use for any buffer pool that has reached the threshold value.

When the buffer pool used percentage is between 90% and 94.9%, inclusive, the exception message will include the information that the buffer pool has reached the Sequential Prefetch threshold (SPTH).

When the buffer pool used percentage is between 95% and 97.5%, inclusive, the exception message will include the information that the buffer pool has reached the Data Manager threshold (DMTH).

When the buffer pool used percentage exceeds 97.5%, the exception message will include the information that the buffer pool has reached the Immediate Write threshold (IWTH).

BMTH is a member of the system (SY) exception group. The default threshold is 90%.

Note: To be notified when each of the buffer manager thresholds is reached, set the BMTH threshold to 90% or less.

CICT
Provides thread use information for an individual CICS region.

CICT is a member of the CICS (CI) exception group. The default threshold for CICT is 80% of the THRDMAX value in the Resource Control Table (RCT). The threshold can be any value from 1% through 100%. If the ratio of active CICS threads to the THRDMAX value exceeds the threshold, OMEGAMON XE for DB2 PE displays the exception.

COMT
Ratio of updates to commits is greater than *nnn:n*.

OMEGAMON XE for DB2 PE displays the COMT exception when the number of system page updates per Commit exceeds the installation-defined threshold.

The update count used in the rate calculation is incremented each time a row in a page is updated.

COMT is a member of the thread (TH) exception group. Default threshold for COMT is 100 page updates to 1 commit. The threshold can be any value from 1 through 10,000. If the ratio of updates to commits exceeds the threshold, OMEGAMON XE for DB2 PE displays the exception.

CTHD
Application is waiting for thread creation.

This is caused when the system maximum thread limit is reached (CTHREAD parameter). CTHD is a member of the thread (TH) exception group. This exception monitors an action, not a value; its threshold is always N/A. If State is ON and a user is waiting for thread creation, OMEGAMON XE for DB2 PE displays the exception.

DDFS
Reports when DDF is not active.

OMEGAMON XE for DB2 PE displays the DDFS exception when it detects that the Distributed Database Facility (DDF) is not active in the DB2 subsystem being monitored. This might be because DSNZPARM specifies that DDF must be started manually; it might also reflect an abnormal termination of the distributed database facility.

DDFS is a member of the system (SY) exception group. This exception monitors an action, not a value; its threshold is always N/A.

DRCV

Monitors the VTAM APPC receive rate.

OMEGAMON XE for DB2 PE displays the DRCV exception when the DDF VTAM receive data rate exceeds the exception threshold.

DRCV is a member of the system (SY) exception group. The exception threshold rate is expressed as KB per second. The default threshold for DRCV is 1000 KB per second.

DSND

Monitors the VTAM APPC send rate.

OMEGAMON XE for DB2 PE displays the DSND exception when the DDF VTAM APPC send data rate exceeds the exception threshold.

DSND is a member of the system (SY) exception group. The exception threshold rate is expressed as KB per second. The default threshold for DSND is 1000 KB per second.

DWAT

Monitors the time a distributed allied thread has been waiting for a response to a remote SQL request.

OMEGAMON XE for DB2 PE displays the DWAT exception when it detects that a distributed allied thread has been waiting for a response to a remote SQL request for a period of time greater than the exception threshold

DWAT is a member of the thread (TH) exception group. The exception threshold is expressed as an integer, that is, the number of seconds that can elapse before the exception will trip. The default threshold for DWAT is 120 seconds.

EDMU

EDMU is a member of the DB2 system (SY) exception group. The default threshold for EDMU is 90% of the pool size. The threshold can be any value between 1% to 100%. If the ratio of the pool in use to total pool size exceeds this threshold, OMEGAMON XE for DB2 PE displays an exception message.

EDMU provides information about EDM pool utilization.

DB2 uses the environmental descriptor management (EDM) pool to manage and contain the following features:

- Database descriptors (DBDs)
- Cursor tables (CTs)
- Skeleton cursor tables (SKCTs)
- Package tables (PTs)
- Skeleton package tables (SKPTs)
- Dynamic SQL caches (DSCs)

The size of each pool is defined by its individual installation parameter.

To compute the EDM-in-use-ratio for DB2 10.1 and higher, OMEGAMON XE for DB2 PE totals the EDM pages in use by database descriptors (DBDs) and divides this number by the total DBD pool size.

ENTO

Provides information about POOL thread use originating from CICS transactions that were diverted to the pool because all ENTRY threads for the requested DB2 plan are in use.

ENTO does not analyze ENTRY definitions with a THRDA value of zero because these threads automatically use the buffer pool and are considered legitimate POOL thread users.

ENTO analyzes all ENTRY thread definitions with TWAIT=POOL and THRDA>0 specified. As a result, it can trip and display multiple times on one OMEGAMON XE for DB2 PE cycle for the same CICS region. The Plan=*cccccccc* displays the DB2 plan name assigned to the entry threads. If the DB2 plan name is ********, the entry definition is using the CICS dynamic plan exit. The variable *aaaa* is the first CICS transaction defined to the plan. The CICS transaction ID is needed because the same DB2 plan can be defined to multiple ENTRY definitions. A CICS transaction can only be defined to a single DB2 plan. Therefore, the transaction ID in the exception output provides a unique identifier of which ENTRY definition is overflowing if the DB2 plan is defined to multiple ENTRY definitions.

ENTO is a member of the CICS (CI) exception group. The default threshold for ENTO is three transactions. The threshold can be any value from 1 through 100 transactions. If the number of transactions using a POOL thread due to an overflow exceeds the threshold, OMEGAMON XE for DB2 PE displays the exception.

ENTU

Provides information about CICS ENTRY thread use.

The definition of ENTRY threads (in the RCT) is optional. The definition and use of ENTRY threads enables the DB2 user to assign one or more DB2 threads to a single DB2 plan. You can also define one or more transactions that might use the plan.

ENTU analyzes all ENTRY thread definitions. As a result, it can trip and display multiple times on one OMEGAMON XE for DB2 PE cycle for the same CICS region. The Plan=*cccccccc* is the DB2 plan name assigned to the entry threads. If the DB2 plan name is ********, the entry definition is using the CICS dynamic plan exit. The variable *aaaa* is the first CICS transaction defined to the plan. The CICS transaction ID is needed because the same DB2 plan can be defined to multiple ENTRY definitions. A CICS transaction can only be defined to a single DB2 plan. The transaction ID in the exception output provides a unique identifier of which ENTRY definition is incurring the thread use reported by the exception.

ENTU ignores all ENTRY definitions with a THRDA value of zero and TWAIT=POOL. It also ignores any ENTRY definitions in which THRDA is set to one, regardless of the TWAIT operand in use.

ENTU is a member of the CICS (CI) exception group. The default threshold for ENTU is 95% of the THRDA value. The threshold can be any value from 1% through 100%. If the ratio of active threads originating from an ENTRY definition to the ENTRY definition's THRDA value exceeds the threshold, OMEGAMON XE for DB2 PE displays the exception.

ENTW

Provides information about CICS transactions waiting for ENTRY threads.

The definition of ENTRY threads (in the RCT) is optional. By using ENTRY threads, you can assign one or more DB2 threads to a single DB2 plan. You can also define one or more transactions which might use the plan. Other options are available when defining ENTRY threads, one of it is TWAIT. TWAIT is used to govern the required processing when all DB2 threads associated with an ENTRY definition (plan) are in use. If TWAIT is YES is specified and no ENTRY thread is available, the request is queued and waits for a thread assigned to the ENTRY definition to become available. This exception is tripped and displayed when the number of transactions waiting for an ENTRY thread exceeds the exception threshold.

The exception routine analyzes all ENTRY thread definitions with TWAIT is YES specified. As a result, the exception can trip and display multiple times on one OMEGAMON XE for DB2 PE cycle for the same CICS region. The Plan=*cccccccc* is the DB2 plan name assigned to the ENTRY threads. The variable *aaaa* is the first CICS transaction defined to the plan. The CICS transaction ID is needed because the same DB2 plan can be defined to multiple ENTRY definitions. A CICS transaction can only be defined to a single DB2 plan. The transaction ID in the exception output provides a unique identifier of which ENTRY definition is incurring the waits if the DB2 plan is defined to multiple ENTRY definitions.

ENTW is a member of the CICS (CI) exception group. The default threshold for ENTW is two transactions. The threshold can be any value between 1 and 100 transactions. If the number of transactions waiting for an ENTRY thread exceeds the threshold, OMEGAMON XE for DB2 PE displays the exception.

ETIM
Monitors the elapsed time for a DB2 thread (from Signon or Create Thread).

ETIM displays the wall clock time that the plan has been actively holding thread resources. This might indicate that service level commitments have been exceeded.

ETIM is a member of the thread (TH) exception group. The default threshold for ETIM is 600 seconds. The threshold can be any value between 1 and 999999.99 seconds. If the thread elapsed time exceeds the threshold, OMEGAMON XE for DB2 PE displays the exception.

GETP
Provides information about Getpage requests per Read I/O.

The counters which DB2 maintains for this activity are updated throughout the life of the thread, and are reset when DB2 signon occurs.

GETP is a member of the thread (TH) exception group. The default threshold for GETP is 15 (1.5 Getpages to Read I/Os). The threshold can be any value between 0 and 100. Specify the threshold as an integer, where 1 equals 0.1 Getpages to Read I/Os. For example, OMEGAMON XE for DB2 PE sets a threshold specified as 20 equal to a ratio of 2.0 Getpages to Read I/Os. If the ratio of the Getpage rate to Read I/Os falls below the threshold, OMEGAMON XE for DB2 PE displays the exception.

GTRC
Indicates that the DB2 global trace is currently active.

GTRC is a member of the DB2 system (SY) exception group. This exception monitors an action, not a value; its threshold is always N/A. If State is ON and the global trace is active, OMEGAMON XE for DB2 PE displays the exception.

IDBC
Provides information about the CPU time used by DB2 to process this thread.

IDBC is a member of the thread (TH) exception group. The default threshold for IDBC is.7 seconds. The threshold can be any value between 0.00 and 999999.99 seconds. The threshold is specified in 100ths of seconds. For example, to set a threshold of.7, specify a value of 70. If the total In-DB2 CPU time exceeds the threshold value, OMEGAMON XE for DB2 PE displays the exception.

IDBK
Provides information about how close DB2 is to the maximum number of allowed background connections.

IDBK is a member of the DB2 system (SY) exception group. The default threshold for IDBK is 90% of the IDBACK installation parameter. The threshold can be any value between 1% and 100%. If the ratio of active background connections to the IDBACK value in use exceeds the threshold value, OMEGAMON XE for DB2 PE displays the exception.

IDBT
Provides information about how long DB2 has been processing this thread.

IDBT is a member of the thread (TH) exception group. The default threshold for IDBT is 5 seconds. The threshold can be any value between 1 and 999999.99 seconds. If the total In-DB2 time exceeds the threshold value, OMEGAMON XE for DB2 PE displays the exception.

IDFR
Provides information about how close DB2 is to the maximum number of allowed foreground connections.

IDFR is a member of the DB2 system (SY) exception group. The default threshold for IDFR is 85% of the IDFORE installation parameter. The threshold can be any value between 1% and 100%. If the ratio of active foreground connections to the IDFORE value in use exceeds the threshold value, OMEGAMON XE for DB2 PE displays the exception.

IMCN
Warns when an IMS region is defined to DB2, but the connection failed.

IMCN is a member of the IMS (IM) exception group. This exception monitors an action, not a value; its threshold is always N/A. If State is ON and a region is defined but not connected to DB2, OMEGAMON XE for DB2 PE displays the exception.

IMND

Warns when no IMS dependent region is defined to DB2.

IMND is a member of the IMS (IM) exception group. This exception monitors an action, not a value; its threshold is always N/A. If State=ON and no dependent region is defined to DB2, OMEGAMON XE for DB2 PE displays the exception.

INDB

Provides information about individual threads that are in indoubt status.

These threads might cause DB2 resources to be unavailable to other active threads until either restart or RECOVER INDOUBT processing occurs.

INDB is a member of the thread (TH) exception group. This exception monitors an action, not a value; its threshold is always N/A. If State=ON and a thread is in doubt, OMEGAMON XE for DB2 PE displays the exception.

INDT

Provides information about the number of indoubt threads in the DB2 system.

INDT is a member of the DB2 system (SY) exception group. The default threshold for INDT is one indoubt thread. The threshold is a value between 1 and 100 threads. If the number of indoubt threads exceeds the threshold value, OMEGAMON XE for DB2 PE displays the exception.

LKUS

Provides information about the number of locks owned by an individual thread. If the thread reaches 100% of NUMLKUS, DB2 terminates the thread.

LKUS is a member of the thread (TH) exception group. The default threshold for LKUS is 80% of the NUMLKUS parameter defined by the installation. The threshold can be any value between 1% and 100%. If an active thread exceeds the threshold, OMEGAMON XE for DB2 PE displays the exception.

LOGN

Provides information about the availability of primary active logs.

Active log data sets are allocated to DB2 during startup processing. When an active log data set is full, it is automatically archived by DB2 to an archive log. When an active log is successfully archived, it is available for reuse. The availability of active logs is critical to the functioning of DB2. If no active log is available, the DB2 subsystem will hang until one becomes available. The lack of an active log could be caused by an insufficient number of logs defined when DB2 was installed, too small log data set size, or possibly due to problems encountered during the archive process.

LOGN is a member of the DB2 system (SY) exception group. The default threshold for LOGN is two available logs. The threshold is a value between 1 and 100 logs. If the number of available primary active logs is less than or equal to the threshold value, OMEGAMON XE for DB2 PE displays the exception.

MCNV

Monitors the percentage of the maximum number of allowed conversations for each logmode and the number of threads that are waiting (if any).

OMEGAMON XE for DB2 PE displays the MCNV exception when the number of conversations in use constitutes a specified percentage of the preset maximum for a given logmode. In addition, when the percentage reaches 100%, the exception displays the number of threads waiting because the preset maximum was exceeded.

MCNV is a member of the system (SY) exception group. The exception threshold is expressed as a percentage (0-100). For example, if you want OMEGAMON XE for DB2 PE to notify you when any logmode has started 80% of its allotment of conversations, set the threshold to 80. The default threshold for MCNV is 80%.

MDBT
Monitors the percentage of maximum number of allowed database access threads that are in use.

OMEGAMON XE for DB2 PE displays the MDBT exception when the number of distributed database access threads in use constitutes a specified percentage of the preset maximum. The maximum is set in DSNZPARM by the MAXDBAT parameter.

MDBT is a member of the system (SY) exception group. The exception threshold is expressed as a percentage (0-100). For example, if you want OMEGAMON XE for DB2 PE to notify you when an application has used 80% of its allotment of database access threads, set the threshold to 80. The default threshold for MDBT is 85%.

MDBW
Monitors the number of database access threads that are waiting because MAXDBAT was reached.

OMEGAMON XE for DB2 PE displays the MDBW exception when the number of distributed database access threads waiting because the maximum has been reached exceeds the exception threshold. The maximum is set in DSNZPARM by the MAXDBAT parameter.

MDBW is a member of the system (SY) exception group. The exception threshold is expressed as an integer, that is, the number of threads waiting because MAXDBAT was reached. The default threshold for MDBW is 2.

MSGE
Displays DB2 and Internal Resource Lock Manager (IRLM) messages that were generated since the last OMEGAMON XE for DB2 PE cycle.

OMEGAMON XE for DB2 PE displays the DB2 and IRLM messages that have been written to the system log since the last OMEGAMON XE for DB2 PE cycle, or as many of the messages as the LROWS parameter for the terminal allows, whichever is less. To control which DB2 and IRLM messages the MSGE exception displays, see "Set DB2/IRLM Messages that MSGE Exception Monitors".

MSGE is a member of the DB2 system (SY) exception group. The default threshold for MSGE is N/A. If State is ON and new messages exist, OMEGAMON XE for DB2 PE displays the messages.

PGUP
Monitors the number of Page Update requests per second made by a thread.

The update count reflected in this exception is incremented each time a row in a page is updated. Updated pages are not necessarily written at commit, but rather later, asynchronously as determined by the DB2 Deferred Write algorithm. There is no direct immediate relationship between page updates and page writes.

The counters which DB2 maintains for this activity are updated throughout the life of the thread, and are reset at DB2 signon if the thread is reused.

PGUP is a member of the thread (TH) exception group. The default threshold for PGUP is 10 updates per second. The threshold can be any value between 1 and 1000 updates per second. If the active thread exceeds the threshold, OMEGAMON XE for DB2 PE displays the exception.

POLU
Provides information about POOL threads in use.

POLU is a member of the CICS (CI) exception group. The default threshold for POLU is 90% of the total number of POOL threads allowed. The threshold can be any value between 1% and 100%. If the percentage of POOL threads exceeds the threshold, OMEGAMON XE for DB2 PE displays the exception.

POLW
Provides information about CICS transactions waiting for a POOL thread.

POLW is a member of the CICS (CI) exception group. The default threshold for POLW is two transactions. The threshold can be any value between 1 and 99 transactions. If the number of transactions waiting for a POOL thread exceeds the threshold, OMEGAMON XE for DB2 PE displays the exception.

PREF
Provides information about Sequential Prefetch read activity.

Unlike normal Read I/O, Sequential Prefetch Read I/O is performed asynchronously with the user's request. It provides a read-ahead capability. A single Sequential Prefetch I/O results in multiple pages being read. Threads with excessive sequential prefetch rates might cause reduced overall DB2 performance.

The counters which DB2 maintains for this activity are updated throughout the life of the thread, and are reset during DB2 signon if the thread is reused.

PREF is a member of the thread (TH) exception group. The default threshold for PREF is 10 Prefetch requests per second. The threshold can be any value between 1 and 100 Sequential Prefetch requests per second. If the prefetch rate exceeds the threshold, OMEGAMON XE for DB2 PE displays the exception.

RELM
Provides information about the resource limit facility.

This exception analyzes the ratio of the resource limit high-water mark (CPU seconds) to the current resource limit.

RELM is a member of the thread (TH) exception group. The default threshold for RELM is 85 percent of the resource high-water mark (CPU seconds). The threshold can be any value between 1 and 100 percent of the resource limit. If the resource limit exceeds the threshold, OMEGAMON XE for DB2 PE displays the exception.

RIO
Provides information about the thread synchronous Read I/O rate.

Generally, this exception indicates excessive physical Read I/O on behalf of a thread. Although a single SELECT might return a limited number of rows, the pages searched might be enormous. I/O might be caused by access path selection changes which occurred due to object changes (indexes dropped or no longer clustered), or by inadvertent use of stage 2 (non-sargable) predicates. It might simply result from the fact that the SQL is a set-oriented language, which operates on sets of data, rather than on individual rows (records).

The counters which DB2 maintains for this activity are updated throughout the life of the thread, and are reset during DB2 signon if the thread is reused.

RIO is a member of the thread (TH) exception group. The default threshold for RIO is 10 Read requests per second. The threshold can be any value between 1 and 1000 synchronous Read requests per second. If the Read I/O rate per second exceeds the threshold, OMEGAMON XE for DB2 PE displays the exception.

SPAC
Indicates that the number of ASIDs executing stored procedures exceeds the threshold. The threshold is expressed as a count of address spaces capable of executing stored procedures. It can be an integer from 0 to 99. Stored procedures can be executed in any WLM-managed stored procedure address space. SPAC is a member of the DB2 system (SY) group. The default threshold is 3 and the default state is ON.

STPE
Indicates that the number of stored procedures executing exceeds the threshold. The threshold is expressed as a count of stored procedures currently executing. It can be an integer from 0 to 99. STPE is a member of the DB2 system (SY) group. The default threshold is 10 and the default state is ON.

SUSL
Detects the number of threads that could not continue execution and are suspended due to a locking conflict.

SUSL is a member of the DB2 system (SY) exception group. The default threshold for SUSL is five suspended threads. The threshold can be any value between 1 and 100 suspended threads. If the number of lock suspensions exceeds the threshold value, OMEGAMON XE for DB2 PE displays the exception.

TCPU
Monitors the CPU rate (percent) of active threads.

For non-CICS threads, this is the CPU rate of the address space from which the thread originates. It includes both TCB and SRB time. For CICS threads, this is the CPU rate attributable to the thread originating from the CICS connection. It includes only TCB time incurred by the thread.

This exception limits its analysis of CPU use to DB2 connections that contain active threads. This exception does not report CPU use for connections with no active threads.

TCPU is a member of the thread (TH) exception group. The default threshold for TCPU is 20% of total processor utilization. The threshold can be any value between 1% and 100%. If CPU utilization exceeds the threshold value, OMEGAMON XE for DB2 PE displays the exception.

THDQ
Detects users waiting for thread creation to occur.

OMEGAMON XE for DB2 PE displays this exception when the number of users queued and waiting for create-thread processing exceeds the exception threshold.

This exception might indicate that DB2 reached the CTHREAD value that controls the number of active threads.

THDQ is a member of the DB2 system (SY) exception group. The default threshold for THDQ is 2. The threshold is a value between 1 and 100 requests. If the number of requests queued and waiting for Create Thread processing exceeds the threshold, OMEGAMON XE for DB2 PE displays the exception.

TMAX
Indicates when the number of active threads is approaching the maximum number allowed.

DB2 thread concurrency can be controlled by the CTHREAD value. CTHREAD defines the maximum number of concurrent threads allowed.

TMAX is a member of the DB2 system (SY) exception group. The default threshold for TMAX is 85% of the CTHREAD installation parameter. The threshold can be any value between 1 and 100%. If the ratio of active threads to the CTHREAD parameter exceeds the threshold, OMEGAMON XE for DB2 PE displays the exception.

TRCV
Monitors the amount of data received by distributed threads from a remote DB2 subsystem.

OMEGAMON XE for DB2 PE displays the TRCV exception when it detects that a distributed thread has received an amount of data greater than the exception threshold.

TRCV is a member of the thread (TH) exception group. The exception threshold is expressed in KB. The default threshold for TRCV is 1000 KB.

TRGD
Indicates that the depth of the largest trigger stack exceeds the threshold. The threshold is expressed as the number of triggers in the largest trigger stack. It can be an integer from 0 to 99. TRGD is a member of the DB2 system (SY) group. The default is 1 and the default state is ON.

TRGE
Indicates that the number of triggers executing exceeds the threshold. The threshold is expressed as a count of triggers currently executing. It can be an integer from 0 to 99. TRGE is a member of the DB2 system (SY) group. The default threshold is 10 and the default state is ON.

TSND
Monitors the amount of data sent by distributed threads to a remote DB2 subsystem.

OMEGAMON XE for DB2 PE displays the TSND exception when it detects that a distributed thread has sent an amount of data greater than the exception threshold.

TSND is a member of the thread (TH) exception group. The exception threshold is expressed in KB. The default threshold for TSND is 1000 KB.

UDFE
Indicates that the number of user-defined functions executing exceeds the threshold. The threshold is expressed as a count of user functions currently executing. It can be an integer from 0 to 99. UDFE is a member of the DB2 system (SY) group. The default threshold is 10 and the default state is ON.

UFAC
Indicates that the number of ASIDs executing user functions exceeds the threshold. The threshold is expressed as a count of address spaces capable of executing user-defined functions. It can be an integer from 0 to 99. User-defined functions can be executed only from WLM-managed stored procedure address spaces. UFAC is a member of the DB2 system (SY) group. The default threshold is 3 and the default state is ON.

UTIS
Warns when a DB2 utility was started but did not finish running due to abnormal termination. User should restart the utility with the corresponding phase.

UTIS is a member of the system (SY) exception group. The default state for UTIS is OFF. If State is ON and a DB2 utility has been started but has not yet completed running due to abnormal termination, OMEGAMON XE for DB2 PE displays the exception.

The next group of exceptions (VDIO, VEDR, VSRV, VTIO, and VUTL) share the following characteristics:

- They are in effect only when the object analysis collector is active.
- The collector will collect data from volumes that contain DB2 data sets that are currently MVS-allocated to the monitored DB2 subsystem.
- All rates and ratios used in setting the exception thresholds are calculated using the object analysis collection interval elapsed time. For example, the total volume I/O rate is calculated by dividing the number of volume I/Os that occurred during the current collection interval by the elapsed time during the collection interval.
- They are tripped only if there is I/O within the current collection interval from the DB2 being monitored.

VDIO
Monitors volume DB2 I/O rate activity.

This exception warns you when a volume's DB2 I/O rate per second has reached a user-specified threshold. The threshold is expressed as the number of DB2 I/Os per second. It must be an integer between 0 and 9999.

VDIO is a member of the DB2 system (SY) exception group. The default threshold is 50, and the default state is ON.

VEDR
Monitors volume data set extend activity.

This exception warns you when the data set-to-data set extent ratio of a volume reaches the user-specified threshold. The threshold is expressed as a ratio that represents the number of DB2 extents on the volume divided by the number of DB2 data sets. It must be an integer between 0 and 123.

VEDR is a member of the DB2 system (SY) exception group. The default threshold is 5, and the default state is ON.

VSRV
Monitors volume service time.

This exception warns you when a volume's service time has reached a user-specified threshold. The threshold is expressed in milliseconds, and it must be an integer between 0 and 9999.

VSRV is a member of the DB2 system (SY) exception group. The default threshold is 30, and the default state is ON.

VTIO
Monitors volume total I/O rate activity.

This exception warns you when a volume's total I/O rate per second has reached a user-specified threshold. The threshold is expressed as the total number of I/Os per second. It must be an integer between 0 and 9999.

VTIO is a member of the DB2 system (SY) exception group. The default threshold is 50, and the default state is ON.

VUTL
Monitors volume utilization.

This exception warns you when a volume's utilization percentage has reached a user-specified threshold. The threshold is expressed as a percentage, and it must be an integer between 0 and 100.

VUTL is a member of the DB2 system (SY) exception group. The default threshold is 30, and the default state is ON.

WCLM
Indicates when a thread has been waiting for more than the specified time for a resource to be drained of claimers.

WCLM is a member of the thread (TH) exception group. The default threshold for WCLM is 60 seconds. The threshold can be any value between 0 and 999999.99 seconds. If the time the thread is waiting exceeds the threshold, OMEGAMON XE for DB2 PE displays the exception.

WDLK
Indicates when a thread has been waiting for more than the specified time to acquire a drain lock.

WDLK is a member of the thread (TH) exception group. The default threshold for WDLK is 60 seconds. The threshold can be any value between 0 and 999999.99 seconds. If the time the thread is waiting exceeds the threshold, OMEGAMON XE for DB2 PE displays the exception.

WGLK
Wait for global lock time.

Indicates when a thread has been waiting for more than the specified time to acquire a global lock in a data sharing environment.

WGLK is a member of the thread (TH) exception group. The default threshold for WGLK is 60 seconds. The threshold can be any value between 0 and 999999.99 seconds. If the length of time the thread is waiting exceeds the threshold, OMEGAMON XE for DB2 PE displays the exception.

WLGQ
Indicates when a thread has been waiting for more than the specified time for an ARCHIVE LOG MODE(QUIESCE) command to complete.

WLGQ is a member of the thread (TH) exception group. The default threshold for WLGQ is 60 seconds. The threshold can be any value between 0 and 999999.99 seconds. If the time the thread is waiting exceeds the threshold, OMEGAMON XE for DB2 PE displays the exception.

WSPS
Stored procedure wait time.

Indicates when a thread has been waiting for more than the specified time for the stored procedures address space to become available in order for a stored procedure to be scheduled.

WSPS is a member of the thread (TH) exception group. The default threshold for WSPS is 100 seconds. The threshold can be any value between 0 and 999999.99 seconds. If the time the thread is waiting exceeds the threshold, OMEGAMON XE for DB2 PE displays the exception.

Note: Stored procedure wait time is reported under class 1 time.

WSRV
Indicates when a thread has been waiting for more than the specified time for a DB2 service. DB2 service waits include

- Open/close data set
- SYSLGRNG update

- DFHSM recall
- Dataspace Manager services
- Define/Delete/Extend data set

WSRV is a member of the thread (TH) exception group. The default threshold for WSRV is 30 seconds. The threshold can be any value between 0 and 999999.99 seconds. If the time the thread is waiting exceeds the threshold, OMEGAMON XE for DB2 PE displays the exception.

WTRE

Indicates when a thread has been waiting for more than the specified time. This exception waits for 1 IRLM deadlock cycle before tripping.

WTRE is a member of the thread (TH) exception group. The default threshold for WTRE is 100 seconds. The threshold can be any value between 0 and 999999.99 seconds. If the length of time the thread is waiting exceeds the threshold, OMEGAMON XE for DB2 PE displays the exception.

Current Status for Exceptions

This panel provides information about the current characteristics of the selected exception group, their last and worst values, and the time when those values occurred.

```
_________________ ZXSUM    VTM     O2       V540./C DA41 11/04/13  9:06:50   2
>       Help PF1    Back PF3    Up PF7    Down PF8    Recommendation PF10
> E.F.A
>         EXCEPTION STATUS:  Enter a selection letter on the top line.

> CURRENT STATUS:      *-ALL    B-THREAD    C-CICS    D-IMS    E-SYSTEM
> TRIPPED STATUS:      F-ALL    G-THREAD    H-CICS    I-IMS    J-SYSTEM
> RESET LAST/WORST:    K-ALL    L-THREAD    M-CICS    N-IMS    O-SYSTEM
================================================================================
>                     CURRENT STATUS FOR ALL EXCEPTIONS
 XSUM
+----------+----------+-----------+--------------+-----------+----------------+
+ ARCM      Threshold  Trip Value  Time Occurred  Total Trips Trips Since Reset
+ State=On
+ Last                             NOT TRIPPED              0                0
+ Worst
+ Group=TH  Limit=5  Persist=1  Auto=Off Log=Off Screen Space=ZTHLOG
+----------+----------+-----------+--------------+-----------+----------------+
+ ARCV      Threshold  Trip Value  Time Occurred  Total Trips Trips Since Reset
+ State=On
+ Last                             NOT TRIPPED              0                0
+ Worst
+ Group=SY  Limit=5  Persist=1  Auto=Off Log=Off Screen Space=ZSYLOG
+----------+----------+-----------+--------------+-----------+----------------+
+ BMTH      Threshold  Trip Value  Time Occurred  Total Trips Trips Since Reset
+ State=On         90
+ Last                        .0   NOT TRIPPED              0                0
+ Worst                       .0
+ Group=SY  Limit=5  Persist=1  Auto=Off Log=Off Screen Space=ZSYLOG
+----------+----------+-----------+--------------+-----------+----------------+
+ CICT      Threshold  Trip Value  Time Occurred  Total Trips Trips Since Reset
+ State=On         80
+ Last                        .0   NOT TRIPPED              0                0
+ Worst                       .0
+ Group=CI  Limit=5  Persist=1  Auto=Off Log=Off Screen Space=ZCILOG
+----------+----------+-----------+--------------+-----------+----------------+
+ COMT      Threshold  Trip Value  Time Occurred  Total Trips Trips Since Reset
+ State=On        100
+ Last                      6140  11/04   09:06:12          4                4
+ Worst                     6140  11/04   09:06:12
+ Group=TH  Limit=5  Persist=1  Auto=Off Log=Off Screen Space=ZTHLOG
+----------+----------+-----------+--------------+-----------+----------------+
```

From this panel, you can perform the following actions:

1. You can select the current status of a different exception group (All, Thread, CICS, IMS, or DB2 System).

2. You can select the status of tripped exceptions for a specific exception group (All, Thread, CICS, IMS, or DB2 System). For more information, see the description of panel “Status for Tripped Exceptions” on page 36.
3. You can reset the last or worst exceptions for a specific exception group (All, Thread, CICS, IMS, or DB2 System). For more information, see the description of panel “Reset Last and Worst Values” on page 38.

To change a characteristic of any exception in this panel, see "Profile Maintenance Facility".

Navigation

For additional information about

- exception recommendations, move the cursor to the exception line and press F10 (Recommendation).
- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

ARCM
The name of the exception. (Here, ARCM.)

Threshold
The current threshold value set for this exception.

Trip Value
The value that caused this exception to trip.

Time Occurred
The date and time the exception last exceeded its threshold.

Total Trips
The number of times this exception exceeded its threshold during the current session.

Trips Since Reset
The number of times this exception exceeded its threshold since the last and worst values were reset.

State
The current state of the exception. OMEGAMON XE for DB2 PE is currently monitoring this exception (ON), not monitoring this exception (OFF), or testing this exception (TEST).

Last
The value of the exception the last time it exceeded its threshold.

Worst
The worst value the exception has reached during the current OMEGAMON XE for DB2 PE session.

Group
The 2-character group to which this exception belongs (CI, CICS; IM, IMS; SY, DB2 system; or TH, thread).

Status for Tripped Exceptions

This panel displays the status of the selected OMEGAMON XE for DB2 PE exceptions that have tripped and the time when those values occurred.

```
_________________ ZXTRP    VTM     O2       V540./C DA41 11/04/13  9:07:33   2
>       Help PF1    Back PF3    Up PF7    Down PF8    Recommendation PF10
> E.F.F
>         EXCEPTION STATUS:  Enter a selection letter on the top line.

> CURRENT STATUS:      A-ALL    B-THREAD    C-CICS    D-IMS    E-SYSTEM
> TRIPPED STATUS:      *-ALL    G-THREAD    H-CICS    I-IMS    J-SYSTEM
> RESET LAST/WORST:    K-ALL    L-THREAD    M-CICS    N-IMS    O-SYSTEM
================================================================================
>                        STATUS FOR ALL TRIPPED EXCEPTIONS
 XTRP
+----------+----------+-----------+-------------+-----------+----------------+
+ COMT      Threshold  Trip Value  Time Occurred  Total Trips Trips Since Reset
+ State=On        100
+ Last                      6140  11/04   09:06:12          4                 4
+ Worst                     6140  11/04   09:06:12
+ Group=TH  Limit=5  Persist=1  Auto=Off Log=Off Screen Space=ZTHLOG
+----------+----------+-----------+-------------+-----------+----------------+
+ ETIM      Threshold  Trip Value  Time Occurred  Total Trips Trips Since Reset
+ State=On        600
+ Last                 315174.8  11/04   09:06:12         40                40
+ Worst                411753.6  11/04   09:06:12
+ Group=TH  Limit=5  Persist=1  Auto=Off Log=Off Screen Space=ZTHLOG
+----------+----------+-----------+-------------+-----------+----------------+
+ GETP      Threshold  Trip Value  Time Occurred  Total Trips Trips Since Reset
+ State=On         15
+ Last                      7.5  11/04   09:06:12          8                 8
+ Worst                     7.5  11/04   09:06:12
+ Group=TH  Limit=5  Persist=1  Auto=Off Log=Off Screen Space=ZTHLOG
+----------+----------+-----------+-------------+-----------+----------------+
+ IDBC      Threshold  Trip Value  Time Occurred  Total Trips Trips Since Reset
+ State=On         70
+ Last                     1.42  11/04   09:06:12         16                16
+ Worst                   16.36  11/04   09:06:12
+ Group=TH  Limit=5  Persist=1  Auto=Off Log=Off Screen Space=ZTHLOG
+----------+----------+-----------+-------------+-----------+----------------+
+ IDBT      Threshold  Trip Value  Time Occurred  Total Trips Trips Since Reset
+ State=On          5
+ Last                      19.4  11/04   09:06:12          8                 8
+ Worst                     19.4  11/04   09:06:12
+ Group=TH  Limit=5  Persist=1  Auto=Off Log=Off Screen Space=ZTHLOG
+----------+----------+-----------+-------------+-----------+----------------+
```

To change a characteristic of any exception in this panel, see "Profile Maintenance Facility".

Navigation

For additional information about

- exception recommendations, move the cursor to the exception line and press F10.
- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

COMT
The name of the exception. (In this case, COMT.)

Threshold
The current threshold value set for this exception.

Trip Value
The value that caused the exception to trip.

Time Occurred
The date and time the exception last exceeded its threshold.

Total Trips
The number of times this exception exceeded its threshold during the current session.

Trips Since Reset
The number of times this exception exceeded its threshold since the last and worst values were reset.

State
The current state of the exception. OMEGAMON XE for DB2 PE is currently monitoring this exception (ON), not monitoring this exception (OFF), or testing this exception (TEST).

Last
The value of the exception the last time it exceeded its threshold.

Worst
The worst value the exception has reached during the current OMEGAMON XE for DB2 PE session.

Group
The 2-character group to which this exception belongs (CI, CICS; IM, IMS; SY, DB2 system; or TH, thread).

Reset Last and Worst Values

Use this panel to reset the values displayed on the Current Tripped Exceptions panel for the exception group specified below the title line (all, thread, CICS, IMS, or system). In particular, the last and worst values and the time that they occurred are reset for each tripped exception.

```
_________________ ZXTRPX   VTM     O2       V540./C DA41 11/04/13  9:07:48   2
>   Help PF1                                                    Back PF3
> E.F.K
>         EXCEPTION STATUS:  Enter a selection letter on the top line.

> CURRENT STATUS:      A-ALL    B-THREAD    C-CICS    D-IMS    E-SYSTEM
> TRIPPED STATUS:      F-ALL    G-THREAD    H-CICS    I-IMS    J-SYSTEM
> RESET LAST/WORST:    *-ALL    L-THREAD    M-CICS    N-IMS    O-SYSTEM
================================================================================
>              RESET LAST AND WORST VALUES FOR ALL EXCEPTIONS

> To reset the last and worst values, space over the > character to the left of
> XTRP and then press ENTER.

> To return to the previous screen without resetting these values, press PF3.

>XTRP RESET
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

After you remove the comment character, the Reset Last and Worst Values panel displays the message:

```
Last, Worst, and Trip Counter Values Are Reset
```

This message confirms that OMEGAMON XE for DB2 PE has reset the last and worst values for all tripped exceptions.

Chapter 6. Thread Activity

Select this main menu option for summary and detail information about threads connected to DB2.

To view detail information of a specific thread, select a thread in one of the summary panels by placing the cursor on the appropriate line and pressing F11 (Zoom).

Threads Summary Excluding Idle Threads

This panel shows an overview of the activity of all active threads (excluding idle threads) that are connected to DB2.

```
_________________ ZALLT    VTM     O2       V540.#P DC11 S 07/01/16 14:22:24 2
> Help PF1       Back PF3       Up PF7      Down PF8     Sort PF10    Zoom PF11
> T.A
>         Thread Activity:  Enter a selection letter on the top line.

> *-All-Idle    B-TSO      C-CICS      D-IMS     E-Background   F-Dist Allied
> G-Dist DBAC   H-Util     I-Inact     J-Filter  K-Functions    L-Stored Proc
> M-Triggers    N-Sysplex  O-Enclaves  P-Worksta Q-All+Idle
================================================================================
>                    Threads Summary Excluding Idle Threads
 THDA
+ *
+ Elapsed      Planname  CPU    Status       GetPg  Update Commit CORRID/JOBN
+ ----------   --------  -----  ------------ ------ ------ ------ ------------
+ 08-04:12     KO2PLAN   00.0%  NOT-IN-DB2      124      0     11 OMPEDA5S
+ 08-03:08     KO2PLAN   00.0%  NOT-IN-DB2        0      0      0 OMPEDA5S
+ 07-13:35     KO2PLAN   00.0%  NOT-IN-DB2      158      0     19 SZ91DM31
+ 07-13:34     KO2PLAN   00.0%  NOT-IN-DB2        0      0      0 SZ91DM31
+ 00:00:57.2   KO2PLAN   00.0%  IN-SQL-CALL       0      0      0 OMPEHZ7S
+ 00:00:57.1   KO2PLAN   00.0%  NOT-IN-DB2      104      0      7 OMPEHZ7S
+ 00:00:56.8   KO2PLAN   00.0%  NOT-IN-DB2        0      0      0 OMPEHZ8S
+ 00:00:56.7   KO2PLAN   00.0%  NOT-IN-DB2      104      0      7 OMPEHZ8S
+ 00:00:54.8   KO2PLAN   00.0%  NOT-IN-DB2      104      0      7 OMPEHZAS
+ 00:00:21.3   KO2PLAN   00.0%  NOT-IN-DB2        0      0      0 OMPEHZ7S
+ 00:00:20.7   KO2PLAN   00.0%  NOT-IN-DB2        0      0      0 OMPEHZ8S
================================================================================
```

Each row provides information about an individual thread. Each column provides information about thread elapsed time, DB2 and MVS resource consumption, and DB2 activity.

Highlighting

The following table shows the fields that might be highlighted in the panel above to indicate that an exception that is related to this field exceeded its threshold value:

Table 2. Highlighted fields in All Threads Connected to DB2 panel

Field	Exception	Reason
Elapsed	ETIM	This thread has reached the Elapsed Time threshold value.
CPU	TCPU	The thread address space has excessive CPU utilization.
GetPg	GETP	The Getpage to Read I/O ratio indicates poor read efficiency.
Update	PGUP	The rate for system page updates is high.

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Table 2. Highlighted fields in All Threads Connected to DB2 panel (continued)		
Field	**Exception**	**Reason**
Commit	COMT	The ratio of Commits to Updates indicates a low Commit frequency.

Navigation

For additional information about:

- the IMS connection, move the cursor to the IMS ID line and press F11 (Zoom). IMS releases V10, 11, 12, 13, 14, and 15 are supported.
- A particular thread, move the cursor to the thread information line and press F11 (Zoom). .
- A different DB2 subsystem, data sharing group, or member of a data sharing group, enter the name of a DB2 subsystem, group, or member in the topmost row and press Enter. For more information, see “Switching among DB2 subsystems and data sharing group members” on page 11.
- Related topics, select one of the options on the top of the panel.
- Other topics, use the PF keys.

Fields

Elapsed
The elapsed time since thread creation, or since DB2 signon if the thread is reused. When the elapsed time of the thread exceeds 24 hours, the format is *dd-hh:mm*.

If this thread is involved in parallel processing or if it invoked autonomous procedures, one of the following identifiers is displayed after the elapsed time:

*****
This thread is a parallel task that is initiated on behalf of another (originating) thread to process a query request in parallel.

O
This thread is the originating thread that invoked autonomous procedures.

P
This thread is the parent or the originating thread of the parallel tasks that are created to process a query request in parallel. Activity performed for this (originating) thread is reflected under the parallel tasks.

X
This thread is a parallel task that is initiated on behalf of another (originating) thread on another DB2 for sysplex parallelism.

Planname or Package
The DB2 plan name (or package name) of the active thread. If you selected option **T** from the Realtime Main Menu, this panel shows the information by plan. If you selected option **U**, this panel shows the information by package.

CPU (if monitoring a local DB2 subsystem, or data sharing group with XCF component activated for remote CPU)
The CPU rate (percent) associated with the thread.

For non-CICS threads, this is the CPU rate of the address space from which the thread originates. For CICS threads, this is the CPU rate attributable to the thread originating from the CICS connection. For more information, see "Analyzing DB2 CPU Usage".

DB2 (if monitoring a data sharing group or remote DB2 subsystem while XCF component is not activated for remote CPU)

The DB2 subsystem name of the data sharing group member that is currently monitored.

You can use the Tab key to move to a detail line and to select this detail line for drill down.

Status

The current DB2 status of the thread. For definitions of all possible status values, see "DB2 Thread Status".

GetPg

The number of thread Getpage requests. Getpage requests are logical Read requests that might not actually result in physical I/O if the requested page is currently in the buffer pool.

DB2 resets the Getpage count at Create Thread and Signon. If Signon is not driven, the Getpage count is cumulative.

Update

The number of DB2 page updates made by the thread since thread creation. This value is incremented each time a row in a page is updated, not just once for each page updated. DB2 might update pages when it creates intermediate result tables because of a qualified SELECT statement, even though SELECT statements are generally thought of as read only operations. Pages that have been updated are written asynchronously by DB2, according to DB2's internal Deferred Write algorithm, not immediately after update or commit. DB2 resets the page update count at Create Thread and Signon. If Signon is not driven, the page update count is cumulative.

Commit

The number of times the thread successfully completed Commit processing.

DB2 resets the Commit count at Create Thread and Signon. If Signon is not driven, the count is cumulative.

CORRID/JOBN

This field is customizable by means of user mod TKANSAM(KO2MOD02) and shows either:

CORRID

The correlation ID of the thread.

JOBN

The jobname of the thread.

For remote DB2 subsystems, the correlation ID is displayed instead of the job name.

Thread Detail

This panel provides detailed information about the activity of a selected thread or parallel task.

A parallel task is created from an originating thread to process a part of a query. Thread activity is broken down into general status and resource consumption information, and buffer manager activity.

```
_________________ ZTDTL    VTM     O2       V540.#P SB1A 01/18/18 12:21:19   2
> Help PF1                                                          Back PF3

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> *-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES                  W-ACCEL ACTIVITY
================================================================================
>                               THREAD DETAIL
 PLAN
+ Thread:  Plan=DISTSERV  Connid=SERVER   Corrid=db2jcc_appli Authid=TS5787
+ Dist  :  Type=DATABASE ACCESS, Luwid=GA053D54.F022.D3C2079269BC=4263
+ Location  :  ::FFFF:10.5.61.84
 act
+ Thread Activity                          User Defined Functions
+ ------------------------------------    ------------------------------------
+ DB2 Status          =     IN-SQL-CALL   TCB Time (SQL)      = 00:00:00.000000
+ MVS Status          =                   Wait for TCB Time   = 00:00:00.000000
+ Total Elapsed Time  = 00:00:09.846946   Elapsed Time        = 00:00:00.000000
+ CP CPU Utilization  =            00.0%  Elapsed Time (SQL)  = 00:00:00.000000
+ Total CP CPU Time   = 00:00:00.000000   SQL Events          =               0
+ SE CPU Time         = 00:00:00.000404
+ Total Parallel Tasks  =             0
+ Current Parallel Tasks=             0
+ Thread Status         =            T
+
+ In-DB2 Times                                    Total           Current
+ ------------------------------                  ------------    ------------
+ Elapsed Time                                    00:00:00.007    00:00:00.000
+ CP CPU Time                                     00:00:00.005             N/A
+ IIP CPU Time                                    00:00:00.000             N/A
+ Stored Procedure CPU Time                       00:00:00.000    00:00:00.000
+ STP CP CPU Time                                 00:00:00.000             N/A
+ STP IIP CPU Time                                00:00:00.000             N/A
+ STP Elapsed Time Main                           00:00:00.000             N/A
+ UDF CP CPU Time                                 00:00:00.000             N/A
+ UDF IIP CPU Time                                00:00:00.000             N/A
+ UDF Elapsed Time Main                           00:00:00.000             N/A
+
+ Stored Procedures                         Triggers
+ ------------------------------------    ------------------------------------
+ Total CPU             =  00:00:00.000   TCB not in Enclave     = 00:00:00.000
+ Elapsed time          =  00:00:00.000   Elapsed not in Enclave = 00:00:00.000
+ Elapsed Time (SQL)    =  00:00:00.000   TCB prior to Enclave   = 00:00:00.000
+ Wait for TCB Time     =  00:00:00.000
+ Wait Event Count      =             0
+ Curr Wait TCB Time    =  00:00:00.000
+
+ SavePoints
+ ------------------------------------
+ Savepoint Requests    =             0
+ Release Savepoints    =             0
+ Rollback Savepoints   =             0
+
```

```
+ WorkFile
+ ------------------------------------
+ Workfile Max Blocks   =        691200
+ Workfile Curr Blocks  =        691200
+
+ Waits                                  Count    Total           Current
+ ------------------------------- ----------    ------------    ------------
+ Synchronous I/O Wait                      4    00:00:00.001    00:00:00.000
+ Asynchronous Read I/O Wait              5752    00:00:05.189    00:00:00.000
+ Asynchronous Write I/O Wait              423    00:00:00.474    00:00:00.000
+ Local Lock/Latch Wait                     0    00:00:00.000    00:00:00.000
+ Page Latch Wait                           0    00:00:00.000    00:00:00.000
+ Drain Lock Wait                           0    00:00:00.000    00:00:00.000
+ Drain of Claims Wait                      0    00:00:00.000    00:00:00.000
+ Archive Log Mode(Quiesce) Wait            0    00:00:00.000    00:00:00.000
+ Archive Read from Tape Wait               0    00:00:00.000    00:00:00.000
+ Switch to Open/Close Wait                 0    00:00:00.000    00:00:00.000
+ Switch to SYSLGRNG Service Wait           0    00:00:00.000    00:00:00.000
+ Switch to DMS Waits                       0    00:00:00.000    00:00:00.000
+ Other Service Waits                       0    00:00:00.000    00:00:00.000
+ Force at Commit Waits                     0    00:00:00.000    00:00:00.000
+ Log Write I/O Wait                        0    00:00:00.000    00:00:00.000
+ Sync EX Unit Sw-com/abort/dealloc         0    00:00:00.000    00:00:00.000
+ LOB Materialization                       0    00:00:00.000    00:00:00.000
+ Latch Contention Wait                   461    00:00:00.040    00:00:00.000
+ Autonomous Proc Wait                      0    00:00:00.000    00:00:00.000
+ Parallel Query Sync Wait                  0    00:00:00.000    00:00:00.000
+ Asynch IXLCACHE/IXLFCOMP                  0    00:00:00.000    00:00:00.000
+ Fast Insert Pipe Wait                     0    00:00:00.000    00:00:00.000
+ Accelerator Wait                          0    00:00:00.000    00:00:00.000
+ ------------------------------------------------------------
 Total Class 3 Wait Time                6640    00:00:05.705
================================================================================
```

Highlighting

The following table shows the fields that might be highlighted in the panel above to indicate that an exception that is related to this field exceeded its threshold value:

Table 3. Highlighted fields in Thread Detail panel

Field	Exception	Reason
Plan	ARCM	Backout requires an archive tape log mount.
	ETIM	This thread has reached the Elapsed Time threshold value.
	GETP	The Getpage to Read I/O ratio indicates poor read efficiency.
	INDB	The thread is indoubt and terminated.
	PREF	The thread Sequential Prefetch rate is high.
	RIO	The synchronous Read I/O rate is high.
	PGUP	The rate for system page updates is high.
Total Elapsed Time	ETIM	This thread reached the Elapsed Time threshold value.
CPU Utilization	TCPU	The CPU utilization associated with the thread is high.

Table 3. Highlighted fields in Thread Detail panel (continued)		
Field	**Exception**	**Reason**
Current Drain Lock Wait	WDLK	The thread reached drain lock wait threshold.
Current Drain of Claims Wait	WCLM	The thread reached wait for drain of claims threshold.
Current Service Task Wait	WSRV	The thread reached Db2 service wait threshold.
Current Archive Log Mode (Quiesce) Wait	WLGQ	The thread reached Archive Log Mode (Quiesce) wait threshold.
Current Stored Procedure Schedule Wait	WSPS	The thread reached stored procedure schedule wait threshold.
Total elapsed time	IDBT	In-Db2 Times - Total elapsed time.
Total CP CPU wait	IDBC	In Db2-Times - Total CP CPU wait.
Current global parent L-lock wait	WGLK	The thread reached the global lock wait threshold.

Navigation

You can scroll through the information using F7 and F8.

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

If the accounting trace classes are not active, the fields show N/A (not applicable) instead of a value.

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Distributed thread identifier: The following fields are displayed if the thread has a distributed relationship with a remote Db2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote Db2 location.

Database Access
A responding thread; one that is serving a remote Db2 location by responding to an SQL call.

Db2=
The Db2 subsystem ID, indicating the member of the data sharing group of this thread.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any Db2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the *Luwid* field displays data like in the following example:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

Thread Activity:

Db2 Status
For definitions of all possible status values, see "DB2 Thread Status".

MVS Status
The current MVS status of the thread:

Asid Notdisp
The address space in which the active task is not available for dispatch.

Db2 I/O Wait
The thread is waiting for the completion of Db2 database I/O.

Logical Swap
The address space is currently logically swapped out.

Swapped Out
The memory is physically swapped out.

Using CPU
The thread is currently using CPU cycles.

Wait-Dispatch
The task is waiting on the active CPU dispatching queue. It is available for use, but is not yet running on a processor.

WAIT-MISC
The thread is waiting for some other reason and is not on the available dispatch queue.

Note: If the panel displays a distributed database access thread, this field is blank.

Total Elapsed Time
The total elapsed time for the thread, in the format *hh:mm:ss.tht*. Elapsed time is the time which has elapsed since thread creation or Db2 signon.

CP CPU Utilization
The central processor CPU rate (percent) associated with the thread.

For non-CICS threads, this is the central processor CPU rate of the address space from which the thread originates. For CICS threads, this is the central processor CPU rate attributable to the thread originating from the CICS connection. For more information about central processor CPU use, see "Analyzing Db2 CPU Usage".

Total CP CPU Time
The total central processor CPU time accumulated for the thread. This value includes only MVS TCB time. SRB time is not included.

SE CPU Time
The accumulated class 2 CPU time consumed while executing on an IBM specialty engine..

Total Parallel Tasks
The total number of parallel tasks that were created on behalf of this thread.

Current Parallel Tasks
The number of parallel tasks currently executing. To see information about these tasks, select option **M-PARALLEL TASKS**.

Thread Status
Valid values:

AC
Execute in accelarator

AT
Process autonomous procedure

D
Termination due to allied task's termination

DA
DBaccess thread slot is available for new connection

DI
Disconnected, no TCB associated with the Db2 thread. (Available for reuse.)

N
In IDENTIFY or SIGNON status

ND
IN IDENTIFY or SIGNON status with no TCB associated

PT
Parallel task thread

QD
Queued for termination due to allied task's termination

QT
CREATE THREAD request is queued

R2
Type2 inactive thread waiting for agent to become available

RA
Active distributed thread performing remote access

RK
Distributed thread invokes Kerberos services

RN
Distributed thread waits for system conversation service task

RQ
Distributed thread waits for dbaccess agent, due to MAXDBAT or DSN_PROFILE_ATTRIBUTES_TABLE

RX
Distributed thread executes XA transaction

SP
In stored procedure

SW
Wait for a stored procedure to be scheduled

T
Non-distributed allied thread

TD
An allied thread is not associated with TCB

TN
An allied thread is waiting for system conversation service task

TR
An allied thread is active

N/A
QW0148ST is not populated

User-Defined Functions:

TCB Time (SQL)
The accumulated CPU time consumed executing user-defined functions. This time does not include CPU time consumed on an IBM specialty engine. It consists of following parts:

- The accumulated CPU time consumed in Db2 when processing SQL statements that were issued by UDFs in a Db2 stored procedure or WLM address space. This time also includes the Db2 time required to connect or disconnect the UDF task. It is only calculated if accounting class 2 is active.
- The accumulated CPU time consumed executing user-defined functions on the main application execution unit. This time represents class 1 and class 2 time, because these UDFs run entirely within Db2.

Wait for TCB Time
Total elapsed time spent waiting for an available TCB before the user-defined function could be scheduled.

Elapsed Time
Total elapsed time spent in user-defined functions, including time executing SQL statements.

Elapsed Time (SQL)
Total elapsed time spent in user-defined functions executing SQL statements.

SQL Events
Number of SQL entry/exit events performed by user-defined functions.

In-Db2 Times

Elapsed Time (Total)

The accumulated CPU time consumed executing user-defined functions. This time does not include CPU consumed on an IBM specialty engine. It consists of following parts:

The accumulated CPU time used to satisfy UDF requests processed in a Db2 stored procedure or WLM address space. This time is only calculated if accounting class 1 is active.

The accumulated CPU time consumed executing user-defined functions on the main application execution unit. This time represents class 1 and class 2 time, because these UDFs run entirely within Db2.

Elapsed Time (Current)

The total amount of time spent executing the currently active SQL statement. It is only calculated if monitor class 9 is activated.

CP CPU Time (Total)

The class 2 CPU time (in Db2). It indicates:

- The class 2 CPU time for the allied agent. This includes the accumulated class 2 TCB time for processing any stored procedures, user-defined functions, and triggers.
- The accumulated CPU time for processing parallel tasks. This is valid for query CP parallelism, sysplex query parallelism, and parallel tasks generated by utilities. Only CPU times of parallel tasks, running on the same member of the sysplex group as the originating task, are included. This CPU time does not include time that is consumed on an IBM specialty engine.

CP CPU Time (Current)

CPU time consumed for execution of the SQL statement. This value is not available for SQL statements that run under an SRB. Therefore, this value does not include time that is consumed on an IBM specialty engine. It is only calculated if monitor class 9 is activated.

SE CPU Time (Total)

The accumulated and consumed class 2 time on an IBM specialty engine (SE) that consists of times for non-nested, stored procedures, user-defined functions, triggers, and parallel tasks.

SE CPU Time (Current)

The total SE CPU time used by the currently active SQL statement. The value is always zero for database access threads.

Stored Procedure CPU Time (Total)

The accumulated CPU time that is used for executing stored procedure requests on the main application execution unit. This time does not include the time that is consumed on an IBM specialty engine. As these stored procedures run entirely in Db2, this time represents class 1 and class 2 time.

UDF CP CPU Time (Total)

Accumulated CPU time consumed executing user defined functions on the main application execution unit. This time does not include CPU consumed on an IBM specialty engine. Because these UDFs run entirely within Db2, this time represents class 1 and class 2 time. No current value will be provided.

UDF IIP CPU Time (Total)

Accumulated CPU time consumed executing user defined functions on the main application execution unit on an IBM specialty engine. Because these UDFs run entirely within Db2, this time represents class 1 and class 2 time. No current value will be provided.

UDF Elapsed Time Main (Total)

The accumulated CPU time consumed executing user-defined functions. This time does not include CPU consumed on an IBM specialty engine. It consists of following parts:

- The accumulated CPU time used to satisfy UDF requests processed in a Db2 stored procedure or WLM address space. This time is only calculated if accounting class 1 is active.
- The accumulated CPU time consumed executing user-defined functions on the main application execution unit. This time represents class 1 and class 2 time, because these UDFs run entirely within Db2.

Stored Procedures:

Total CPU

The CPU time (TCB time) spent in Db2 processing SQL statements issued by stored procedures for this thread. This is an accumulated and consumed time for stored procedures that consists of the following information:

- The CPU time accumulated in Db2 for processing SQL statements issued by stored procedures processed in a Db2 stored procedure or WLM address space. This time is only calculated if accounting class 2 is active
- In-Db2 time needed to connect and disconnect the SP task for non-SQL procedure stored procedures
- SQL procedure times are included in this time if the SQL procedure was called on a nested task and was not invoked by the main application execution unit
- CPU time that is consumed when running stored procedure requests on the main application execution unit. This time does not include the CPU time consumed on an IBM specialty engine.

Elapsed Time

Total elapsed time spent in stored procedures including time executing SQL statements. This is an accumulated and consumed time for stored procedures that consists of the following parts:

- The CPU time accumulated in Db2 for processing SQL CALL statements in the stored procedures or WLM address space. This time is only calculated if accounting class 1 is active.
- The accumulated CPU time consumed when running stored procedure requests on the main application execution unit. This time does not include CPU time consumed on an IBM specialty

engine. As these stored procedures run entirely within Db2, this time represents class 1 and class 2 time.

Elapsed Time (SQL)
Total elapsed time spent for stored procedures executing SQL statements.

Wait for TCB Time
The total time waiting for an available TCB to schedule a stored procedure.

Wait Event Count
The number of wait trace events processed for an available TCB that are needed in order to schedule a stored procedure.

Curr Wait TCB Time
The current time waiting for an available TCB to schedule a stored procedure.

Triggers:

Trigger CPU Time
The accumulated CPU time consumed while executing under the control of triggers. For triggers there is no distinction between class 1 and class 2 CPU time. All processing controlled by a trigger is within Db2.

Elapsed not in Enclave
The accumulated elapsed time used when executing under the control of a trigger. This does not include the time used while in user-defined function or stored procedures that are called from the trigger not under an enclave.

TCB prior to Enclave
The accumulated TCB time consumed before enclave creation time.

SavePoints:

Savepoint Requests
The number of savepoints set.

Release Savepoints
The number of savepoints deleted.

Rollback Savepoints
The number of rollback-to-savepoint requests issued.

WorkFile:

Workfile Max Blocks
Maximum number of workfile blocks being used by this agent at any given point in time (traditional workfile use, DGTT and DGTT indexes). DB2 12 and later.

Workfile Curr Blocks
Current number of workfile blocks being used by this agent (traditional workfile use, DGTT and DGTT indexes). DB2 12 and later.

In-Db2 Times: In-Db2 times require an Accounting trace class 2. If this trace was not active, N/A is displayed.

Elapsed Time (Total)
The total In-Db2 elapsed time for the thread, in the format *hh:mm:ss.tht*.

Elapsed Time (Current)
The total time spent executing the currently active SQL statement.

CP CPU Time (Total)
The total In-Db2 central processor CPU time for the thread. This includes MVS TCB time only. SRB time is not included.

CP CPU Time (Current)
The total central processor CPU time used by the currently active SQL statement, in the format *hh:mm:ss.tht*. The value is always zero for database access threads.

IIP CPU Time (Total)
The total In-Db2 SE (Specialty Engine) CPU time for the thread.

IIP CPU Time (Current)
The total SE (Specialty Engine) CPU time used by the currently active SQL statement in seconds. The value is always zero for database access threads.

Stored Procedure CPU Time (Total)
The CPU time (TCB time) spent in Db2 processing SQL statements issued by Db2 stored procedures for this thread.

Stored Procedure CPU Time (Current)
The CPU time (TCB time) spent in Db2 processing SQL statements issued by Db2 stored procedure that is currently active.

UDF CP CPU Time (Total)
The CPU time spent in Db2 processing SQL statements issued by user defined functions for this thread. This time represents central processor time only and does not include SE (Specialty Engine) time.

UDF IIP CPU Time (Total)
The amount of SE (Specialty Engine) CPU time spent in Db2 processing SQL statements issued from user defined functions for this thread.

UDF Elapsed Time Main (Total)
The elapsed time by the user defined functions for this thread in the format *hh:mm:ss.tht*.

Waits (Class 3): Wait times require an Accounting trace class 3. If this trace is not active, N/A is displayed. For each field described below the following statistics are provided:

- Count is the total number of waits.
- Total is the total wait time that has elapsed.
- Current is the elapsed time waiting for the current event to complete.

Synchronous I/O Wait
Waits for synchronous I/O reads or writes.

Asynchronous Read I/O Wait
Waits for Read I/O performed under another thread (for example, list or Sequential Prefetch).

Asynchronous Write I/O Wait
Waits for Write I/O performed under another thread (for example, deferred writes).

Local Lock/Latch Wait
Waits for locks or latches.

Page Latch Wait
Waits for page latch.

Drain Lock Wait
Waits to acquire drain lock.

Drain of Claims Wait
Waits for claims to be released after acquiring drain lock.

Archive Log Mode (Quiesce) Wait
Wait for ARCHIVE LOG MODE(QUIESCE) command to complete.

Archive Read from Tape Wait
Waits for read of archive log from tape.

Switch to Open/Close Wait
Wait for switches to the OPEN/CLOSE service.

Switch to SYSLGRNG Service Wait
Wait for switches to the SYSLGRNG recording service.

Switch to DMS Waits
Wait for switches to the database-managed space (DMS).

Other Service Waits
Wait for switches to other Db2 service tasks.

Force at Commit Waits
Wait for force-at-commit Db2 service tasks.

Log Write I/O Wait
Waits due to Log write I/O.

Sync EX Unit Sw-com/abort/dealloc
Waits due to synchronous execution switch for Db2 commit, abort, or deallocation processing.

LOB Materialization
Waits for TCP/IP LOB and XML materialization.

Latch Contention Wait
Waits due to page latch contention.

Autonomous STP Wait (QWAC_AT_WAIT QWAC_AT_COUNT)
The amount of waits that are due to autonomous procedures.

This applies to Db2 11 and higher.

Parallel Query Sync Wait (QPAC_PQS_WAIT QPAC_PQS_COUNT)
The amount of waits after parallel query processing suspended waiting for parent/child to be synchronized.

This applies to DB2 11 and higher.

Asynch IXLCACHE/IXLFCOMP (QWAXIXLT)
The accumulated wait time for IXLCACHE and IXLFCOMP requests.

Fast Insert Pipe Wait
The accumulated wait time for a pipe wait. DB2 12 and later.

Accelerator Wait (QWACAACW QPACAACC)
The accumulated wait time for requests to an accelerator. DB2 11 and later.

Total Class 3 Wait Time
The total class 3 wait time.

For Data Sharing Group members, the following waits are also displayed:

Global Child L-Locks (QWACAWTK QWACARNK)
Waits because of global contention for child L-locks.

Global Other L-Locks (QWACAWTM QWACARNM)
Waits because of global contention for other L-locks.

Global Pageset/Partition P-Locks (QWACAWTN QWACARNN)
Waits because of global contention for Pageset/Partition P-locks.

Global Page P-Locks (QWACAQTO QWACARNO)
Waits because of global contention for Page P-locks.

Global Other P-Locks (QWACAQTQ QWACARNQ)
Waits because of global contention for other P-locks.

Thread Lock/Claim/Drain Activity

This panel provides detail information about current lock, claim, and drain activity of a selected thread.

```
_________________ ZTLOCT   VTM     O2       V540.#P DA41 11/04/13  9:10:16   2
> Help PF1                                                          Back PF3

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL *-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES                  W-ACCEL ACTIVITY
================================================================================
>                    THREAD LOCK/CLAIM/DRAIN ACTIVITY
 PLAN
+ Thread:  Plan=ADB       Connid=TSO      Corrid=MIS          Authid=MIS
+ Attach:  TSO            Userid=MIS                          Region asid= 224
+ Package: ADB2GET                        Collection=ADBL
+ Luwid=DEIBMIPS.IPSATA41.CC3659CD8774=796
 loct
+ Lock Requests          =          2   Deadlocks Detected         =          0
+ Unlock Requests        =          1   Timeouts Detected          =          0
+ Query Requests         =          0   Suspends - Lock Only       =          0
+ Change Requests        =          0   Suspends - Latch Only      =          0
+ Other IRLM Requests    =          0   Suspends - Other           =          0
+ Escalations to Shared  =          0   Escalations to Exclusive   =          0
+ Maximum Page/Row Locks =          0
+
+ Claim Requests         =          0   Claims Failed              =          0
+ Drain Requests         =          0   Drains Failed              =          0
================================================================================
```

Navigation

You can scroll through the information using F7 and F8.

For additional information about

- Related topics, select one of the options at the top of the panel.
- Other topics, use the PF keys.

Lock/Claims Causing a Thread to Wait

This panel shows detail information about current locks that cause a selected thread to wait. It helps to determine if a thread is suspended and waiting because of a locking conflict.

When a thread is suspended, this panel provides the name of the lock/claim request causing the suspension. It also provides a list of all locks/claims currently held by other threads causing the thread to be suspended.

If accounting class 2 and class 3 are not available, N/A is displayed.

The locking information is divided into the following categories:

1. The name of the lock request causing the suspension.
2. A list of all locks which are causing the thread to wait.

HEX values are displayed for lock resources, if the resource is owned by a thread on a remote LPAR, and no OMPE task is available from that LPAR, or XCF is not setup correctly.

```
_________________ ZLOCKW   VTM     O2       V540./I SN13 07/11/13 13:30:43   2
> Help PF1               Back PF3               Up PF7               Down PF8

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS *-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE D-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES                  W-ACCEL ACTIVITY
================================================================================
>                    LOCKS/CLAIMS CAUSING A THREAD TO WAIT
 PLAN
+ Thread:  Plan=DSNBIND   Connid=BATCH    Corrid=HONGAZ91     Authid=HONG
+ Attach:  BATCH          JOB Name=HONGAZ91                   JOB Asid=  56
+ Luwid=DEIBMIPS.IPSASN13.CBA4B01943B3=5791
 wait
+      Thread Is Currently Suspended Waiting To Obtain The Following Lock
+      Type=COLL  Level=X   Resource = Coll=KO2OM520
+
+      Wait For Lock Time  =   10 Seconds     # to repeat lock timeout =    3
+      IRLM Time Out Value =   60 Seconds
+
+      The Lock Being Waited On Is Owned By The Following User(s)
+      Plan               Connid             Corrid                 Lvl
+      --------           --------           ------------           ---
+      DSNBIND            BATCH              HONGEZ91                 X
================================================================================
```

Highlighting

Highlighted fields indicate that an exception relating to that field is tripped.

To display the Exception Messages for Thread Exceptions panel, type E . A. On this panel, you can determine the exceptions that have tripped.

Table 4. Highlighted fields on Locks/Claims Causing a Thread to Wait panel

Field	Exception	Reason
Plan	ARCM	Backout requires an archive tape log mount.
	ETIM	This thread has reached the Elapsed Time threshold value.
	GETP	The Getpage to Read I/O ratio indicates poor read efficiency.
	INDB	The thread is indoubt and terminated.
	PREF	The Sequential Prefetch rate is high.
	RIO	The synchronous Read I/O rate is high.
	PGUP	The rate for system page updates is high.
	WTRE	The lock has been waiting for a resource for too long.

Navigation

For additional information about

- about the locks that are owned by a thread, an SQL activity, a general thread activity, or a resource limit activity, or to go to the Db2 system console, type the appropriate option letter on the top line and press ENTER.
- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Navigation

You can scroll through the information using F7 and F8.

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Distributed thread identifier: The following fields are displayed when the thread has a distributed relationship with a remote DB2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote DB2 location.

Database Access
A responding thread; one that is serving a remote DB2 location by responding to an SQL call.

Luwid
This value consists of two parts: the logical unit-of-work ID (luw-id) and a token. The token can be used in place of the luw-id in any DB2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the **Luwid** field displays data such as the following:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

Drain information:

Type
The type of object being drained. Possible object types are:

TS
Tablespace

TS PART
Data Partition

IX
Indexspace

IX PART
Index Partition

Class
The drain class. Possible classes are:

CS
Drain all CS read access to object.

RR
Drain all RR access to object.

Write
Drain all write access to object.

Resource
The name of the resource being drained. This includes the database name, pageset name, and the partition number (if any).

Claim information:

Plan
The planname of the thread claiming the resource.

Connid
The connection identifier of the thread claiming the resource.

Corrid
The correlation identifier of the thread claiming the resource.

Class
The claim class. Possible classes are:

CS
Cursor Stability

RR
Repeatable Read

Write
Write access

Lock wait information:

Type
The lock type on which the thread is waiting. For more information about lock types, see "Lock Types and Lock Levels".

Level
The level or state (mode) of the lock request. This information describes the level of resource access demanded by the lock request. For more information about lock levels, see "Lock Types and Lock Levels".

Resource
The resource for which the user is waiting. The content of the Resource field is dependent on lock type.

The resource varies depending upon the type of lock held. This field displays the following resources:

Lock Type
Resource

ALBP
BP=buffer pool ID

BIND
COLL=collection ID PKG=package name

BMBA
BMC_MBAO or BMC_MBAR

BPPS
BP=buffer pool ID, DB=database name, PS=pageset name

CDRN
DB=database name PS=pageset name PT=partition

COLL
COLL=collection ID

DBEX
DB=database name PS=pageset name PT=partition

DBXU
HASH CLASS=class number

DGTT
URID=unit of recovery ID

DPAG
DB=database name PS=pageset name PG=page

DSET
DB=database name PS=pageset name PT=partition

DTBS
DB=database name

GRBP
BP=buffer pool ID

HASH
DB=database name PS=pageset name PG=page

IEOF
DB=database name PS=pageset name PT=partition

IPAG
DB=database name PS=pageset name PG=page

LBLK
DB=database name PS=pageset name

MDEL
DB=database name PS=pageset name

PALK
DB=database name PS=pageset name PT=partition

PBPC
BP=buffer pool ID

PCDB
DB=database name

PDBD
DB=database name

PDSO
DB=database name PS=pageset name

PITR
DB=database name PS=pageset name PT=partition

PPAG
DB=database name PS=pageset name PG=page

PPSC
DB=database name PS=pageset name PT=partition

PPSP
DB=database name PS=pageset name PT=partition

PRLF
DB=database name PS=pageset name PT=partition

PSET
DB=database name PS=pageset name

PSPI
DB=dataset name PS=pageset name

RDRN
DB=dataset name PS=pageset name PT=partition

RGDA
DB=database name PS=pageset name PG=page

ROW
DB=database name PS=pageset name PG=page

RSTR
BMC-RSTP

SDBA
DB=dataset name PS=pageset name

SKCT
PLAN=plan name

SKPT

TOKEN is the consistency token (CONTOKEN) column from SYSIBM.SYSPACKAGE. Token=token

SPRC
SYS_PITR

SREC
DB=database name TS=tablespace name

TABL
DB=database name PS=pageset name

UNDT
Resource ID (in hexadecimal)

UTEX
UTEXEC

UTID
UID=utility identifier

UTOB
DB=database name PS=pageset name PT=partition

UTSE
UTSERIAL

WDRN
DB=database name PS=pageset name PT=partition

Note: DB=database name can be represented as a DBID=identifier, which is the decimal identifier of the database. PSID=identifier can be represented as PSID=identifier, which is the decimal identifier of the table space or index space.

For more information about lock resources, see "Lock Types and Lock Levels".

Wait For Lock Time
The time that DB2 has been waiting for the locked resource.

To Repeat Lock Timeout
The number of times DB2 repeats the lock timeout.

IRLM Time Out Value
The maximum time that DB2 waits for a locked resource. When DB2 reaches the maximum value, it rolls back the unit of work.

Level
The level or state (mode) of the lock request. This information describes the level of resource access demanded by the lock request. For more information about lock levels, see “Tablespace lock levels” on page 811.

Lock owner information:

Plan
The DB2 plan name of the active thread.

Connid
The DB2 connection identifier of the active thread.

Corrid
The DB2 correlation identifier of the active thread.

Lvl
The lock level owned.

Locks/Claims Owned By a Thread

This panel provides detail information about all current locks and claims that are owned by a selected thread.

Fields

The fields are described in Chapter 7, “Locking Conflicts,” on page 191, panel“Locks/Claims Owned by a Thread” on page 195.

Thread Global Lock Activity

This panel provides detail information about current locking activity of a selected thread in a data sharing environment.

```
 _________________ ZTGLOC   VTM     02       V540./I SE11 07/11/13 13:44:32   2
> Help PF1                                                          Back PF3

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  *-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES                  W-ACCEL ACTIVITY
================================================================================
>                       THREAD GLOBAL LOCK ACTIVITY
 PLAN
+ Thread:  Plan=DISTSERV  Connid=SERVER   Corrid=db2jcc_appli Authid=HONG
+ Dist  :  Type=DATABASE ACCESS, Luwid=G9414CE5.G536.CBA4ADE06FAA=591
+ Location  :  9.65.76.229,Host Name=sig-9-65-76-229.mts.ibm.com
 gloc
+ P-lock Lock Requests        =       0   XES Lock Requests           =       2
+ P-lock Unlock Requests      =       0   XES Unlock Requests         =       0
+ P-lock Change Requests      =       0   XES Change Requests         =       0
+ Suspends - IRLM Global Cont =       0   Total L-lock Requests       =       6
+ Suspends - XES Global Cont  =       0   XES L-lock Req Percentage   =   66.6%
+ Suspends - False (and Conv) =       0   Incompatible Retained Locks =       0
+ Notify Messages Sent        =       0   Total Number False Content. =       0
================================================================================
```

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Distributed thread identifier: The following fields are displayed if the thread has a distributed relationship with a remote Db2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote Db2 location.

Database Access
A responding thread; one that is serving a remote Db2 location by responding to an SQL call.

Db2=
The Db2 subsystem ID, indicating the member of the data sharing group of this thread.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any Db2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the *Luwid* field displays data like in the following example:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

Global lock information:

P-lock Lock Requests
Number of lock requests for P-locks. A P-lock is a physical lock used only in a data sharing environment to provide consistency of data cached in different DB2 subsystems.

P-lock Unlock Requests
Number of unlock requests for P-locks.

P-lock Change Requests
Number of change requests for P-locks.

XES Lock Requests
The number of lock requests (both logical and physical) that were propagated to MVS XES synchronously under the caller's execution unit. This count does not include suspended requests. Only the most restrictive lock for a particular resource is propagated to XES and the coupling facility.

XES Unlock Requests
The number of unlock requests (both logical and physical) that are propagated to MVS XES synchronously under the caller's execution unit. This count does not include suspended requests.

XES Change Requests
The number of change requests (both logical and physical) that were propagated to MVS XES synchronously under the caller's execution unit. This count does not include suspended requests.

Suspends - IRLM Global Cont
The number of suspends due to Internal Resource Lock Manager (IRLM) global resource contentions. IRLM lock states were in conflict and inter-system communication is required to resolve the conflict.

Suspends - XES Global Cont
The number of suspends due to MVS XES global resource contentions that were not IRLM-level contentions. The XES lock states were in conflict, but the IRLM lock states were not.

Suspends - False (and Conv)
Summation of false contentions and sync-to-async heuristic conversions.

XES detects hash class contention when two different locks on different resources hash to the same entry in the coupling facility lock table. The requester is suspended until it is determined that no real lock contention exists.

Sync-to-async heuristic conversions are done when the XES determines that it is more efficient to drive the request asynchronously to the coupling facility.

Total L-lock Requests
The total number of L-lock requests. An L-lock is a logical lock used to control intra- and inter-DB2 data concurrency between transactions.

XES L-lock Req Percentage
The percentage of total L-lock requests that were propagated to MVS XES synchronously.

Incompatible Retained Locks
The number of global lock or change requests that failed because of an incompatible retained lock. Certain P-locks can be retained because of a system failure. Another DB2 member cannot access the data that the retained P-lock is protecting unless it requests a P-lock in a compatible state.

Notify Messages Sent
The number of notify messages sent.

Total Number False Content.
The total number of false contentions for LOCK and UNLOCK requests. A false contention occurs when different resource names hash to the same entry in the coupling facility (CF) lock table. The CF detects contention within the hash entry, and XES uses intersystem messaging to determine that no actual resource contention exists.

SQL Call Being Executed

This panel shows the current SQL statement that a DB2 thread is executing. OMEGAMON XE for DB2 PE automatically determines whether the SQL statement is dynamic or static and displays appropriate text to that effect.

```
_________________ ZSQL     VTM     O2       V540.#P DA41 11/04/13  9:14:13   2
> Help PF1                                                          Back PF3

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> *-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES    V-SQL PA      W-ACCEL ACTIVITY
================================================================================
>                           SQL CALL BEING EXECUTED
 PLAN
+ Thread:  Plan=DSNESPRR  Connid=TSO      Corrid=MIS          Authid=MIS
+ Attach:  TSO            Userid=MIS                         Region asid= 224
+ Package: DSNESM68                       Collection=DSNESPRR
+ Luwid=DEIBMIPS.IPSATA41.CC365C8D3696=806
 call
+      SQL call is active, call information is as follows :
+
+      Thread Status  = NOT-IN-DB2     SQL Request Type     = DYNAMIC
+      Total SQL Reqs =    28634       SQL Call Type        = EXECUTE
+      SQL DBRM Name  = DSNESM68       SQL Statement Number = 00277
+      Collection ID  = DSNESPRR
+
+      INSERT INTO MIS.TESTTAB01
+             (IFCID,NAME,DESCRIPTION,SEQ)
+             VALUES(ROUND(RAND()*25000,0),'Name','Desc',0)
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: OMEGAMON XE for DB2 PE identifies the thread to which the information in this panel applies.

Plan
The DB2 plan name of the active thread.

Connid
The DB2 connection identifier of the active thread.

Corrid
The DB2 correlation identifier of the active thread.

Authid
The DB2 authorization identifier of the active thread.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Distributed thread identifier: The following fields are displayed when the thread has a distributed relationship with a remote DB2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote DB2 location.

Database Access
A responding thread; one that is serving a remote DB2 location by responding to an SQL call.

Luwid
This value consists of two parts: the logical unit-of-work ID (luw-id) and a token. The token can be used in place of the luw-id in any DB2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the **Luwid** field displays data such as the following:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

SQL call information: The information that OMEGAMON XE for DB2 PE displays in this area varies slightly, depending on whether the SQL call is active or not. If the call is active, OMEGAMON XE for DB2 PE displays the information described below with the actual text of the SQL call. If the call is not active, OMEGAMON XE for DB2 PE displays only the information described below.

Thread Status
The current DB2 status of the thread. For definitions of all possible status values, see "DB2 Thread Status".

SQL Request Type
The type of the SQL request: dynamic SQL or static SQL.

Total SQL Reqs
The total number of SQL requests issued by the thread.

SQL Call Type
The SQL call type of the currently or previously active SQL call. This is the specific activity that DB2 is performing. For example, a dynamic SQL call can indicate PREPARE, EXECUTE, or OPEN CURSOR even though the original SQL statement might have been an SQL SELECT. A static SQL call can indicate OPEN CURSOR, CLOSE CURSOR, or FETCH even though the originating SQL statement was an SQL DECLARE CURSOR.

SQL DBRM Name
The database request module name containing the active call. The DBRM name is usually set to the application program name. It helps you to locate the program that is issuing the call if diagnosis is necessary.

SQL Statement Number
The DB2 precompiler statement number of the active SQL statement. The statement number, when used together with the DBRM name, helps you easily locate the specific SQL call for diagnostic purposes.

Collection ID
The Collection ID of the currently executing statement. This field is displayed only if the currently executing statement is contained in a package.

Current SQL Counts

This panel provides counts of the various SQL activities, RID pool activities, and Parallel activities of an individual thread.

With this information, you can determine the activities that are using resources excessively. For example, a single SELECT command might result in many physical FETCH activities.

This information includes data definition statements and data manipulation statements. DB2 control counts are also supplied.

The panel also displays counts related to RID pool usage and parallel I/O activity.

```
_________________ ZTSCNT   VTM     O2       V540./C DA31 DD/MM/YY 13:28:16   2
> Help PF1                                                          Back PF3

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   *-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES                  W-ACCEL ACTIVITY
================================================================================
>                             CURRENT SQL COUNTS
 PLAN
+ Thread:  Plan=KO2PLAN   Connid=RRSAF    Corrid=             Authid=OMPEUSER
+ Attach:  RRSAF          JOB Name=DA31DM1S                  JOB Asid= 169
+ Luwid=DEIBMIPS.IPSASA31.CDFB0F7D865B=12
 sqls
+ Commit         =       7  Abort          =       0  Select          =       5
+ Open Cursor    =       3  Close Cursor   =       3  Fetch           =    9443
+ Insert         =       0  Delete         =       0  Update          =       1
+ Describe       =       0  Lock Table     =       0  Prepare         =       1
+ Grant          =       0  Revoke         =       0  Set Rules       =       0
+ Increm Bind    =       0  Label/Comm On  =       0  Set SQLID       =       0
+ Set Host Var   =       0  Set Connection =       0  Set Degree      =       0
+ Conn Type 1    =       0  Conn Type 2    =       0  Set Path        =       0
+ Rename Table   =       0  Hold Locator   =       0  Free Locator    =       0
+ Release        =       0  Assoc Locator  =       0  Alloc Cursor    =       0
+ Merge          =       0  Rename Index   =       0  Truncate Table  =       0
+ Refresh Table  =       1  Transfer Owner =       2
+
+ Creates:                  Drops:                    Alters:
+  Table         =       0   Table         =       0   Table          =       0
+  Index         =       0   Index         =       0   Index          =       0
+  Table Space   =       0   Table Space   =       0   Table Space    =       0
+  Data Base     =       0   Data Base     =       0   Data Base      =       0
+  Storage Group =       0   Storage Group =       0   Storage Group  =       0
+  Synonym       =       0   Synonym       =       0
+  View          =       0   View          =       0   View           =       0
+  Alias         =       0   Alias         =       0
+  Function      =       0   Function      =       0   Function       =       0
+  Procedure     =       0   Procedure     =       0   Procedure      =       0
+  Sequence      =       0   Sequence      =       0   Sequence       =       0
+  Role          =       0   Role          =       0
+  Trusted CTX   =       0   Trusted CTX   =       0   Trusted CTX    =       0
+  Mask/Perm     =       0   Mask/Perm     =       0   Mask/Perm      =       0
+  Variable      =     N/A   Variable      =     N/A
+  Trigger       =       0   Trigger       =       0
+  Dist Type     =       0   Dist Type     =       0
+  Aux Table     =       0   Package       =       0   Jar            =       0
+  Glob Temp Tab =       0   Declare GTT   =       0
+
```

```
+ RID List
+ --------------------
+ Successful              =       0   To Workfile (No Storage)        =       0
+ Not Used (No Storage)   =       0   To Workfile (Max Limit)         =       0
+ Not Used (Max Limit)    =       0
+ Not used (Final)        =       0   Interrupted (No Storage)        =       0
+ Skipped (Index Known)   =       0   Interrupted (Max Limit)         =       0
+ Skipped (Adaptive IX)   =       0
```

```
+ Query Parallelism
+ --------------------
+ Max Degree (Planned)    =     N/A   Parallel Group Degenerated      =     N/A
+ Max Degree (Estimated)  =     N/A   Reform Parallelism (Config Chg) =       0
+ Max Degree (Executed)   =       0   Reform Parallelism (No Buffer)  =       0
+  Ran Planned            =       0   Total Parallel Groups           =       0
+  Ran Reduced (Storage)  =       0   Groups Intended                 =       0
+  Ran Reduced (Negot)    =     N/A   Members Skipped                 =       0
+  Ran Seq (Cursor)       =       0    One DB2 (Coord=NO)             =       0
+  Ran Seq (No Buffer)    =       0    One DB2 (Isolation)            =       0
+  Ran Seq (No ESA Sort)  =       0    One DB2 (DCL GTT)              =       0
+  Ran Seq (Autonomous)   =     N/A
+  Ran Seq (Negotiate)    =     N/A
```

```
+ Miscellaneous                       Triggers
+ --------------------                --------------------
+ Max LOB Storage (KB)    =       0   Statement Trigger              =       0
+ Maximum XML Storage     =       0   Row Trigger                    =       0
+ Maximum Nested SQL      =       0   SQL Errors                     =       0
+ Array Expansions        =     N/A
+ Sparse IX (Disabled)    =     N/A
+ Sparse IX (Built WF)    =     N/A
+ Fetch 1 Block Only      =       0
+ Insert Algorithm 1      =       1
+ Insert Algorithm 2      =       0
+ Execution History Lost  =       0
+ HV Recording Lost Hist  =       0
```

```
+ Stored Procedures                   User Defined Functions
+ --------------------                --------------------
+ Executed                =       0   Executed                       =       0
+ Abended                 =       0   Abended                        =       0
+ Timed Out               =       0   Timed Out                      =       0
+ Rejected                =       0   Rejected                       =       0
+
```

```
+ Prepare Statistics
+ --------------------
+ Prepares (Copy Found)   =       0   Prepares (Copy Not Found)      =       1
+ Prepares (restrict IX)  =       0   Prepares (Catalog Found)       =       0
+ Literals (Parsed)       =       0   KeepDyn (Prepared)             =       0
+ Literals (Replaced)     =       0   KeepDyn (Avoided)              =       0
+ Literals (Matched)      =       0   KeepDyn (Exceed Limit)         =       0
+ Literals (Duplicated)   =       0   KeepDyn (Invalidated)          =       0
```

```
+ ROWID                              Row Processing
+ --------------------              --------------------
+ Direct Access           =       0   Rows Fetched                   =    9443
+ Index Used              =       0   Rows Updated                   =       0
+ TS Scan Used            =       0   Rows Inserted                  =       1
+                                     Rows Deleted                   =       0
================================================================================
```

Highlighting

The following table shows the fields that might be highlighted in the panel above to indicate that an exception that is related to this field exceeded its threshold value:

Table 5. Highlighted fields in Current SQL Counts panel		
Field	**Exception**	**Reason**
Plan	ARCM	Backout requires an archive tape log mount.
	GETP	The Getpage to Read I/O ratio indicates poor read efficiency.
	INDB	The thread is indoubt and terminated.
	PREF	The Sequential Prefetch rate is high.
	RIO	The synchronous Read I/O rate is high.
	ETIM	This thread has reached the Elapsed Time threshold value.
	PGUP	The rate for system page updates is high.
	WTRE	The wait resource time is high.
Commit	COMT	The ratio of Commits to Updates indicates a low Commit frequency.
Abort	COMT	Backout processing caused by aborts might have reduced the Commit rate.

Navigation

For additional information about

- an individual thread, for example, the locking activity or SQL activity of a thread, or the resource limit activity, type the appropriate option letter on the top line and press Enter.
- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Distributed thread identifier: The following fields are displayed when the thread has a distributed relationship with a remote DB2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote DB2 location.

Database Access
A responding thread; one that is serving a remote DB2 location by responding to an SQL call.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any DB2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the **Luwid** field displays data such as the following:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

SQL counts:

Commit
The number of times the thread successfully concluded Commit phase 2 processing.

Abort
A count of the number of times the thread has rolled back uncommitted data.

Select
The number of SELECT requests.

Open Cursor
The number of OPEN cursor statements issued by a thread.

Close Cursor
The number of CLOSE cursor statements issued by a thread.

Fetch
The number of FETCH requests.

Insert
The number of INSERT statements executed by the thread.

Delete
The number of DELETE statements issued by the thread.

Update
The number of UPDATE statements executed by the thread.

Describe
The number of DESCRIBE statements issued by the thread.

Lock Table
A count of the number of LOCK TABLE statements issued by the application (not the total number of tables locked by the thread).

Prepare
The number of PREPARE statements issued by a thread.

Grant
The total number of times SQL GRANT requests were issued from within the program.

Revoke
The total number of times SQL REVOKE requests were issued from within the program.

Set Rules
The number of SET CURRENT RULES statements executed by the thread.

Increm Bind
A count of the number of times the plan active in the thread was rebound. PREPARES are not included. This value should be zero in a production environment. The plan can be rebound with VALIDATE(BIND) to prevent incremental binds.

Label/Comm On
The number of LABEL ON and COMMENT ON statements issued by the thread.

Set SQLID
The number of SET SQLID requests issued by the thread.

Set Host Var
The number of SET host variable requests executed by the thread.

Set Connection
The number of SET CONNECTION statements executed by the thread.

Set Degree
The number of SET CURRENT DEGREE statements executed by the thread.

Connect Type 1
The number of CONNECT type 1 statements executed by the thread.

Connect Type 2
The number of CONNECT type 2 statements executed by the thread.

Set Path
The number of SET CURRENT PATH statements executed by the thread.

Rename table
The number of RENAME TABLE statements executed by the thread.

Hold Locator
The number of HOLD LOCATOR statements executed by the thread.

Free Locator
The number of FREE LOCATOR statements executed by the thread.

Release
The number of RELEASE statements executed by the thread.

Assoc Locator
The number of ASSOCIATE LOCATOR statements executed by the thread.

Alloc Cursor
The number of ALLOCATE CURSOR statements executed by the thread.

Merge
The number of MERGE statements executed by the thread.

Rename Index
The number of RENAME INDEX statements executed by the thread.

Truncate Table
The number of TRUNCATE TABLE statements executed by the thread.

Refresh Table
Number of refresh table statements. DB2 12 and later. (Field name: QXTREFTBL)

Transfer Owner
Number of transfer ownership statements. DB2 12 and later. (Field name: QXTRNOWN)

Creates, Drops, Alters:

Table
The number of CREATE, DROP, or ALTER TABLE statements executed by the thread.

Index
The number of CREATE, DROP, or ALTER INDEX statements executed by the thread.

Table Space
The number of CREATE, DROP, or ALTER TABLESPACE statements executed by the thread.

Data Base
The number of CREATE, DROP, or ALTER DATABASE statements executed by the thread.

Storage Group
The number of CREATE, DROP, or ALTER STOGROUP statements executed by the thread.

Synonym
The number of CREATE or DROP SYNONYM statements executed by the thread.

View
The number of CREATE or DROP VIEW statements executed by the thread.

Alias
The number of CREATE or DROP ALIAS statements executed by the thread.

Function
The number of CREATE, DROP, or ALTER FUNCTION statements executed by the thread.

Procedure
The number of CREATE, DROP, or ALTER PROCEDURE statements executed by the thread.

Sequence
The number of CREATE, DROP, or ALTER PROCEDURE statements executed by the thread.

Role
The number of CREATE, DROP, or ROLE statements executed by the thread.

Trusted CTX
The number of CREATE, DROP, or ALTER TRUSTED CONTENT statements executed by the thread.

Mask/Perm
The number of CREATE, DROP, or ALTER MASK/PERM statements executed by the thread.

Variable
The number of CREATE, or DROP Variable statements executed by the thread. DB2 11 and above.

Trigger
The number of CREATE or DROP DISTINCT TRIGGER statements executed by the thread.

Dist Type
The number of CREATE or DROP DISTINCT TYPE statements executed by the thread.

Aux Table
The number of CREATE AUXILIARY TABLE statements executed by the thread.

Package
The number of the DROP PACKAGE statements executed by the thread.

JAR
The number of ALTER JAR statements executed by the thread.

Glob Temp Tab
The number of CREATE GLOBAL TEMPORARY TABLE statements executed by the thread.

Declare GTT
The number of DECLARE GLOBAL TEMPORARY TABLE statements executed by the thread.

RID List:

Successful
The number of times RID list processing used. This field is incremented once for a given table access for Index Access with list prefetch and for Multiple Index Access.

To Workfile (No Storage)
The number of times a RID list was overflown to a work file because no RIDPOOL storage was available to hold the list of RIDs. DB2 10 and above.

Not Used (No Storage)
The number of times a RID list was not used for a given RID list process involving one index (Index Access with list prefetch) or involving multiple indexes (Multiple Index Access) because no storage was available to hold the list of RIDs.

To Workfile (Max Limit)
The number of times a RID list was overflown to a work file because the number of RIDs exceeded one or more internal limits. DB2 10 and above.

Not Used (Max Limit)
The number of times one or more RID lists were not used for a given RID list process involving one index (Index Access with list prefetch) or involving multiple indexes (Multiple Index Access) because the number of RIDs exceeded one or more internal limits.

Not Used (Final)
Number of times RID list processing was not used. This field is incremented once when RID list processing could not be used for a given table access for Index Access with list prefetch and/or for Multiple Index Access. DB2 12 and later.

Interrupted (No Storage)
The number of times a RID list append for a Hybrid Join was interrupted because no RIDPOOL storage was available to hold the list of RIDs (that is, number of times DB2 interrupted the RID phase and switched to the Data phase). DB2 10 and above.

Skipped (Index Known)
The number of times a RID list retrieval for multiple index access was skipped because it was not necessary due to DB2 being able to predetermine the outcome of index ANDing or ORing. DB2 10 and above.

Interrupted (Max Limit)
The number of times a RID list append for a Hybrid Join was interrupted because the number of RIDs exceeded one or more internal limits (that is, number of times DB2 interrupted the RID phase and switched to the Data phase). DB2 10 and above.

Skipped (Adaptive IX)
The number of times a DM is not called for RID list retrieval for multiple index access or LPF because it was not necessary due to Runtime Adaptive Index processing being able to predetermine the outcome. DB2 12 and later. (Field name: QXRSDMAD)

Query Parallelism:

Max Degree (Planned)
The planned maximum degree of parallelism for a parall group. This value is the optimal degree of parallelis that can be obtained at execution time, after host variables or parameter markers are resolved, and before buffer pool negotiation and system negotiation are performed. DB2 11 and above.

Parallel Group Degenerated
Total number of parallel groups that changed to sequential mode during optimization, for reasons such as, the result of evaluation of a parallel group is that zero rows are returned, or a parallel group is partitioned on a single record. DB2 11 and above.

Max Degree (Estimated)
The estimated maximum degree of parallelism for a parallel group. This value is estimated at bind time, based on the cost formula. If a parallel group contains a host variable or parameter marker, the estimate is based on assumed values. DB2 11 and above.

Reform Parallelism (Config Chg)
The total number of parallel groups for which DB2 reformulated the parallel portion of the access path because the sysplex configuration was different from the sysplex configuration at bind time. This counter is only incremented by the parallelism coordinator at run time.

Max Degree (Executed)
Maximum degree of parallelism among the parallel groups to indicate the extent to which query parallelism applies.

Reform Parallelism (No Buf)
The total number of parallel groups for which DB2 reformulated the parallel portion of the access path because there was not enough buffer pool resource. This counter is only incremented by the parallelism coordinator at run time.

Ran Planned
The total number of parallel groups that have a planned degree greater than one at run time, and were executed to the same degree because of sufficient storage on the buffer pool.

Total Parallel Groups
The total number of parallel groups executed.

Ran Reduced (Storage)
The total number of parallel groups that have a planned degree greater than one at run time, but were processed to a parallel degree less than planned because of a storage shortage or contention on the buffer pool.

Groups Intended
The total number of parallel groups that were intended to run across the data sharing group. This count is only incremented on the parallelism coordinator at run time.

Ran Reduced (Negot)
The total number of parallel groups for which the degree of parallelism was reduced as a result of parallel system negotiation because system resources were constrained. DB2 11 and above.

Members Skipped
The number of times that the parallelism coordinator had to bypass a DB2 when distributing tasks because there was not enough buffer pool storage on one or more DB2 members. This field is incremented only on the parallelism coordinator, and it is only incremented once per parallel group, even though it is possible that more than one DB2 had a buffer pool shortage for that parallel group. The purpose of this count is to indicate when there are not enough buffers on a member. Therefore, this count is incremented only when the buffer pool is defined to allow parallelism. For example, if VPXPSEQT = 0 on an assistant, DB2 does not send parallel work there, but this count is not incremented.

Ran Seq (Cursor)
The total number of parallel groups which fell back to sequential mode because the cursor may be used in UPDATE/DELETE.

One DB2 (Coord=NO)
The total number of parallel groups executed on a single DB2 due to the COORDINATOR subsystem parameter being set to NO. When the statement was bound, the COORDINATOR subsystem parameter was set to YES. This situation can also occur when a plan or package is bound on one DB2 where COORDINATOR=YES but is run on a DB2 where COORDINATOR=NO.

Ran Seq (No Buffer)
The total number of parallel groups that have a planned degree greater than one at run time, but fell back to sequential mode because of storage shortage or contention on the buffer pool.

One DB2 (Isolation)
The total number of parallel groups executed on a single DB2 due to repeatable-read or read-stability isolation.

Ran Seq (No ESA Sort)
The total number of parallel groups that fell back to sequential operation because of a lack of ESA sort support.

One DB2 (DCL GTT)
The total number of parallel groups that are part of a query block using a UDF and executed on a single DB2 due to the existence of a Declared Temporary Table in the application process. Neither the query block nor the parallel group references a Declared Temporary Table, and a parallel group may or may not use a UDF.

Ran Seq (Autonomous)
The total number of parallel groups that changed to sequential mode because they were executing under an autonomous procedure. DB2 11 and above.

Ran Seq (Negotiate)
The total number of parallel groups that changed to sequential mode as a result of parallel system negotiation because system resources were constrained. DB2 11 and above.

Ran Seq (No ESA Enc)
The total number of parallel groups executed in sequential because Z/OS enclave services were unavailable. DB2 9 only.

Miscellaneous:

Maximum LOB Storage
The maximum storage used for LOB values, in Megabytes.

Maximum XML Storage
The maximum storage used for XML values.

Maximum Nested SQL
Maximum level of nested SQL cascading because of Triggers, User-Defined Functions, or Stored Procedures.

Array Expansions
The number of times an array variable was expanded to be larger than 32KB. DB2 11 and above.

Sparse IX (Disabled)
The number of times that sparse index was disabled because of insufficient storage. DB2 11 and above.

Sparse IX (Built WF)
The number of times that sparse index built a physical work file for probing. DB2 11 and above.

Fetched 1 Block Only (QXR1BOAD)
The number of times 1 block is fetched and there were no further fetches. DB2 12 and later.

Insert Algorithm 1
INSERT algorithm type 1. DB2 12 and later.

Insert Algorithm 2
INSERT algorithm type 2. DB2 12 and later.

Execution History Lost
Number of execution histories lost. DB2 12 and later.

HV Recording Lost Hist
Number of HV recordings lost in execution history. DB2 12 and later.

Triggers:

Statement Trigger
Number of times a Statement Trigger is activated.

Row Trigger
Number of times a Row Trigger is activated.

SQL Errors
Number of times an SQL error occurred during execution of a triggered action.

Stored procedures: For each field described below the following statistics are provided:

- Total quantity, which reflects the amount of activities since DB2 was started.
- Interval quantity, which reflects activity during the last cycle.
- Rate per minute during the last cycle.
- Rate per thread during the last cycle.
- Rate per Commit during the last cycle.

Abended
CALL statements executed to invoke a stored procedure that terminated abnormally.

Timed Out
CALL statements executed to invoke a stored procedure that timed out while waiting to be scheduled.

Rejected
CALL statements executed to invoke a stored procedure that was in the STOP ACTION(REJECT) state.

User Defined Functions:

Executed
The number of user-defined functions (UDFs) executed.

Abended
The number of times a UDF abended.

Timed Out
The number of times a UDF timed out when waiting to be scheduled.

Rejected
The number of times a UDF was rejected.

Prepare Statistics:

Prepares (Copy Found)
The number of times that DB2 satisfied a prepare request by making a copy of a statement in the Prepared Statement Cache.

Prepare (Copy Not Found)
The number of times that DB2 searched the Prepared Statement Cache but could not find a suitable prepared statement.

Prepares (Catalog Found)
The number of times a PREPARE request is satisfied by making a copy from the stabilized statement in SYSIBM.SYSDYNQRY catalog table. The stabilized statement search is done only when no matching statement is found in the prepared statement cache. DB2 12 and later. (Field name: QXSTSFND)

Prepare (Restrict IX)
The number of prepare statements for which the use of indexes was restricted because the indexes were in a pending state.

Literals (Parsed)
Number of times DB2 parsed dynamic statements because of CONCENTRATE STATEMENTS WITH LITERALS behaviour.

Literals (Replaced)
Number of times DB2 replaced at least one literal in a dynamic statement because of CONCENTRATE STATEMENTS WITH LITERALS behaviour.

Literals (Matched)
Number of times DB2 found a matching reusable copy of a dynamic statement in cache because of CONCENTRATE STATEMENTS WITH LITERALS behaviour.

Literals (Duplicated)
Number of times DB2 created a duplicate stmt instance in the statement cache because of CONCENTRATE STATEMENTS WITH LITERALS behaviour.

KeepDyn (Prepared)
The number of times that DB2 did an implicit prepare for a statement bound with KEEPDYNAMIC(YES), because the Prepared Statement Cache did not contain a valid copy of the prepared statement.

KeepDyn (Avoided)
The number of times that DB2 did not prepare a statement bound with KEEPDYNAMIC(YES), because the Prepared Statement Cache contained a valid copy of the prepared statement.

KeepDyn (Exceed Limit)
The number of times that DB2 discarded a prepared statement from the Prepared Statement Cache, because the number of prepared statements in the cache exceeded the value of subsystem parameter MAXKEEPD.

KeepDyn (Invalidated)
The number of times that DB2 discarded a prepared statement from the Prepared Statement Cache, because a program executed a DROP, ALTER, or REVOKE statement against a dependent object.

Row ID

Successful
The number of times that direct row access was successful.

Revert to Index
The number of times an attempt to use direct row access reverted to using an index to locate a record.

Revert to TS Scan
The number of times an attempt to use direct row access reverted to using a table space scan to locate a record.

Row Processing

Rows Fetched
The number of fetched rows.

Rows Inserted
The number of inserted rows.

Rows Updated
The number of updated rows.

Rows Deleted
The number of deleted rows.

Distributed Thread Detail (VTAM and TCP/IP Connections)

This panel provides information about VTAM APPC threads, TCP/IP threads, or RRSAF threads of an individual distributed thread. For VTAM APPC and TCP/IP conversations, it additionally includes statistics about the distributed activity of the thread.

VTAM APPC threads

The thread subtype determines the data that is displayed with the RSUM minor command.

This panel provides information about VTAM APPC conversations.

```
 _________________ ZTDIST   VTM     O2       V540./C DB11 08/28/13  1:20:48   2
> Help PF1                                                          Back PF3
>
>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  *-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES    V-DB2 CON SRV W-ACCEL ACTIVITY
================================================================================
>                        DISTRIBUTED THREAD DETAIL
 PLAN
+ Thread:  Plan=DSNESPRR  Connid=TSO      Corrid=HONG         Authid=HONG
+ Attach:  TSO            Userid=HONG                        Region asid= 151
+ Dist  :  Type=DISTRIBUTED ALLIED, Luwid=DEIBMIPS.IPSAQB11.CBE010B90BCE=3620
+ Location  :  PMODBE1
 rsum
+                     Distributed VTAM APPC Conversations
+
+ VTAM     VTAM     Last VTAM Last VTAM  Time Since Conv       VTAM
+ Luname   Modename APPC Req  APPC Qual  Last Req   Status     Session ID
+ -------- -------- --------- ---------  ---------- ---------- ----------------
+ IPSASE11 IBMRDB   UNKNOWN   DATAFLU    06:23:48.6 NOT-ACTIVE C0CF1A6BA8F5ECEF
+ IPSARA21 IBMRDB   UNKNOWN   DATAFLU    06:23:48.8 NOT-ACTIVE E4CF19C081F5ABA1
+ IPSASB31 IBMRDB   UNKNOWN   DATAFLU    06:23:48.5 IN-VTAM    E8CF19C083FB5F9E
```

```
+
+                         Distributed SQL Statistics
+
+ Remote Location Name   = PMODBE1
+ Remote Location Luname = IPSASE11
+
+ Protocol Used        = SYSTEM           Conversations Queued   =            0
+                                         Conv Deallocated      =            0
+ Indoubt/Remote       =            0
+ Dist Local Elapsed   = 06:23:48.809
+
+                  SQL     Row Message     Byte  Commit   Abort    Conv  Blocks
+               ------- ------- ------- -------- ------- ------- ------- -------
+ Sent               2       0       5     1202       0       0       0       0
+ Recv               0       1       5      988       0       0       0       1
+
+ Remote Location Name   = PMODA21
+ Remote Location Luname = IPSARA21
+
+ Protocol Used        = SYSTEM           Conversations Queued   =            0
+                                         Conv Deallocated      =            0
+ Indoubt/Remote       =            0
+ Dist Local Elapsed   = 00:00:00.126
+
+                  SQL     Row Message     Byte  Commit   Abort    Conv  Blocks
+               ------- ------- ------- -------- ------- ------- ------- -------
+ Sent               2       0       5     1193       0       0       0       0
+ Recv               0       1       5      954       0       0       0       1
+
+ Remote Location Name   = PMODB31
+ Remote Location Luname = IPSASB31
+
+ Protocol Used        = SYSTEM           Conversations Queued   =            0
+                                         Conv Deallocated      =            0
+ Indoubt/Remote       =            0
+ Dist Local Elapsed   = 00:00:00.311
+
+                  SQL     Row Message     Byte  Commit   Abort    Conv  Blocks
+               ------- ------- ------- -------- ------- ------- ------- -------
+ Sent               3       0       7     1777       0       0       0       0
+ Recv               0       1       6     1154       0       0       0       1
+
+ Remote Location Name   = ALL LOCATIONS
+
+ Protocol Used        = SYSTEM           Conversations Queued   =            0
+                                         Conv Deallocated      =            0
+ Indoubt/Remote       =            0
+ Dist Local Elapsed   = 00:00:00.552
+
+                  SQL     Row Message     Byte  Commit   Abort    Conv  Blocks
+               ------- ------- ------- -------- ------- ------- ------- -------
+ Sent               7       0      17     4172       0       0       0       0
+ Recv               0       3      16     3096       0       0       0       3
================================================================================
```

Fields

Distributed VTAM APPC Conversations

The following fields are displayed when the thread has a distributed relationship with a remote DB2 subsystem. One line of output is displayed for each active conversation.

VTAM Luname
The VTAM logical unit name of the remote DB2 subsystem that is the partner on this VTAM APPC conversation.

VTAM Modename
The VTAM logmode in use by the APPC conversation. For database access threads, the logmode name exists and originates on the MVS system of the remote requester.

Last VTAM APPC Req
The most recent VTAM APPC request that was issued on the conversation.

Last VTAM APPC Qual
The most recent VTAM APPC qualifier that was issued on the conversation.

Time Since Last Req
The elapsed time since the last APPC command was issued on the conversation.

Conv Status
The status of the conversation.

WAIT-VTAM
The conversation is suspended and waiting for a VTAM response.

IN-VTAM
The conversation is active within VTAM.

NOT-ACTIVE
The conversation is inactive-neither waiting for a VTAM response nor active in VTAM.

VTAM Session ID
The VTAM session identifier in use by the conversation.

Distributed SQL statistics

The following group of fields occurs for each remote DB2 location with which the thread has communicated, either as a requester or a server. Each sent/received field generates two rows of output; the top row is the sent value, and the bottom row is the received value.

Remote Location Name
The name of a remote location with which the local DB2 has communicated.

Remote Location Luname
The logical unit name of the location specified in the "Remote Location Name" field. This field is not displayed for distributed TCP/IP threads.

Protocol Used
The type of distributed protocol being used. The values are SYSTEM, APPLICATION, or BOTH, depending on whether system directed access, application directed access, or both are being used.

Conversations Queued
The number of conversation requests queued by DDF waiting for allocation.

Conv Deallocated
The number of conversations deallocated.

Indoubt/Remote
The number of threads that went indoubt with the remote location as coordinator.

Dist Local Elapsed
The time the thread has spent waiting for a response to a remote SQL request (includes remote DB2 processing time, VTAM processing time, and network time). The time is calculated from the point of thread creation (or DB2 signon if the thread is reused). This field is displayed only for distributed allied threads.

SQL Sent/Recv
The number of SQL calls sent to and from the remote location since thread creation or DB2 signon.

Row Sent/Recv
The number of rows sent to and from the remote location since thread creation or DB2 signon.

Message Sent/Recv
The number of VTAM messages sent to and from the remote location since thread creation or DB2 signon.

Byte Sent/Recv
The number of bytes sent to and from the remote location since thread creation or DB2 signon.

Commit Sent/Recv
The number of Commits sent to and from the remote location since thread creation or DB2 signon.

Abort Sent/Recv
The number of aborts sent to and from the remote location since thread creation or DB2 signon.

Conv Sent/Recv
The number of conversations sent to and from the remote location since thread creation or DB2 signon.

Blocks Sent/Recv
The number of blocks sent and received using block fetch.

Distributed TCP/IP threads

This panel provides information about TCP/IP conversations.

```
_________________ ZTDIST   VTM     O2       V540./C DB11 08/28/13  1:14:57   2
> Help PF1                                                          Back PF3
>
>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  *-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES    V-DB2 CON SRV W-ACCEL ACTIVITY
================================================================================
>                        DISTRIBUTED THREAD DETAIL
 PLAN
+ Thread:  Plan=DISTSERV  Connid=SERVER   Corrid=db2bp.exe    Authid=HONG
+ Dist  :  Type=DATABASE ACCESS, Luwid=G941543B.KB08.130827231306=3670
+ Location  :  ::FFFF:9.65.84.59
+ Host Name:sig-9-65-84-59.mts.ibm.com
 rsum
+                        Distributed TCP/IP Data
+Location                                Port    Ctbuser  Srvclsnam  Prod ID
+--------------------------------------- ------  -------- ---------- --------
+::FFFF:9.65.84.59                        11511  hong     NT         SQL09050
+
+ End User ID      :
+   hong
+
+ Transaction Name :
+   db2bp.exe
+
+ Workstation Name :
+   IBM-67119346B51
+
+ Account Loc Name :
+   N/P
+
+ Account Suffix   :
+   N/P
+
+ Account String   :
+   N/P
+
+                          Distributed SQL Statistics
+
+ Remote Location Name   = ::FFFF:9.65.84.59
+
+ Protocol Used        = SYSTEM           Conversations Queued   =            0
+                                         Conv Deallocated      =            0
+ Indoubt/Remote       =            0
+
+                  SQL     Row Message     Byte  Commit   Abort    Conv  Blocks
+              ------- ------- ------- -------- ------- ------- ------- -------
+ Sent               0     815      21   474788       0       0       0      14
+ Recv              17       0      21     2302       0       0       1       0
================================================================================
```

Fields

Distributed TCP/IP Data: The following fields are displayed when the thread has a distributed relationship with a remote DB2 subsystem. One line of output is displayed for each active conversation. TCP/IP activity is grouped by remote TCP/IP locations.The following fields are shown for each remote location with which this thread has communicated, as either a remote requestor (if a distributed allied thread) or server (if a database access thread).

Location
The IP address in dotted decimal notation.

PORT
The IP port number used in the connection.

Ctbuser
The binder's AuthID.

Srvclsnam
The service class name as taken from the Accounting Record MVS Account Code and DDF Information Data Section (QMDA).

Prod ID
The Product ID parameter having the form *PPPVVRRM*, where *PPP* is the Product, *VV* is the Version, *RR* is the Release, and *M* is the Modification.

IP Addr
The IP address in Hexadecimal notation.

Workstation name
The end user's workstation name.

Account Loc Name
The DB2 LOCATION name for the DB2 system that created the QMDAINFO values if QMDALOCN is truncated.

Account Suffix
One of the following items apply:

- The MVS accounting string that is associated with the MVS address space of the DB2 SQL application.
- The account suffix. The maximum length of this field is 200 bytes. This environment variable is the user-supplied portion (suffix) of the accounting string.

Account String
The extended accounting string area.

- If QMDAASTR is defined by QMDAINFO, this area contains all the remaining bytes beyond position 142 for QMDAACCT.
- If QMDAASTR is defined by QMDASQLI, this area contains all the remaining bytes beyond position 200 for QMDASUFX.
- Otherwise, this area contains all bytes beyond position 247 for QMDAASTR.

This applies to DB2 11 or higher.

Transaction name
The name of the transaction.

TCP/IP Userid
The TCP/IP user ID.

Distributed RRSAF threads

This panel provides information about RRSAF conversations.

```
_________________ ZTDIST   VTM     O2       V540./I SE11 07/10/13 14:38:16   2
> Help PF1                                                          Back PF3
>
>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  *-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES    V-DB2 CON SRV W-ACCEL ACTIVITY
================================================================================
>                        DISTRIBUTED THREAD DETAIL
 PLAN
+ Thread:  Plan=RRSFSE11  Connid=RRSAF    Corrid=A00000000000 Authid=HONG
+ Attach:  RRSAF          JOB Name=HONGRSAF                   JOB Asid=  56
+ Package: RRSFSE11                      Collection=RRSFSE11
+ Luwid=DEIBMIPS.IPSASE11.CBA37B8A05D4=15
 rsum
+                        Distributed RRSAF
Data
+ Location                                Port    Ctbuser  Srvclsnam  Prod ID
+ ------------------------------------- ------  -------- ----------
--------
+ N/A                                     N/A     HONG      N/A
N/A
+
+
+
+ End User ID      :
+   LU-LONG-USER-ID-THAT-IS-UP-TO-128-BYTES-AND-IT-IS-SET-IN-THE-MIDDLE-OF-THI
+   S-PROGRAM-USING-SET-CLIENT-INFO-CALL
+
+ Transaction Name :
+   LP-LONG-APPLICATION-NAME-THAT-IS-UP-TO-255-BYTES-THIS-IS-SET-IN-THE-MIDDLE
+   -OF-THE-PROGRAM-USING-SET-CLIENT-INFO-CALL
+
+ Workstation Name :
+   LW-LONG-WORKSTATION-NAME-THAT-IS-UP-TO-255-BYTES-THIS-IS-SET-IN-THE-MIDDLE
+   -OF-THE-PROGRAM-USING-SET-CLIENT-INFO-CALL
+
+ Account Loc Name :
+   N/P
+
+ Account
Suffix   :
+   WHICH-IS-A-FREE-FORMAT-ACCOUNT-INFORMATION-IT-IS-SET-IN-THE-MIDDLE-OF-THE-
+   PROGRAM-USING-SET-CLIENT-INFO-CALL
+
+ Account String   :
+   N/P
================================================================================
```

Distributed RRSAF Data: The Resource Recovery Services attachment facility (RRSAF) is a DB2 attachment facility that relies on a z/OS component called Resource Recovery Services (z/OS RRS). z/OS RRS provides system-wide services for coordinating two-phase commit operations across z/OS subsystems.

RRSAF information is limited to the following fields:

Ctbuser
The binder's AuthID.

Workstation name
The end user's workstation name. DB2 applications which use the RRSAF interface can invoke the DB2 DSNRLI function SET_CLIENT_ID to pass this value.

UserID
The end user's User ID. DB2 applications which use the RRSAF interface can invoke the DB2 DSNRLI function SET_CLIENT_ID to pass this value.

Transaction name
The name of the transaction. DB2 applications which use the RRSAF interface can invoke the DB2 DSNRLI function SET_CLIENT_ID to pass this value.

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Distributed thread identifier: The following fields are displayed when the thread has a distributed relationship with a remote DB2 subsystem.

Type
The distributed thread type:

Distributed Allied
A requesting thread that has issued an SQL call to a remote DB2 location.

Database Access
A responding thread that is serving a remote DB2 location by responding to an SQL call.

Location
The remote location name.

Luwid
Logical unit of work indicator for the distributed thread. It has the following format (separated by periods):

network-name.originating-VTAM-luname.unique-identifier=token

network-name
The network name

originating-VTAM-luname
The originating VTAM LUNAME

unique-identifier
The unique identifier

token
You can use the token instead of luwid in any DB2 command that accepts luwid as input.

Threads with DB2 Connect gateway connections

OMEGAMON XE for DB2 PE provides information about DB2 Connect Servers through a variety of panels. Some of these panels are documented in this topic.

Other DB2 Connect Server information is shown in panels that are documented in Chapter 12, “DB2 Connect Server,” on page 521.

For a selected distributed database access thread (DBAT) the Distributed Thread Detail panel shows thread details. If the selected thread is currently inactive, the message `THREAD NOT FOUND` is displayed.

DB2 Connect Server

This panel shows information about a DB2 Connect server that is related to the previously selected Distributed Database Access Thread (DBAT).

If the distributed thread does not have a connection through a DB2 Connect gateway, or if the Performance Expert Agent for DB2 Connect Monitoring (PE Agent) is not installed or not running on the DB2 Connect Server, the message `No DB2 Connect server data available` is displayed.

```
_________________ ZTDBC    VTM     O2       V540./C DA61 03/06/14 12:49:02   2
> Help PF1                                                          Back PF3
>
>       THREAD INFORMATION:  Enter a selection letter on the top line.
>
> *-DB2 Connect Server  B-Overview   C-Statement Info   D-Package Statistics
>
================================================================================
>                        DB2 Connect Server
 PLAN
+ Thread:  Plan=DISTSERV  Connid=SERVER   Corrid=javaw        Authid=MIS
+ Dist  :  Type=DATABASE ACCESS, Luwid=G9987A90.A2F1.CCCFEFB7D0DA=214
+ Location  :  ::FFFF:9.152.122.144
+ Host Name:polk.boeblingen.de.ibm.com
 tdbc
+
+ DB2 Connect Server Information:
+ ------------------------------------------
+ Name                       = POLK
+ IP Address                 = 9.152.122.144
+ Node Name                  = N/P
+ Node Number                =        0
+ Server Product/Version ID  = SQL09078
+ Server Instance Name       = db2inst1
+ Server Version             =        7
+ Time Zone Displacement     =  1h 0mn
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Distributed thread identifier: The following fields are displayed if the thread has a distributed relationship with a remote Db2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote Db2 location.

Database Access
A responding thread; one that is serving a remote Db2 location by responding to an SQL call.

Db2=
The Db2 subsystem ID, indicating the member of the data sharing group of this thread.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any Db2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the *Luwid* field displays data like in the following example:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

DB2C Master
Shows the name of the member of the data sharing group that controls DB2 Connect monitoring for the group. If N/A is shown, the DB2C Master is currently being changed. For more information, see the description of panel “Redirect Monitoring to Another DB2” on page 20.

DB2 Connect Server Information:

Name
Shows the name in the database manager configuration file at the client node. It identifies the client node that is running the application.

IP Address
Shows the current IP address.

Node Name
Shows the name of the node being monitored by the database system monitor. It identifies the database server node being monitored.

Node Number
Shows the number assigned to the node in the db2nodes.cfg file.

Server Product/Version ID
Shows the product and version that is running on the DB2 data server in the form *pppvvrrm*, where:

- *ppp* stands for SQL
- *vv* identifies a 2-digit version number (with high-order 0 in the case of a 1-digit version)
- *rr* identifies a 2-digit release number (with high-order 0 in the case of a 1-digit release)
- *m* identifies a 1-digit modification level

Server Instance Name
Shows the name of the database manager instance for which the snapshot was taken.

Server Version
Shows the version of the DB2 data server returning the information.

Time Zone Displacement
Shows the number of hours and minutes that the local time zone is displaced from Greenwich Mean Time (GMT).

DB2 Connect Server - Overview

This panel shows application-, client-, and DB2 host-related information for the previously selected Distributed Database Access Thread (DBAT).

If the distributed thread does not have a connection through a DB2 Connect gateway, or if the Performance Expert Agent for DB2 Connect Monitoring (PE Agent) is not installed or not running on the DB2 Connect Server, the message `No DB2 Connect server data available` is displayed.

```
_________________ ZTCNO    VTM     O2       V540./C DA61 03/06/14 12:54:54   2
> Help PF1                                                          Back PF3
>
>       THREAD INFORMATION:  Enter a selection letter on the top line.
>
> A-DB2 Connect Server  *-Overview   C-Statement Info   D-Package Statistics
>
================================================================================
>                DB2 Connect Server - Overview
 PLAN
+ Thread:  Plan=DISTSERV  Connid=SERVER   Corrid=javaw        Authid=MIS
+ Dist  :  Type=DATABASE ACCESS, Luwid=G9987A90.A2F1.CCCFEFB7D0DA=214
+ Location  :  ::FFFF:9.152.122.144
+ Host Name:polk.boeblingen.de.ibm.com
 tcno
+
+ Application Information
+ ------------------------------------------------------------
+ Application Handle (agent ID)     =    57794
+ Application Name                  = javaw
+ Application ID                    = *LOCAL.db2inst1.140311064128
+ Transaction ID                    = N/P
+ Authorization ID                  = MIS
+
+ Code Page Used by Application     =     1208
+ Client Process ID                 =    23948
+ Client Operation Platform         = LINUXX8664
+ Client Communication Protocol     = LOCAL
+ Host Coded Character Set ID       =     1208
+ Configuration Name of Client      = polk
+ Client Product/Version ID         = SQL09078
+ Inbound Communication Address     = *LOCAL.db2inst1
+
+ DCS Application Status            = UOWWAITOUTBOUND
+ Application Status Change Time    = 2014-03-06-12.46.52.280000
+ User Logon ID                     = root
+ Sequence Number                   = 00001
+ Database Alias at Gateway         = OMP6DA61
+ DCS Database Name                 = OMP6DA61
+ Outbound Application ID           = *LOCAL.db2inst1.140311064128
+ Outbound Sequence Number          = 0000
+ Outbound Communication Address    = 9.152.87.106 16681
+ Outbound Communication Protocol   = TCPIP
+
+ Last Reset Timestamp              = N/P
+ Application Idle Time             = 00:00:00.000402
+
+ SQL Stmt      =        3          Failed Stmt          =        0
+ Failed Stmt % =      .0%          Open Cursor          =        0
+ Commit        =        0          Rollback             =        0
+ Row           =        0          Transmissions        =        2
+
+ Client
+ ------------------------------------------------------------
+ DB2 Connect First Connection      = 2014-03-06-12.46.52.130000
+ Unit of Work Start Timestamp      = 2014-03-06-12.46.52.237000
+ Unit of Work Stop Timestamp       = N/P
+ Previous UOW Completion Timestamp = N/P
+ Unit of Work Completion Status    = N/P
+ Elapsed Time DB2CONN Execution    = 00:00:00.000118
+ Most Recent UOW Elapsed Time      = 00:00:00.000000
+
+ DB2 Host
+ ------------------------------------------------------------------------
+ Database Name         = OMPDA61          Inbound Byte Sent       =      327
+ Product/Version ID    = DSN10015         Inbound Byte Received   =      982
+ Response Time         = 00:00:00.036974  Outbound Byte Sent      =     1014
+ Stmt Exec Elapsed Time= 00:00:00.036118  Outbound Byte Received  =      410
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Distributed thread identifier: The following fields are displayed if the thread has a distributed relationship with a remote Db2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote Db2 location.

Database Access
A responding thread; one that is serving a remote Db2 location by responding to an SQL call.

Db2=
The Db2 subsystem ID, indicating the member of the data sharing group of this thread.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any Db2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the *Luwid* field displays data like in the following example:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

DB2C Master
Shows the name of the member of the data sharing group that controls DB2 Connect monitoring for the group. If N/A is shown, the DB2C Master is currently being changed. For more information, see the description of panel “Redirect Monitoring to Another DB2” on page 20.

Application information:

Application Handle (agent ID)
Shows the system-wide unique ID for the application.

Application Name
Shows the name of the application running at the client as known to the DB2 Connect.

Application ID
Shows the identifier that is generated when the application connects to the database manager or when Distributed Database Connection Server (DDCS) receives a request to connect to a DRDA database.

Transaction ID
Shows the unique transaction identifier across all databases generated by a transaction manager in a two-phase-commit transaction.

Authorization ID
Shows the authorization ID of the user who invoked the application.

Code Page Used by Application
Shows the code page identifier.

Client Process ID
Shows the process ID of the client application that made the connection to the database.

Client Operation Platform
Shows the operating system on which the client application is running.

Client Communication Protocol
Shows the communication protocol that the client application is using to communicate with the server.

Host Coded Character Set ID
Shows the coded character set identifier (CCSID) of the host database.

Configuration Name of Client
Shows the NNAME in the database manager configuration file at the client node.

Client Product/Version ID
Shows the communication address of the client. It could be an SNA net ID and LU partner name, or an IP address and port number for TCP/IP.

Inbound Communication Address
Shows the product and version that is running on the client.

DCS Application Status
Shows the current status of the application.

Application Status Change Time
Shows the date and time the application entered its current status.

User Login ID
Shows the ID that the user specified when logging in to the operating system.

Sequence Number
Increments whenever a unit of work ends, that is, when a COMMIT or ROLLBACK terminates a unit of work.

Database Alias at Gateway
Shows the alias used at the DB2 Connect gateway to connect to the host database.

DCS Database Name
Shows the name of the remote database as cataloged in the DCS directory.

Outbound Application ID
Is generated when the application connects the DRDA host database.

Outbound Sequence Number
Is generated when the application connects the DRDA host database.

Outbound Communication Address
Shows the communication address of the target database.

Outbound Communication Protocol
Shows the communication protocol used between the DB2 Connect gateway and host.

Last Reset Timestamp
Shows the date and time that the monitor counters were reset for the application issuing the GET SNAPSHOT.

Application Idle Time
Shows the number of seconds since an application issued any requests to the server.

SQL Stmt
Shows the number of SQL statements that have been attempted since the latter of: application startup, database activation, or last reset.

Failed Stmt
Shows the number of SQL statements that were attempted, but failed.

Failed Stmt %
Shows the percentage of failed statements versus all SQL statements.

Open Cursor
Shows the number of cursors currently open for an application.

Commit
Shows the total number of SQL COMMIT statements that have been attempted.

Rollback
Shows the total number of SQL ROLLBACK statements that have been attempted.

Row
Shows the number of rows that have been selected and returned to the application.

Transmissions
Shows the number of data transmissions between DB2 Connect gateway and host that was used to process this DCS statement. (One data transmission consists of one send or one receive).

Client fields:

DB2 Connect First Connection
Shows the date and time at which the first connection to the host database was initiated from the DB2 Connect gateway.

Unit of Work Start Timestamp
Shows the date and time at which the unit of work first required database resources.

Unit of Work Stop Timestamp
Shows the date and time at which the most recent unit of work completed which occurs when database changes are committed or rolled back.

Previous UOW Completion Timestamp
Shows the time the unit of work completed.

Unit of Work Completion Status
Shows the status of the unit of work and how it stopped. It can have:

- Committed because of a COMMIT statement
- Rolled back because of a ROLLBACK statement
- Rolled back because of a deadlock
- Rolled back due to an abnormal termination
- Committed at normal application termination
- Unknown as a result of a FLUSH EVENT MONITOR command for which units of work were in progress.

Elapsed Time DB2CONN Execution
Shows the time, in seconds and microseconds, at the DB2 Connect gateway to process an application request (since the connection was established), or to process a single statement.

Most Recent UOW Elapsed Time
Shows the elapsed execution time of the most recently completed unit of work.

DB2 Host fields:

Database Name
Shows the real name of the host database for which information is being collected or to which the application is connected. This is the name that was given to the database when it is created.

Product/Version ID
Shows the product and version that is running on the DB2 data server in the form *pppvvrrm*, where:

- *ppp* stands for SQL
- *vv* identifies a 2-digit version number (with high-order 0 in the case of a 1-digit version)
- *rr* identifies a 2-digit release number (with high-order 0 in the case of a 1-digit release)
- *m* identifies a 1-digit modification level

Response Time
For a DCS statement, this is the elapsed time between the time that the statement was sent from the DB2 Connect gateway to the host for processing and the time when the result was received from the host.

Stmt Execution Elapsed Time
For a DCS statement, this is the elapsed time spent processing an SQL request on a host database server.

Inbound Byte Sent
Shows the number of bytes sent by the DB2 Connect gateway to the client, excluding communication protocol overhead (for example, TCP/IP or SNA headers).

Inbound Byte Received
Shows the number of bytes received by the DB2 Connect gateway from the client, excluding communication protocol overhead (for example, TCP/IP or SNA headers).

Outbound Byte Sent
Shows the number of bytes sent by the DB2 Connect gateway to the host excluding communication protocol overhead (for example, TCP/IP or SNA headers).

Outbound Byte Received
Shows the number of bytes received by the DB2 Connect gateway from the host, excluding communication protocol overhead (for example, TCP/IP or SNA headers).

DB2 Connect Server - Statement Information

This panel shows SQL statement-, time-, and network traffic-related information for the previously selected Distributed Database Access Thread (DBAT).

If the distributed thread does not have a connection through a DB2 Connect gateway, or if the Performance Expert Agent for DB2 Connect Monitoring (PE Agent) is not installed or not running on the DB2 Connect Server, the message `No DB2 Connect server data available` is displayed.

```
_________________ ZTCNS    VTM     O2       V540./C DA61 03/06/14 13:02:29   2
> Help PF1                                                          Back PF3
>
>       THREAD INFORMATION:  Enter a selection letter on the top line.
>
> A-DB2 Connect Server  B-Overview   *-Statement Info   D-Package Statistics
>
================================================================================
>              DB2 Connect Server - Statement Information
 PLAN
+ Thread:  Plan=DISTSERV  Connid=SERVER   Corrid=javaw        Authid=MIS
+ Dist  :  Type=DATABASE ACCESS, Luwid=G9987A90.A2F1.CCCFEFB7D0DA=214
+ Location  :  ::FFFF:9.152.122.144
+ Host Name:polk.boeblingen.de.ibm.com
 tcns
+
+ SQL Statements
+ ------------------------------------------------------
+ Section Number                    =        2
+ Query Cost Estimate               =        0
+ Query Number of Rows Estimate     =        0
+ Statement Operation               = SELECT
+ Number of Successful Fetches      =        0
+ Blocking Cursor                   =        0
+ Outbound Blocking Cursor          =        0
+ Application Creator               = NULLID
+ Package Name                      = SYSLH100
+ Stmt Trans: No of Transmissions   =        2
+ Stmt Trans: No of Statements      =        3
+
+ Time
+ ------------------------------------------------------------
+ Statement Start Timestamp         = 2014-03-06-12.55.07.287000
+ Statement Stop Timestamp          = N/P
+ Time Spent on Gateway Processing  = 00:00:00.000000
+ Host Response Time                = 00:00:00.000000
+ Most Recent Stmt Elapsed Time     = 00:00:00.000000
+ Stmt Elapsed Execution Time       = 00:00:00.000000
+ Local: System CPU Time            = N/P
+ Local: User CPU Time              = N/P
+
+ Network Statistics
+ ----------------------------------------
+ Inbound Number of Bytes Sent      =        0
+ Inbound Number of Bytes Received  =      508
+ Outbound Number of Bytes Sent     =        0
+ Outbound Number of Bytes Received =        0
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Distributed thread identifier: The following fields are displayed if the thread has a distributed relationship with a remote Db2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote Db2 location.

Database Access
A responding thread; one that is serving a remote Db2 location by responding to an SQL call.

Db2=
The Db2 subsystem ID, indicating the member of the data sharing group of this thread.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any Db2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the *Luwid* field displays data like in the following example:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

DB2C Master
Shows the name of the member of the data sharing group that controls DB2 Connect monitoring for the group. If N/A is shown, the DB2C Master is currently being changed. For more information, see the description of panel “Redirect Monitoring to Another DB2” on page 20.

SQL statements:

Section Number
Shows the internal section number in the package for the SQL statement that is currently processing or has processed most recently.

Query Cost Estimate
Shows the estimated cost, in "timerons", for a query, as determined by the SQL compiler.

Query Number of Rows Estimate
Shows the estimated number of rows that is returned by a query.

Statement Operation
Shows the statement operation that is currently being processed or has processed most recently (if none is currently running).

Number of Successful Fetches
For statement snapshot monitoring and statement event type, this is the number of successful fetches performed on a specific cursor.

Blocking Cursor
Indicates whether the statement being executed is using a blocking cursor.

Outbound Blocking Cursor
Indicates whether blocking is used for data transfer from DRDA server to the DB2 Connect gateway for a particular query.

Application Creator
Shows the authorization ID of the user who precompiled the application.

Package Name
Shows the name of the package that contains the SQL statement that is currently executing.

Stmt Trans: No of Transmissions
Shows the number of data transmissions between the DB2 Connect gateway and the host that was used to process this DCS statement.

Stmt Trans: No of Statements
Shows the number of SQL statements that have been attempted since the latter of: application startup, database activation, or last reset.

Time fields:

Statement Start Timestamp
Shows the date and time at which the statement operation started execution.

Statement Stop Timestamp
Shows the date and time at which the statement operation stopped execution.

Time Spent on Gateway Processing
Shows the time, in seconds and microseconds, at the DB2 Connect gateway to process an application request (since the connection was established), or to process a single statement.

Host Response Time
For a DCS statement, this is the elapsed time between the time that the statement was sent from the DB2 Connect gateway to the host for processing and the time when the result was received from the host.

Most Recent Stmt Elapsed Time
Shows the elapsed execution time of the most recently completed statement.

Stmt Elapsed Execution Time
For a DCS statement, this is the elapsed time spent processing an SQL request on a host database server.

Local: System CPU Time
Shows the total system CPU time, in seconds and microseconds, used by the statement that is currently executing.

Local: User CPU Time
Shows the total user CPU time, in seconds and microseconds, used by the statement that is currently executing.

Network Statistics fields:

Inbound Number of Bytes Sent
Shows the number of bytes sent by the DB2 Connect gateway to the client, excluding communication protocol overhead, for example, TCP/IP or SNA headers.

Inbound Number of Bytes Received
Shows the number of bytes received by the DB2 Connect gateway from the client, excluding communication protocol overhead, such as TCP/IP or SNA headers.

Outbound Number of Bytes Sent
Shows the number of bytes sent by the DB2 Connect gateway to the host, excluding communication protocol overhead, for example, TCP/IP or SNA headers.

Outbound Number of Bytes Received
Shows the number of bytes received by the DB2 Connect gateway from the host, excluding communication protocol overhead, such as TCP/IP or SNA headers.

DB2 Connect Server - Package Statistics

This panel shows package statistics for the previously selected Distributed Database Access Thread (DBAT).

If the distributed thread does not have a connection through a DB2 Connect gateway, or if the Performance Expert Agent for DB2 Connect Monitoring (PE Agent) is not installed or not running on the DB2 Connect Server, the message `No DB2 Connect server data available` is displayed.

```
_________________ ZTCNP    VTM     O2       V540./C DA61 03/06/14 13:03:23   2
> Help PF1                                                          Back PF3
>
>       THREAD INFORMATION:  Enter a selection letter on the top line.
>
> A-DB2 Connect Server  B-Overview   C-Statement Info   *-Package Statistics
>
================================================================================
>                DB2 Connect Server - Package Statistics
 PLAN
+ Thread:  Plan=DISTSERV  Connid=SERVER   Corrid=javaw        Authid=MIS
+ Dist   :  Type=DATABASE ACCESS, Luwid=G9987A90.A2F1.CCCFEFB7D0DA=214
+ Location  :  ::FFFF:9.152.122.144
+ Host Name:polk.boeblingen.de.ibm.com
 tcnp
+
+                   Send   Received   Send Top   Rec'd Top  Send Bot   Rec'd Bot
+ Outbound     --------   --------   --------   ---------  --------   ---------
+ Data             1014        873        524         463       490         410
+
+
+                    128        256        512        1024      2048        4096
+ Outbound     --------   --------   --------   --------   --------   --------
+ Send Data           0          0          1          1          0          0
+ Rec'd Data          0          0          2          0          0          0
+
+
+                   8192      16384      31999      64000      GT64K
+ Outbound     --------   --------   --------   --------   --------
+ Send Data           0          0          0          0          0
+ Rec'd Data          0          0          0          0          0
+
+
+                   2 ms       4 ms       8 ms      16 ms      32 ms    GT32 ms
+ Network      --------   --------   --------   --------   --------   --------
+ Time              N/P          0        N/P          0        N/P         N/P
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Distributed thread identifier: The following fields are displayed if the thread has a distributed relationship with a remote Db2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote Db2 location.

Database Access
A responding thread; one that is serving a remote Db2 location by responding to an SQL call.

Db2=
The Db2 subsystem ID, indicating the member of the data sharing group of this thread.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any Db2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the *Luwid* field displays data like in the following example:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

DB2C Master
Shows the name of the member of the data sharing group that controls DB2 Connect monitoring for the group. If N/A is shown, the DB2C Master is currently being changed. For more information, see the description of panel "Redirect Monitoring to Another DB2" on page 20.

Outbound data fields:

Outbound Data Sent
Shows the number of bytes sent by the DB2 Connect gateway to the host, excluding communication protocol overhead, for example, TCP/IP or SNA headers.

Outbound Data Received
Shows the number of bytes received by the DB2 Connect gateway from the host, excluding communication protocol overhead, for example, TCP/IP or SNA headers.

Outbound Data Sent Top
Shows the maximum number of bytes sent by the DB2 Connect gateway to the host.

On statement level, this is the maximum value on a per statement base measured during the processing of all statements against the Database Connection Services (DCS) database.

On data transmission level, this is the maximum value occurring in the DCS application during the processing of all statements that used the displayed number of data transmissions.

Outbound Data Received Top
Shows the maximum number of bytes received per statement by the DB2 Connect gateway from the host during the processing of all statements against this DCS database, or in this DCS application, that used this number of data transmissions.

Outbound Data Sent Bottom
Shows the lowest number of bytes sent per statement by the DB2 Connect gateway to the host during the processing of all statements against this DCS database, or in this DCS application, that used this number of data transmissions.

Outbound Data Received Bottom
Shows the lowest number of bytes received per statement by the DB2 Connect gateway from the host during the processing of all statements against this DCS database, or in this DCS application, that used this number of data transmissions.

Outbound data sent/received fields:

Statement Transaction: max data sent/received 128
Shows the number of statements with outbound bytes sent/received from 1 through 128.

Statement Transaction: max data sent/received 256
Shows the number of statements with outbound bytes sent/received from 129 through 256.

Statement Transaction: max data sent/received 512
Shows the number of statements with outbound bytes sent/received from 257 through 512.

Statement Transaction: max data sent/received 1024
Shows the number of statements with outbound bytes sent/received from 513 through 1024.

Statement Transaction: max data sent/received 2048
Shows the number of statements with outbound bytes sent/received from 1025 through 2048.

Statement Transaction: max data sent/received 4096
Shows the number of statements with outbound bytes sent/received from 2049 through 4096.

Statement Transaction: max data sent/received 8192
Shows the number of statements with outbound bytes sent/received from 4097 through 8192.

Statement Transaction: max data sent/received 16384
Shows the number of statements with outbound bytes sent/received from 8193 through 16384.

Statement Transaction: max data sent/received 31999
Shows the number of statements with outbound bytes sent/received from 16385 through 31999.

Statement Transaction: max data sent/received 64000
Shows the number of statements with outbound bytes sent/received from 32000 through 64000.

Statement Transaction: max data sent/received GT64K
Shows the number of statements with outbound bytes sent/received greater than 64000.

Network time fields:

Statement Transaction: max time 2ms
Shows the number of statements whose network time was less then, or equal to, 2 milliseconds.

Statement Transaction: max time 4ms
Shows the number of statements whose network time was greater than 2 milliseconds but less than, or equal to, 4 milliseconds.

Statement Transaction: max time 8ms
Shows the number of statements whose network time was greater than 4 milliseconds but less than, or equal to, 8 milliseconds.

Statement Transaction: max time 16ms
Shows the number of statements whose network time was greater than 8 milliseconds but less than, or equal to, 16 milliseconds.

Statement Transaction: max time 32ms
Shows the number of statements whose network time was greater than 16 milliseconds but less than, or equal to, 32 milliseconds.

Statement Transaction: max time GT32ms
Shows the number of statements whose network time was greater than 32 milliseconds.

Thread Buffer Pool Activity

This panel provides detailed information about buffer manager activity at the buffer pool level for an individual thread.

```
_________________ ZBUF     VTM     O2       V540.#P DA41 11/04/13 17:07:41   2
> Help PF1             Back PF3                Up PF7               Down PF8

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    *-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES                  W-ACCEL ACTIVITY
================================================================================
>                        THREAD BUFFER POOL ACTIVITY
 PLAN
+ Thread:  Plan=DISTSERV  Connid=SERVER   Corrid=javaw        Authid=MIS
+ Dist  :  Type=DATABASE ACCESS, Luwid=G9987A90.PDBB.CC36C64A80B3=1503
+ Location  :  ::FFFF:9.152.122.144
+ Host Name:polk.boeblingen.de.ibm.com
 buf
+ Buffer Pool: ALL
+
+ Getpage Requests       =      69320   Failed Getpage Requests    =          0
+ Synchronous Read I/O   =          5   Getpage/Read I/O           =   13864.00
+ Page Updates           =      21853   Seq Prefetch Requests      =       1938
+ List Prefetch Requests =          1   Dynamic Prefetch Requests  =          0
+ Prefetch Pages Read    =      62014
+ Immediate Writes       =          0   BP Hit Percentage          =      97.1%
+
+ Buffer Pool: BP0
+
+ Getpage Requests       =        142   Failed Getpage Requests    =          0
+ Synchronous Read I/O   =          2   Getpage/Read I/O           =      71.00
+ Page Updates           =          0   Seq Prefetch Requests      =          0
+ List Prefetch Requests =          1   Dynamic Prefetch Requests  =          0
+ Prefetch Pages Read    =          1
+ Immediate Writes       =          0   BP Hit Percentage          =      97.8%
+
+ Buffer Pool: BP2
+
+ Getpage Requests       =      61974   Failed Getpage Requests    =          0
+ Synchronous Read I/O   =          3   Getpage/Read I/O           =   20658.00
+ Page Updates           =          0   Seq Prefetch Requests      =       1938
+ List Prefetch Requests =          0   Dynamic Prefetch Requests  =          0
+ Prefetch Pages Read    =      62013
+ Immediate Writes       =          0   BP Hit Percentage          =      96.8%
+
+ Buffer Pool: BP32K
+
+ Getpage Requests       =       7202   Failed Getpage Requests    =          0
+ Synchronous Read I/O   =          0   Getpage/Read I/O           =         .00
+ Page Updates           =      21853   Seq Prefetch Requests      =          0
+ List Prefetch Requests =          0   Dynamic Prefetch Requests  =          0
+ Prefetch Pages Read    =          0
+ Immediate Writes       =          0   BP Hit Percentage          =     100.0%
+
+ Buffer Pool: BP8K0
+
+ Getpage Requests       =          2   Failed Getpage Requests    =          0
+ Synchronous Read I/O   =          0   Getpage/Read I/O           =         .00
+ Page Updates           =          0   Seq Prefetch Requests      =          0
+ List Prefetch Requests =          0   Dynamic Prefetch Requests  =          0
+ Prefetch Pages Read    =          0
+ Immediate Writes       =          0   BP Hit Percentage          =     100.0%
================================================================================
```

Highlighting

The following table shows the fields that might be highlighted in the panel above to indicate that an exception that is related to this field exceeded its threshold value:

Table 6. Highlighted fields in Thread Buffer Pool Activity panel.

This table shows the fields and the exceptions these fields are related to. It also shows the reason for the corresponding exception.

Field	Exception	Reason
Plan	Any	Same as other thread detail panels.
Getpage Requests	GETP	The Getpage to Read I/O ratio indicates poor read efficiency.
Getpage/Read I/O	GETP	The Getpage to Read I/O ratio indicates poor read efficiency.
Synchronous Reads	RIO	The synchronous Read I/O rate is high.
Page Updates	PGUP	The rate for system page updates is high.
Sequential Prefetch Reqs	PREF	The thread Sequential Prefetch rate is high.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Distributed thread identifier: The following fields are displayed when the thread has a distributed relationship with a remote DB2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote DB2 location.

Database Access
A responding thread; one that is serving a remote DB2 location by responding to an SQL call.

Luwid
This value consists of two parts: the logical unit-of-work ID (luw-id) and a token. The token can be used in place of the luw-id in any DB2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the *Luwid* field displays data such as the following:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

System
The originating DB2 job name and the resource manager that is the source of the thread.

An additional line below the attachment identifier displays the user thread, if any, that is served by the system thread.

Thread status: The totals for all of the buffer pools in use by the thread are displayed, followed by the values for each individual buffer pool in use.

Getpage Requests
The number of thread Getpage requests. The value includes conditional, unconditional, successful, and unsuccessful requests. This logical read request might not actually result in physical I/O of the page request currently in the buffer pool.

Failed Getpage Requests
The number of times a conditional Getpage request could not be satisfied. Conditional Getpage, used only with queries being processed in parallel, will not wait for a page that is not currently in the buffer pool.

Synchronous Read I/O
The number of synchronous Read I/O requests issued by the thread.

Getpage/Read I/O
The number of Getpage requests divided by the number of synchronous Read I/Os. This value does not include Prefetch requests, because each prefetch request can return a variable number of pages (from one to 16).

Page Updates
The number of DB2 page updates made by the thread since thread creation. This value is incremented each time a row in a page is updated, not just once for each page updated. DB2 might update pages when it creates intermediate result tables because of a qualified SELECT statement, even though SELECT statements are generally thought of as read only operations. Pages that have been updated are written asynchronously by DB2, according to DB2's internal Deferred Write algorithm, not immediately after update or commit. DB2 resets the page update count at Create Thread and Signon. If Signon is not driven, the page update count is cumulative.

Seq Prefetch Requests
The number of Prefetch requests issued by the thread.

Unlike normal Read I/O, Sequential Prefetch Read I/O is performed asynchronously with the user's request. It provides a read-ahead capability. A single sequential prefetch I/O results in multiple pages being read. Threads with excessive Sequential Prefetch rates can cause reduced overall DB2 performance.

List Prefetch Requests
The number of List Prefetch requests issued by the thread.

Dynamic Prefetch Requests
The number of Dynamic Prefetch requests made.

Prefetch Pages Read
The number of pages read asynchronously for prefetch.

Immediate Writes
The number of immediate (synchronous) writes to DASD.

BP Hit Percentage
The percentage of Getpage requests issued by the thread for which the data was already in the buffer pool.

Thread Group Buffer Pool Activity

This panel provides a summary of group buffer pool usage for an individual thread.

This panel is only available in a data sharing environment.

```
_________________ ZTGBUF   VTM     O2       V540.#P SN12 11/04/13 17:31:07   2
> Help PF1                                                          Back PF3

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  *-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES                  W-ACCEL ACTIVITY
================================================================================
>                   THREAD GROUP BUFFER POOL ACTIVITY
 PLAN
+ Thread:  Plan=DSNREXX   Connid=DB2CALL  Corrid=MIS310       Authid=MIS
+ Attach:  BATCH          JOB Name=MIS310                     JOB Asid= 249
+ Package: DPTDEL                        Collection=DMSYSWLD
+ Luwid=DEIBMIPS.IPSATN12.CC36CB8E09FE=6071
 gbuf
+ Group Buffer Pool:   ALL
+ Reads - Cross-Invalidation:             Reads - Page Not Found:
+   Data Returned             =       0     Data Returned             =       1
+   Data not in GBP-R/W Int   =       0     Data not in GBP-R/W Int   =       1
+   Data not in GBP-No R/W Int=       0     Data not in GBP-No R/W Int=       6
+ Read Hit Percentage         =   12.5%   Read-to-Write Percentage    =   26.6%
+ Changed Pages Written       =      22   Clean Pages Written        =       0
+
+ Group Buffer Pool:   GBP0
+ Reads - Cross-Invalidation:             Reads - Page Not Found:
+   Data Returned             =       0     Data Returned             =       0
+   Data not in GBP-R/W Int   =       0     Data not in GBP-R/W Int   =       0
+   Data not in GBP-No R/W Int=       0     Data not in GBP-No R/W Int=       0
+ Read Hit Percentage         =     .0%   Read-to-Write Percentage    =     .0%
+ Changed Pages Written       =       1   Clean Pages Written        =       0
+
+ Group Buffer Pool:   GBP3
+ Reads - Cross-Invalidation:             Reads - Page Not Found:
+   Data Returned             =       0     Data Returned             =       1
+   Data not in GBP-R/W Int   =       0     Data not in GBP-R/W Int   =       1
+   Data not in GBP-No R/W Int=       0     Data not in GBP-No R/W Int=       6
+ Read Hit Percentage         =   12.5%   Read-to-Write Percentage    =   27.5%
+ Changed Pages Written       =      21   Clean Pages Written        =       0
================================================================================
```

Highlighting

The following table shows the field that might be highlighted in the panel above to indicate that an exception that is related to this field exceeded its threshold value:

Table 7. Highlighted fields in Thread Group Buffer Pool Activity panel.

This table shows the field and the exception this field is related to. It also shows the reason for the exception.

Field	Exception	Reason
Plan	Any	Same as other thread detail panels.

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Distributed thread identifier: The following fields are displayed if the thread has a distributed relationship with a remote Db2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote Db2 location.

Database Access
A responding thread; one that is serving a remote Db2 location by responding to an SQL call.

Db2=
The Db2 subsystem ID, indicating the member of the data sharing group of this thread.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any Db2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the *Luwid* field displays data like in the following example:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

Group buffer pool information:

Group Buffer Pool
The group buffer pool ID.

Reads - Cross-Invalidation: Data Returned
The number of reads to the group buffer pool required because the page in the member's buffer pool was invalidated, where the data was found and returned to the member.

Reads - Page Not Found: Data Returned
The number of reads to the group buffer pool required because the page was not in the member's buffer pool, where the data was found and returned to the member.

Reads - Cross-Invalidation: Data not in GBP-R/W Int
The number of reads to the group buffer pool required because the page in the member's buffer pool was invalidated, where

- the data was not found in the group buffer pool and the member had to go to DASD to read the page, and
- other members had read/write interest in the pageset, so DB2 created a directory entry for this page if it did not already exist.

Reads - Page Not Found: Data not in GBP-R/W Int
The number of reads to the group buffer pool required because the page was not in the member's buffer pool, where

- the data was not found in the group buffer pool and the member had to go to DASD to read the page, and
- other members had read/write interest in the pageset, so DB2 created a directory entry for this page if it did not already exist.

Reads - Cross-Invalidation: Data not in GBP-No R/W Int
The number of reads to the group buffer pool required because the page in the member's buffer pool was invalidated, where

- the data was not found in the group buffer pool and the member had to go to DASD to read the page, and
- no other member had read/write interest in the pageset, so DB2 did not have to register the page, since another member cannot cause a cross-invalidation by updating a page.

Reads - Page Not Found: Data not in GBP-No R/W Int
The number of reads to the group buffer pool required because the page was not in the member's buffer pool, where

- the data was not found in the group buffer pool and the member had to go to DASD to read the page, and
- no other member had read/write interest in the pageset, so DB2 did not have to register the page, since another member cannot cause a cross-invalidation by updating a page.

Read Hit Percentage
The percentage of all Reads to the group buffer pool for which the needed data was found and returned to the member.

Read-to-Write Percentage
The ratio of reads to writes expressed as a percentage for the group buffer pool.

Changed Pages Written
The number of changed pages written to the group buffer pool. Pages can be forced out before the application commits if a buffer pool threshold is reached, or when P-lock negotiation forces the pages on the vertical Deferred Write queue to be written to the group buffer pool.

Clean Pages Written
The number of clean pages written to the group buffer pool. DB2 writes clean pages for pagesets and partitions defined with GBPCACHE ALL.

Thread Package Summary

This panel shows a summary of activity that has occurred for all packages/DBRMs that have been executed by this thread.

It provides information collected for Accounting trace classes 7 and 8. If these DB2 traces are not active, this information is not available.

```
_________________ ZPKG     VTM     O2       V540./C DB1H 07/31/13 13:45:16   2
> Help PF1          Back PF3          Up PF7           Down PF8          Zoom PF11

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> *-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES                  W-ACCEL ACTIVITY
================================================================================
>                           THREAD PACKAGE SUMMARY
 PLAN
+ Thread:  Plan=DISTSERV  Connid=SERVER   Corrid=db2jcc_appli Authid=HONG
+ Dist  :  Type=DATABASE ACCESS, Luwid=G9414E67.GE8B.CBBDD803F49D=78
+ Location  :  ::FFFF:9.65.78.103
+ Host Name:sig-9-65-78-103.mts.ibm.com
 pkl
 pkg
+
+                           SQL       In-DB2       In-DB2                In-DB2
+ Package/DBRM         Requests Elapsed Time     CPU Time    Waits    Wait Time
+ ------------------ ---------- ------------ ------------ -------- ------------
+*SYSLH200                    5 00:00:00.000 00:00:00.000      N/A          N/A
================================================================================
```

Highlighting

OMEGAMON XE for DB2 PE highlights some fields in this panel to draw your attention to their current status:

Table 8. Highlighted fields in Thread Package Summary panel

Field	Exception	Reason
Plan	Any	Same as other thread detail panels.

Navigation

For additional information about

- a specific package/DBRM, move the cursor to the required line and press F11 (Zoom). For more information, see the description of panel “Package Detail” on page 112.
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Distributed thread identifier: The following fields are displayed when the thread has a distributed relationship with a remote DB2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote DB2 location.

Database Access
A responding thread; one that is serving a remote DB2 location by responding to an SQL call.

Luwid
This value consists of two parts: the logical unit-of-work ID (luw-id) and a token. The token can be used in place of the luw-id in any DB2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the *Luwid* field displays data such as the following:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

Package list: For each entry in the package list, the display indicates the location, collection, and package that were bound into the plan.

Location
The name of the location where the package was bound. For remote packages, times displayed represent the time spent locally to execute the remote package.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Package/DBRM information:

Program
Program filtering input field. You can enter a specific package or DBRM that you want to display in the panel. You can use wildcard characters in this field. For example, enter *DSNESM** to display all packages or DBRMs that begin with DSNESM.

Package/DBRM
The name of the program for which data is reported. Up to 18 characters of the package name are returned. An asterisk (*) is displayed after the program name of the last executed program.

SQL Requests
The number of SQL statements issued in this package or DBRM.

Total Elapsed Time
The total elapsed time while executing in this package or DBRM. This field requires an Accounting trace class 7. If this trace is not active, N/A is displayed.

Total CPU Time
The total CPU time used while executing in this package or DBRM. This field requires an Accounting trace class 7. If this trace is not active, N/A is displayed.

Waits
The total number of times that the thread had to wait for a class 8 event to complete while executing in this package or DBRM. This field requires an Accounting trace class 8. If this trace is not active, N/A is displayed.

Total Wait Time
The total time spent waiting for a class 8 event to complete while executing in this package or DBRM. This field requires an Accounting trace class 8. If this trace is not active, N/A is displayed.

Package Detail

This panel provides detailed information about the activity that has occurred for specific packages/DBRMs that have been executed by a particular thread.

It provides information collected for accounting classes 7 and 8. If these DB2 traces are not active, this information is not available.

```
_________________ ZPKD     VTM     O2       V540./C DC11 03/18/16 22:41:17   2
> Help PF1               Back PF3               Up PF7                Down PF8
================================================================================
>                              PACKAGE DETAIL
 PLAN
+ Thread:  Plan=DSNTEP12  Connid=BATCH    Corrid=HONGPTSK     Authid=HONG
+ Attach:  BATCH          JOB Name=HONGPTSK                   JOB Asid=  50
+ Package: DSN@EP2L                      Collection=DSNTEP2
+ Luwid=DEIBMIPS.IPSASE11.CB317E1DAB7C=1903
 pkd  DSN@EP2L:DSNTEP2:PMODBE1
+ Program = DSN@EP2L
+ Type    = PACKAGE               Location   = PMODBE1
+ Token   = 192DF09416BC9902      Collection = DSNTEP2
+ Version = VBR1.PM59506
+
+ SQL Request Count = 432380
+
+ In-DB2 Times                                    Total           Current
+ ------------------------------                  ------------    ------------
+ Elapsed Time                                    00:00:14.202    00:00:00.000
+ CPU Time                                        00:00:11.150    00:00:00.000
+
+ Waits                                 Count     Total           Current
+ ------------------------------    ----------    ------------    ------------
+ Synchronous I/O Wait                       0    00:00:00.000    00:00:00.000
+ Asynchronous Read I/O Wait                 0    00:00:00.000    00:00:00.000
+ Asynchronous Write I/O Wait                0    00:00:00.000    00:00:00.000
+ Local Lock/Latch Wait                      0    00:00:00.000    00:00:00.000
+ Page Latch Wait                            0    00:00:00.000    00:00:00.000
+ Drain Lock Wait                            0    00:00:00.000    00:00:00.000
+ Drain of Claims Wait                       0    00:00:00.000    00:00:00.000
+ Global Parent L-lock Wait                  0    00:00:00.000    00:00:00.000
+ Global Child L-lock Wait                   0    00:00:00.000    00:00:00.000
+ Global Other L-lock Wait                   0    00:00:00.000    00:00:00.000
+ Global Pageset/Partition P-locks           0    00:00:00.000    00:00:00.000
+ Global Page P-lock Wait                    0    00:00:00.000    00:00:00.000
+ Global Other P-lock Wait                   0    00:00:00.000    00:00:00.000
+ Inter-System Message Send Wait             4    00:00:00.012    00:00:00.000
+ DB2 Service Task Wait                      0    00:00:00.000    00:00:00.000
+ Archive Log Mode(Quiesce) Wait             0    00:00:00.000    00:00:00.000
+ Archive Read from Tape Wait                0    00:00:00.000    00:00:00.000
+ Parallel Query Sync Wait                 572    00:00:00.588    00:00:00.000
+ LOB Materialization Wait                   0    00:00:00.000    00:00:00.000
+ Accelerator Wait                           0    00:00:00.000    00:00:00.000
+ Pipe Wait                                  0    00:00:00.000    00:00:00.000
+ ------------------------------    ----------    ------------    ------------
+ Total Class 3 Wait Time                    0    00:00:00.000    00:00:00.000
================================================================================
```

Highlighting

The following table shows the fields that might be highlighted in the panel above to indicate that an exception that is related to this field exceeded its threshold value:

Table 9. Highlighted fields in Package Detail panel.

This table shows the fields and the exceptions these fields are related to. It also shows the reason for the corresponding exception.

Field	Exception	Reason
Plan	Any	Same as other thread detail panels.
Current Drain Lock Wait	WDLK	The thread reached drain lock wait threshold.
Current Drain of Claims Wait	WCLM	The thread reached wait for drain of claims threshold.
Current Service Task Wait	WSRV	The thread reached DB2 service wait threshold.

Table 9. Highlighted fields in Package Detail panel.

This table shows the fields and the exceptions these fields are related to. It also shows the reason for the corresponding exception.

(continued)

Field	Exception	Reason
Current Archive Log Mode (Quiesce) Wait	WLGQ	The thread reached ARCHIVE LOG MODE(QUIESCE) wait threshold.
Current Stored Procedure Schedule Wait	WSPS	The thread reached the wait for stored procedure schedule threshold.
Current Global Lock Wait	WGLK	The thread reached the global lock wait threshold.

Navigation

To return to the Thread Package Summary panel, press F3.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Distributed thread identifier: The following fields are displayed if the thread has a distributed relationship with a remote Db2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote Db2 location.

Database Access
A responding thread; one that is serving a remote Db2 location by responding to an SQL call.

Db2=
The Db2 subsystem ID, indicating the member of the data sharing group of this thread.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any Db2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the *Luwid* field displays data like in the following example:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

Package information:

Program
The program name for which data is reported. Up to 18 characters of the package name are returned.

Type
The program type can be:

- PACKAGE
- DBRM
- PACKAGE-STORPROC, which means that the program is a package that was loaded by a stored procedure.

Location
The name of the location where the package is executed. For remote packages, times displayed represent the time spent locally to execute the remote package.

Token
The consistency token.

Collection
The package collection ID. This field is displayed only if the program type is PACKAGE.

SQL Request Count
The number of SQL statements issued. All DCL, DDL, and DML SQL statements as well as some Statistic Counters from DSNDQXST are included. COMMIT and ROLLBACK/ABORT are not included.

In-DB2 Times: In-DB2 times require an Accounting trace class 7. If this trace is not active, N/A is displayed.

In-DB2 elapsed time
The elapsed time while processing this package or DBRM:

Total
The total time the thread spends processing this package or DBRM.

Current
The total time spent processing the currently active SQL statement.

In-DB2 CPU time
The CPU time spent processing this package or DBRM.

Total
The total time the thread spends processing this package or DBRM.

Current
The total time spent processing the currently active SQL statement.

Waits: Wait times require an Accounting trace class 8. If this trace is not active, N/A is displayed. The following Statistics information is provided for each field described below:

Count
The total number of waits.

Total
The total wait time.

Current
The elapsed time waiting for the current event to complete.

Synchronous I/O Wait
Waits for synchronous I/O reads or writes.

Asynchronous Read I/O Wait
Waits for Read I/O performed under another thread (for example, list or Sequential Prefetch).

Asynchronous Write I/O Wait
Waits for Write I/O performed under another thread (for example, deferred writes).

Local Lock/Latch Wait
Waits for locks or latches.

Page Latch Wait
Waits for page latch.

Drain Lock Wait
Waits to acquire drain lock.

Drain of Claims Wait
Waits for claims to be released after acquiring drain lock.

Global Lock Wait
Waits for global locks in a data sharing environment.

Global Parent L-Lock Wait
Waits for global parent L-locks in a data sharing environment.

Global Child L-Locks (QWACAWTK QWACARNK)
Waits because of global contention for child L-locks.

Global Other L-Locks (QWACAWTM QWACARNM)
Waits because of global contention for other L-locks.

Global Pageset/Partition P-Locks (QWACAWTN QWACARNN)
Waits because of global contention for Pageset/Partition P-locks.

Global Page P-Locks (QWACAQTO QWACARNO)
Waits because of global contention for Page P-locks.

Global Other P-Locks (QWACAQTQ QWACARNQ)
Waits because of global contention for other P-locks.

Inter-System Message Send Wait
Waits for sending messages to other members in the data sharing group.

DB2 Service Task Wait
Waits for DB2 services. The following types of DB2 services are included:

- Open/close of data set
- DFHSM recall of a data set
- SYSLGRNG update
- Define/extend/delete of data set
- Commit phase 2 for read only threads.

Starting from DB2 11, waits that are associated with autonomous procedures are also included.

Archive Log Mode(Quiesce) Wait
Wait for ARCHIVE LOG MODE(QUIESCE) command to complete.

Archive Read from Tape Wait
Waits for read of archive log from tape.

Current I/O Wait Resource
If the thread is currently waiting for an I/O to complete, the resource will be identified here.

Parallel Query Sync Wait (QPAC_PQS_WAIT QPAC_PQS_COUNT)
The amount of waits after parallel query processing suspended waiting for parent/child to be synchronized.

This applies to DB2 11 and higher.

LOB Materialization Wait (QPACALBW QPACALBC)
Waits for TCP/IP LOB and XML materialization.

Accelerator Wait (QWACAACW QPACAACC)
The accumulated wait time for requests to an accelerator. DB2 11 and later.

Pipe Wait (QOAC_PIPE_WAIT QPAC_PIPEWAIT_COUNT)
The accumulated wait time for a pipe while this package is being executed. DB2 12 and later.

Total Class 3 Wait Time
The total class 3 wait time.

Thread Resource Limit Statistics

This panel shows information about the parameters that control and administer the thread resource limit facility (governor). This DB2 governor facility applies to dynamic SQL calls only.

```
_________________ ZRLMS    VTM     O2       V540.#P SN12 11/04/13 17:54:07   2
> Help PF1                                                          Back PF3

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      *-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES                  W-ACCEL ACTIVITY
================================================================================
>                       THREAD RESOURCE LIMIT STATISTICS
 PLAN
+ Thread:  Plan=KO2PLAN   Connid=RRSAF    Corrid=             Authid=OMPEUSER
+ Attach:  RRSAF          JOB Name=D843DMGS                   JOB Asid= 248
+ Package: FPE@WR2C                      Collection=KO2OM520
+ Luwid=DEIBMIPS.IPSATN12.CC36D06C8094=6107
 rlms
+          Resource Limit Table Name In Use     =          DSNRLST96
+          Resource Limit Origin                =  Auth Any Pkg/Coll
+          Resource Limit In Effect (SUs)       =           2147483K
+          Resource Limit CPU time per SU       =            .000014
+          Resource Limit In Effect (CPU secs)  =          30064.771
+          Resource Limit High Water Mark (CPU) =               .001
+          Ratio Of HWM To Resource Limit (CPU) =                 %
+
+          Predictive Cost Estimate  (Service Units) =          7523
+          Predictive Cost Estimate       (Seconds ) =           106
+          Predictive Cost Estimate Category         =             B
+
+          Predictive Error Threshold   (RLFASUERR ) =             0
+          Predictive Warning Threshold (RLFASUWARN) =             0
+          Predictive Action        (RLF_CATEGORY_B) =           N/A
================================================================================
```

Highlighting

The following table shows the fields that might be highlighted in the panel above to indicate that an exception that is related to this field exceeded its threshold value:

Table 10. Highlighted fields on Thread Resource Limit Statistics panel		
Fields	**Exception**	**Reason**
Plan	ARCM	Backout requires an archive tape log mount.
	GETP	The Getpage to Read I/O ratio indicates poor read efficiency.
	INDB	The thread is indoubt and terminated.
	PREF	The Sequential Prefetch rate is high.
	RIO	The synchronous Read I/O rate is high.
	ETIM	This thread has reached the Elapsed Time threshold value.
	PGUP	The rate for system page updates is high.
Resource Limit High Water Mark (CPU)	RELM	The ratio of CPU consumption to the resource limit indicates a high resource usage.

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Distributed thread identifier: The following fields are displayed when the thread has a distributed relationship with a remote DB2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote DB2 location.

Database Access
A responding thread; one that is serving a remote DB2 location by responding to an SQL call.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any DB2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the **Luwid** field displays data such as the following:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

Resource limit information:

Resource Limit Table Name in Use
The name of the DB2 *resource limit specification table* (RLST) currently in use by the DB2 subsystem.

Resource Limit Origin
The origin of the resource limit in effect for this thread, if resource limiting is active. The origin is determined by the hierarchical precedence order within the *resource limit specification table* (RLST). The possible origins are:

Auth/Plan
Table entry containing matching authid and plan name.

Authid
Table entry containing matching authid, and plan name was blank.

Planname
Table entry containing matching plan name, and authid was blank.

Blank Entry
Table entry containing blank plan name and authid.

Install
No table entry exists; the value in effect was determined from the RLFERR/RLFERRD parameter of the DSNZPARM module.

I/O Error
Resource limit table I/O error; the value in effect was determined from the RLFERR/RLFERRD parameter of the DSNZPARM module.

Sysadm/Sysopr
Table entry is install SYSADM or SYSOPR. No limits apply to these authorization groups.

Auth/Coll/Pkg
Table entry containing matching authid, collection and package.

Auth Any Pkg
Table entry containing matching authid and collection, and blank package.

Auth any Coll
Table entry containing matching authid and package, and blank collection.

Auth Any Pkg/Coll
Table entry containing matching authid and blank collection and package.

Pkg/Coll Any Auth
Table entry containing matching package and collection.

Any Auth/Pkg
Table entry containing matching collection and blank authid and package.

Any Auth/Coll
Table entry containing matching package and blank authid and collection.

Any Auth/Coll/Pkg
Table entry containing blank authid, collection and package.

Resource Limit in Effect (SUs)
The resource limit in MVS service units for the thread. Express® DB2 limits in service units. If the origin is Sysadm/Sysopr or the ASUTIME parameter is NULL, no limits apply.

Resource Limit CPU Time per SU
The number of CPU seconds per service unit. The number of CPU seconds per service unit depends upon the CPU model in use. This is helpful in understanding the actual CPU time allowed by the resource limit specified (in SUs). This value is expressed in seconds.

Resource Limit in Effect (CPU secs)
The resource limit in effect in CPU seconds. This is the actual CPU time allowed, based on the service units limit specified in the DB2 resource limit table. This value is expressed in seconds. If the origin is Sysadm/Sysopr or the ASUTIME parameter is NULL, no limits apply.

Resource Limit High Water Mark (CPU)
The highest CPU time used for a single dynamic request since thread creation. This value is expressed in seconds. This value can be higher than the value of Resource Limit in Effect (CPU secs) because of the logic for checking the high- water mark of the DB2 subsystem. This field will display a high- water mark value even if the thread is not governed by the Resource Limit Facility. (In that case, the Ratio of HWM to Resource Limit will be **No Limit**.)

Ratio of HWM to Resource Limit (CPU)
The ratio/percentage of the CPU high- water mark (HWM) to the CPU resource limit in effect. This value can be higher than 100% because of the logic for checking the high- water mark of the DB2 subsystem.

Current Parallel Task Summary

This panel provides information about the activity of parallel tasks that are executing on behalf of a thread.

Parallel tasks are created when CPU parallelism is selected as the method for processing an SQL query. Internally, parallel tasks are displayed as DB2 system threads.

```
_________________ ZTASK    VTM     O2       V540./I SE11 07/10/13 14:55:24   2
> Help PF1         Back PF3         Up PF7          Down PF8         Zoom PF11

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   *-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES                  W-ACCEL ACTIVITY
================================================================================
>                       CURRENT PARALLEL TASK SUMMARY
 PLAN
+ Thread:  Plan=DSNTEP11  Connid=BATCH    Corrid=HONGPTS1     Authid=HONG
+ Attach:  BATCH          JOB Name=HONGPTS1                   JOB Asid=  65
+ Package: DSN@EP2L                      Collection=DSNTEP2
+ Luwid=DEIBMIPS.IPSASE11.CBA3811B8D38=31
 task
+
+                                                  Read                      Wait
+ Elapsed     CPU Time  Status         GetPage     I/O  Pfetch   Waits     Time
+ ----------  --------  ------------  --------  ------  ------  ------ --------
+ 00:00:24.9     2.743  IN-SQL-CALL     224016       6      60       7     .008
================================================================================
```

Navigation

For more information about

- A particular parallel task, move the cursor to the task information line and press F11 (Zoom). For more information, see the description of panel “Thread Detail” on page 41.
- Exceptions that have tripped, type E . A on the top line of the panel.
- Related topics, select one of the options at the top of the panel.
- Other topics, use the PF keys.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Elapsed
The time elapsed since the parallel task was created. When the task's elapsed time exceeds 24 hours, the format is *dd-hh:mm*.

CPU Time
The total central processor CPU time accumulated for the thread. This value includes only MVS TCB time. SRB time is not included.

Status
The current DB2 status of the parallel task. For definitions of all possible status values, see "DB2 Thread Status".

GetPg
The number of Getpage requests for the parallel task.

Getpage requests are logical Read requests that might not actually result in physical I/O if the requested page is currently in the buffer pool. DB2 resets this count at Create Thread and Signon.

Read I/O
The number of synchronous Read I/O requests.

Pfetch
The number of Sequential, List, and Dynamic Prefetch requests.

Waits
The total number of times that the parallel task had to wait for a class 3 event to complete. If Accounting trace class 3 is not active, N/A is displayed.

Wait Time
The total elapsed time that the parallel task had to wait for a class 3 event to complete.

Utility Detail Information

This panel provides detailed information about the activity of an individual utility. The information includes the relative utility statement position, the contents of the currently executing utility statement, and data specific to a particular utility.

For detailed information about a utility that has been started but not completed because of an abnormal termination (status UTIL-STOP on the Utility Summary panel), the “Stopped Utility Detail Information” on page 127 panel is displayed.

```
 _________________ ZUTID    VTM     02       V540./I SN13 07/10/13 15:56:35   2
> Help PF1                                                          Back PF3

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS *-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES                  W-ACCEL ACTIVITY
================================================================================
>                         UTILITY DETAIL INFORMATION
 PLAN
+ Thread:  Plan=DSNUTIL   Connid=UTILITY  Corrid=HONGLR13     Authid=HONG
+ Attach:  UTILITY
+ Luwid=DEIBMIPS.IPSASN13.CBA38ED9219A=4407
 utid
+ Utility = RUNSTATS      Utilid = HONGR3RS                  Userid = HONG
+ Phase   = RUNSTATS      Count  =          0
+
+ Current utility statement in sysin =    1
+ Utility Statement:
+ RUNSTATS TABLESPACE RLOKDB13.RLOKT131 TABLE ALL INDEX ALL
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Utility information:

Utility
The name of the DB2 utility.

UtilID
The identifier that defines the utility to DB2. Each utility that has been started and is not yet terminated must have a unique utility ID.

UserID
The authorization ID of the invoker of the DB2 utility.

Phase
The executing phase of the DB2 utility.

Count
The total number of items (such as records or pages) that have been processed. The type of item depends on the utility and its phase.

Share Level
The share level of the tablespace accessed by utilities. The share level can be exclusive control, share read access, or share write access.

Output data set
The name of the output data set currently in use. If the utility is not MERGECOPY or COPY, this field is not displayed.

Input data set
The name of the input data set currently referenced by the utility. If the utility is not LOAD, this field is not displayed.

Loading data records into table
The name of the table into which the data records are being loaded. If the utility is not LOAD, this field is not displayed.

Current utility statement in SYSIN
The utility statement that is currently in execution.

Utility statement
The contents of the executing utility statement.

Stopped Utility Detail Information

This panel provides detailed information about a utility that was started but has not yet completed running because of abnormal termination.

The output on the display identifies the stopped utility. Furthermore, the utility name, the utility ID, the last executed utility phase, pages or record count that is processed, utility job name, utility start time, and the current utility statement position in SYSIN are displayed.

In this panel, there are no highlighted fields.

```
_________________ ZUTIS    VTM     O2       V540./I DB31 07/15/13 14:45:26   2
> Help PF1                            Back PF3


================================================================================
>                            STOPPED UTILITY INFORMATION

 UTST
+ Plan = DSNUTIL    Connid = DB2CALL   Corrid = BENUTIL       Authid = BEN
+ Job Name = BENUTIL                   Userid = BEN
+
+ Utility  = REORG                     Utilid = REORGPAUL8D2
+ Phase    = UNLOAD                    Count  =     500000
+
+ Time Started = 2013-06-11-16:45:26
+
+ Current Utility Statement in Sysin =    1
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: OMEGAMON XE for DB2 PE identifies the thread to which the information in this panel applies.

Plan
The plan name of the stopped utility. It is always DSNUTIL.

Connid
The connection identifier of the invoker of the stopped utility.

Corrid
The correlation identifier of the invoker of the stopped utility.

Authid
The authorization identifier of the invoker of the stopped utility.

Job Name
The job name of the stopped utility.

This applies only to DB2 11 or higher.

UserID
The authorization identifier of the invoker of the stopped utility.

Utility information:

Utility
The name of the DB2 utility.

UtilID
The identifier that defines the utility to DB2. Each utility that has been started and is not yet terminated must have a unique utility ID.

Phase
The executing phase of the DB2 utility.

Count
The total number of items (such as records or pages) that have been processed. The type of item depends on the utility and its phase.

Current utility statement in SYSIN
The utility statement position that is currently in execution.

Objects Used By Thread

This panel shows Getpage and I/O activity for the DB2 objects used by the selected thread.

```
 _________________ ZTOBJ    VTM     O2       V540./C DA61 07/11/13  7:08:04   2
> Help PF1                                                        Back PF3

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      *-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES                  W-ACCEL ACTIVITY
================================================================================
>                            OBJECTS USED BY THREAD
 PLAN
+ Thread:  Plan=DB2PM     Connid=RRSAF    Corrid=             Authid=DB2PM
+ Attach:  RRSAF          JOB Name=OMPE861S                   JOB Asid= 180
+ Package: DGO@PC1                        Collection=DB2PM
+ Luwid=DEIBMIPS.IPUAQA61.CBA26F25F282=102866
 tobj
+                                          Sync     ------ Prefetch I/O -----
+ Database  Spacenam  Dsn  Volume   Getpage  Read       Seq      List   Dynamic
+ --------  --------  ---  ------   -------  -------  -------  -------  -------
+ DB2PM     IXRP1EMV  001  BP0           87        0        0        0        0
+ DB2PM     PROCESS   001  BP0          783        0        0        0        0
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Object information:

Database
The name of the database for which thread activity has occurred.

Spacenam
The name of the space for which thread activity has occurred.

Dsn
The sequence number of the data set for which thread activity has occurred.

Volume
The name of the volume that contains the DB2 object if the thread is performing I/O on that database/space. If OMEGAMON detects that the values for "Sync Read", "Sequential Prefetch", "List Prefetch" or "Dynamic Prefetch" are zero, the name of the buffer pool assigned to the object will be displayed instead, indicating the data was available without performing any I/O.

Getpage
The number of Getpage requests made by the thread.

Sync Read
The number of synchronous reads made by the thread.

Sequential Prefetch
The number of Sequential Prefetch Read I/Os made by the thread.

List Prefetch
The number of List Prefetch Read I/Os made by the thread.

Dynamic Prefetch
The number of Dynamic Prefetch Read I/Os made by the thread.

Cancel Thread

Use this panel to cancel an individual DB2 thread.

```
_________________ ZTCANT   VTM     O2       V540.#P SN12 11/04/13 17:55:42   2
> Help PF1                                                          Back PF3

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> *-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES                  W-ACCEL ACTIVITY
================================================================================
>                                CANCEL THREAD
 PLAN
+ Thread:  Plan=ADB       Connid=TSO      Corrid=MIS1         Authid=MIS1
+ Attach:  TSO            Userid=MIS1                         Region asid= 170
+ Package: ADB2GET                        Collection=ADBL
+ Luwid=DEIBMIPS.IPSATN12.CC36D0A6558D=6117
 tcmd
+    Press ENTER to CANCEL the thread with Token=006117
+    Press PF3 to terminate the CANCEL request.
================================================================================
```

Highlighting

The following table shows the field that might be highlighted in the panel above to indicate that an exception that is related to this field exceeded its threshold value:

Table 11. Highlighted fields in Cancel Thread panel.

This table shows the field and the exception this field is related to. It also shows the reason for the exception.

Field	Exception	Reason
Plan	Any	Same as other thread detail panels.

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Distributed thread identifier: The following fields are displayed if the thread has a distributed relationship with a remote Db2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote Db2 location.

Database Access
A responding thread; one that is serving a remote Db2 location by responding to an SQL call.

Db2=
The Db2 subsystem ID, indicating the member of the data sharing group of this thread.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any Db2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the *Luwid* field displays data like in the following example:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

Cancel fields:

CANCEL
The type of cancel command to be performed. You can specify the following values:

TOKEN
The token shown will be used to issue the cancel command:

CANCEL THREAD(*token*).

LUWID
The luwid shown will be used to issue the cancel command:

CANCEL DDF THREAD(*luwid*) for all DB2 versions.

Token
The token of the specific thread to be canceled. It is unique for the DB2 subsystem.

Luwid
The logical unit of work identifier of the thread to be canceled. Two or more distributed threads can have the same luwid.

DB2 System Console and Message Traffic

This panel shows DB2 subsystem console messages and Internal Resource Lock Manager (IRLM) messages. You can also issue DB2 commands from this panel.

Note: If MGSUBSYS=ACTIVE is defined in the OMEGAMON XE for DB2 PE Collector Realtime Customer Options (OMPEOPTS) during configuration and customization, you can view messages when you select the DB2 CONSOLE option on the OMEGAMON Classic Interface Realtime main menu.

```
_________________ ZCODB22  VTM     O2       V540.#P DA41 11/05/13 11:55:32   2
> Help PF1               Back PF3              Up PF7                Down PF8

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD *-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES                  W-ACCEL ACTIVITY
================================================================================
>                    DB2 SYSTEM CONSOLE AND MESSAGE TRAFFIC

> To issue a DB2 command, type the command after DCMD and press ENTER.

>DCMD

> Change 10 to the number of DB2 and IRLM messages you want to display.

 DCNS10
+                         Display DB2/IRLM Messages
+ 11.54 DSNV401I  -DA41 DISPLAY THREAD REPORT FOLLOWS -
+ 11.54 DSNV402I  -DA41 ACTIVE THREADS -
+       NAME     ST A   REQ ID           AUTHID   PLAN     ASID TOKEN
+       DISCONN  DA *  2398 NONE         NONE     DISTSERV 00E4  1746
+        V471-DEIBMIPS.IPSATA41.CC37C15A0A69=1746
+       RRSAF    N        5              OMPEUSER          00F4     0
+        V437-WORKSTATION=RRSAF, USERID=OMPEUSER,
+             APPLICATION NAME=*
+       RRSAF    T     2136              OMPEUSER KO2PLAN  00F4  1718
+        V437-WORKSTATION=RRSAF, USERID=OMPEUSER,
+             APPLICATION NAME=*
+       RRSAF    T       51              OMPEUSER          00F4  1719
+        V437-WORKSTATION=RRSAF, USERID=OMPEUSER,
+             APPLICATION NAME=*
+       RRSAF    T    19205 OMEGAMON     OMPEUSER KO2PLAN  00C8    13
+        V437-WORKSTATION=RRSAF, USERID=OMPEUSER,
+             APPLICATION NAME=OMEGAMON
+       DISPLAY ACTIVE REPORT COMPLETE
+ 11.54 DSN9022I  -DA41 DSNVDT '-DIS THREAD' NORMAL COMPLETION
================================================================================
```

This panel might require special authorization before you can enter DB2 commands. Type /PWD on the top line of the panel, enter a valid password when requested, then press Enter. Then follow the instructions to issue DB2 commands.

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Commands

DCMD
When you type a DB2 command and press Enter, OMEGAMON XE for DB2 PE displays a message that indicates whether the command was issued successfully. (Do not include the subsystem recognition character in the DB2 command. OMEGAMON XE for DB2 PE does this for you automatically.) When OMEGAMON XE for DB2 PE executes DCMD, it comments out the DCMD command to prevent accidental re-execution. To issue another DB2 command, replace the comment character (>) with a hyphen (-) and enter the command as described before.

DCNS10
Displays the last *nn* DB2 and IRLM messages. In this case, it displays the last 10 messages.

Data Sets Used by Thread

This panel shows data set I/O activity for the DB2 objects used by the selected thread.

```
 _________________ ZIIO     VTM     O2       V540.#P DA41 11/05/13 12:03:55   2
> Help PF1                                                          Back PF3

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE *-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES                  W-ACCEL ACTIVITY
================================================================================
>                               THREAD DETAIL
 PLAN
+ Thread:  Plan=DSNESPRR  Connid=TSO      Corrid=MIS          Authid=MIS
+ Attach:  TSO            Userid=MIS                         Region asid= 224
+ Package: DSNTIAP                        Collection=DSNTIAP
+ Luwid=DEIBMIPS.IPSATA41.CC37C45A9FDC=1761

>    place a 'T' in front of command to view by tablespace, 'D' by database

 iio
+                                                  --Synch I/O--  -Asynch I/O--
+ Dataset Name                                     Delay  Count   Delay  Count
+ ----------------------------------------------   ------ ------  ------ ------
+ DSNA41.DSNDBC.DSNDB06.DSNADH01.I0001.A001          1.2      8      .0      1
+ DSNA41.DSNDBC.DSNDB06.DSNAGH01.I0001.A001          2.5      6     1.0      1
+ DSNA41.DSNDBC.DSNDB06.DSNDCX01.I0001.A001          2.9     71     4.7     50
+ DSNA41.DSNDBC.DSNDB06.DSNDDH01.I0001.A001          1.2      7      .0      0
+ DSNA41.DSNDBC.DSNDB06.DSNDFX01.I0001.A001          2.0      4      .0      0
+ DSNA41.DSNDBC.DSNDB06.DSNDPX01.I0001.A001           .9     11     1.0      1
+ DSNA41.DSNDBC.DSNDB06.DSNDPX03.I0001.A001          1.1     11      .0      1
+ DSNA41.DSNDBC.DSNDB06.DSNDSX01.I0001.A001          2.0      8     1.0      1
+ DSNA41.DSNDBC.DSNDB06.DSNDTX01.I0001.A001          2.1     23     3.4      7
+ DSNA41.DSNDBC.DSNDB06.DSNDTX05.I0001.A001          1.2     18     3.6      6
+ DSNA41.DSNDBC.DSNDB06.DSNDYX01.I0001.A001           .8      5      .0      0
+ DSNA41.DSNDBC.DSNDB06.DSNODX01.I0001.A001        131.4      5      .0      0
+ DSNA41.DSNDBC.DSNDB06.DSNPDX01.I0001.A001          2.5      4      .0      0
+ DSNA41.DSNDBC.DSNDB06.DSNSRX01.I0001.A001          1.0      9     6.6      3
+ DSNA41.DSNDBC.DSNDB06.SYSGPAUT.I0001.A001          2.8      7    10.0      3
+ DSNA41.DSNDBC.DSNDB06.SYSSEQ2.I0001.A001           1.1     12     3.8      5
+ DSNA41.DSNDBC.DSNDB06.SYSTSCOL.I0001.A001          1.4     10     4.7     49
+ DSNA41.DSNDBC.DSNDB06.SYSTSDAT.I0001.A001          8.0      3      .0      0
+ DSNA41.DSNDBC.DSNDB06.SYSTSDBA.I0001.A001          2.2      5     9.6      5
+ DSNA41.DSNDBC.DSNDB06.SYSTSDBU.I0001.A001          4.0     15     1.0      1
+ DSNA41.DSNDBC.DSNDB06.SYSTSFLD.I0001.A001          3.0      2      .0      0
+ DSNA41.DSNDBC.DSNDB06.SYSTSPEN.I0001.A001          1.0      2      .0      0
+ DSNA41.DSNDBC.DSNDB06.SYSTSSYN.I0001.A001          5.0      5    10.5      4
+ DSNA41.DSNDBC.DSNDB06.SYSTSTAB.I0001.A001          1.7     29     4.0     27
+ DSNA41.DSNDBC.DSNDB06.SYSTSTPT.I0001.A001          1.5     12    11.8      7
+ DSNA41.DSNDBC.DSNDB06.SYSTSTSP.I0001.A001          1.6     13     4.0     11
================================================================================
```

Navigation

You can scroll through the information using F7 and F8.

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Database
The name of the database for which thread activity has occurred.

Spacenam
The name of the table space for which thread activity has occurred.

Dsn
The name of the data set for which thread activity has occurred.

Sync I/O delay
The average I/O delay (in milliseconds) for synchronous I/O.

Sync I/O count
The number of synchronous reads made by the thread.

Async I/O delay
The average I/O delay (in milliseconds) for asynchronous I/O.

Async I/O count
The number of asynchronous read requests made by the thread.

Usage with Remote Threads (DSG)
To retrieve I/O data from remote threads, the following conditions must be met:

- XCF must be active. To activate XCF, update RKD2PAR(OMPEOPTS) and add option XCFMODE=ACTIVE.
- An OMEGAMON XE server must be running on every LPAR in the Data Sharing Group.
- All OMEGAMON XE servers must use the same XCF group name.
- The remote DB2 I/O access must be activated. To activate DB2 remote I/O, update RKD2PAR(OMPEOPTS) and add option DB2REMIO=YES.

The maximum number for retrieving data sets for remote threads is 695. If this number is exceeded, the list of data sets is preceeded by a message indicating the total number that is allocated.

Specify Application Trace

Use this panel to specify the trace criteria for the application to be traced and to specify a data set where trace data will be stored so that you can analyze it later.

```
_________________ ZATRQ2   VTM     O2       V540./C DB1H 07/31/13 13:51:27   3
> Help PF1                                                          Back PF3

>       THREAD INFORMATION:  Enter a selection letter on the top line.
>       Current Trace Status: INACTIVE
> A-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   *-APPL TRACE   T-ENCLAVE
> U-LONG NAMES                  W-ACCEL ACTIVITY
================================================================================
>                          SPECIFY APPLICATION TRACE
 ATRQ
:         DSN= ____________________________________________  Mode= Append
:    PLANNAME= DISTSERV   ________   ________   ________   ________
:      AUTHID= HONG       ________   ________   ________   ________
:     TSOUSER= ________  TSO UserID        |   STATSQL= N   Static  SQL?  (Y/N)
:     JOBNAME= ________  Job Name          |   SQLDATA= Y   Dynamic SQL?  (Y/N)
:    CICSTRAN= ____      CICS Trans ID     |  LOCKDATA= Y   Lock    Data? (Y/N)
:    CICSCONN= ________  CICS Connection ID|  SCANDATA= Y   Scan    Data? (Y/N)
:     PSBNAME= ________  IMS PSB Name      |  THRDDATA= Y   Thread  Data? (Y/N)
:       IMSID= ________  IMS Region ID     |  CONNDATA= Y   Connect Data? (Y/N)
:         SMF= N   Output to SMF? (Y/N)    |  HOSTVARS= N   Host Variable?(Y/N)
:         GTF= N   Output to GTF?(Y/N)
:     MEMSIZE= 02  (01-04MEG)  TIME= 0005  (0001-0060)  FLUSH= 300  (001-300)
================================================================================
```

Navigation

You can scroll through the information using F7 and F8.

For additional information about

- related topics, select one of the options at the top of the panel.

- other topics, use the PF keys.

Fields

The fields are described in Chapter 9, “Application Trace Facility (ATF),” on page 435, panel “Specify Application Trace” on page 437.

Enclave Detail Information

This panel provides detailed information about the attributes of a thread running under an individual enclave. This information includes the information provided by the PLAN major command. It also provides information provided by the "enc" minor command.

```
_________________ ZENCLD   VTM     O2       V540.#P DA41 11/05/13 12:08:11   2
> Help PF1                                                          Back PF3

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   *-ENCLAVE
> U-LONG NAMES                  W-ACCEL ACTIVITY
================================================================================
>                         ENCLAVE DETAIL INFORMATION
 PLAN
+ Thread:  Plan=DISTSERV  Connid=SERVER   Corrid=db2bp.exe    Authid=MIS
+ Dist  :  Type=DATABASE ACCESS, Luwid=G99D84D9.C0BF.CC37C54DF5CD=1765
+ Location  :  ::FFFF:9.157.132.217
 enc
+ Initial Enclave:
+ ENCLAVE TOKEN:     8C0000426C          Enclave Type:       Original Indep
+ Owning System:     PMO4                Owning Job:         DA41DIST
+ WLM Mode:          Goal                Enclave CPU Time    00:00:03.716
+
+ SERVICE PERIOD INFORMATION
+ Period(s) for Service Class STCCMD:    1
+ Current Period for This Thread:        1
+ Performance Index This Period:            .63
+
+ +---------------------------- Period Number
+ | +--------------------------- Importance
+ | | +------------------------- Duration in Service Units
+ | | |     +------------------- Percentile
+ | | |     |    +-------------- Response Time Goal or Velocity
+ | | |     |    |     +-------- Response Time Unit
+ | | |     |    |     |         Goal Description
+ - - +---- +--- +---- +-------- ------------------
+ 1 3              .40           Velocity Goal
+
+ SERVICE CLASS INFORMATION
+ CPU Critical:      No                  Storage Protection: No
+
+                    Name                Description
+                    --------            --------------------------------
+ Service Class:     STCCMD              STC, medium priority
+ Workload:          STC                 STC
+ Resource Group:    BATCHVEL            Velocity and resptime batch work
+ Report Class:
+
+ WLM APPLICATION ENVIRONMENT
+ Application Environment Name:          NO WLM ENVIRONMENT
+ Description:
+ Subsystem Type:
+ WLM Started Task Procedure Name:
+ Start Parameters:
+
+
+ CLASSIFICATION WORK QUALIFIERS
+ Subsystem Type:    DDF                 Correlation:        db2bp.exe
+ Proc Name:                             Trans Program Name:
+ UserId:            MIS                 Transaction Class:
+ Network ID:                            Logical Unit Name:
+ Plan Name:         DISTSERV            Package Name:       SQLC2F0A
+ Connection:        SERVER              Collection:         NULLID
+ Function Name:     DB2_DRDA            Subsystem Name:     DA41
+ Accounting Info:   SQL09013NT          Subsystem Parm:     mis
+ Perform:                               Subsystem Priority: N/A
+ Scheduling Env:                        Subsys Coll Name:
+ Process Name:      db2bp.exe
+
+ Performance Index Input Data for Velocity Goal
+ Total Usings:        538354            Total Delays:         314798
================================================================================
```

The first few lines identify the thread. This information is issued by the PLAN major command. The help panel for the ZTDTL panel contains detailed information about this display. The data displayed by the "enc" minor command is detailed below.

If a remote DB2 is being monitored, enclave information is not available. Message `Enclave information not available from remote DB2` is displayed instead of the information following the "enc" minor command.

Navigation

You can scroll through the information using F7 and F8.

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Initial Enclave
After applying the DB2 APARs PM12256 and PM28626 and the z/OS APAR OA35146, more than one enclave can be used by DB2 for the same Distributed Thread. The initial enclave is shown.

Enclave Token
This is the hexadecimal representation of an 8-byte field. An enclave is an anchor for a transaction that can be spread across multiple dispatchable units in multiple address spaces.

Enclave Type
The enclave type describes the condition of an enclave. An enclave can be of one of the following types:

Dependent
This enclave is created by IWMECREA. It is a continuation of the transaction for the owning address space.

Original Independent
This enclave is created by IWMECREA. It is an independent transaction.

Foreign Independent
This enclave is created by IWMIMPT. It is a continuation of an independent enclave on another system.

Foreign Dependent
This enclave is created by IWMIMPT. It is a continuation of a dependent enclave on another system.

Inactive Enclave
This enclave is currently in an inactive enclave queue because SRM did not find any work unit that is associated with the enclave. When a work unit joins the enclave, it is moved back to the active queue.

Currently Promoted
This enclave is currently promoted due to a chronic resource contention.

Continuation Independent
This enclave is a continuation of an independent enclave.

Owning System
The originating system for the enclave.

Owning Job
The originating jobname for the enclave

WLM Mode
Goal - Workload manager is monitoring and classifying work. It is periodically adjusting dispatching priorities to meet the service policies (Goals) associated with that work.

Compatibility - Workload manager is monitoring and classifying work. However the dispatching priorities are set according to values in IEAIPSxx member of SYS1.PARMLIB.

Enclave CPU Time
Total CPU time associated with the Enclave.

Service period information: For more information, see "Defining Service Classes and Performance Goals" in *z/OS MVS Planning: Workload Management*.

Service Period(s) This Class
A 1-character number ranging from 1 to 8. This is the number of service periods which have been defined for this service class.

Current Period for This Thread
A 1-character number ranging from 1 to 8. This is the current service period definition that is controlling the work.

Performance Index This Period
A number computed to two decimal places.

A Performance Index less than one is an indication that the goal for this service class period is being exceeded. The service class period might be considered as a "donor", giving up CPU or pageable storage for other more important service class periods on the system.

A Performance Index greater than one is an indication that the goal for this service class period is not being met. Depending on the importance, this Service class period might be considered for additional services to meet the defined goal.

Period Number
A 1-character column ranging from 1 to 8.

Importance
A 1-character column ranging from 1 to 5. The importance level 1 is most important. This indicates to WLM how important it is to meet this performance period goal.

Duration in Service Units
A numeric column. All defined periods except the last period have a duration. The duration is expressed in service units so as to be portable among different processor speeds. After the work has used the service units defined for that period, WLM switches to the goals defined in the next period.

Percentile
A numeric percentage column. This column is only valid for a percentile response time goal.

Response Time Goal or Velocity %
A numeric column. This column is only valid for percentile response time goals, average response time goals or velocity goals. For response time goals, this is the time value. For Velocity goals, this is the acceptable amount of delay for work when work is ready to run.

Response Time Unit
A character column. This column contains the time unit that the response time goals are expressed in. Possible values are blank, Millisecs, Seconds, Minutes and Hours.

Goal Description
A character column. This column describes the type of goal set for this service period. Possible values are:

- Percentile response time goal
- Average response time goal
- Velocity goal
- Discretionary goal
- System goal

Service class information: For more information, see "Defining Service Classes and Performance Goals" in *z/OS MVS Planning: Workload Management*.

CPU Critical
A Yes or No value indicates whether long term CPU protection is assigned to this class.

Storage Protection
A Yes or No value indicates whether long term storage protection is assigned to this class.

Service Class Name
An eight character name for a group of work within a workload having similar performance characteristics.

Service Class Description
A 32-character field that describes the service class.

Workload Name
An 8-character field that contains the name of the workload associated with this service class.

Workload Description
A 32-character field that describes the workload associated with this service class.

Resource Group Name
An 8-character field that contains the name of the resource group associated with this service class.

Resource Group Description
A 32-character field that describes the resource group associated with this service class.

Report Class Name
An 8-character field that contains the name of the report class associated with this service class.

Report Class Description
A 32-character field that describes the report class associated with this Service Class.

WLM application environment:

Application Environment Name
A 32-character field that contains the name assigned to the environment. This name can be the WLM ENVIRONMENT specified as part of the SQL CREATE PROCEDURE syntax.

Description
A 32-character field that describes the WLM ENVIRONMENT

Subsystem Type
For DB2 threads, this value is always DB2.

WLM Started Task Procedure Name
An 8-character field that contains the name of the server address space in which this enclave is executing.

Start Parameters
A 115-character field that contains any parameters to be passed to the stored procedure.

Classification work qualifiers:

Subsystem Type
The primary qualifier used to classify work on the system. Examples are JES, ASCH, OMVS, STC, TSO, and DDF.

Correlation
A name associated with the user/program creating the work request.

Proc Name
An 18-character field that contains the DB2 stored SQL procedure name associated with the work request.

Trans Program Name
An 8-character field that contains the transaction name for the work request, as known by the work manager.

UserId
An 8-character field that contains the User ID associated with the work request.

Transaction Class
An 8-character field that contains a class name within a subsystem. This can be any meaningful value that the installation can recognize and specify to match the value presented by the work manager.

Network ID
An 8-character field that contains the network identifier associated with the requestor.

Logical Unit Name
An 8-character field that contains the local LU name associated with the requestor.

Plan Name
An 8-character field that contains the DB2 plan name associated with the requestor.

Package Name
An 8-character field that contains the DB2 package name associated with the requestor.

Connection
An 8-character field that contains the connection type associated with the requestor.

Collection
An 18-character field that contains the collection name associated with the requestor.

Function Name
An 8-character field that contains the function name associated with the requestor.

Subsystem Name
An 8-character field that contains the subsystem name associated with the requestor.

Accounting Info
The first sixteen characters passed as accounting information on the batch jobcard.

Subsystem Parm
The first sixteen characters passed as a subsystem parameter. This is site defined information.

Perform
An eight-character field that contains the performance group number (PGN) associated with the request. The number can be 1 - 999.

Subsystem Priority
An numeric field that contains the priority associated with the request.

Scheduling Env
A 16-character field that contains the scheduling environment associated with the work request.

Subsys Coll Name
An 8-character field that contains the subsystem collection name associated with the request. A subsystem collection is a named group of related subsystem address spaces.

Process Name
A 32-character field that contains the process name associated with the work request.

Performance index input data: Depending on the type of performance goal for the current period, Certain input numbers are used to compute the performance index.

Velocity Goal
Total Usings (U) - This is a sum of the number of times the work for the service class period is allowed to use WLM managed resources.

Total Delays (D) - This is a sum of the number of times the work for the service class period is delayed for lack of WLM managed resources.

The formula for Actual Velocity (V) is:

V = U / U + D

Compute Performance Index (PI) using the goal velocity (G)

PI = G / V

Average Response Time Goal
Completed Trans (C) - This is a count of all completed transactions that have run for this Service Class Period.

Total Elapsed Seconds (T) - This is a sum of the time used to complete the transactions which have run for this Service Class Period.

Average Response Time (A) - A = T / C

Compute Performance Index (PI) using the Goal Response Time (G) - PI = A / G

Percentile Response Time Goal

Percentile Performance Index is found by examining the distribution of response times in the percentage array (PA).

Total Transactions (TT) - TT = Sum(PA)

Compute Goal (G) Using the Goal Percentile (GP) - G = TT * GP

Sum the array again, until you reach or surpass the Goal (G). The corresponding percentage is the Performance Index (PI) to two decimal places.

Long Names

This panel shows the long names for the connection ID and the package name of a selected thread.

With this information, you can uniquely identify the individual owners of the various threads.

On the display, the first few lines of output identify the thread. This information is issued by using the PLAN major command.

By using the *lnam* minor command, the information on the following panel is displayed.

```
_________________ ZLNAM    VTM     O2       V540./C SE11 05/13/13  0:41:45   2
> Help PF1                                                          Back PF3

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> *-LONG NAMES                  W-ACCEL ACTIVITY
================================================================================
>                            LONG NAMES
 PLAN
+ Thread:  Plan=DISTSERV  Connid=SERVER   Corrid=db2jcc_appli Authid=HONG
+ Dist  :  Type=DATABASE ACCESS, Luwid=G9417256.GAAC.CB811AF115F0=7367
+ Location  :  9.65.114.86,Host Name=sig-9-65-114-86.mts.ibm.com
 lnam
+ Collection ID    :
+   NULLID
+
+ Package Name     :
+   SYSLH200
+
+ End User ID      :
+   myUserID-this is a very long user id I will use to populated some long fie
+   lds in EDMPool Dynamic sql cache entries.
+
+ End User TXID    :
+   myApplicationInformation-also a very long application information line.
+
+ End User WS Name :
+   myWorkStation-this is the work station field set by using serDB2ClientWork
+   Station method
+
+ Trusted Context  :
+   N/P
+
+ Role Name        :
+   N/P
+
+ Original Appl ID :
+   N/P
+
+ Original OPID    :
+   N/P
+
+ Authorization ID :
+   N/P
+
+ Correlation Token:
+   N/P
+
+ Account Location :
+   N/P
+
+ Account Info     :
+   N/P
+
+ Account String   :
+   N/P
================================================================================
```

Navigation

You can scroll through the information using F7 and F8.

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection ID
The name of the collection ID.

Package name
The name of the package.

End User ID
The name of the end user.

End User TXID
The transaction name of the end user.

End User WS Name
The workstation name of the end user.

Trusted Context
The name of the trusted context.

Role Name
The name of the role that is associated to the author ID.

Original Appl ID
The authorization ID.

Original OPID
The original operator ID.

Authorization ID
Original application user ID.

Correlation Token
The correlation token.

Account Location
The DB2 LOCATION name of the DB2 system that creats the QMDAINFO values if QMDALOCN is truncated.

Account Information
The maximum length of this field is 200 bytes. You can specify this suffix for the accounting string.

Account String
The extended accounting string area.

- If QMDAASTR is defined by QMDAINFO, this area contains all the remaining bytes beyond position 142 for QMDAACCT.
- If QMDAASTR is defined by QMDASQLI, this area contains all the remaining bytes beyond position 200 for QMDASUFX.
- Otherwise, this area contains all bytes beyond position 247.

Thread Accelerator Detail

This panel formats Accelerator activity for the selected thread.

```
_________________ ZTACEL   VTM     O2       V540./C DA31 08/26/13 19:02:36   2
> Help PF1                                                          Back PF3

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES                  *-ACCEL ACTIVITY
================================================================================
>                         THREAD ACCELERATOR DETAIL
 PLAN
+ Thread:  Plan=WAYNEPLN  Connid=RRSAF    Corrid=W0438FF3A019 Authid=HONG
+ Attach:
+ Dist  :  Type=DISTRIBUTED ALLIED, Luwid=DEIBMIPS.IPSASA31.CBDED00A4651=4042
+ Location  :  VMNPS52
 acel
+      Accelerator Data for this thread follows
+      Number of accelerators accessed:        1
+
+      Name:VMNPS52
+                        CPU Times         Elapsed Times
+                        -------------     -------------
+      TCP/IP Services                     00:00:00.206
+      Accelerator       00:00:00.000      00:00:00.000
+      Accumulated wait                    00:00:00.000
+                                  Counters
+                                  --------
+      Connects:                1    Requests:          1
+      Timeouts:                0    Failures:          0
+
+                                  Data Transfer
+                                  -------------
+                        Sent              Received
+                    --------              --------
+      Bytes:            3270                   799
+      Messages:           11                     0
+      Blocks:              0                     0
+      Rows:                0                     0
+
+                          Statements Sent To Accelerator
+                          ------------------------------
+      Insert                                       0
+        Rows inserted                              0
+      Update                                       0
+        Rows updated                               0
+      Delete                                       0
+        Rows deleted                               0
+      Drop                                         0
+      Create                                       0
+      Commit                                       0
+      Rollback                                     0
+      Open                                         1
+        Rows returned                              0
+
+      Accum Wait Time for Delay Protocol    00:00:00.000
+      # Stmts Wait Delay Protocol Expired              0
================================================================================
```

Navigation

For additional information about

- a particular thread, move the cursor to the thread information line and press F11 (Zoom).
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Number of Accelerators accessed
The number of Accelerators that are utilized by this thread. This is followed by a list of information for each Accelerator.

Name
The name of the Accelerator.

CPU Times
The CPU time that is consumed within the Accelerator device.

Elapsed Times

TCP/IP Services
The total elapsed time from the time Db2 started processing requests until the requests are complete.

Accelerator
The total elapsed time that the thread is processed on the Accelerator. The Accelerator time is a subset of the TCP/IP time.

Accumulated Wait
The total wait time within the Accelerator.

Connects
The number of times the Db2 thread connected to the Accelerator.

Requests
The number of requests this thread made to the Accelerator.

Timeouts
The number of requests that failed due to a timeout while waiting for the Accelerator.

Failures
The total number of failed Accelerator requests. This number includes any timeout errors.

The following fields are related to data transfer between Db2 and the Accelerator.

Bytes Sent
The count of bytes of data that is sent to the Accelerator.

Bytes Received
The count of bytes of data that is received from the Accelerator.

Messages Sent
The count of messages that are sent to the Accelerator.

Messages Received
The count of messages that are received from the Accelerator.

Blocks Sent
The count of blocks that are sent to the Accelerator.

Blocks Received
The count of blocks that are received from the Accelerator.

Rows Sent
The count of data rows that are sent to the Accelerator.

Rows Received
The count of data rows that are received from the Accelerator.

Insert
The count of insert statements sent to the Accelerator.

Rows inserted
The count of rows inserted.

Update
The count of update statements sent to the Accelerator.

Rows updated
The count of rows updated.

Delete
The count of delete statements sent to the Accelerator.

Rows deleted
The count of rows deleted.

Drop
The count of drop statements sent to the Accelerator.

Create
The count of create statements sent to the Accelerator.

Commit
The count of commit statements sent to the Accelerator.

Rollback
The count of rollbacks sent to the Accelerator.

Open
The count of open statements sent to the Accelerator.

Rows returned
The count of rows returned from the Accelerator.

Accum Wait Time for Delay Protocol [Q8ACTWDP]
The amount of time spent waiting for completion of data replication to the accelerator using the delay protocol (HTAP).

Stmts Wait Delay Protocol Expired [Q8ACNWDP]
The number of requests where the replication of data to the accelerator needed to execute the query did not complete before the delay protocol time limit expired (HTAP).

TSO Thread Summary

This panel provides an overview of the activity of all foreground TSO threads connected to DB2.

Each row provides information about an individual thread, including information about thread response time, DB2 and MVS resource consumption, and DB2 activity.

```
_________________ ZTSOT    VTM     O2       V540.#P DA41 S 11/05/13 12:13:55 2
> Help PF1      Back PF3       Up PF7      Down PF8     Sort PF10    Zoom PF11
> T.B
>         Thread Activity:  Enter a selection letter on the top line.

> A-All-Idle    *-TSO      C-CICS      D-IMS     E-Background   F-Dist Allied
> G-Dist DBAC   H-Util     I-Inact     J-Filter  K-Functions    L-Stored Proc
> M-Triggers    N-Sysplex  O-Enclaves  P-Worksta Q-All+Idle
================================================================================
>                          TSO Thread Summary
 THDT
+ *
+ Elapsed      Planname  CPU    Status       GetPg   Update  Commit  Userid
+ ----------   --------  -----  ------------ ------  ------  ------  --------
+ 00:10:17.2   ADB       00.0%  SWAPPED-OUT       0       0       1  MIS
+ 00:10:06.0   DSNESPRR  00.0%  SWAPPED-OUT      16       0       2  MIS
================================================================================
```

Highlighting

The following table shows the fields that might be highlighted in the panel above to indicate that an exception that is related to this field exceeded its threshold value:

Table 12. Highlighted fields in TSO Thread Summary panel. This table shows the fields and the exceptions these fields are related to. It also shows the reason for the corresponding exception.

Field	Exception	Reason
Elapsed	ETIM	This thread has reached the Elapsed Time threshold value.

Table 12. Highlighted fields in TSO Thread Summary panel. This table shows the fields and the exceptions these fields are related to. It also shows the reason for the corresponding exception. *(continued)*

Field	Exception	Reason
CPU	TCPU	The thread address space has excessive CPU utilization.
GetPg	GETP	The Getpage to Read I/O ratio indicates poor read efficiency.
Update	PGUP	The rate for system page updates is high.
Commit	COMT	The number of updates since the last successful commit is high.

Navigation

For additional information about

- a particular thread, move the cursor to the thread information line and press F11 (Zoom).
- A different DB2 subsystem, data sharing group, or member of a data sharing group, enter the name of a DB2 subsystem, group, or member in the topmost row and press Enter. For more information, see "Switching among DB2 subsystems and data sharing group members" on page 11.
- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Elapsed
The elapsed time since thread creation, or since DB2 signon if the thread is reused. When the elapsed time of the thread exceeds 24 hours, the format is *dd-hh:mm*.

If this thread is involved in parallel processing or if it invoked autonomous procedures, one of the following identifiers is displayed after the elapsed time:

*****
This thread is a parallel task that is initiated on behalf of another (originating) thread to process a query request in parallel.

O
This thread is the originating thread that invoked autonomous procedures.

P
This thread is the parent or the originating thread of the parallel tasks that are created to process a query request in parallel. Activity performed for this (originating) thread is reflected under the parallel tasks.

X
This thread is a parallel task that is initiated on behalf of another (originating) thread on another DB2 for sysplex parallelism.

Planname or Package
The DB2 plan name (or package name) of the active thread. If you selected option **T** from the Realtime Main Menu, this panel shows the information by plan. If you selected option **U**, this panel shows the information by package.

CPU (if monitoring a local DB2 subsystem or a data sharing group with XCF component activated for remote CPU)
The CPU rate (percent) that is associated with the thread. Database access threads run in MVS SRB mode. The displayed rate is SRB time (no TCB time).

DB2 (if monitoring a data sharing group or remote DB2 subsystem while XCF component is not activated for remote CPU)
The DB2 subsystem name of the data sharing group member that is currently monitored.

You can use the Tab key to move to a detail line and to select this detail line for drill down.

Status
The current DB2 status of the thread. For definitions of all possible status values, see "DB2 Thread Status".

GetPg
The number of thread Getpage requests.

This logical read request might not actually result in physical I/O if the requested page is currently in the buffer pool.

Update
The number of DB2 page updates made by the thread since thread creation. This value is incremented each time a row in a page is updated, not just once for each page updated. DB2 might update pages when it creates intermediate result tables because of a qualified SELECT statement, even though SELECT statements are generally thought of as read only operations. Pages that have been updated are written asynchronously by DB2, according to DB2's internal Deferred Write algorithm, not immediately after update or commit. DB2 resets the page update count at Create Thread and Signon. If Signon is not driven, the page update count is cumulative.

Commit
The number of times the thread successfully completed commit processing.

If a QMF thread user exits from a query panel to other than the home panel, tablespace locks defined with DEALLOCATE(COMMIT) will be retained until Commit is effected. This is also true of SPUFI users who do not specify AUTOCOMMIT, or who specify DEFER on completion of a transaction.

Userid
The TSO user ID of the active thread user.

CICS Thread Summary

This panel provides an overview of DB2 thread activity that is originating from connected CICS regions.

It provides information about the activity of each CICS region attached to DB2. It also presents information about individual CICS threads that are active in DB2. The display lines are ordered by thread elapsed time (total time since thread creation or reuse) and include information about the DB2 activity.

If monitoring a single remote DB2, the CICA command cannot display the information in this panel. The message `Remote DB2 is not supported for this command` is displayed.

```
 _________________ ZCICST   VTM     O2       V540.#P SE12 S 11/05/13 12:22:42 2
> Help PF1       Back PF3       Up PF7      Down PF8     Sort PF10    Zoom PF11
> T.C
>          Thread Activity:  Enter a selection letter on the top line.

> A-All-Idle    B-TSO      *-CICS      D-IMS     E-Background   F-Dist Allied
> G-Dist DBAC   H-Util     I-Inact     J-Filter  K-Functions    L-Stored Proc
> M-Triggers    N-Sysplex  O-Enclaves  P-Worksta Q-All+Idle
================================================================================
>                          CICS Thread Summary
 CICA
+ CICS            Total    DB2    Pct. of   Active     Commit    RO Commit
+ RELS  Jobname    CPU     CPU    THRDMAX   Threads   Rate/sec   Rate/sec
+ ----- --------  -----   -----   -------   -------   --------   ---------
+ 6.8.0 CICSPO42  31.3%   00.0%      8.3%         1         .0          .0
 THDC
+*
+Elapsed     Planname Tran CPU   Status       GetPg  Update Commit Corrid
+----------  -------- ---- ----- ------------ ------ ------ ------ ------------
+00:00:30.4  QMF11    QMFE 30.6% IN-DB2       212573      0      0 POOLQMFE0003
+00:00:25.9  NPGM051  N051 00.0% WAIT-REUSE        35      1      1 ENTRN0510001
+00:00:24.7  NPGM044  N044 00.0% WAIT-REUSE        26      1      1 ENTRN0440002
================================================================================
```

Highlighting

The following table shows the fields that might be highlighted in the panel above to indicate that an exception that is related to this field exceeded its threshold value:

Table 13. Highlighted fields on CICS Thread Summary panel

Field	Exception	Reason
Jobname	ENTO	The number of transactions defined as ENTRY threads, overflowed, and waiting for POOL threads is high.
	ENTU	The percentage of available ENTRY threads is low.
	ENTW	The number of transactions waiting for ENTRY threads is high.
	POLU	The percentage of available POOL threads is low.
	POLW	The number of transactions waiting for POOL threads is high.
Total CPU	TCPU	The address space has excessive CPU utilization.
DB2 CPU	TCPU	The address space has excessive CPU utilization.
Pct. of THRDMAX	CICT	The number of threads active has reached the threshold percentage of the THRDMAX value.
Elapsed	ETIM	This thread has reached the Elapsed Time threshold value.
GetPg	GETP	The Getpage to Read I/O ratio indicates poor read efficiency.
Update	PGUP	The rate for system page updates is high.
Commit	COMT	The ratio of Commits to Updates indicates a low Commit frequency.

Navigation

For additional information about:

- Which exceptions have tripped, type `E.C` to find out details.
- The resource control table (RCT) for a specific CICS region, move the cursor to a CICS job name and press F11 (Zoom).
- A particular thread, move the cursor to the thread information line and press F11 (Zoom).

- A different DB2 subsystem, data sharing group, or member of a data sharing group, enter the name of a DB2 subsystem, group, or member in the topmost row and press Enter. For more information, see “Switching among DB2 subsystems and data sharing group members” on page 11.
- Related topics, select one of the options on the top of the panel.
- Other topics, use the PF keys.

Fields

CICS connection information:

CICS RELS
The CICS release of the connected CICS region:

6.6.0 for CICS Transaction Server 4.1
For CICS Transaction Server 4.1

6.7.0 for CICS Transaction Server 4.2
For CICS Transaction Server 4.2

6.8.0 for CICS Transaction Server 5.1
For CICS Transaction Server 5.1

6.9.0 for CICS Transaction Server 5.2
For CICS Transaction Server 5.2

7.0.0 for CICS Transaction Server 5.3
For CICS Transaction Server 5.3

7.1.0 for CICS Transaction Server 5.4
For CICS Transaction Server 5.4

7.2.0 for CICS Transaction Server 5.5
For CICS Transaction Server 5.5

7.3.0 for CICS Transaction Server 5.6
For CICS Transaction Server 5.6

Jobname
The job name of the connected CICS region.

For remote threads, this fields displays the correlation ID up to 8 characters.

Total CPU
The total CPU rate (percent) of the CICS region connected to DB2. This includes both TCB and SRB time. For more information about CPU use, see "Analyzing DB2 CPU Usage".

Note: The following fields do not include data of parallel task threads that is initiated by another thread that is originating from the CICS connection:

Total CPU
DB2 CPU
Pct. of THRDMAX
Active Threads

DB2 CPU
The total CPU rate (percent) that is attributable to active threads originating from the CICS connection. This value is a subset of the total CICS region CPU utilization. For more information about CPU use, see "Analyzing DB2 CPU Usage".

Pct. of THRDMAX
The percentage of THRDMAX (CICS maximum threads) that the current threads have reached.

Active Threads
The number of active threads originating from the CICS connection. This value includes outstanding Create Thread requests not yet satisfied by DB2. This value excludes threads originating from the CICS connection that are waiting for reuse.

Commit Rate/Sec
The number of DB2 Commits per second originating from the CICS connection.

The Commit rate is computed by determining the number of commits that occurred since the previous OMEGAMON cycle divided by the elapsed time since the previous cycle.

RO Commit Rate/Sec
The number of DB2 read-only Commits per second originating from the CICS connection.

This rate is computed by determining the number of read-only Commits that occurred since the previous OMEGAMON cycle divided by the elapsed time since the previous cycle.

Note: The following fields do not include data of parallel task threads that is initiated by another thread that is originating from the CICS connection:

Total CPU
DB2 CPU
Pct. of THRDMAX
Active Threads

CICS thread information:

Elapsed
The elapsed time since thread creation, or since DB2 signon if the thread is reused. When the elapsed time of the thread exceeds 24 hours, the format is *dd-hh:mm*.

If this thread is involved in parallel processing or if it invoked autonomous procedures, one of the following identifiers is displayed after the elapsed time:

*****
This thread is a parallel task that is initiated on behalf of another (originating) thread to process a query request in parallel.

O
This thread is the originating thread that invoked autonomous procedures.

P
This thread is the parent or the originating thread of the parallel tasks that are created to process a query request in parallel. Activity performed for this (originating) thread is reflected under the parallel tasks.

X
This thread is a parallel task that is initiated on behalf of another (originating) thread on another DB2 for sysplex parallelism.

Planname
The DB2 plan name of the active thread.

Tran
The CICS transaction identifier active in the thread.

CPU (if monitoring a DB2 subsystem or a data sharing group member)
The CPU rate (percent) attributable to the thread.

For more information about CPU use, see "Analyzing DB2 CPU Usage".

DB2 (if monitoring a data sharing group or remote DB2 subsystem while XCF component is not activated for remote CPU)
The DB2 subsystem name of the data sharing group member that is currently monitored.

You can use the Tab key to move to a detail line and to select this detail line for drill down.

Status
The current DB2 status of the thread. For definitions of all possible status values, see "DB2 Thread Status".

GetPg
The number of thread Getpage requests. This logical read request might not actually result in physical I/O if the requested page is currently in the buffer pool.

Update
The number of DB2 page updates made by the thread since thread creation. This value is incremented each time a row in a page is updated, not just once for each page updated. DB2 might update pages when it creates intermediate result tables because of a qualified SELECT statement, even though SELECT statements are generally thought of as read only operations. Pages that have been updated are written asynchronously by DB2, according to DB2's internal Deferred Write algorithm, not immediately after update or commit. DB2 resets the page update count at Create Thread and Signon. If Signon is not driven, the page update count is cumulative.

Commit
The number of times the thread successfully completed Commit processing.

Jobname | Corrid
You can customize this field by using the OMPEOPTS option CICSCORR. It shows one of the following field names:

Jobname
The jobname of the connected CICS region (by default).

For remote threads, this field shows the correlation ID up to 8 characters.

Corrid
The correlation ID of the CICS thread if OMPEOPTS member in RKD2PAR has the following setting: CICSCORR=YES.

CICS RCT Summary

This panel provides summary information about the CICS-DB2 connection, as defined in the CICS resource control table (RCT), for the attached CICS region job name.

```
 _________________ ZCICSTR  VTM     O2       V540.#P SN11 11/05/13 12:30:10   2
> Help PF1         Back PF3         Up PF7         Down PF8         Zoom PF11
>
================================================================================
>                           CICS RCT SUMMARY
 RCTS
+
:                         CICS=CICSPO41   (Release 6.5.0)
+
+   DB2CONN Name               =    RCT1$  Statistics Dest (SHDDEST) =     CSSL
+   Error MSG Dest 1 (ERRDEST) =     CSMT  Attachment Standby Mode   = CEX2STRT
+   Error MSG Dest 2           =      N/A  CICS Auth Name   (SIGNID) = IPSATCIA
+   Error MSG Dest 3           =      N/A  THRD Purge Time Interval  =    0: 30
+   Tasks on Ready Queue       =        0  Maximum Threads (THRDMAX) =       12
+   HWM Tasks on Ready Queue   =        0  Active MVS Subtasks       =        1
+   Number of Free Connections =        0  HWM Active MVS Subtasks   =        1
+   Thread Error Action        =    ABEND  Connect Error Action      =  SQLCODE
+   Thread Reuse Limit         =     1000  Total Threads in POOL/ENT =       20
+
:                    DB2ENTRY=________    PLANNAME=________
+
+   DB2ENTRY    CALLS    WAITS   ABORTS    THRDA   THRDS   TCB TIME  REUSE
+   -------- -------- -------- -------- -------- ------- ---------- ------
+   COMMAND         0        0        0    1,  0    0, 0       .000      0
+   POOL            0        0        0    3,  1    0, 0       .025      0
+   D8CSENT         0        0        0    1,  0    0, 0       .000      0
+   D8PPENT         0        0        0    1,  0    0, 0       .000      0
+   D8PSENT         0        0        0    1,  0    0, 0       .000      0
+   D8PWILD         0        0        0    2,  0    0, 0       .000      0
+   QMFE           36        2        0    0,  0    0, 0       .000      0
================================================================================
```

Navigation

For additional information about:

- How to limit the RCT entries displayed:

  - To display all CICS DB2ENTRYs starting with VX, enter DB2ENTRY=VX* which shows VX01, VX05, VXAA, VXYZ, and so on.
  - To display all plan names with any character in the third position, enter PLANNAME=YZ?PLAN which shows YZAPLAN, YZ2PLAN, YZQPLAN, and so on.
- An RCT entry definition, move the cursor to one of the lines under DB2ENTRY and press F11 (Zoom). By default, all RCT entries for the region are displayed. For more information, see the description of panel "CICS RCT Detail" on page 159.
- Other topics, use the PF keys.

Fields

CICS
The CICS job name. If you enter a different job name, the corresponding RCT summary information is displayed.

RELEASE
Identifies the internal release number of the CICS system:

6.6.0 for CICS Transaction Server 4.1
For CICS Transaction Server 4.1

6.7.0 for CICS Transaction Server 4.2
For CICS Transaction Server 4.2

6.8.0 for CICS Transaction Server 5.1
For CICS Transaction Server 5.1

6.9.0 for CICS Transaction Server 5.2
For CICS Transaction Server 5.2

7.0.0 for CICS Transaction Server 5.3
For CICS Transaction Server 5.3

7.1.0 for CICS Transaction Server 5.4
For CICS Transaction Server 5.4

7.2.0 for CICS Transaction Server 5.5
For CICS Transaction Server 5.5

7.3.0 for CICS Transaction Server 5.6
For CICS Transaction Server 5.6

DB2CONN Name
The RCT name in use by the CICS jobname.

Statistics Dest (SHDDEST)
The transient data destination used for the shutdown statistics when the attachment facility is stopped.

Error MSG Dest 1, 2, or 3 (ERRDEST)
The identifier of the DFHDCT destination for unsolicited error messages. As many as three destination IDs can be assigned.

Attachment Standby Mode
The attachment standby mode for this CICS region. Possible values are: STANDBY, CEX2STRT, CEX2TERM, DB2MAINT, MSBACTIV, RESYNC, or N/A.

CICS Auth Name (SIGNID)
The authorization ID used when the attachment connects to DB2.

THRD Purge Time Interval
Specifies the length of the protected thread purge cycle in the format: MINUTES : SECONDS.

Tasks on Ready Queue
The number of tasks that are on ready queue (waiting to be scheduled).

Maximum Threads (THRDMAX)
The maximum number of threads that can be created between CICS and DB2 within this RCT.

HWM Tasks on Ready Queue
The high-water mark (HWM) of tasks on ready queue.

Active MVS Subtasks
The number of MVS subtasks that are active.

Number of Free Connections
The number of free connections available.

HWM Active MVS Subtasks
The high-water mark (HWM) of MVS subtasks that are active.

Thread Error Action
The action that will be taken when thread is in error condition. Possible values: ABEND, N906D, N906, or N/A.

Connect Error Action
The action that will be taken when connection is failed. Possible values ABEND, SQLCODE, or N/A.

Thread Reuse Limit
The REUSELIMIT parameter specifies the maximum number of times a thread can be reused before it is terminated. This limit applies to all DB2 threads whether they are protected or unprotected. CICS42 and above.

Total Threads in POOL/ENT
Total threads in POOL and DB2ENTRYs. CICS52 and above.

DB2ENTRY
The identifier of a classification of transactions within this CICS job. When there are multiple transactions with the same RCT definition, this field will display the ID of the first transaction.

PLANNAME
The name of the specific plan for which you want to display statistical information. Use this field to reduce the number of lines displayed at the bottom of the panel.

The following fields are displayed for each command, entry, and pool RCT definition that exists within the resource control table.

DB2ENTRY
The identifier of a classification of transactions within this CICS job. When there are multiple transactions with the same RCT definition, this field displays the ID of the first transaction.

Calls
The number of DB2 calls generated by transactions that share an RCT definition since the attach facility was started.

Waits
The number of DB2 waits experienced by transactions that share an RCT definition since the attach facility was started.

Aborts
The number of aborts experienced by transactions that share an RCT definition since the attach facility was started.

THRDA
The maximum number of active threads for this RCT entry.

THRDS
The number of MVS TCBs that will be attached (for use by the RCT definition) to the transactions when the attach facility is started.

TCB Time
The CPU time (in seconds) used by transactions originating from this RCT definition. This time represents CP time only and does not include zIIP time.

REUSE
The number of times CICS transactions using DB2ENTRY were able to reuse an already created DB2 thread.

CICS RCT Detail

This panel provides information about the CICS resource control table (RCT) entry definition selected from the CICS RCT Summary panel.

The output includes RCT entry parameters in use, thread information, and miscellaneous statistics.

```
_________________ ZCICTRD  VTM     O2       V540.#P SE12 11/05/13 12:31:34   2
>       Help PF1           Back PF3           Up PF7           Down PF8
>
================================================================================
>                               CICS RCT DETAIL
 RCTD
+                         CICS=CICSPO42   (Release 6.8.0 )
+
+   Transaction ID      (TXID) =     N044
+   DB2ENTRY Name              =  N044ENT  Plan Name          (PLAN) =  NPGM044
+   Thread TCB Prty   (DPMODE) =     High  Plan Alloc Exit (PLNEXIT) =      N/A
+   Rollbck on Deadlok (ROLBE) =      Yes  Thread Wait       (TWAIT) =      Yes
+   DB2 Accounting Reason      =     TXID  AUTHID                   =
+   Thread Limit       (THRDA) =        5  Prot Thread Limit (THRDS) =        5
+   Authorization Opt.  (AUTH) =   UserID
+
+                             Statistics Information
+   Count of Calls             =       97  Current Free TCBs         =        0
+   Count of Commits           =        0  Current Active TCBs       =        0
+   Count of Authorizations    =        1  Current Total TCB Time    =     .000
+   Count of Aborts            =        0  Current Active Thread     =        0
+   Count of RO Commits        =        6  HighWater Active Thread   =        1
+   Count of Waits/Ovflw Pool  =        0  Current Waits/Ovflw Pool  =        0
+   Count of Tasks             =        6  Current Protected Thread  =        1
+   Count of Partial SignOns   =        0  HighWater Protected Thread=        1
+   Count of Thread Terminates =        4  Current ReadyQue Thread   =        0
+   Count of Thread Creates    =        5  HighWater ReadyQue Thread =        0
+   Count of Thread Reuse      =        1  Current User Request      =        0
+   Count of Thread Limit Hits =        0  HighWater User Request    =        1
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

CICS

The CICS job name and the release number of the CICS system.

6.6.0 for CICS Transaction Server 4.1
For CICS Transaction Server 4.1

6.7.0 for CICS Transaction Server 4.2
For CICS Transaction Server 4.2

6.8.0 for CICS Transaction Server 5.1
For CICS Transaction Server 5.1

6.9.0 for CICS Transaction Server 5.2
For CICS Transaction Server 5.2

7.0.0 for CICS Transaction Server 5.3
For CICS Transaction Server 5.3

7.1.0 for CICS Transaction Server 5.4
For CICS Transaction Server 5.4

7.2.0 for CICS Transaction Server 5.5
For CICS Transaction Server 5.5

7.3.0 for CICS Transaction Server 5.6
For CICS Transaction Server 5.6

Transaction ID (TXID)
The transaction IDs of all CICS transactions that are defined in the RCT entry definition being viewed.

DB2ENTRY Name
The identifier of the transaction or transaction group being viewed.

Plan Name (PLAN)
The name of the plan assigned to the transactions.

Thread TCB Prty (DPMODE)
The MVS dispatching priority of thread TCBs relative to the CICS main TCB. Possible values: High or Low.

Plan Alloc Exit (PLNEXIT)
The name of the exit program that can dynamically allocate the planname for the transaction ID when the first SQL call is issued.

Rollbck on Deadlok (ROLBE)
Determines whether CICS issues a syncpoint rollback when the transaction experiences an Internal Resource Lock Manager (IRLM)-detected deadlock or timeout.

Yes
CICS will roll back all DB2 work and all CICS-protected resources to the last syncpoint.

No
CICS will roll back only the incomplete SQL call that was involved in the deadlock/timeout.

Thread Wait (TWAIT)
The action to take if no thread is available to execute a DB2-CICS transaction.

Pool
If all threads are in use, DB2 places this transaction in the pool; if all pool threads are in use, DB2 places this transaction in a queue.

Yes
If all threads are in use, the transaction waits until a thread is available.

No
If all threads are in use, the transaction abends.

DB2 Accounting Reason
The reason for DB2 Accounting. DB2 accounting is done by one of the following:

UOW
Account for each unit of work (UOW)

TASK
Account for each task

TXID
Account for each Transaction ID change

NONE
No accounting

AUTHID
The authorization identifier if used by transaction(s).

Thread Limit (THRDA)
The maximum number of active threads for this RCT entry.

Prot Thread Limit (THRDS)
The number of MVS TCBs that will be attached (for use by the RCT definition) to the transactions when the attach facility is started.

Authorization Opt. (AUTH)
The type of authorization ID required to execute the DB2 plan for transactions that are originating from the RCT definition.

Group
The group

OPID
A sign-on operator ID

SignID
A sign-on ID

Term
The terminal ID

TxID
The transaction ID

Userid
The user's sign-on ID

xxxxxx
A character string

*****
Indicates a null value

Statistics information:

Count of Calls
The number of DB2 calls generated by the transactions since the CICS-DB2 attach was started.

Current Free TCBs
The number of currently free task control blocks (TCBs) to be reconnected with threads.

Count of Commits
The number of Commits completed since the attach facility was started.

Current Active TCBs
The number of currently active threads.

Count of Authorizations
The number of times authorization has been invoked for the threads defined to the transactions.

Current Total TCB Time
The CP time (in seconds) used by currently active threads. This time represents CP time only and does not include zIIP time.

Count of Aborts
The number of aborts experienced by the transactions since the attach facility was started.

Current Active Threads
The number of transactions that are currently active in DB2 or are waiting for a thread (TWAIT=YES).

Count of RO Commits
The number of read-only Commits since the attach facility was started.

Highwater Active Thread
The high-water mark of active threads.

Count of Waits/Ovflw Pool
The number of transactions that are waiting for a thread, or that have overflowed into the pool.

Current Waits/Ovflw Pool
The number of times that all available threads for the entry were busy, and the transaction had to wait or be diverted to the pool. This condition depends on the setting of the Thread Wait (TWAIT) field.

Count of Tasks
The total number of tasks using this DB2ENTRY.

Current Protected Thread
The currently protected thread count.

Count of Partial SignOns
The total count of signons.

Highwater Protected Thread
The high-water mark of protected threads.

Count of Thread Terminates
The number of times a thread terminated.

Current ReadyQue Thread
The number of threads waiting to be executed.

Count of Thread Creates
The number of times a thread is created.

Highwater ReadyQue Thread
High-water mark of threads waiting to be executed.

Count of Thread Reuse
The number of times CICS transactions using the DB2ENTRY were able to reuse an already created DB2 thread.

Current User Request
The total count of user requests.

Count of Thread Limit Hits
The number of times the thread reuse limit is hit.

Highwater User Request
High-water mark of user requests.

IMS Thread Summary

This panel provides an overview of DB2 thread activity originating from connected IMS subsystems.

It provides information about a connection level about all IMS subsystems identified to DB2. This panel also presents information about individual IMS threads (such as thread elapsed time, DB2 and MVS resource consumption, and DB2 activity).

```
 _________________ ZIMST    VTM     O2       V540.#P SN11 S 11/05/13 12:35:16 2
> Help PF1      Back PF3       Up PF7      Down PF8     Sort PF10    Zoom PF11
> T.D
>         Thread Activity:  Enter a selection letter on the top line.

> A-All-Idle    B-TSO      C-CICS      *-IMS     E-Background   F-Dist Allied
> G-Dist DBAC   H-Util     I-Inact     J-Filter  K-Functions    L-Stored Proc
> M-Triggers    N-Sysplex  O-Enclaves  P-Worksta Q-All+Idle
================================================================================
>                              IMS Thread Summary
 IMSA
+       IMS ID             CPU%            Connection           Threads
+       --------           ----            ----------           -------
+       MA41               00.0                     2                 1
 THDI
+ *
+ Elapsed      Planname Jobid    CPU  Status       GetPg Update Commit Connid
+ ----------   -------- -------- ---- ------------ ----- ------ ------ --------
+ 00:00:07.5   DSN8IP0  IMSA41M1 00.0 WAIT-LOCK       12      0      0 MA41
================================================================================
```

Highlighting

The following table shows the fields that might be highlighted in the panel above to indicate that an exception that is related to this field exceeded its threshold value:

Table 14. Highlighted fields in IMS Thread Summary panel.

This table shows the fields and the exceptions these fields are related to. It also shows the reason for the corresponding exception.

Field	Exception	Reason
Elapsed	ETIM	This thread has reached the Elapsed Time threshold value.
CPU	TCPU	The thread address space has excessive CPU utilization.
GetPg	GETP	The Getpage to Read I/O ratio indicates poor read efficiency.
Update	PGUP	The rate for system page updates is high.
Commit	COMT	The ratio of Commits to Updates indicates a low Commit frequency.

Navigation

For additional information about

- the IMS connection, move the cursor to the IMS ID line and press F11 (Zoom). For more information, see the description of panel “IMS Connection Detail Information” on page 165.

  The following IMS releases are supported:

  – IMS V10
  – IMS V11
  – IMS V12
  – IMS V13
  – IMS V14
  – IMS V15
- a particular thread, move the cursor to the thread line and press F11 (Zoom).
- A different DB2 subsystem, data sharing group, or member of a data sharing group, enter the name of a DB2 subsystem, group, or member in the topmost row and press Enter. For more information, see “Switching among DB2 subsystems and data sharing group members” on page 11.
- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

IMS connection information:

IMS ID
The name of the IMS subsystem connected to DB2. If the IMS subsystem is DL/I batch, OMEGAMON XE for DB2 PE displays the characters DLIBATCH.

CPU%
The total CPU rate (percent) of IMS regions within the IMS subsystem that have active threads to DB2.

This value excludes data of parallel task threads that are initiated by another thread that is originating from the IMS connection.

For more information about CPU use, see "Analyzing DB2 CPU Usage".

Connection
The total number of regions from the IMS subsystem connected to DB2 (dependent and control).

Threads
The total number of threads connected from the IMS subsystem.

This value excludes data of parallel task threads that are initiated by another thread that is originating from the IMS connection.

IMS thread information:

Elapsed
The elapsed time since thread creation, or since DB2 signon if the thread is reused. When the elapsed time of the thread exceeds 24 hours, the format is *dd-hh:mm*.

If this thread is involved in parallel processing or if it invoked autonomous procedures, one of the following identifiers is displayed after the elapsed time:

*****
This thread is a parallel task that is initiated on behalf of another (originating) thread to process a query request in parallel.

O
This thread is the originating thread that invoked autonomous procedures.

P
This thread is the parent or the originating thread of the parallel tasks that are created to process a query request in parallel. Activity performed for this (originating) thread is reflected under the parallel tasks.

X
This thread is a parallel task that is initiated on behalf of another (originating) thread on another DB2 for sysplex parallelism.

Because SQL calls might be interspersed with IMS DLI calls and other activity, this wall clock time value need not solely reflect DB2 processing.

Planname
or
Package
The DB2 plan name (or package name) of the active thread. If you selected option **T** from the Realtime Main Menu, this panel shows the information by plan. If you selected option **U**, this panel shows the information by package.

Jobid
The name of the dependent or control region in which the thread is active.

For remote DB2 subsystems, the correlation ID is displayed instead of the name of the dependent or control region.

CPU (if monitoring a DB2 subsystem or data sharing group member)
The current CPU rate (percent) of the IMS region in which the thread is active.

This might include non-DB2 TCB activity. For more information about CPU use, see "Analyzing DB2 CPU Usage".

DB2 (if monitoring a data sharing group or remote DB2 subsystem while XCF component is not activated for remote CPU)
The DB2 subsystem name of the data sharing group member that is currently monitored.

You can use the Tab key to move to a detail line and to select this detail line for drill down.

Status
The current DB2 status of the thread. For definitions of all possible status values, see "DB2 Thread Status".

GetPg
The number of thread Getpage requests. This logical read request might not actually result in physical I/O if the requested page is currently in the buffer pool.

Update
The number of DB2 page updates made by the thread since thread creation. This value is incremented each time a row in a page is updated, not just once for each page updated. DB2 might update pages when it creates intermediate result tables because of a qualified SELECT statement, even though SELECT statements are generally thought of as read only operations. Pages that have been updated are written asynchronously by DB2, according to DB2's internal Deferred Write algorithm, not immediately after update or commit. DB2 resets the page update count at Create Thread and Signon. If Signon is not driven, the page update count is cumulative.

Commit
The number of times the thread successfully completed commit processing. If MODE is MULT is specified on the IMS TRANSACT macro which defines the transaction or a WFI region is used, multiple messages might be processed before a commit point is reached, and page locks and DEALLOCATE(COMMIT) tablespace and SKCT locks are released.

Connid
The DB2 connection identifier of the active thread. The connection ID is the same as the IMS ID. It is used to relate an individual thread to the IMS system specified by the IMS ID under IMS Connection Information above.

IMS Connection Detail Information

This panel provides information about the IMS control region and all dependent regions active with DB2, including the IMS region type, the program name active in the region, the contents of the subsystem member (SSM) and the status of the dependent region.

This panel does not apply to DLIBATCH jobs.

```
_________________ ZISSM    VTM     O2       V540.#P SN11 11/05/13 12:35:37   2
> Help PF1         Back PF3         Up PF7         Down PF8         Zoom PF11
================================================================================
>                      IMS CONNECTION DETAIL INFORMATION

 ISSM
+
+   Region   Type   Crc   Lit    Rtt       Module    Err  Psb       Status
+  --------  ----   ---   ----   --------  --------  ---  --------  -----------
+  IMSA41CR  CNTL    -    SYS1     None    DSNMIN10   R     N/A     NOT-IN-DB2
+  IMSA41M1  MPP     -    SYS1   DSN8IP0   DSNMIN10   R   DSN8IP0   WAIT-LOCK
================================================================================
```

Navigation

For additional information about

- the thread, move the cursor to the dependent region name and press F11 (Zoom).
- other topics, use the PF keys.

Fields

Region
The name of the IMS control or dependent region.

Type
The IMS region type:

BMP
Message-driven batch region

CNTL
Control region

FP
Fast Path region

MPP
Message processing region

Crc
The command recognition character used to pass commands to the external subsystem.

Lit
The name of the language interface token.

Rtt
The name of the resource translation table. This table maps the IMS application names to DB2 plan names. If this entry is omitted, the DB2 plan name is the IMS application program name.

Module
The name of the interface control module

Err
The type of error option specification in use.

Psb
The PSB name active in the IMS dependent region. This field applies only to dependent regions (not to the control region).

Status
The current DB2 status of the thread. For definitions of all possible status values, see "DB2 Thread Status".

Background Thread Summary

This panel provides an overview of the activity of all background threads connected to DB2.

```
_________________ ZBACKT   VTM     O2       V540.#P SN11 S 11/05/13 12:37:22 2
> Help PF1       Back PF3       Up PF7      Down PF8     Sort PF10    Zoom PF11
> T.E
>         Thread Activity:  Enter a selection letter on the top line.

> A-All-Idle    B-TSO      C-CICS      D-IMS     *-Background   F-Dist Allied
> G-Dist DBAC   H-Util     I-Inact     J-Filter  K-Functions    L-Stored Proc
> M-Triggers    N-Sysplex  O-Enclaves  P-Worksta Q-All+Idle
================================================================================
>                       Background Thread Summary
 BATA
+       Job Name           CPU%            Connection            Threads
+       --------           -----           ----------            -------
+       D843DMBS            00.0                    1                  1
+       MIS302              00.0                    1                  1
 THDB
+ *
+ Elapsed      Planname  CPU     Status       GetPg   Update  Commit  Jobname
+ ----------   --------  -----   ------------ ------  ------  ------  --------
+ 04-19:04     KO2PLAN   00.0%   NOT-IN-DB2        0       0       0  D843DMBS
+ 00:02:18.0   DSNACLI   00.0%   NOT-IN-DB2      126       0       0  MIS302
================================================================================
```

The top part of the panel summarizes all background jobs currently connected to DB2. The bottom part of the panel summarizes the activity of each background thread (ordered by elapsed time since thread creation or reuse).

Highlighting

The following table shows the fields that might be highlighted in the panel above to indicate that an exception that is related to this field exceeded its threshold value:

Table 15. Highlighted fields in Background Thread Summary panel.

This table shows the fields and the exceptions these fields are related to. It also shows the reason for the corresponding exception.

Field	Exception	Reason
Elapsed	ETIM	This thread has reached the Elapsed Time threshold value.
CPU	TCPU	The thread address space has excessive CPU utilization.
GetPg	GETP	The Getpage to Read I/O ratio indicates poor read efficiency.
Update	PGUP	The rate for system page updates is high.
Commit	COMT	The ratio of Commits to Updates indicates a low Commit frequency.

Navigation

For additional information about

- summary information about individual threads that originated from a particular background job, place the cursor to the line that contains that job and press F11 (Zoom).

  The information might not be displayed if individual threads do not work the address space of the background job, for example, if threads work inside of a DB2 address space.
- detail information about a particular thread, place the cursor to the line that contains that thread and press F11 (Zoom).
- A different DB2 subsystem, data sharing group, or member of a data sharing group, enter the name of a DB2 subsystem, group, or member in the topmost row and press Enter. For more information, see “Switching among DB2 subsystems and data sharing group members” on page 11.
- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Background connection information:

Job Name
The name of the background job connected to DB2.

CPU %
The total CPU usage rate (percent) of background jobs that have active threads to DB2. For more information, see "Analyzing DB2 CPU Usage".

Connection
The number of connections to DB2 that originated from this background thread.

Active Threads
The number of active threads that originated from the background connection.

This value excludes parallel task threads that are initiated by another thread that is originating from the background connection.

Background thread information:

Elapsed
The elapsed time since thread creation, or since DB2 signon if the thread is reused. When the elapsed time of the thread exceeds 24 hours, the format is *dd-hh:mm*.

If this thread is involved in parallel processing or if it invoked autonomous procedures, one of the following identifiers is displayed after the elapsed time:

*****
This thread is a parallel task that is initiated on behalf of another (originating) thread to process a query request in parallel.

O
This thread is the originating thread that invoked autonomous procedures.

P
This thread is the parent or the originating thread of the parallel tasks that are created to process a query request in parallel. Activity performed for this (originating) thread is reflected under the parallel tasks.

X
This thread is a parallel task that is initiated on behalf of another (originating) thread on another DB2 for sysplex parallelism.

Planname or Package
The DB2 plan name (or package name) of the active thread. If you selected option **T** from the Realtime Main Menu, this panel shows the information by plan. If you selected option **U**, this panel shows the information by package.

CPU (if monitoring a DB2 subsystem or a data sharing group member)
The current CPU rate (percent) of the batch or utility region from which the active thread originates. This includes both TCB and SRB time.

DB2 (if monitoring a data sharing group or remote DB2 subsystem while XCF component is not activated for remote CPU)
The DB2 subsystem name of the data sharing group member that is currently monitored.

You can use the Tab key to move to a detail line and to select this detail line for drill down.

Status
The current DB2 status of the thread. For definitions of all possible status values, see "DB2 Thread Status".

GetPg
The number of thread Getpage requests.

Getpage requests are logical Read requests that might not actually result in physical I/O if the requested page is currently in the buffer pool. DB2 resets this count at thread creation and signon.

Update
The number of DB2 page updates made by the thread since thread creation. This value is incremented each time a row in a page is updated, not just once for each page updated. DB2 might update pages when it creates intermediate result tables because of a qualified SELECT statement, even though SELECT statements are generally thought of as read only operations. Pages that have been updated are written asynchronously by DB2, according to DB2's internal Deferred Write algorithm, not immediately after update or commit. DB2 resets the page update count at Create Thread and Signon. If Signon is not driven, the page update count is cumulative.

Commit
The number of times the thread successfully completed Commit processing.

DB2 resets the Commit count at thread creation and signon. If Signon is not driven, the count is cumulative.

Jobname
The name of the connected batch job or utility.

For remote DB2 subsystems, the correlation ID is displayed instead of the job name.

Distributed Allied Thread Summary

This panel is one of two summary displays that provide performance information related to Distributed Data Facility (DDF) thread activity. Use this information to identify excessive resource use by distributed allied threads (those used to issue SQL requests to a remote DB2 location).

```
_________________ ZDALLT   VTM     O2       V540.#P SN11 S 11/05/13 12:39:07 2
> Help PF1      Back PF3       Up PF7      Down PF8     Sort PF10    Zoom PF11
> T.F
>         Thread Activity:  Enter a selection letter on the top line.

> A-All-Idle    B-TSO      C-CICS      D-IMS     E-Background   *-Dist Allied
> G-Dist DBAC   H-Util     I-Inact     J-Filter  K-Functions    L-Stored Proc
> M-Triggers    N-Sysplex  O-Enclaves  P-Worksta Q-All+Idle
================================================================================
>                     Distributed Allied Thread Summary
 THDD
+   *
+                          Remote      SQL    Dist Local   Dist Remote  Remote
+   Planname Status        Luname   Cv Sent   Elapsed      Elapsed      CPU
+   -------- ------------ -------- -- ------ ------------ ------------ --------
+   DSNESPRR NOT-IN-DB2   IPSATN11  1   3080 00:00:05.227 00:00:00.000     .000
================================================================================
```

Navigation

For additional information about

- a particular thread, move the cursor to the required line and press F11 (Zoom).
- A different DB2 subsystem, data sharing group, or member of a data sharing group, enter the name of a DB2 subsystem, group, or member in the topmost row and press Enter. For more information, see “Switching among DB2 subsystems and data sharing group members” on page 11.
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Planname or Package

The DB2 plan name of the active thread. If you selected option **T** from the Realtime Main Menu, this panel shows the information by plan. If you selected option **U**, this panel shows the information by package.

If a thread accesses multiple remote locations, it will generate a line of output for each location.

If this thread is involved in parallel processing or if it invoked autonomous procedures, one of the following identifiers is displayed after the elapsed time:

*****

This thread is a parallel task that is initiated on behalf of another (originating) thread to process a query request in parallel.

O

This thread is the originating thread that invoked autonomous procedures.

P

This thread is the parent or the originating thread of the parallel tasks that are created to process a query request in parallel. Activity performed for this (originating) thread is reflected under the parallel tasks.

X
This thread is a parallel task that is initiated on behalf of another (originating) thread on another DB2 for sysplex parallelism.

Status
The current DB2 status of the thread. For definitions of all possible status values, see "DB2 Thread Status".

Remote LUname
The VTAM logical unit name of the remote DB2 subsystem to which the thread has issued an SQL request.

Cv
The number of VTAM APPC allocate conversation requests that have been issued to the remote DB2 subsystem since thread creation (or DB2 signon if the thread is reused).

SQL Sent
The number of SQL calls sent to the remote location since thread creation or DB2 signon.

Dist Local Elapsed
The total time the thread has spent waiting for responses to remote SQL requests since thread creation or DB2 signon (includes remote DB2 processing time, VTAM processing time, and network time).

Remote CPU
The CPU time in seconds that has been used in processing the thread's SQL requests at the remote location since thread creation or DB2 signon.

This field applies only to system directed access (private protocols). If application directed access (DRDA protocols) is used, this field will be 0.

For DB2 10 and above, N/A is displayed.

Distributed Database Access Thread Summary

This panel is one of two summary displays that provide performance information related to Distributed Data Facility (DDF) activity. Use this information to identify excessive resource use by distributed database access threads (server threads responding to SQL requests from a remote DB2 location).

```
 _________________ ZDBACT   VTM     O2       V540./I SE11 S 07/10/13 16:05:06 2
> Help PF1      Back PF3       Up PF7      Down PF8     Sort PF10    Zoom PF11
> T.G
>         Thread Activity:  Enter a selection letter on the top line.

> A-All-Idle    B-TSO      C-CICS      D-IMS     E-Background   F-Dist Allied
> *-Dist DBAC   H-Util     I-Inact     J-Filter  K-Functions    L-Stored Proc
> M-Triggers    N-Sysplex  O-Enclaves  P-Worksta Q-All+Idle
================================================================================
>                 Distributed Database Access Thread Summary
 THDR
+*
+                                                    Remote          SQL  Rows
+ Elapsed    WrkSta or Pln/Ath   CPU   Status       Luname   GetPg  Recv Sent
+ --------   ------------------  ----- ------------ -------- ------ ---- -----
+ 01:35:04   MyWorkstationName-  08.5% IN-SQL-CALL  G542     55355K    8     1
+ 01:34:17   IBM-67119346B51     00.0% WAIT-REMREQ  K305       3551 1183 46808
================================================================================
```

Navigation

For additional information about

- a particular thread, move the cursor to the thread line and press F11 (Zoom).

- A different DB2 subsystem, data sharing group, or member of a data sharing group, enter the name of a DB2 subsystem, group, or member in the topmost row and press Enter. For more information, see “Switching among DB2 subsystems and data sharing group members” on page 11.
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Elapsed
The elapsed time since thread creation, or since DB2 signon if the thread is reused. When the elapsed time of the thread exceeds 24 hours, the format is *dd-hh:mm*.

If this thread is involved in parallel processing or if it invoked autonomous procedures, one of the following identifiers is displayed after the elapsed time:

*****
This thread is a parallel task that is initiated on behalf of another (originating) thread to process a query request in parallel.

O
This thread is the originating thread that invoked autonomous procedures.

P
This thread is the parent or the originating thread of the parallel tasks that are created to process a query request in parallel. Activity performed for this (originating) thread is reflected under the parallel tasks.

X
This thread is a parallel task that is initiated on behalf of another (originating) thread on another DB2 for sysplex parallelism.

WrkSta or Pln/Ath or Pkg/Ath
One of following information is displayed:

WrkSta
The name of the workstation, if it is set by the application.

Pln/Ath or Pkg/Ath
The DB2 plan (Pln) or package (Pkg) name of the active thread, if an optional USERMOD is applied to your system. (see member *rhilev*.TKANSAM(KO2MOD02) . This USERMOD can control whether the workstation name is displayed on the summary screen. The plan or package name is followed by a slash (/) and the DB2 thread authorization identifier (Ath) of the active thread.

-

CPU (if monitoring a local DB2 subsystem or a data sharing group with XCF component activated for remote CPU)
The CPU rate (percent) that is associated with the thread. Database access threads run in MVS SRB mode. The displayed rate is SRB time (no TCB time).

DB2 (if monitoring a data sharing group or remote DB2 subsystem while XCF component is not activated for remote CPU)
The DB2 subsystem name of the data sharing group member that is currently monitored.

You can use the Tab key to move to a detail line and to select this detail line for drill down.

Status
The current DB2 status of the thread. For definitions of all possible status values, see "DB2 Thread Status".

Remote Luname
The VTAM logical unit name of the requesting DB2 subsystem whose SQL request is being serviced by the thread.

GetPg
The number of Getpage requests issued by the thread since thread creation.

SQL Recv
The number of SQL calls received from the requesting location since thread creation.

Rows Sent
The number of rows sent to the requesting location since thread creation.

Utility Summary

This panel provides information about all active utilities and utilities that have been started but have not yet completed because of abnormal termination.

If monitoring a remote DB2, this utility is not supported. The message `UTIL Remote DB2 is not supported for this command` is displayed.

```
_________________ ZUTIA    VTM     O2       V540./C SN11 08/07/13 16:20:09   2
>       Help PF1      Back PF3      Up PF7      Down PF8       Zoom PF11
> T.H
>         Thread Activity:  Enter a selection letter on the top line.

> A-All-Idle    B-TSO      C-CICS      D-IMS     E-Background   F-Dist Allied
> G-Dist DBAC   *-Util     I-Inact     J-Filter  K-Functions    L-Stored Proc
> M-Triggers    N-Sysplex  O-Enclaves  P-Worksta Q-All+Idle
================================================================================
>                          Utility Summary
 UTIL
+ Elapsed     Utility   Utilid           Phase    Count      Status       CPU
+ ----------  --------  ---------------- -------- ---------- ------------ -----
+ 00:01:05.8  LOAD      A1               RELOAD      7253549 IN-DB2       13.7%
+ 00:00:48.8  LOAD      A1               SORTIN     14509999 NOT-IN-DB2   00.0%
================================================================================
```

Each row provides information about an individual utility (information such as thread elapsed time, utility phase, and record count).

Highlighting

OMEGAMON XE for DB2 PE highlights the following fields when any of the exceptions described below tripped in this cycle:

Table 16. Highlighted fields in Utility Summary panel

Field	Exception	Reason
Elapsed	ETIM	This thread has reached the Elapsed Time threshold value.
CPU	TCPU	This thread address space has excessive CPU utilization.
Status	UTIS	This utility has been started but has not completed running due to abnormal termination.

Navigation

For additional information about

- a particular DB2 utility, move the cursor to the utility information line and press F11 (Zoom). The “Utility Detail Information” on page 124 panel is displayed (or the “Stopped Utility Detail Information” on page 127 panel for utilities whose status is `UTIL-STOP`).
- A different DB2 subsystem, data sharing group, or member of a data sharing group, enter the name of a DB2 subsystem, group, or member in the topmost row and press Enter. For more information, see “Switching among DB2 subsystems and data sharing group members” on page 11.

- related topics, select one of the options on the top of the panel.

Fields

Elapsed
The elapsed time since thread creation, or since DB2 signon if the thread is reused. When the elapsed time of the thread exceeds 24 hours, the format is *dd-hh:mm*.

If this thread is involved in parallel processing or if it invoked autonomous procedures, one of the following identifiers is displayed after the elapsed time:

*****
This thread is a parallel task that is initiated on behalf of another (originating) thread to process a query request in parallel.

O
This thread is the originating thread that invoked autonomous procedures.

P
This thread is the parent or the originating thread of the parallel tasks that are created to process a query request in parallel. Activity performed for this (originating) thread is reflected under the parallel tasks.

X
This thread is a parallel task that is initiated on behalf of another (originating) thread on another DB2 for sysplex parallelism.

When status field displays `UTIL-STOP`, this field is `N/A` (not applicable).

Utility
The name of the DB2 utility.

Utilid
The identifier that defines the utility to DB2. Each utility that has been started and is not yet terminated must have a unique utility ID.

Phase
The executing phase of the DB2 utility. If the utility is stopped, you must specify this phase when you restart it.

Count
The total number of items (such as records or pages) that have been processed. The type of item depends on the utility and its phase.

Status
The status of the DB2 utility. The status is `UTIL-STOP` if the DB2 utility has been started but has not yet completed running because of abnormal termination. For more information, refer to "DB2 Thread Status".

CPU
The current CPU rate of the DB2 utility job. When status field displays `UTIL-STOP`, this field is not applicable.

Inactive Threads

This panel shows information about inactive threads. The information is collected from a DB2 display thread command.

A distributed thread is accessing a remote site on behalf of a request from another location. The thread is currently an inactive connection (type 2 inactive thread). It is waiting for an agent to become available.

Each row displays information about an individual inactive thread. The columns are ordered by location name initially.

```
_________________ ZINACU   VTM     O2       V540./C SZ11 G 08/31/13 13:40:59 2
> Help PF1      Back PF3       Up PF7      Down PF8     Sort PF10
> U.I
>         Thread Activity:  Enter a selection letter on the top line.

> A-All-Idle    B-TSO      C-CICS      D-IMS     E-Background   F-Dist Allied
> G-Dist DBAC   H-Util     *-Inact     J-Filter  K-Functions    L-Stored Proc
> M-Triggers    N-Sysplex  O-Enclaves  P-Worksta Q-All+Idle
================================================================================
>                           Inactive Threads
 THDW
+ *
+ Location                                Authid    Corrid       Plan     Token
+ ----------------------------------- --------- ------------ -------- ------
+ ::FFFF:9.65.90.233                     HONG      db2jcc_appli DISTSERV   8155
+ LUW ID         : G9415AE9.DE1F.CBE4864A37F6=8155             MEMBER: SZ11
+ Connection Name: SERVER
+ End User ID    :
+   hong
+ Workstation ID :
+   9.65.90.233
+ Transaction ID :
+   db2jcc_application
+ Correlation TKN:
+   N/P
+ Accounting Text:
+   N/P
+
+ ::FFFF:9.65.90.233                     HONG      db2jcc_appli DISTSERV  13565
+ LUW ID         : G9415AE9.DE1E.CBE485F2CBEE=13565            MEMBER: SZ12
+ Connection Name: SERVER
+ End User ID    :
+   hong
+ Workstation ID :
+   9.65.90.233
+ Transaction ID :
+   db2jcc_application
+ Correlation TKN:
+   N/P
+ Accounting Text:
+   N/P
================================================================================
```

Navigation

For additional information about

- A different DB2 subsystem, data sharing group, or member of a data sharing group, enter the name of a DB2 subsystem, group, or member in the topmost row and press Enter. For more information, see “Switching among DB2 subsystems and data sharing group members” on page 11.
- other types of threads, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Location
The network address of the remote location. This value might be blank.

If the connection with the requester is through SNA, this field contains the relational database name of the requester or the VTAM LU name of the requester, a dash (-) delimiter, and the LU name of the requester.

If the connection with the requester is through TCP/IP, this field contains the IP address of the requester

Authid
The authorization identifier that is associated with a signed-on connection.

Corrid
The correlation identifier.

If the application requestor is a DB2 system, this is the same correlation ID assigned at the requestor.

If the application requestor is not DB2, this is the name of the job, task, or process that is being serviced.

Plan
The plan name that is associated with the thread. For distributed database access threads, this field contains one of the following values:

DISTSERV
For threads that use application-directed access from a non-DB2 requester, a plan name is not identified.

requester-value
For threads that use system-directed access or application-directed access from a DB2 requester, this value is the plan name that is being executed at the requesting location.

Token
The thread token that is assigned to the thread.

LUW ID
The output is in the format of `text=num`

text
The global logical unit of work ID (LUWID).

num
The local token that identifies the thread. This token can be used in place of the LUWID in any DB2 command that accepts LUWID as input.

Member
The data sharing group member name for this DB2 subsystem. For DB2 subsystems that do not belong to a data sharing group, `N/P` is displayed.

Connection Name
The connection name that is used to establish the thread. For distributed database access threads, this field contains the following information:

requester-value
For threads that access the server from a DB2 for z/OS requester, this value is the connection name of the thread at the requesting location.

SERVER
For threads that access the server from a non-DB2 for z/OS requester, a connection name is not identified.

blank
For threads where the originating task is running on the same DB2 subsystem, this value is blank.

End User ID
The user ID of the end user.

Workstation ID
The name of the workstation.

Transaction ID
The name of the client application.

Correlation TKN
The correlation token consists of the following components:

ip-address
The length of the IP address can be from 3 to 39 characters.

port-address
The length of the port address can be from 1 to 8 characters.

unique-id
The length of the unique ID is 12 characters.

Accounting Text
The client end-user accounting information. This information is provided if the appropriate information is provided by the client system and if DB2 recognizes the format of the information.

Filter Options For Thread Activity Displays

Use this panel to save filter criteria to a specified profile, to activate a different profile, or to specify filter criteria that you want to use in the thread activity panels for the remainder of the session. You can use these filtering options together with the thread commands. If more than one parameter is specified, the requests are connected using a logical AND operator. To specify a reset, type character R in column 1 in front of THFL.

Note: You cannot use filtering criteria for the Utility panel (option: H-UTILITY).

To view this panel select option J on a thread activity panel such as"Threads Summary Excluding Idle Threads" on page 39. The content of this panel is identical to panel "Filter Options For Thread Activity Displays" on page 605.

```
 _________________ ZFILT    VTM     O2       V540.#P DA41 11/05/13 13:27:25   2
> Help PF1     Back PF3
> T.J
>         Thread Activity:  Enter a selection letter on the top line.

> A-All-Idle    B-TSO      C-CICS      D-IMS     E-Background   F-Dist Allied
> G-Dist DBAC   H-Util     I-Inact     *-Filter  K-Functions    L-Stored Proc
> M-Triggers    N-Sysplex  O-Enclaves  P-Worksta Q-All+Idle
================================================================================
>              Filter Options For Thread Activity Displays
> To save filters in the user profile remove the > from the PPRF command and
> optionally add a 2 character profile suffix. Use IPRF for install profile
>PPRF SAVE
> To change profiles remove the > from the CPRF command and enter the 2
> character suffix. Use CPFI to switch to installation profile
>CPRF xx
 THFL
+
+ Specify the values to be used as filtering criteria for Thread
+ Activity displays. Wildcard values * (multiple characters) or
+ ? (single character) may be specified for character values.
+
+ Specify the following filters to be applied within DB2
+
: PLAN             =  ________             (plan name)
: AUTHID           =  ________             (authorization id)
: CONNID           =  ________             (connection id)
: LOCATION         =  ________________     (location)
: PARENTACE        =  ________             (parent ace for parallel tasks)
: CORRID           =  ____________         (correlation id)
: ENDUSERID        =  ________________                 (end user id)
: WORKSTATION      =  __________________               (workstation)
: TRANSACTIONID    =  ____________________________     (transaction id)
+ Specify the following filters to be applied within OMEGAMON
+
: PACKAGE/DBRM     =  ________             (name      )
: COLLECTION       =  __________________   (collect id)
: DB2STAT          =  ____________         (db2 status)
: GETPAGES         >  _________            (number of getpages)
: UPDATES          >  _________            (number of page updates)
: COMMITS          >  _________            (number of commits)
: ELAPTIME         >  _________            (elapsed time - in seconds)
: ELAPTIME/COMMIT  >  _________            (elapsed time per commit)
: DB2TIME          >  _________            (In DB2 time - in seconds)
: DB2TIME/COMMIT   >  _________            (In DB2 time per commit)
: PROCESSINGINDB2  =  ___                  (Status Active in DB2)
: THREADLIM        =  _________            (Limit on number of threads returned)
================================================================================
```

Shortcut to specify filter criteria on thread activity panels

If you already know the available filter criteria, you can bypass the Filter Options panel and enter the criteria directly on any thread activity panel. The following example shows a partial Threads Summary

Excluding Idle Threads panel. The criteria (here: PLAN¬=KO2PLAN) is entered on the "command line" following the (panel-specific) identifier THDA. To remove the criteria, overtype them with space characters and press Enter.

Note the status information about filtering and the profile in use.

```
_________________ ZALLT    VTM     O2       V540.#P SC11 S 07/07/16 14:27:48 2
> Help PF1       Back PF3       Up PF7      Down PF8     Sort PF10    Zoom PF11
> T.A
>          Thread Activity:  Enter a selection letter on the top line.

> *-All-Idle    B-TSO      C-CICS      D-IMS     E-Background   F-Dist Allied
> G-Dist DBAC   H-Util     I-Inact     J-Filter  K-Functions    L-Stored Proc
> M-Triggers    N-Sysplex  O-Enclaves  P-Worksta Q-All+Idle
================================================================================
>                     Threads Summary Excluding Idle Threads
 THDA
+                         Filtering is active. Profile #P is in use
+ *
+ Elapsed      Planname  CPU    Status       GetPg  Update Commit CORRID/JOBN
+ ----------   --------  -----  ------------ ------ ------ ------ ------------
+ 05:02:51.2   KO2PLAN   00.0%  IN-SQL-CALL     272      4      8 OMPE051S
+ 05:02:48.4   KO2PLAN   00.0%  NOT-IN-DB2      243      0      7 OMPE051S
+ 05:02:30.5   KO2PLAN   00.0%  NOT-IN-DB2     7132   4375    462 OMPE051S
+ 05:01:26.2   KO2PLAN   00.0%  NOT-IN-DB2        0      0      0 OMPE051S
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Note: For details about operators and wildcard characters use online help F1 (Help). Most fields are only applicable for active threads.

The following fields enable OMEGAMON XE for DB2 PE to send filters to DB2 as well as to apply "post-filtering" of data returned from DB2. These filters can improve the performance in your environment.

The following fields provide filtering within DB2:

PLAN
The DB2 plan name of the active thread. You can specify up to 8 characters.

AUTHID
The DB2 thread authorization identifier of the active thread. You can specify up to 8 characters.

CONNID
The DB2 connection identifier of the active thread. You can specify up to 8 characters.

LOCATION
The name of the location requesting information. You can specify up to 16 characters. The field will either filter on the requesting location (QW01488L, for example, for distributed database access threads), or the DB2 location (QW0148LN) if the requesting location field is not filled by DB2.

PARENTACE
The agent control element (ACE) token. Specify the parent ACE for the parallel task. You can specify up to 8 digits. A value of 0 filters out child parallel tasks from the Thread Activity displays.

CORRID
The correlation identifier. You can specify up to 12 characters. If the application requestor is a DB2 system, this is the same correlation ID assigned at the requestor. If the application requestor is not DB2, this is the name of the job, task, or process that is being serviced.

Note: This field is case sensitive. It is not converted to uppercase.

ENDUSERID
The end user's work station user ID. You can specify up to 16 characters. This can be different from the authorization ID used to connect to DB2. It contains blanks if the client does not supply this information.

Note: This field is case sensitive. It is not converted to uppercase.

WORKSTATION
The workstation identifier. You can specify up to 18 characters. It contains blanks if the client does not supply this information.

Note: This field is case sensitive. It is not converted to uppercase.

TRANSACTIONID
The name of the transaction or application that the end user is running. It identifies the application that is currently running, not the product that is used to run the application. You can specify up to 32 characters. This field contains blanks if the client does not supply this information.

Note: This field is case sensitive. It is not converted to uppercase.

The following fields enable filtering of the data returned from DB2 and are applied by OMEGAMON XE for DB2 PE:

PACKAGE/DBRM
The DB2 package name or DBRM name of the active thread. You can specify up to 8 characters.

COLLECTION
The package collection identifier of the active thread. You can specify up to 18 characters.

DB2STAT
The DB2 status. You can specify up to 12 characters. For definitions of all possible status values, see "DB2 Thread Status".

GETPAGES
The number of Getpage requests issued by the active thread since thread creation. You can specify up to 9 digits.

UPDATES
The number of DB2 page updates made by the thread since thread creation. This value is incremented each time a row in a page is updated, not just once for each page updated. DB2 might update pages when it creates intermediate result tables because of a qualified SELECT statement, even though SELECT statements are generally thought of as read only operations. Pages that have been updated are written asynchronously by DB2, according to DB2's internal Deferred Write algorithm, not immediately after update or commit. DB2 resets the page update count at Create Thread and Signon. If Signon is not driven, the page update count is cumulative. This file is applicable for active threads only. You can specify up to 9 digits.

COMMITS
The number of times the thread successfully completed commit processing. DB2 resets the commit count at thread create and signon. If signon is not driven, the count is cumulative. You can specify up to 9 digits.

ELAPTIME
The elapsed time since thread creation. You can specify up to 9 digits.

ELAPTIME/COMMIT
Average elapsed time between commits. If the number of commits is zero this field is the same as **ELAPTIME**. You can specify up to 9 digits.

DB2TIME
The total In-DB2 elapsed time in seconds for an active thread. You can specify up to 9 digits.

DB2TIME/COMMIT
Average In-DB2 elapsed time between commits. If the number of commits is zero this field is the same as **DB2TIME**. You can specify up to 9 digits.

PROCESSING-IN-DB2
Values YES, NO or blank.

YES

Only threads that are in a status that is active in DB2 are shown. If a thread is executing in the application it is not shown. The following thread statuses are processing in DB2:

- IN-DB2
- IN-TRIGGER
- IN-COMMAND
- IN-STOR-PROC
- IN-USER-FUNC
- IN-TERM-THRD
- WAIT-LOCK
- WAIT-GLBLOCK
- WAIT-MSGSEND
- WAIT-ARCHIVE
- WAIT-REMSQL
- WAIT-CONVLIM
- WAIT-TERM-TH
- WAIT-SP-STOP
- WAIT-SP-SCHD
- SP/UDF-INACT
- WAIT-SYNC-IO
- WAIT-SERVICE
- WAIT-ASYNCRD
- WAIT-ASYNCWR
- WAIT-LOGQSCE
- WAIT-PGLATCH
- WAIT-DRNLOCK
- WAIT-CLAIMER
- WAIT-ARCREAD
- WAIT-LOCKPIP
- WAIT-LOCKPQS
- WAIT-SWITCH
- WAIT-ACCEL
- WAIT-LOB
- WAIT-COMMIT
- WAIT-CL3LOCK
- IN-SQL-SORT
- IN-SQL-CALL
- WAIT-REMREQ
- IN-BIND-DYNM
- IN-ACCEL
- IN-AUTO-PROC

NO

Only threads that are not in an active status in DB2 are shown.

Blank
This filter is not used.

Threads accelerated by the IBM Db2 Analytics Accelerator for z/OS are considered as being processed in DB2.

THREADLIM
A numeric value causing OMEGAMON XE for DB2 PE to stop retrieving instrumentation records from DB2. This field can have a positive impact on realtime and system performance, but can also result in an incomplete thread list if it is less than the number of threads actually running in DB2 at the time the list is retrieved. The default setting (blank or 0) allows all records retrieved by DB2 to flow to OMEGAMON XE for DB2 PE. You can specify up to 9 digits.

Functions Thread Summary

This panel provides information about threads that are executing user-defined functions.

Each row provides information about an individual thread, including information about jobname, ASID, CPU utilization, number of connections and number of threads.

```
_________________ ZRRSAT   VTM     O2       V540./C SN12 S 07/25/13 10:37:59 2
> Help PF1      Back PF3       Up PF7      Down PF8     Sort PF10    Zoom PF11
> T.K
>         Thread Activity:  Enter a selection letter on the top line.

> A-All-Idle    B-TSO      C-CICS      D-IMS     E-Background   F-Dist Allied
> G-Dist DBAC   H-Util     I-Inact     J-Filter  *-Functions    L-Stored Proc
> M-Triggers    N-Sysplex  O-Enclaves  P-Worksta Q-All+Idle
================================================================================
>                     Functions Thread Summary
 RRSA
+       Job Name  ASID     CPU%            Connection           Threads
+       --------  ----     -----           ----------           -------
+       SN11STP1  0118      00.8                    1                 2
 THDY
+ *
+ Elapsed     Planname  Schema    Function            CPU    ASID  CORRID
+ ----------  --------  --------  ------------------  -----  ----  ------------
+ 00:01:58.3  TDKUFUN   DMSYSWLD  FUN1                00.3%  0118  MIS301
+ 00:01:32.0  TDKUFUN   DMSYSWLD  FUN1                00.2%  0118  MIS302
================================================================================
```

Highlighting

The following table shows the fields that might be highlighted in the panel above to indicate that an exception exceeded its threshold value.

Table 17. Highlighted fields in the Functions Thread Summary panel

Field	Exception	Reason
Elapsed	ETIM	This thread has reached Elapsed Time threshold value.
CPU	TCPU	The thread address space has excessive CPU utilization.

Navigation

For additional information about

- A different DB2 subsystem, data sharing group, or member of a data sharing group, enter the name of a DB2 subsystem, group, or member in the topmost row and press Enter. For more information, see “Switching among DB2 subsystems and data sharing group members” on page 11.
- related topics, select one of the options at the top of the panel.

- other topics, use the PF keys.

Fields

Job Name
The name of the WLM stored procedure address space.

ASID
The address space identifier of the WLM stored procedure address space.

CPU%
The percentage of CPU time utilized.

Connection
The number of connections.

Threads
The number of threads.

Elapsed
The elapsed time since the function thread was created or reused.

Planname or Package
The DB2 plan name (or package name) of the active thread. If you selected option **T** from the Realtime Main Menu, this panel shows the information by plan. If you selected option **U**, this panel shows the information by package.

Schema
The schema name of the user-defined function.

Function
The name of the user-defined function.

CPU
This field is displayed if you are monitoring a DB2 subsystem or a data sharing member.

The CPU rate in percent that is attributable to the user-defined function thread.

For more information about CPU use, see "Analyzing DB2 CPU Usage".

DB2
This field is displayed if you are monitoring a data sharing group.

The name of the DB2 subsystem that is currently monitored.

ASID
The ASID of the WLM stored procedure address space in which the user-defined function is executing.

CORRID
The correlation ID of the user-defined function.

Stored Procedures Thread Summary

This panel provides information about threads that are executing stored procedures.

Each row provides information about an individual thread, including information about jobname, ASID, CPU utilization, number of connections and number of threads.

Note: To display WLM address spaces, the OMEGAMON XE for DB2 PE started task must have been given Read access authority in the RACF® profile `MVSADMIN.WLM.POLICY` for the general resource class FACILITY. If the OMEGAMON XE for DB2 PE started task has a user ID associated with it, use that user ID instead of the started task name. The following RACF commands show an example:

```
PERMIT MVSADMIN.WLM.POLICY CLASS(FACILITY) ID(user_id) ACCESS(READ)
SETROPTS RACLIST(FACILITY) REFRESH
ALTUSER user_id OMVS(UID(0))
```

```
_________________ ZSTPT    VTM     O2       V540./C SN12 S 07/25/13 10:40:12 2
> Help PF1      Back PF3       Up PF7      Down PF8     Sort PF10    Zoom PF11
> T.L
>         Thread Activity:  Enter a selection letter on the top line.

> A-All-Idle    B-TSO      C-CICS      D-IMS     E-Background   F-Dist Allied
> G-Dist DBAC   H-Util     I-Inact     J-Filter  K-Functions    *-Stored Proc
> M-Triggers    N-Sysplex  O-Enclaves  P-Worksta Q-All+Idle
================================================================================
>                 Stored Procedures Thread Summary
 WLMA
+       Job Name  ASID     CPU%            Connection           Threads
+       --------  ----     -----           ----------           -------
+       SN11STP1  0118      00.0                    1                 1
 THDZ
+ *
+ Elapsed     Planname  Schema    Store Proc Name     CPU    ASID  CORRID
+ ----------  --------  --------  ------------------  -----  ----  ------------
+ 00:04:15.0  DSNREXX   DMSYSWLD  EMPSEL              07.6%  0118  MIS310
================================================================================
```

Highlighting

The following table shows the fields that might be highlighted in the panel above to indicate that an exception exceeded its threshold value.

Table 18. Highlighted fields in the Stored Procedures Thread Summary panel

Field	Exception	Reason
Elapsed	ETIM	This thread has reached Elapsed Time threshold value.
CPU	TCPU	The thread address space has excessive CPU utilization.

Navigation

For additional information about

- A different DB2 subsystem, data sharing group, or member of a data sharing group, enter the name of a DB2 subsystem, group, or member in the topmost row and press Enter. For more information, see “Switching among DB2 subsystems and data sharing group members” on page 11.
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Job Name
The name of the job executing the stored procedure.

ASID
The address space identifier of the stored procedure.

CPU%
The percentage of CPU time utilized.

Connection
The number of connections.

Threads
The number of threads.

Elapsed
The elapsed time since the stored procedure was executed.

Planname
or

Package
The DB2 plan name (or package name) of the active thread. If you selected option **T** from the Realtime Main Menu, this panel shows the information by plan. If you selected option **U**, this panel shows the information by package.

Schema
The schema name of the stored procedure.

Store Proc Name
The name of the stored procedure.

CPU
This field is displayed if you are monitoring a DB2 subsystem or a data sharing member.

The CPU rate in percent that is attributable to the user-defined function thread.

For more information about CPU use, see "Analyzing DB2 CPU Usage".

DB2
This field is displayed if you are monitoring a data sharing group.

The name of the DB2 subsystem that is currently monitored.

ASID
The ASID of the stored procedure address space.

CORRID
The correlation ID of the job running the stored procedure.

Triggers Thread Summary

This panel provides an overview of the activity of all threads that are currently connected to DB2 and that are running a trigger. Each row of the display relates to an individual trigger thread.

```
_________________ ZTRIGT   VTM     O2       V540.#P DA41 S 11/05/13 13:31:45 2
> Help PF1      Back PF3       Up PF7      Down PF8     Sort PF10    Zoom PF11
> T.M
>         Thread Activity:  Enter a selection letter on the top line.

> A-All-Idle    B-TSO      C-CICS      D-IMS     E-Background   F-Dist Allied
> G-Dist DBAC   H-Util     I-Inact     J-Filter  K-Functions    L-Stored Proc
> *-Triggers    N-Sysplex  O-Enclaves  P-Worksta Q-All+Idle
================================================================================
>                     Triggers Thread Summary
 THDG
+ *
+ Trigger  In DB2     In DB2     SQL               In DB2
+ Name     Elapsed    CPU        Requests Waits    Wait Time  Planname Jobname
+ -------- ---------- ---------- -------- -------- ---------- -------- --------
+ TRUPDT   00:00:46.8     10.682  1385253      120 00:00:00.0 DSNACLI  YRT52605
================================================================================
```

Navigation

For additional information about

- A different DB2 subsystem, data sharing group, or member of a data sharing group, enter the name of a DB2 subsystem, group, or member in the topmost row and press Enter. For more information, see “Switching among DB2 subsystems and data sharing group members” on page 11.
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Trigger Name
The name of the job executing the trigger.

In DB2 Elapsed
The total In-DB2 elapsed time in seconds for the triggers.

In DB2 CPU
The total In-DB2 CPU time in seconds for the trigger.

SQL Requests
The number of SQL statements issued in the trigger.

Waits
The total number of times that the thread had to wait for a class 8 event to complete while executing the trigger. This field requires an Accounting trace class 8. If this trace is not active, N/A is displayed.

In DB2 Wait Time
The total time that the thread waited.

Planname
or
Package
The DB2 plan name (or package name) of the active thread. If you selected option **T** from the Realtime Main Menu, this panel shows the information by plan. If you selected option **U**, this panel shows the information by package.

Jobname
The name of the job that is executing the trigger.

For remote DB2 subsystems, the correlation ID is displayed instead of the job name.

Sysplex Parallel Thread Summary

This panel shows an overview of the activity of all parallel tasks with an originating thread on another DB2 in the data sharing group.

Each row provides information about an individual thread, including information about thread response time, DB2 and MVS resource consumption, and DB2 activity.

```
_________________ ZSYSPT   VTM     O2       V540.#P SN11 G 11/05/13 13:38:37 2
> Help PF1      Back PF3       Up PF7      Down PF8     Sort PF10    Zoom PF11
> T.N
>         Thread Activity:  Enter a selection letter on the top line.

> A-All-Idle    B-TSO      C-CICS      D-IMS     E-Background   F-Dist Allied
> G-Dist DBAC   H-Util     I-Inact     J-Filter  K-Functions    L-Stored Proc
> M-Triggers    *-Sysplex  O-Enclaves  P-Worksta Q-All+Idle
================================================================================
>                 Sysplex Parallel Thread Summary
 THDX
+ *
+ Elapsed      Planname  DB2    Status       GetPg   Update  Commit  Userid
+ ----------   --------  -----  -----------  ------  ------  ------  --------
+ 00:03:20.6 * MISPOLY   SN14   IN-DB2       397073       0       0   MIS
+ 00:03:20.5 * MISPOLY   SN14   IN-DB2       402032       0       0   MIS
+ 00:03:20.3 * MISPOLY   SN14   IN-DB2       401132       0       0   MIS
+ 00:03:20.2 * MISPOLY   SN14   IN-DB2       398146       0       0   MIS
+ 00:03:20.2 * MISPOLY   SN14   IN-DB2       403277       0       0   MIS
+ 00:03:20.2 * MISPOLY   SN14   IN-DB2       395731       0       0   MIS
+ 00:03:20.2 * MISPOLY   SN14   IN-DB2       401548       0       0   MIS
+ 00:03:20.2 * MISPOLY   SN14   IN-DB2       398068       0       0   MIS
+ 00:03:20.2 * MISPOLY   SN14   IN-DB2       399879       0       0   MIS
+ 00:03:19.9 * MISPOLY   SN14   IN-DB2       396308       0       0   MIS
+ 00:03:19.8 * MISPOLY   SN14   IN-DB2       396390       0       0   MIS
+ 00:03:19.7 * MISPOLY   SN14   IN-DB2       396240       0       0   MIS
================================================================================
```

Highlighting

The following table shows the fields that might be highlighted in the panel above to indicate that an exception that is related to this field exceeded its threshold value:

Table 19. Highlighted fields in Sysplex Parallel Thread Summary panel.

This table shows the fields and the exceptions these fields are related to. It also shows the reason for the corresponding exception.

Field	Exception	Reason
Elapsed	ETIM	This thread has reached the Elapsed Time threshold value.
CPU	TCPU	The thread address space has excessive CPU utilization.
GetPg	GETP	The Getpage to Read I/O ratio indicates poor read efficiency.
Update	PGUP	The rate for system page updates is high.
Commit	COMT	The number of updates since the last successful commit is high.

Navigation

For additional information about

- a particular thread, move the cursor to the thread information line and press F11 (Zoom).
- A different DB2 subsystem, data sharing group, or member of a data sharing group, enter the name of a DB2 subsystem, group, or member in the topmost row and press Enter. For more information, see "Switching among DB2 subsystems and data sharing group members" on page 11.
- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Elapsed

The elapsed time since thread creation, or since DB2 signon if the thread is reused. When the elapsed time of the thread exceeds 24 hours, the format is *dd-hh:mm*.

If this thread is involved in parallel processing or if it invoked autonomous procedures, one of the following identifiers is displayed after the elapsed time:

*****

This thread is a parallel task that is initiated on behalf of another (originating) thread to process a query request in parallel.

O

This thread is the originating thread that invoked autonomous procedures.

P

This thread is the parent or the originating thread of the parallel tasks that are created to process a query request in parallel. Activity performed for this (originating) thread is reflected under the parallel tasks.

X

This thread is a parallel task that is initiated on behalf of another (originating) thread on another DB2 for sysplex parallelism.

Planname

or
Package
The DB2 plan name (or package name) of the active thread. If you selected option **T** from the Realtime Main Menu, this panel shows the information by plan. If you selected option **U**, this panel shows the information by package.

CPU (if monitoring a DB2 subsystem or a data sharing group member)
The current CPU rate (percent) of the TSO address space from which the thread originates. This includes both TCB and SRB time. For more information about CPU use, see "Analyzing DB2 CPU Usage".

DB2 (if monitoring a data sharing group or remote DB2 subsystem while XCF component is not activated for remote CPU)
The DB2 subsystem name of the data sharing group member that is currently monitored.

You can use the Tab key to move to a detail line and to select this detail line for drill down.

Status
The current DB2 status of the thread. For definitions of all possible status values, see "DB2 Thread Status".

GetPg
The number of thread Getpage requests.

This logical read request might not actually result in physical I/O if the requested page is currently in the buffer pool.

Update
The number of DB2 page updates made by the thread since thread creation. This value is incremented each time a row in a page is updated, not just once for each page updated. DB2 might update pages when it creates intermediate result tables because of a qualified SELECT statement, even though SELECT statements are generally thought of as read only operations. Pages that have been updated are written asynchronously by DB2, according to DB2's internal Deferred Write algorithm, not immediately after update or commit. DB2 resets the page update count at Create Thread and Signon. If Signon is not driven, the page update count is cumulative.

Commit
The number of times the thread successfully completed commit processing.

If a QMF thread user exits from a query panel to other than the home panel, tablespace locks defined with DEALLOCATE(COMMIT) will be retained until Commit is effected. This is also true of SPUFI users who do not specify AUTOCOMMIT, or who specify DEFER on completion of a transaction.

Userid
The TSO user ID of the active thread user.

Enclave Thread Summary

This panel provides an overview of the activity of all threads connected to DB2 having an associated enclave token.

The enclave token is associated with an individual thread. In DB2, stored procedure and DDF threads are classified into a Workload Manager (WLM) service class and assigned an enclave token. After the thread has been associated with a service class, it begins to receive resources according to the service class periods defined for the service class.

WLM makes "give" and "take" decisions about resources according to two things:

1. The defined importance for the service class period.
2. The computed performance index (PI) for the service class period.

The service class periods that have low importance and a low number for PI are likely to be considered as "DONORS" for WLM resources on a heavily loaded system.

```
_________________ ZENCL    VTM     O2       V540./I SN13 S 07/10/13 16:12:04 2
> Help PF1       Back PF3       Up PF7      Down PF8     Sort PF10    Zoom PF11
> T.O
>         Thread Activity:  Enter a selection letter on the top line.

> A-All-Idle    B-TSO      C-CICS      D-IMS     E-Background   F-Dist Allied
> G-Dist DBAC   H-Util     I-Inact     J-Filter  K-Functions    L-Stored Proc
> M-Triggers    N-Sysplex  *-Enclaves  P-Worksta Q-All+Idle
================================================================================
>                          Enclave Thread Summary
 THDE
+ *
+ Elapsed      Plan     Jobname  AuthID   CPU   P/I   SvcClass Pd# Status
+ ----------   -------- -------- -------- ----- ----- -------- --- ------------
+ 21:15:06.5   SN13UDF1 HONGRFUN HONG     00.0%   .29 PRDBAT   1   IN-USER-FUNC
+ 00:02:53.0   DSNREXX  HONGSTP2 HONG     01.6%   .29 PRDBAT   1   IN-STOR-PROC
+ 00:02:53.0   DSNREXX  HONGSTP1 HONG     01.3%   .29 PRDBAT   1   IN-STOR-PROC
+ 00:02:52.9   DSNREXX  HONGSTP3 HONG     01.0%   .29 PRDBAT   1   IN-STOR-PROC
================================================================================
```

Each row displays information about an individual thread. The columns are ordered by Thread Elapsed Time (total time since thread creation or reuse), and includes information about the Elapsed Time, Plan Name, Jobname, AuthID, CPU%, Performance Index for the Service Class Period, Service Class Name, Service Class Period Number and Thread Status.

Highlighting

Highlighted fields indicate that exceptions related to those fields have tripped. To determine which exceptions have tripped, type E . A on the top line of the panel to display the Exception Messages for Thread Exceptions panel.

Navigation

For additional information about

- detailed information about a thread, place the cursor anywhere on the data for that thread and press F11 (Zoom). This will display the Enclave Detail panel.
- A different DB2 subsystem, data sharing group, or member of a data sharing group, enter the name of a DB2 subsystem, group, or member in the topmost row and press Enter. For more information, see “Switching among DB2 subsystems and data sharing group members” on page 11.
- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Elapsed
The elapsed time since thread creation, or since DB2 signon if the thread is reused. When the elapsed time of the thread exceeds 24 hours, the format is *dd-hh:mm*.

If this thread is involved in parallel processing or if it invoked autonomous procedures, one of the following identifiers is displayed after the elapsed time:

*****
This thread is a parallel task that is initiated on behalf of another (originating) thread to process a query request in parallel.

O
This thread is the originating thread that invoked autonomous procedures.

P
This thread is the parent or the originating thread of the parallel tasks that are created to process a query request in parallel. Activity performed for this (originating) thread is reflected under the parallel tasks.

X
This thread is a parallel task that is initiated on behalf of another (originating) thread on another DB2 for sysplex parallelism.

Planname or Package
The DB2 plan name (or package name) of the active thread. If you selected option **T** from the Realtime Main Menu, this panel shows the information by plan. If you selected option **U**, this panel shows the information by package.

Jobname
The name of the active job. For Distributed threads, this column might contain other identifying data, such as an executable program name.

For remote DB2 subsystems, the correlation ID is displayed instead of the job name.

AuthID
The DB2 thread authorization identifier of the active thread.

CPU (if monitoring a DB2 subsystem or a data sharing group member)
The CPU rate (percent) associated with the database access thread. For non-CICS threads, this is the CPU rate of the address space from which the thread originates. For CICS threads, this is the CPU rate attributable to the thread originating from the CICS connection.

DB2 (if monitoring a data sharing group or remote DB2 subsystem while XCF component is not activated for remote CPU)
The DB2 subsystem name of the data sharing group member that is currently monitored.

You can use the Tab key to move to a detail line and to select this detail line for drill down.

P/I
The computed Performance Index for the Service Class Period. N/A in compatibility mode.

SvcClass
The Service Class name the enclave work has been classified into. N/A in compatibility mode.

Pd#
The Service Class Period Number for the enclave. N/A in Compatibility mode.

Status
The current DB2 status of the thread.

Threads Having Remote ID Information

This panel provides an overview of the activity of all threads connected to DB2 having an associated Workstation ID, End User User ID or End User Transaction ID.

```
_________________ ZICLI    VTM     O2       V540./I SE11 S 07/10/13 16:13:52 2
> Help PF1      Back PF3       Up PF7      Down PF8     Sort PF10    Zoom PF11
> T.P
>         Thread Activity:  Enter a selection letter on the top line.

> A-All-Idle    B-TSO      C-CICS      D-IMS     E-Background   F-Dist Allied
> G-Dist DBAC   H-Util     I-Inact     J-Filter  K-Functions    L-Stored Proc
> M-Triggers    N-Sysplex  O-Enclaves  *-Worksta Q-All+Idle
================================================================================
>                  Threads Having Remote ID Information
 THDP
+ *
+ Elapsed      WorkStation ID     End User UserID  End User Transaction Name
+ ----------   ------------------ ---------------- ----------------------------
+ 01:44:03.1   RRSAF              OMPEUSER         OMEGAMON
+ 01:43:50.3   MyWorkstationName- MyUserID-this is MyApplicationInformation-als
+ 01:43:48.6   LW-LONG-WORKSTATIO LU-LONG-USER-ID- LP-LONG-APPLICATION-NAME-THA
+ 01:43:03.9   IBM-67119346B51    hong1            db2bp.exe
+ 01:36:00.5   LW-LRSF1-WORKSTATI LU-LRSF1-USER-ID LP-LRSF1-APPLICATION-NAME-TH
+ 01:18:53.8 P BATCH              HONG             HONGPTS1
+ 01:18:52.8 * BATCH              HONG             HONGPTS1
================================================================================
```

Each row provides information about an individual thread, including information about thread response time, DB2 and MVS resource consumption, and DB2 activity. The columns are ordered by Thread Elapsed Time (total time since thread creation or reuse).

Navigation

For additional information about

- a particular thread, move the cursor to the thread information line and press F11 (Zoom).
- exceptions that have tripped, type E . A on the top of the panel.
- A different DB2 subsystem, data sharing group, or member of a data sharing group, enter the name of a DB2 subsystem, group, or member in the topmost row and press Enter. For more information, see “Switching among DB2 subsystems and data sharing group members” on page 11.
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Elapsed
The elapsed time since thread creation, or since DB2 signon if the thread is reused. When the elapsed time of the thread exceeds 24 hours, the format is *dd-hh:mm*.

If this thread is involved in parallel processing or if it invoked autonomous procedures, one of the following identifiers is displayed after the elapsed time:

*****
This thread is a parallel task that is initiated on behalf of another (originating) thread to process a query request in parallel.

O
This thread is the originating thread that invoked autonomous procedures.

P
This thread is the parent or the originating thread of the parallel tasks that are created to process a query request in parallel. Activity performed for this (originating) thread is reflected under the parallel tasks.

X
This thread is a parallel task that is initiated on behalf of another (originating) thread on another DB2 for sysplex parallelism.

Workstation ID
The end user's workstation name. This field contains blanks if the client did not supply this information.

End User UserID
The end user's workstation user ID. This can be different from the authorization ID used to connect to DB2. This field contains blanks if the client did not supply this information.

End User Transaction Name
The transaction or application name that the end user is running. This identifies the application that is currently running, not the product that is used to run the application. This field contains blanks if the client did not supply this information.

Threads Summary Including Idle Threads

This panel shows an overview of the activity of all threads (including idle threads) that are connected to DB2.

```
 _________________ ZALLTQ   VTM     O2       V540.#P DC11 S 06/30/16 21:33:17 2
> Help PF1      Back PF3       Up PF7      Down PF8     Sort PF10    Zoom PF11
> T.Q
>         Thread Activity:  Enter a selection letter on the top line.

> A-All-Idle    B-TSO      C-CICS      D-IMS     E-Background   F-Dist Allied
> G-Dist DBAC   H-Util     I-Inact     J-Filter  K-Functions    L-Stored Proc
> M-Triggers    N-Sysplex  O-Enclaves  P-Worksta *-All+Idle
================================================================================
>                   Threads Summary Including Idle Threads
 THDQ
+                                          *
+ Elapsed      Planname  CPU    Status       WFCurr Update Commit CORRID/JOBN
+ ----------   --------  -----  ------------ ------ ------ ------ ------------
+ 00:00:06.3   DSNTEP12  01.3%  WAIT-SYNC-IO  65024  67515      0 HONGDGTS
+ 00:00:06.6   DSNTEP12  01.2%  IN-SQL-CALL   60928  62836      0 HONGDGTB
+ 00:00:06.6   DSNTEP12  01.1%  WAIT-SYNC-IO  58880  60681      0 HONGDGTD
+ 00:00:05.6   DSNTEP12  00.9%  WAIT-SYNC-IO  58368  60152      0 HONGDGT1
+ 00:00:06.6   DSNTEP12  00.9%  WAIT-SYNC-IO  55296  56909      0 HONGDGT4
+ 00:00:06.7   DSNTEP12  00.9%  WAIT-SYNC-IO  53248  54431      0 HONGDGTA
+ 00:00:06.7   DSNTEP12  00.9%  WAIT-SYNC-IO  53248  54631      0 HONGDGT2
+ 00:00:06.6   DSNTEP12  00.9%  WAIT-SYNC-IO  52736  53895      0 HONGDGT3
+ 00:00:06.5   DSNTEP12  00.8%  WAIT-SYNC-IO  50176  50881      0 HONGDGTC
+ 06-20:44     KO2PLAN   00.0%  NOT-IN-DB2        0      0      0 SZ91DM31
+ 06-20:46     KO2PLAN   00.0%  NOT-IN-DB2        0      0     19 SZ91DM31
+ 00:00:00.0              00.0%  NOT-IN-DB2        0      0      0 SZ91DM31
+ 07-11:23                00.0%  NOT-IN-DB2        0      0      0 OMPEDA5S
+ 06-20:46                00.0%  NOT-IN-DB2        0      0      0 SZ91DM31
+ 00:00:00.0   DISTSERV   00.0%  NOT-IN-DB2        0      0      0 NONE
+ 00:28:54.4   KO2PLAN   00.0%  NOT-IN-DB2        0      0      0 OMPEHZ7S
+ 00:29:34.2              00.0%  NOT-IN-DB2        0      0      0 OMPEHZ7S
+ 00:29:34.2   KO2PLAN   00.0%  NOT-IN-DB2        0      0      7 OMPEHZ7S
+ 00:29:34.2   KO2PLAN   00.0%  IN-SQL-CALL       0      0      0 OMPEHZ7S
+ 00:00:00.0              00.0%  NOT-IN-DB2        0      0      0 OMPEHZ7S
+ 07-11:23     KO2PLAN   00.0%  NOT-IN-DB2        0      0     11 OMPEDA5S
+ 07-11:23                00.0%  NOT-IN-DB2        0      0      0 OMPEDA5S
+ 07-10:19     KO2PLAN   00.0%  NOT-IN-DB2        0      0      0 OMPEDA5S
+ 00:00:00.0              00.0%  NOT-IN-DB2        0      0      0 OMPEDA5S
+ 01:26:46.1   KO2PLAN   00.0%  NOT-IN-DB2        0      0      0 OMPEHZ8S
+ 01:27:22.1   KO2PLAN   00.0%  NOT-IN-DB2        0      0      7 OMPEHZ8S
+ 01:27:22.1              00.0%  NOT-IN-DB2        0      0      0 OMPEHZ8S
+ 01:27:22.2   KO2PLAN   00.0%  NOT-IN-DB2        0      0      0 OMPEHZ8S
+ 00:00:00.0              00.0%  NOT-IN-DB2        0      0      0 OMPEHZ8S
================================================================================
```

This panel is identical (except for idle threads being included) to the Threads Summary Excluding Idle Threads panel. Highlighting information, navigation hints, and fields are described in Chapter 6, “Thread Activity,” on page 39, panel “Threads Summary Excluding Idle Threads” on page 39.

Chapter 7. Locking Conflicts

Select this main menu option for information about locking conflicts.

Locking Conflicts panel

This panel shows existing DB2 locking contentions. It provides information about the owners and waiters currently involved in locking conflicts.

A locking conflict exists when a DB2 thread owning a resource causes another DB2 thread to wait. In general, when DB2 cannot satisfy a request for the resource, the requester will be suspended.

A suspended lock resource always has an owning thread. Multiple threads may be waiting for the same resource. It may also have one or more global owners that have global interest in the resource.

When **S** mode is used in data sharing environment, lock resources that are waited by a local thread will be displayed. All global owners and all local threads that are involved in this locking conflict are displayed.

When **G** mode is used in data sharing environment, lock resources that are waited by a local or remote thread will be displayed. All the global owners and all local and remote threads that are involved in the locking conflict are displayed.

The plan names of all threads for which the elapsed time exception has tripped are highlighted. For more information about current thread exceptions, type E.A on the top line of the panel to display the Exception Messages for Thread Exceptions panel.

```
_________________ ZLOCKC   VTM     O2       V540.#P SAD  G 11/05/13 14:00:19 2
>       Help PF1      Back PF3      Up PF7      Down PF8       Zoom PF11
> L.
================================================================================
>                             LOCKING CONFLICTS

 XLOK
+Stat Plan     Corrid       Type Lvl Resource
+---- -------- ------------ ---- --- -----------------------------------------
+Owned by Subsystem SAC     ROW      DB=DSNDB04  PS=RLOCKTSG PG=00000002/01
+Owned by Subsystem SAD     ROW      DB=DSNDB04  PS=RLOCKTSG PG=00000002/01
+ OWN DSNESPCS MIS          ROW    X DB=DSNDB04  PS=RLOCKTSG PG=00000002/01
+WAIT DSNESPCS MIS          ROW    U DB=DSNDB04  PS=RLOCKTSG PG=00000002/01
================================================================================
```

For more information about lock resources, see "Lock Types and Lock Levels".

Highlighting

OMEGAMON XE for DB2 PE highlights some fields in this panel to draw your attention to their current status:

Table 20. Highlighted fields in Locking Conflicts panel

Field	Exception	Reason
Plan	ETIM	Elapsed time is high.

Navigation

For additional information about

- a lock owner, move the cursor to the lock owner line and press F11 (Zoom).

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- a lock waiter, move the cursor to the lock waiter line and press F11 (Zoom).
- other topics, use the PF keys.

Note: Thread information is not available if the thread is owned by the other member of the data sharing group.

Fields

The output lines are displayed in descending order, with those reflecting the greatest degree of conflict displayed first.

Stat
The status of the thread can be one of the following:

- OWN indicates that the thread is a lock owner.
- WAIT indicates that the thread is suspended because the lock it requested is owned by another thread.

Plan
The name of the DB2 plan that is currently active in this thread.

Corrid
The DB2 correlation identifier for the thread involved in the locking conflict.

Type
The type of lock that is owned or requested and is unavailable. For more information about lock types, see "Lock Types and Lock Levels".

Lvl
The level at which the lock is owned or was requested. The level of a lock requested is frequently the reason for lock suspensions. For more information about lock levels, see "Lock Types and Lock Levels".

Resource
Identifies the resource that is currently locked by the lock owner, or the lock resource causing the lock to be suspended. The resource varies depending upon the type of lock held.

Note: DB=database name can be represented as a DBID=identifier, which is the decimal identifier of the database. PSID=identifier can be represented as PSID=identifier, which is the decimal identifier of the table space. HEX values are displayed for lock resources if the resource is owned by a thread on a remote LPAR, and no OMPE task is available from that LPAR, or XCF is not set up correctly. If the owner is a thread running on some other member of the data sharing group, the DB2 subsystem name is displayed.

This field displays the following resources:

Lock Type
Resource

ACSC
Accelerator Services commands lock

ALBP
Alter buffer pool lock

BIND
Autobind/remote bind lock

BMBA
Buffer manager SCA MBA L-lock

BPPS
Buffer manager pageset RP P-lock

CCAT
CATMAINT convert catalog lock

CDBL
Compress dictionary build lock

CDIR
CATMAINT convert directory lock

CDRN
Cursor Stability drain lock

CMDS
DB2 Command Serialization lock

CMIG
CATMAINT migration lock

COLL
Collection lock

DBEX
Database exception LPL/GRECP lock

DBXU
Database exception update lock

DGTT
DGTT URID lock

DPAG
DB2 pageset page lock

DPLK
32 K Desperation Pool lock

DSET
Partitioned lock

DTBS
Database lock

GRBP
Group buffer pool start/stop lock

HASH
Hash anchor lock

IEOF
Index end of file lock

IPAG
Index page lock

LBLK
LOB lock

LPLR
LPL Recovery lock

MDEL
Mass delete lock

PALK
Partition lock

PBPC
Group buffer pool castout P-lock

PCDB
DDF CDB P-lock

PDBD
DBD P-lock

PDSO
Pageset or partition pageset open lock

PITR
Index manager tree P-lock

PPAG
Page P-lock

PPSC
Pageset/partition level castout P-lock

PPSP
Pageset/partition P-lock

PRLF
RLF P-lock

PSET
Pageset lock

PSPI
Pageset piece lock

RDBD
Repair DBD Test/Diagnoes lock

RDRN
Repeatable Read drain lock

RGDA
Retry Getpg During Abort

ROW
Row lock

RSTR
SCA access for restart/redo lock

SDBA
Start/stop lock on DBA tabs

SENV
SYSENV serialization lock

SKCT
Skeleton cursor table lock

SKPT
Skeleton package table lock

SPRC
Sys Level PIT Recovery lock

SREC
Log range lock

TABL
Table lock

UIDA
Util I/O Damage Assessment

UNDT
Undetermined lock

UTEX
Utility exclusive execution lock

UTID
Utility UID lock

UTSE
Utility serialization lock

WDRN
Write drain lock

XMLK
XML lock

UTOB
Utility object lock

DBDL
DBD load lock

IXKY
Index key lock

HPSP
Header page bucket or Stored Proc Cmd lock

Locks/Claims Owned by a Thread

This panel shows lock and claim information of a specific thread. Use this information to analyze locks and claims, for example, the number of locks owned, the type and level of the locks, and the object of the locks.

The locking information is divided into the following categories:

1. The totals of all the types of locks owned by the thread, as well as the percentage of total locks allowed that are currently held (the percent of the DB2 parameter NUMLKUS).
2. The type, level and object of each lock. HEX values are displayed for lock resources, if the resource is owned by a thread on a remote LPAR, and no OMPE task is available from that LPAR, or XCF is not setup correctly.

The claim information displays all of the claims currently owned by the thread. Claims are used to inform DB2 that an object is being accessed.

```
_________________ ZLOCKO   VTM     O2       V540./I SE11 07/11/13 13:43:20   2
> Help PF1               Back PF3               Up PF7               Down PF8

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     *-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES                  W-ACCEL ACTIVITY
================================================================================
>                       LOCKS/CLAIMS OWNED BY A THREAD
 PLAN
+ Thread:  Plan=DISTSERV  Connid=SERVER   Corrid=db2jcc_appli Authid=HONG
+ Dist  :  Type=DATABASE ACCESS, Luwid=G9414CE5.G536.CBA4ADE06FAA=591
+ Location  :  9.65.76.229,Host Name=sig-9-65-76-229.mts.ibm.com
 own
+                         Lock Ownership Information
+      Percent NUMLKUS       = .00        Total  Locks Owned        = 3
+      Total Catalog Locks   = 0          Pageset and Dataset Locks = 1
+      Catalog Pageset Locks = 0          Page/Row Locks            = 0
+      Catalog Page/Row Locks= 0          Directory and Other Locks = 2
+      Bind ACQUIRE option   = ALLOCATE   Bind RELEASE option       = COMMIT
+      ISOLATION option      = Cursor Stability
+
+      Type    Level        Resource                              Number
+      ----    -----        ----------------------------------- ------
+      PSET       IS        DB=HONGLTBD PS=HONGLTBS                  1
+      TABL       IS        DB=HONGLTBD PS=HONGLTBS                  1
+      SKPT        S        N/A                                      1
+                                                                 ------
+                                                        Total =      3
+                         Claim Information
+      Type       Class     Resource
+      -------    -----     ------------------------------------------
+      IX         CS        DB=DSNDB06        PS=DSNDTX05
+      TS         CS        DB=DSNDB06        PS=SYSTSTAB
+      IX         CS        DB=HONGLTBD       PS=HONGLTBX
+      TS         CS        DB=HONGLTBD       PS=HONGLTBS
================================================================================
```

Highlighting

OMEGAMON XE for DB2 PE highlights some fields in this panel to draw your attention to their current status:

Table 21. Highlighted fields in Locks/Claims Owned by a Thread panel		
Field	**Exception**	**Reason**
Plan	ARCM	Backout requires an archive tape log mount.
	ETIM	This thread has reached the Elapsed Time threshold value.
	GETP	The Getpage to Read I/O ratio indicates poor read efficiency.
	INDB	The thread is indoubt and terminated.
	PREF	The Sequential Prefetch rate is high.
	RIO	The synchronous Read I/O rate is high.
	PGUP	The rate for system page updates is high.
	LKUS	The ratio of data locks owned to NUMLKUS is high.

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Distributed thread identifier: The following fields are displayed when the thread has a distributed relationship with a remote DB2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote DB2 location.

Database Access
A responding thread; one that is serving a remote DB2 location by responding to an SQL call.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any DB2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the **Luwid** field displays data such as the following:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

System
The originating DB2 job name and the resource manager that is the source of the thread.

An additional line below the attachment identifier displays the user thread, if any, that is served by the system thread.

Lock ownership information: The following fields are displayed when the thread has a distributed relationship with a remote DB2 subsystem.

Percent NUMLKUS
The current percentage of NUMLKUS reached by the thread. NUMLKUS is an installation parameter in DSNZPARM that specifies the maximum number of page, row, LOB, or XML locks that can be held by a single process at any one time. It includes locks for both, the DB2 catalog and directory and for user data.

Total Locks Owned
The total number of all locks owned by the thread. This includes all lock types.

Total Catalog Locks
Total of all catalog locks owned. This number includes any locks owned on a page or tablespace in database DSNDB06. This is the total of the catalog pageset and page locks.

Pageset and Dataset Locks
The total number of pageset locks held. This excludes pageset locks in which the lock object is a pageset owned by the catalog database or the directory database. Lock types included are PSET and DSET.

Catalog Pageset Locks
The total number of pageset locks in which the object of the lock is a pageset owned by the catalog (DSNDB06) database (PSET).

Page/Row Locks
Total number of page, row, LOB, and XML locks owned by the thread. It includes DPAG, IPAG, ROW, LOB, and XML locks. It includes any of the listed locks in which the lock object is owned by the catalog database or the directory database.

Catalog Page/Row Locks
The total number of page and row locks on the catalog (DSNDB06) database. This includes data page (DPAG), index page (IPAG), and row (ROW) locks.

Directory and Other Locks
The total number of directory and other locks owned by the thread. Directory locks are issued against resources contained in the DSNDB01 directory database.

Bind ACQUIRE Option
The ACQUIRE option specified at BIND time: ALLOCATE or USE. This allows you to control when the allocation of tablespace locks is to occur. If ACQUIRE(USE) is specified, tablespace locks will be acquired when the resource is used by the application. When ACQUIRE(ALLOCATE) is specified, all tablespace locks will be obtained at plan allocation time. Dynamic SQL users (QMF, SPUFI) always execute with the ACQUIRE(USE) option.

Bind RELEASE Option (Static) (QW01243F)
The RELEASE option specified at BIND time: COMMIT or DEALLOCATE.

The RELEASE option controls when tablespace and SKCT locks are freed. RELEASE(COMMIT) causes these locks to be released at each commit point. RELEASE(DEALLOCATE) causes these locks to be freed at application termination. Page locks are always released at commit time, regardless of the release option.

ISOLATION Option
The ISOLATION option specifies when the plan is bound.

The isolation parameter allows you to control the data consistency in the pages that the plan accesses. It has an effect on the number of page or row locks held concurrently by an application. The available options are:

Cursor Stability (CS)
Causes a page lock acquired for read processing to be released when the application subsequently accesses data contained on another data page. (Page locks acquired as a result of update activity are always retained until commit.)

Read Stability (RS)
Is similar to Repeatable Read but this isolation option allows to insert new rows or update rows that did not satisfy the original search condition of the application.

Repeatable Read (RR)
Causes all application locks obtained for read processing to be retained until application commit time.

RR with X-lock
Means Repeatable Read with X-lock.

RS with X-lock
Means Read Stability with X-lock.

Uncommitted Read (UR)
Causes data to be read without acquiring locks. This can result in accessing data that has been updated but not yet committed. It applies only to read-only operations: SELECT, SELECT INTO, or FETCH from a read-only result table. Use this isolation level only when:

- Data consistency is not necessary or inconsistencies already exist
- Errors cannot occur with its use, such as with a reference table that is rarely updated

Type
The lock type owned. Every lock type owned by the thread will be displayed. For more information about lock types, lock levels, and lock resources, see "Lock Types and Lock Levels".

Level
The lock levels of the various lock types owned. All lock levels owned within a lock type will be listed. Lock levels can occur repetitively for a single lock type due to the different resources owned by the locks.

Resource
The resource that is the object of the lock. The content of this field is dependent on lock type. For data page (DPAG) and index page (IPAG) locks, the resource does not contain the actual data page number that is locked; it lists the database and pageset owning the data or index page lock. The **Number** field then displays how many data or index page locks exist within the resource (pageset) listed.

Number
The number of locks meeting the type, level, and resource description of the lock.

Claim information:

Type
The type of object being claimed. Possible object types are:

TS
Tablespace

TS LPRT
Tablespace logical partition

TS PART
Data Partition

IX
Indexspace

IX LPRT
Indexspace logical partition

IX PART
Index Partition

Class
The claim class. Possible claim classes are:

CS
Cursor Stability

RR
Repeatable Read

WRITE
Write access

Resource
The name of the object which is locked or claimed. The resource name can include the database name, the pageset name, the partition number, the page number, the record ID, the collection ID, the package name, or the plan name.

Note: DB=database name and PS=pageset name can be represented as a DBID=identifier or PSID=identifier correspondingly. DBID represents the decimal identifier of the database. PSID represents the decimal identifier of the table space or the index space.

Thread Lock/Claim/Drain Activity

This panel provides a summary of lock related activity for an individual thread.

```
_________________ ZTLOCT   VTM     O2       V540.#P DA41 11/04/13  9:10:16   2
> Help PF1                                                          Back PF3

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL *-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES                  W-ACCEL ACTIVITY
================================================================================
>                    THREAD LOCK/CLAIM/DRAIN ACTIVITY
 PLAN
+ Thread:  Plan=ADB       Connid=TSO      Corrid=MIS          Authid=MIS
+ Attach:  TSO            Userid=MIS                          Region asid= 224
+ Package: ADB2GET                        Collection=ADBL
+ Luwid=DEIBMIPS.IPSATA41.CC3659CD8774=796
 loct
+ Lock Requests          =          2   Deadlocks Detected         =          0
+ Unlock Requests        =          1   Timeouts Detected          =          0
+ Query Requests         =          0   Suspends - Lock Only       =          0
+ Change Requests        =          0   Suspends - Latch Only      =          0
+ Other IRLM Requests    =          0   Suspends - Other           =          0
+ Escalations to Shared  =          0   Escalations to Exclusive   =          0
+ Maximum Page/Row Locks =          0
+
+ Claim Requests         =          0   Claims Failed              =          0
+ Drain Requests         =          0   Drains Failed              =          0
================================================================================
```

Highlighting

OMEGAMON XE for DB2 PE highlights some fields in this panel to draw your attention to their current status:

Table 22. Highlighted fields in Thread Lock/Claim/Drain Activity panel		
Field	**Exception**	**Reason**
Plan	Any	Same as the other thread detail panels.

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Distributed thread identifier: The following fields are displayed if the thread has a distributed relationship with a remote Db2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote Db2 location.

Database Access
A responding thread; one that is serving a remote Db2 location by responding to an SQL call.

Db2=
The Db2 subsystem ID, indicating the member of the data sharing group of this thread.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any Db2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the *Luwid* field displays data like in the following example:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

Lock count information:

Lock Requests
Requests to Internal Resource Lock Manager (IRLM) to obtain a lock on a resource.

Deadlocks Detected
The number of deadlocks detected.

Unlock Requests
Requests to IRLM to unlock a resource.

Timeouts Detected
The number of times that the suspension of a unit of work lasted longer than the IRLM timeout value.

Query Requests
Requests to IRLM to query a lock.

Suspends - Lock Only
Suspensions of a unit of work because a lock could not be obtained.

Change Requests
Requests to IRLM to change a lock.

Suspends - Latch Only
DB2 internal latch suspensions.

Other IRLM Requests
Requests to IRLM to perform a function other than those listed before.

Suspends - Other
Suspensions caused by something other than locks and latches.

Escalations to Shared
Occasions when the allowable number of locks per tablespace was exceeded, causing a page (IS) lock to escalate to a shared (S) lock.

Escalations to Exclusive
Occasions when the allowable number of locks per tablespace was exceeded, causing a page (IX) lock to escalate to an exclusive (X) lock.

Maximum Page/Row Locks
The maximum number of page or row locks held concurrently. This count cannot exceed the value of the NUMLKUS (locks per user) installation parameter.

Claim Requests
The number of claim requests.

Claims Failed
The number of unsuccessful claim requests.

Drain Requests
The number of drain requests.

Drains Failed
The number of unsuccessful drain requests.

Thread activity: Locks/Claims causing a thread to wait

This panel shows information about the locks that cause a thread to wait. You can use this information to determine whether a selected thread is suspended and waiting because of a locking conflict.

When a thread is suspended, this panel provides the name of the lock/claim request causing the suspension. It also provides a list of all locks/claims currently held by other threads causing the thread to be suspended.

If accounting class 2 and class 3 are not available, N/A is displayed.

The locking information is divided into the following categories:

1. The name of the lock request causing the suspension.
2. A list of all locks which are causing the thread to wait.

HEX values are displayed for lock resources, if the resource is owned by a thread on a remote LPAR, and no OMPE task is available from that LPAR, or XCF is not setup correctly.

```
_________________ ZLOCKW   VTM     O2       V540./I SN13 07/11/13 13:30:43   2
> Help PF1               Back PF3               Up PF7               Down PF8

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS *-LOCK WAITS     D-LOCKS OWNED  E-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE D-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES                  W-ACCEL ACTIVITY
================================================================================
>                    LOCKS/CLAIMS CAUSING A THREAD TO WAIT
 PLAN
+ Thread:  Plan=DSNBIND   Connid=BATCH    Corrid=HONGAZ91     Authid=HONG
+ Attach:  BATCH          JOB Name=HONGAZ91                   JOB Asid=  56
+ Luwid=DEIBMIPS.IPSASN13.CBA4B01943B3=5791
 wait
+      Thread Is Currently Suspended Waiting To Obtain The Following Lock
+      Type=COLL  Level=X   Resource = Coll=KO2OM520
+
+      Wait For Lock Time  =   10 Seconds     # to repeat lock timeout =    3
+      IRLM Time Out Value =   60 Seconds
+
+      The Lock Being Waited On Is Owned By The Following User(s)
+      Plan               Connid             Corrid                 Lvl
+      --------           --------           ------------           ---
+      DSNBIND            BATCH              HONGEZ91                 X
================================================================================
```

Highlighting

Highlighted fields indicate that an exception relating to that field is tripped.

To display the Exception Messages for Thread Exceptions panel, type E . A. On this panel, you can determine the exceptions that have tripped.

Table 23. Highlighted fields on Locks/Claims Causing a Thread to Wait panel

Field	Exception	Reason
Plan	ARCM	Backout requires an archive tape log mount.
	ETIM	This thread has reached the Elapsed Time threshold value.
	GETP	The Getpage to Read I/O ratio indicates poor read efficiency.
	INDB	The thread is indoubt and terminated.
	PREF	The Sequential Prefetch rate is high.
	RIO	The synchronous Read I/O rate is high.
	PGUP	The rate for system page updates is high.
	WTRE	The lock has been waiting for a resource for too long.

Navigation

For additional information about

- about the locks that are owned by a thread, an SQL activity, a general thread activity, or a resource limit activity, or to go to the Db2 system console, type the appropriate option letter on the top line and press ENTER.
- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Distributed thread identifier: The following fields are displayed when the thread has a distributed relationship with a remote DB2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote DB2 location.

Database Access
A responding thread; one that is serving a remote DB2 location by responding to an SQL call.

Luwid
This value consists of two parts: the logical unit-of-work ID (luw-id) and a token. The token can be used in place of the luw-id in any DB2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the **Luwid** field displays data such as the following:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

Drain information:

Type
The type of object being drained. Possible object types are:

TS
Tablespace

TS PART
Data Partition

IX
Indexspace

IX PART
Index Partition

Class
The drain class. Possible classes are:

CS
Drain all CS read access to object.

RR
Drain all RR access to object.

Write
Drain all write access to object.

Resource
The name of the resource being drained. This includes the database name, pageset name, and the partition number (if any).

Claim information:

Plan
The planname of the thread claiming the resource.

Connid
The connection identifier of the thread claiming the resource.

Corrid
The correlation identifier of the thread claiming the resource.

Class
The claim class. Possible classes are:

CS
Cursor Stability

RR
Repeatable Read

Write
Write access

Lock wait information:

Type
The lock type on which the thread is waiting. For more information about lock types, see "Lock Types and Lock Levels".

Level
The level or state (mode) of the lock request. This information describes the level of resource access demanded by the lock request. For more information about lock levels, see "Lock Types and Lock Levels".

Resource
The resource for which the user is waiting. The content of the Resource field is dependent on lock type.

The resource varies depending upon the type of lock held. This field displays the following resources:

Lock Type
Resource

ALBP
BP=buffer pool ID

BIND
COLL=collection ID PKG=package name

BMBA
BMC_MBAO or BMC_MBAR

BPPS
BP=buffer pool ID, DB=database name, PS=pageset name

CDRN
DB=database name PS=pageset name PT=partition

COLL
COLL=collection ID

DBEX
DB=database name PS=pageset name PT=partition

DBXU
HASH CLASS=class number

DGTT
URID=unit of recovery ID

DPAG
DB=database name PS=pageset name PG=page

DSET
DB=database name PS=pageset name PT=partition

DTBS
DB=database name

GRBP
BP=buffer pool ID

HASH
DB=database name PS=pageset name PG=page

IEOF
DB=database name PS=pageset name PT=partition

IPAG
DB=database name PS=pageset name PG=page

LBLK
DB=database name PS=pageset name

MDEL
DB=database name PS=pageset name

PALK
DB=database name PS=pageset name PT=partition

PBPC
BP=buffer pool ID

PCDB
DB=database name

PDBD
DB=database name

PDSO
DB=database name PS=pageset name

PITR
DB=database name PS=pageset name PT=partition

PPAG
DB=database name PS=pageset name PG=page

PPSC
DB=database name PS=pageset name PT=partition

PPSP
DB=database name PS=pageset name PT=partition

PRLF
DB=database name PS=pageset name PT=partition

PSET
DB=database name PS=pageset name

PSPI
DB=dataset name PS=pageset name

RDRN
DB=dataset name PS=pageset name PT=partition

RGDA
DB=database name PS=pageset name PG=page

ROW
DB=database name PS=pageset name PG=page

RSTR
BMC-RSTP

SDBA
DB=dataset name PS=pageset name

SKCT
PLAN=plan name

SKPT

TOKEN is the consistency token (CONTOKEN) column from SYSIBM.SYSPACKAGE. Token=token

SPRC
SYS_PITR

SREC
DB=database name TS=tablespace name

TABL
DB=database name PS=pageset name

UNDT
Resource ID (in hexadecimal)

UTEX
UTEXEC

UTID
UID=utility identifier

UTOB
DB=database name PS=pageset name PT=partition

UTSE
UTSERIAL

WDRN
DB=database name PS=pageset name PT=partition

Note: DB=database name can be represented as a DBID=identifier, which is the decimal identifier of the database. PSID=identifier can be represented as PSID=identifier, which is the decimal identifier of the table space or index space.

For more information about lock resources, see "Lock Types and Lock Levels".

Wait For Lock Time
The time that DB2 has been waiting for the locked resource.

To Repeat Lock Timeout
The number of times DB2 repeats the lock timeout.

IRLM Time Out Value
The maximum time that DB2 waits for a locked resource. When DB2 reaches the maximum value, it rolls back the unit of work.

Level
The level or state (mode) of the lock request. This information describes the level of resource access demanded by the lock request. For more information about lock levels, see “Tablespace lock levels” on page 811.

Lock owner information:

Plan
The DB2 plan name of the active thread.

Connid
The DB2 connection identifier of the active thread.

Corrid
The DB2 correlation identifier of the active thread.

Lvl
The lock level owned.

Thread Global Lock Activity

This panel provides a summary of global locking activity for an individual thread.

This panel is only available in a data sharing environment. The information provided by this panel can help you in properly sizing the coupling facility lock structure and reducing global lock contentions for transactions.

```
 _________________ ZTGLOC   VTM     O2       V540./I SE11 07/11/13 13:44:32   2
> Help PF1                                                          Back PF3

>       THREAD INFORMATION:  Enter a selection letter on the top line.

> A-THREAD DETAIL B-LOCK COUNTS C-LOCK WAITS     D-LOCKS OWNED  *-GLOBAL LOCKS
> F-CURRENT SQL   G-SQL COUNTS  H-DISTRIBUTED    I-BUFFER POOL  J-GROUP BP
> K-PACKAGES      L-RES LIMIT   M-PARALLEL TASKS N-UTILITY      O-OBJECTS
> P-CANCEL THREAD Q-DB2 CONSOLE R-DSN ACTIVITY   S-APPL TRACE   T-ENCLAVE
> U-LONG NAMES                  W-ACCEL ACTIVITY
================================================================================
>                        THREAD GLOBAL LOCK ACTIVITY
 PLAN
+ Thread:  Plan=DISTSERV  Connid=SERVER   Corrid=db2jcc_appli Authid=HONG
+ Dist   :  Type=DATABASE ACCESS, Luwid=G9414CE5.G536.CBA4ADE06FAA=591
+ Location  :  9.65.76.229,Host Name=sig-9-65-76-229.mts.ibm.com
 gloc
+ P-lock Lock Requests        =       0   XES Lock Requests           =       2
+ P-lock Unlock Requests      =       0   XES Unlock Requests         =       0
+ P-lock Change Requests      =       0   XES Change Requests         =       0
+ Suspends - IRLM Global Cont =       0   Total L-lock Requests       =       6
+ Suspends - XES Global Cont  =       0   XES L-lock Req Percentage   =   66.6%
+ Suspends - False (and Conv) =       0   Incompatible Retained Locks =       0
+ Notify Messages Sent        =       0   Total Number False Content. =       0
================================================================================
```

Highlighting

OMEGAMON XE for DB2 PE highlights some fields in this panel to draw your attention to their current status:

Table 24. Highlighted fields on Thread Global Lock Activity panel

Field	Exception	Reason
Plan	Any	Same as the other thread detail panels.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Connection Type

Batch
The MVS jobname and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

CICS
The CICS jobname, task name, task number, terminal ID, and thread type. The thread type is:

Pool
The thread in use is a pool thread.

Entry
The thread in use is a nonprotected entry thread.

Prot
The thread in use is a protected thread. Protected threads are defined in an RCT entry definition using the THRDS operand.

IMS
The IMS region number, transaction name, region name, and terminal ID (LTERM).

RRSAF
The MVS job name and ASID.

Note: For threads from remote Db2, the MVS job name is N/A.

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

TSO
The TSO user ID and region ASID.

Utility
No additional information.

Db2
The Db2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) Db2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Package identifier: This information identifies the package to which the information in this panel applies.

Package
The Db2 package name of the active thread. Up to 18 characters of the package name are returned.

Collection
The package collection identifier. This field is displayed only if a package is being used.

Distributed thread identifier: The following fields are displayed if the thread has a distributed relationship with a remote Db2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote Db2 location.

Database Access
A responding thread; one that is serving a remote Db2 location by responding to an SQL call.

Db2=
The Db2 subsystem ID, indicating the member of the data sharing group of this thread.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any Db2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the *Luwid* field displays data like in the following example:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

Global lock information:

P-lock Lock Requests
Number of lock requests for P-locks. A P-lock is a physical lock used only in a data sharing environment to provide consistency of data cached in different DB2 subsystems.

P-lock Unlock Requests
Number of unlock requests for P-locks.

P-lock Change Requests
Number of change requests for P-locks.

XES Lock Requests
The number of lock requests (both logical and physical) that were propagated to MVS XES synchronously under the caller's execution unit. This count does not include suspended requests. Only the most restrictive lock for a particular resource is propagated to XES and the coupling facility.

XES Unlock Requests
The number of unlock requests (both logical and physical) that are propagated to MVS XES synchronously under the caller's execution unit. This count does not include suspended requests.

XES Change Requests
The number of change requests (both logical and physical) that were propagated to MVS XES synchronously under the caller's execution unit. This count does not include suspended requests.

Suspends - IRLM Global Cont
The number of suspends due to Internal Resource Lock Manager (IRLM) global resource contentions. IRLM lock states were in conflict and inter-system communication is required to resolve the conflict.

Suspends - XES Global Cont
The number of suspends due to MVS XES global resource contentions that were not IRLM-level contentions. The XES lock states were in conflict, but the IRLM lock states were not.

Suspends - False (and Conv)
Summation of false contentions and sync-to-async heuristic conversions.

XES detects hash class contention when two different locks on different resources hash to the same entry in the coupling facility lock table. The requester is suspended until it is determined that no real lock contention exists.

Sync-to-async heuristic conversions are done when the XES determines that it is more efficient to drive the request asynchronously to the coupling facility.

Total L-lock Requests
The total number of L-lock requests. An L-lock is a logical lock used to control intra- and inter-DB2 data concurrency between transactions.

XES L-lock Req Percentage
The percentage of total L-lock requests that were propagated to MVS XES synchronously.

Incompatible Retained Locks
The number of global lock or change requests that failed because of an incompatible retained lock. Certain P-locks can be retained because of a system failure. Another DB2 member cannot access the data that the retained P-lock is protecting unless it requests a P-lock in a compatible state.

Notify Messages Sent
The number of notify messages sent.

Total Number False Content.
The total number of false contentions for LOCK and UNLOCK requests. A false contention occurs when different resource names hash to the same entry in the coupling facility (CF) lock table. The CF detects contention within the hash entry, and XES uses intersystem messaging to determine that no actual resource contention exists.

Chapter 8. Resource Managers and Other DB2 Subsystem Information menu

Select this main menu option for information about the DB2 resource managers and other system-related information.

This menu provides access to the panels that display subsystem level information about DB2. The information covers DB2 resource managers, current trace activity, DSNZPARM parameters, and DBM1 storage management statistics.

```
_________________ ZRMMENU  VTM     O2       V540./I SE11 06/25/13 16:18:42   2
>       Help PF1                                              Back PF3
> R.

>                  Enter a selection letter on the top line.
================================================================================
>           RESOURCE MANAGERS AND OTHER DB2 SUBSYSTEM INFORMATION

_ A  BUFFER MANAGER ......... Buffer Manager Information
_ B  LOG MANAGER ............ DB2 Log Manager Information
_ C  EDM POOL ............... EDM Pool Information
_ D  BIND STATISTICS ........ Bind Statistics
_ E  SUBSYSTEM MANAGER ...... DB2 Subsystem Support Manager Statistics
_ F  ACTIVE TRACES .......... Current Trace Activity
_ G  START-UP OPTIONS........ IRLM Start-Up Option and CSA Usage
_ H  DSNZPARM ............... DB2 Installation Parameters
_ I  LOCK/CLAIM/DRAIN........ Lock Manager/Claim/Drain Statistics
_ J  SQL/RID POOL/PARALLEL... SQL/RID Pool/Parallelism/Stored Proc. Information
_ K  OPEN/CLOSE STATISTICS... Dataset Open and Close Statistics
_ L  DB2 COMMANDS ........... DB2 Command Statistics
_ M  DB2 Storage  ........... Storage Management Pool Summary
_ N  ACCELERATOR ............ Accelerator Information
_ O  GBP Cache Struct ....... GBP XF Cache Structure Statistics

================================================================================
```

Navigation

The following menu options are available:

BUFFER MANAGER
Provides information about the performance of the DB2 buffer manager and the activity in each of the buffer pools.

For more information, see the description of panel “Buffer Manager Information” on page 216.

For more information, see the description of panel “Group Buffer Pool Information” on page 228.

LOG MANAGER
Provides information about the active logging and archival activity of the DB2 log manager.

For more information, see the description of panel “DB2 Log Manager Information” on page 231.

EDM POOL
Provides information about the activity in and performance of the EDM pool.

For more information, see the description of panel “EDM Pool Information” on page 237.

BIND STATISTICS
Displays bind operation counts.

For more information, see the description of panel “Bind Statistics” on page 275.

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SUBSYSTEM MANAGER
Displays workload-related information about the monitored DB2 subsystem.

For more information, see the description of panel "DB2 Subsystem Support Manager Statistics" on page 278.

ACTIVE TRACES
Displays summary and detail information about the DB2 traces that are currently active.

For more information, see the description of panel "Active Trace Summary" on page 280.

DSNZPARM
Displays the settings of the installation options in the DSNZPARM module.

For more information, see the description of panel "DSNZPARM Thread Parameters" on page 285 and subsequent DSNZPARM-related panels.

LOCK/CLAIM/DRAIN
Displays information about current locking activity and claim and drain statistics.

For more information, see the description of panel "Lock Manager Information" on page 370.

For more information, see the description of panel "Global Lock Statistics" on page 377.

SQL/RID POOL/PARALLEL
Displays information about current SQL activity, RID pool accesses, parallelism, and stored procedure information.

For more information, see the description of panel "SQL/RID Pool/Parallelism/Stored Procedure Information" on page 380.

OPEN/CLOSE STATISTICS
Provides information about open and close data set activity occurring within the DB2 subsystem.

For more information, see the description of panel "Open/Close Statistics" on page 396.

DB2 COMMANDS
Provides information about DB2 command activity.

For more information, see the description of panel "DB2 Command Statistics" on page 398.

DB2 Storage
Provides statistics information about DBM1 (DB2 database services address space) virtual and real storage and MVS storage performance.

For more information, see the description of panel "DB2 Storage" on page 402.

Accelerator
Displays a list of the available accelerators. You can sort this list.

For more information, see the description of panel "Accelerator Statistics Overview" on page 420

GBP Cache Struct
Provides information about a group buffer pool across all DB2 members in the data sharing group.

For more information, see the description of panel "GBP Coupling Facility Cache Structure Statistics Summary" on page 416 and "GBP Coupling Facility Cache Structure Statistics" on page 418.

Buffer Manager Information

This panel provides information about the performance of the DB2 buffer manager and the activity in each of the buffer pools.

This information helps you analyze buffer pool utilization.

```
_________________ ZBMGR    VTM     O2       V540.#P SN12 11/05/13 14:05:45   2
> Help PF1      Back PF3      Up PF7      Down PF8      Sort PF10     Zoom PF11
> R.A.A
>
> *-BUFFER POOL             B-GROUP BUFFER POOL
================================================================================
>                           BUFFER MANAGER INFORMATION

 BMGR
+  Current Number Open Datasets         =     197
+  High Water Mark Open Datasets        =     197
+  Maximum Number Open Datasets Allowed =   10000
+  Open Dataset Count In Active Pools   =     250
+
+ *
+ Pool     VP       Pages    Pages    Getp       Read       Prefetch   Write
+ ID       Size     Alloc    In Use   Rate       I/O Rate   Req Rate   I/O Rate
+ ------   ------   ------   ------   --------   --------   --------   --------
+ BP0        5000     5000       29     138.00       7.00        .00        .00
+ BP1        2000     2000        0        .00        .00        .00        .00
+ BP2        2000     2000        1       6.00       1.00        .00       1.00
+ BP3        2000     2000        0        .00        .00        .00        .00
+ BP4        2000     2000        0        .00        .00        .00        .00
+ BP7        1000     1000        3        .00        .00        .00        .00
+ BP32K       250      250        2        .00        .00        .00        .00
+ BP8K0     10000    10000        2      10.00        .00        .00        .00
+ BP16K0      500      500        0        .00        .00        .00        .00
================================================================================
```

Highlighting

OMEGAMON XE for DB2 PE highlights some fields in this panel to draw your attention to their current status.

Table 25. Highlighted fields on Buffer Manager Information panel

Field	Exception	Reason
Pages In Use	BMTH	The percentage of pages in use has reached the predetermined threshold.

Navigation

For additional information about

- a buffer pool, move the cursor to the buffer pool line and press F11 (Zoom). For more information, see the description of panel “Buffer Pool Detail” on page 218.
- other topics, use the PF keys.

Fields

Current Number Open Datasets
The number of data sets that are currently open in DB2.

High Water Mark Open Datasets
The largest number of data sets that were open simultaneously in DB2 since DB2 started.

Maximum Number Open Datasets Allowed
Determines how much initial memory to allocate for the data sets at startup time (defined by DSNZPARM DSMAX). The maximum number of data sets that can be open at one time is determined by TIOT SIZE, which is specified in SYS1.PARMLIB(ALLOCxx).

Open Dataset Count in Active Pools
The total number of opens issued for the buffer pools that are currently active. This value represents the number of times the data sets have been opened (and reopened) since DB2 started. (Buffer pools not currently in use might have issued opens that are not reflected in this count.)

Pool ID
The ID of the buffer pool.

VP Size
The number of buffers allocated for an active virtual buffer pool.

Pages Alloc
The number of pages currently allocated to the buffer pool. If a buffer pool is in use, Pages Alloc will be between the minimum and maximum values. Otherwise, it will be zero.

Pages In Use
The number of 4K, 8K, 16K, or 32K pages that are currently in use by the buffer pool.

Getp Rate
The number of Getpage requests per second made by the buffer pool.

Read I/O Rate
The total number of Read I/Os per second made by the buffer pool.

Prefetch Req Rate
The number of Sequential Prefetch and List Prefetch requests per second made by the buffer pool.

Write I/O Rate
The number of Write I/Os per second.

Buffer Pool Detail

This panel provides detailed information about the current activity in the specified DB2 buffer pool.

If a buffer pool is defined but currently not used by DB2, the value 0 is displayed for all fields 0 except for the field VP Sizew. If the buffer pool is used by DB2, the accumulated counts are displayed.

```
_________________ ZBP      VTM     O2       V540./I DC11 01/15/16 17:00:13   2
> Help PF1               Back PF3              Up PF7           Down PF8
>
> *-BUFFER POOL    B-GROUP BUFFER POOL    C-BUFFER POOL SNAPSHOT   H-HISTORICAL
================================================================================
>                            BUFFER POOL DETAIL

 BP    0
+ Collection Interval:  REALTIME                          Start:  06/25 16:55:03
+ Report Interval:       5 min                              End:  06/25 17:00:13
+
+ Virtual Buffer Pool Size=      5000    VPOOL Frame Size            =      4K
+ VPOOL Buffers Allocated =      5000    Minimum VPOOL Size          =       0
+ VPOOL Buffers in Use    =       130    Maximum VPOOL Size          =       0
+ VPOOL Buffers to be Del =         0    Auto Size                   =       N
+ Use Count               =       216    Page Fix                    =       N
+ VP Sequential Thresh    =       80%
+ Deferred Write Thresh   =       30%    Vert Deferred Write Thresh  =      5%
+ VP Parallel Seq Thresh  =       50%    Sysplex Parallel Thresh     =      0%
+
+ Getpages per Sync I/O   = 453195.61    Pages Written per Write I/O =    7.79
+ Prefetch per I/O        =    511.92    Pages Read per Prefetch     =     .05
+ Seq Prefetch per I/O    =      2.99    Pages Read per Seq Prefetch =   18.65
+ List Prefetch per I/O   =      1.33    Pages Read per List Prefetch=    5.03
+ Dyn Prefetch per I/O    =    726.59    Pages Read per Dyn Prefetch =     .02
+ Max Concur Prefetch     =        56    Workfile Maximum            =       7
+ BP Hit % - Random       =     99.9%    Virtual Page Steal Method   =     LRU
+ BP Hit % - Sequential   =     99.9%    Random Getpage Buffer Hit   =
337
+ LWM Buffers on SLRU     =       316    HWM Buffers on SLRU         =
316
```

```
+                                TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT
+                             QUANTITY  QUANTITY  (  310)  (    3)  (    0)
+                             --------  --------  -------  -------  -------
+ Getpage Requests            144935K        30      .09    10.00      .00
+  Getpage Requests - Sequential 144758K        0      .00      .00      .00
+   Getpage Req - Seq Ovfl      144758K         0      .00      .00      .00 *DB2 12
+  Getpage Requests - Random     176553        30      .09    10.00      .00
+   Getpage Req - Random Ovfl   144935K         0      .00      .00      .00 *DB2 12
+ Getpage Failed - VPOOL Full          0         0      .00      .00      .00
+ Getpage Failed - Cond Request        0         0      .00      .00      .00
+ Getpage Failed - Cond SeqReq         0         0      .00      .00      .00
+
+ Sync Read I/O Operations         18592        11      .03     3.66      .00
+  Sync Read I/O - Sequential        337         0      .00      .00      .00
+   Sync Read I/O - Seq Ovfl         337         0      .00      .00      .00 *DB2 12
+  Sync Read I/O - Random          18255        11      .03     3.66      .00
+   Sync Read I/O - Random Ovfl    18255         0      .00      .00      .00 *DB2 12
+ Pages Read via Seq Prefetch      14569         0      .00      .00      .00
+ Seq Prefetch I/O Operations        261         0      .00      .00      .00
+ Sequential Prefetch Requests       781         0      .00      .00      .00
+ Pages Read via List Prefetch       181         0      .00      .00      .00
+ List Prefetch I/O Operations        27         0      .00      .00      .00
+ List Prefetch Requests              36         0      .00      .00      .00
+ Pages Read via Dyn Prefetch      10447         0      .00      .00      .00
+ Dyn Prefetch I/O Operations        683         0      .00      .00      .00
+ Dyn Prefetch Requests           496260         0      .00      .00      .00
+ Prefetch Failed - No Buffer          0         0      .00      .00      .00
+ Prefetch Failed - No Engine          0         0      .00      .00      .00
+
```

```
+ Parallel Group Requests             6         0      .00      .00      .00
+ Prefetch I/O Streams Reduced        0         0      .00      .00      .00
+ Parallelism Downgraded              0         0      .00      .00      .00
+ Prefetch Quan Reduced to 1/2   337946         0      .00      .00      .00
+ Prefetch Quan Reduced to 1/4        0         0      .00      .00      .00
+ Pages Added to LPL                  0         0      .00      .00      .00
+ Length of SLRU=VPSEQT               0         0      .00      .00      .00
+ Pages Updated                  870402        11      .03     3.66      .00
+ Pages Written                   21848         0      .00      .00      .00
+ Page-in Required for Write I/O    109         0      .00      .00      .00
+ Write I/O Operations              893         0      .00      .00      .00
+ Immediate (Sync) Writes          1911         0      .00      .00      .00
+
```

```
+ Vert Defer Wrt Thresh Reached     203         0      .00      .00      .00
+ Deferred Write Thresh Reached       0         0      .00      .00      .00
+ Data Manager Thresh Reached         0         0      .00      .00      .00
+
+ Successful VPOOL Expand/Contr       0         0      .00      .00      .00
+ VPOOL or HPOOL Expand Failed        0         0      .00      .00      .00
+
+ Successful Dataset Opens          190         0      .00      .00      .00
+ DFHSM Recall                        0         0      .00      .00      .00
+ DFHSM Recall Timeouts               0         0      .00      .00      .00
+
+ Sort Merge Passes                   1         0      .00      .00      .00
+ Sort/Merge Workfile Requests        7         0      .00      .00      .00
+ Sort/Merge Workfile Req Denied      0         0      .00      .00      .00
+ Sort Merge Pass - Buff Short        0         0      .00      .00      .00
+ Workfile Prefetch Disabled          0         0      .00      .00      .00
+ Workfile Create Failed-No Buff      0         0      .00      .00      .00
+ Destructive Read Requests        2162         0      .00      .00      .00
+ Destructive Read Page Dequeue       1         0      .00      .00      .00
================================================================================
```

Highlighting

OMEGAMON XE for DB2 PE highlights some fields in this panel to draw your attention to their current status.

Table 26. Highlighted fields in Buffer Pool Detail panel		
Field	**Exception**	**Reason**
Number of Pages in Use	BMTH	The percentage of pages in use has reached the predetermined threshold.

Navigation

For additional information about

- buffer pool contents, select option **A-BUFFER POOL** at the top of the panel.
- pageset information about the selected buffer pool, select option **C-Buffer Pool Snapshot**. For more information, see the description of panel "Buffer Pool Snapshot Open Pagesets" on page 225.
- Near-term history activity, select option **H-HISTORICAL** at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
Shows the REALTIME to indicate that you are looking at the realtime version of this panel and not at the corresponding near-term history panel. The collection interval and the report interval are the same in this panel.

Start
The start time of the report interval currently displayed.

Report Interval
The time in the last cycle (for example, between two presses of the Enter key).

End
The end time of the current report interval is displayed.

Virtual Buffer Pool Size
The number of buffers that are allocated for an active virtual buffer pool.

VPOOL Frame Size (QDBPFRAM)
For the Frame Size attribute, you can specify the values 4K, 1M, or 2G.

This applies to DB2 11 and higher.

VPOOL Buffers Allocated
The number of virtual buffer pool pages that are allocated at the end of the interval.

Minimum VPOOL Size (QDBPVPMI)
The VPSIZEMIN attribute.

This applies to DB2 11 and higher.

VPOOL Buffer in Use
The number of virtual buffer pool pages that are used at the end of the interval. This value is a snapshot value of the current number of non-stealable buffers. A buffer is called non-stealable, if one of the following conditions apply:

- It has an outstanding GETPAGE. This means that someone is currently looking at this page.
- It is updated, however, it is not yet written to DASD.

Maximum VPOOL Size (QDBPVPMA)
The VPSIZEMAX attribute.

This applies to DB2 11 and higher.

VPOOL Buffers to be Del
The number of pages that can be deleted from an active virtual buffer pool as a result of pool contraction.

Auto Size
Determines whether Auto Size is used. You can specify Y (YES) or N (NO).

Use Count
The number of open tablespaces or indexspaces in this buffer pool.

Page Fix
Determines whether a page is fixed in real storage when it is first used. You can specify Y (YES) or N (NO).

VP Sequential Thresh
Sequential Steal threshold for the virtual buffer pool VPSEQT. The percentage of the virtual buffer pool that can be occupied by sequentially accessed pages. If set to zero, prefetch is disabled.

Deferred Write Thresh
Deferred Write threshold for the virtual buffer pool DWQT. Write operations are scheduled when the percentage of unavailable pages in the virtual buffer pool exceeds this threshold to decrease the unavailable pages to 10% below the threshold.

Vert Deferred Write Thresh
Vertical Deferred Write threshold for the virtual buffer pool VDWQT. The percentage of the buffer pool that might be occupied by updated pages from a single data set.

VP Parallel Seq Thresh
Parallel I/O sequential threshold VPPSEQT. This threshold determines how much of the virtual buffer pool might be used for parallel I/O operations. It is expressed as a percentage of VPSEQT. If set to zero, I/O parallelism is disabled.

Sysplex Parallel Thresh
Virtual buffer pool assisting parallel sequential threshold. This threshold determines how much of the virtual buffer pool might support parallel I/O operations from another DB2 in a data sharing group.

Getpages per Sync I/O
The ratio of Getpage requests to Read I/Os.

Pages Written per Write I/O
The ratio of pages written to physical I/Os.

Prefetch per I/O
The ratio of Prefetch requests to physical I/Os.

Pages Read per Prefetch
The ratio of pages read by Prefetch processing to total Prefetch requests.

Seq Prefetch per I/O
The ratio of pages read by Sequential Prefetch to Sequential Prefetch I/O.

Pages Read per Seq Prefetch
The ratio of pages read by Sequential Prefetch to Sequential Prefetch requests.

List Prefetch per I/O
The ratio of List Prefetch requests to List Prefetch I/Os.

Pages Read per List Prefetch
The ratio of pages read by List Prefetch to List Prefetch requests.

Dyn Prefetch per I/O
The ratio of Dynamic Prefetch request to Dynamic Prefetch I/Os.

Pages Read per Dyn Prefetch
The ratio of pages read by Dynamic Prefetch to Dynamic Prefetch request.

Max Concur Prefetch I/O
The highest number of concurrent prefetch I/O streams that were allocated to support I/O parallelism.

Workfile Maximum
The maximum number of work files that are allocated during sort/merge processing during the current statistics period.

BP Hit % - Random
The percentage of times that DB2 performed a Getpage operation with a random request and the page was already in the buffer pool. A DASD read was not required.

BP Hit % - Sequential
The percentage of times that DB2 performed a Getpage operation with a sequential request and the page was already in the buffer pool. A DASD read was not required.

Virtual Page Steal Method
Determines when and whether performance-critical objects in buffer pools are removed from buffer pools when the space is needed by other objects. Valid values:

LRU
"Least Recently Used" objects are removed first.

FIFO
Oldest objects are removed first (First-In-First-Out).

NONE
Objects are not removed from buffer pool (no page stealing). This setting provides the highest availability for business-critical objects.

Random Getpage Buffer Hit
The number of times that the random Getpage request has a buffer hit and the buffer is on the least-recently-used (SLRU) chain. DB2 11 and later. (Field name: QBSTRHS)

LWM Buffers on SLRU
The minimum number of buffers on the sequential least-recently-used (SLRU) chain in the last statistical period. This is the low-water mark (LWM) within an interval. DB2 11 and later. (Field name: QBSTSMIN)

HWM Buffers on SLRU
The maximum number of buffers on the sequential least-recently-used (SLRU) chain in the last statistical period,. This is the low water mark (LWM) within an interval. DB2 11 and later. (Field name: QBSTSMAX)

For each of the following fields, the following statistics values are provided:

TOTAL QUANTITY
Total quantity, which reflects the amount of activities since DB2 was started.

INTERVAL QUANTITY
Interval quantity, which reflects the amount of activities during the last cycle.

/SECOND
Rate per second during the last cycle. The number under /SECOND (in parentheses) is the number of seconds in the interval.

/THREAD
Rate per thread during the last cycle. The number under /THREAD (in parentheses) is the number of Create Threads during the interval.

/COMMIT
Rate per Commit during the last cycle. The number under /COMMIT (in parentheses) is the number of commit requests (including abort requests) during the interval.

Getpage Requests
The number of Getpage requests for the buffer pool.

Getpage Requests - Sequential
The number of Getpage requests issued by sequential access requestors.

Getpage Requests - Random
The number of Getpage requests issued by random access requestors.

Getpage Requests - Seq Ovfl
The number of sequential GETPAGE requests using overflowed buffers. DB2 12 and later.

Getpage Requests - Random Ovfl
The number of non-sequential GETPAGE requests using overflowed buffers. DB2 12 and later.

Getpage Failed - VPOOL Full
The number of Getpage failures due to unavailable buffers because the virtual buffer pool is full.

Getpage Failed - Cond Request
The number of conditional getpage requests that cannot be satisfied for this buffer pool. A conditional getpage is used with parallel I/O processing only.

Getpage Failed - Cond SeqReq
The number of conditional sequential getpage requests that failed because the page is not in the buffer pool.

This applies to DB2 9 or higher.

Sync Read I/O Operations
Synchronous read operations done by DB2.

Sync Read I/Os - Sequential
The number of synchronous Read I/O operations performed by sequential requests.

Sync Read I/Os - Random
The number of synchronous Read I/O operations performed by random requests.

Sync Read I/Os - Seq Ovfl
The number of synchronous Read I/O operations performed for sequential GETPAGE requests using overflowed buffers. DB2 12 and later.

Sync Read I/Os - Random Ovfl
The number of synchronous Read I/O operations performed for non-sequential GETPAGE requests using overflowed buffers. DB2 12 and later.

Pages Read via Seq Prefetch
The pages that are read as a result of sequential prefetch requests.

Seq Prefetch I/O Operations
The number of asynchronous read I/Os that are caused by sequential prefetch.

Sequential Prefetch Requests
Sequential prefetch requests for the buffer pool.

Pages Read via List Prefetch
The pages read as a result of list prefetch requests.

List Prefetch I/O Operations
The number of asynchronous read I/Os caused by list prefetch.

List Prefetch Requests
The List prefetch requests for the buffer pool.

Pages Read via Dyn Prefetch
The pages read as a result of dynamic prefetch requests. Dynamic prefetch is triggered because of sequential detection.

Dyn Prefetch I/O Operations
The number of asynchronous read I/Os caused by dynamic prefetch.

Dyn Prefetch Requests
The number of dynamic prefetch requests for the buffer pool.

Prefetch Failed - No Buffer
Failures of prefetch because the sequential prefetch threshold (SPTH) is reached.

Prefetch Failed - No Engine
Failures of prefetch because the maximum number of concurrent prefetches is reached. You cannot change this maximum value.

Parallel Group Requests
The number of requests made for processing queries in parallel.

Prefetch I/O Streams Reduced
The number of requested prefetch I/O streams that are denied because of a buffer pool shortage. This applies only for non-work file pagesets for queries that are processed in parallel.

Parallelism Downgraded
The number of times the requested number of buffers to allow a parallel group to run to the planned degree cannot be allocated because of a buffer pool shortage.

Prefetch Quan Reduced to 1/2
The number of times the sequential prefetch quantity is reduced from normal to one-half of normal. This is done to continue to allow execution concurrently with parallel I/O.

Prefetch Quan Reduced to 1/4
The number of times the sequential prefetch quantity is reduced from one-half to one-quarter of normal.

Pages Added to LPL
The number of times one or more pages are added to logical page lists (LPL). (Field name: QBSTLPL)

Length of SLRU=VPSEQT
The number of times when the length of the sequential least-recently-used (SLRU) chain equals the sequential steal threshold VPSEQT. DB11 and later. (Field name: QBSTHST)

Pages Updated
The number of updates to pages in the buffer pool.

Pages Written
The number of buffer pool pages written to DASD.

Page-in Required for Write I/O
The number of page-ins that are required for write I/O operations.

Write I/O Operations
The number of Write operations performed by media manager for both synchronous and asynchronous I/O.

Immediate (Sync) Writes
Immediate writes to DASD. This value is incremented when 97.5% of the buffer pool pages are used. In addition, DB2 might flag buffer pool pages for immediate write during checkpoint processing and when a database is stopped.

Consider the value of Data Manager Threshold Reached (DMTH) when interpreting this value. If DMTH is zero, this value is probably insignificant.

Vert Defer Wrt Threshold Reached
The number of times the vertical write threshold is hit.

Deferred Write Threshold Reached
The Deferred Write Threshold (DWTH) is reached. This occurs in the following situations:

- If DB2 uses 50% of the buffer pool.
- If a data set has updated 10% of the buffer pool pages or 64 pages. At this threshold, DB2 forces writes to free pool space.

Data Manager Threshold Reached
Data manager threshold (DMTH) is reached. This occurs when DB2 uses 95% of the buffer pool minimum value and begins to operate at the row level instead of the page level. When this occurs, CPU usage increases considerably.

Successful VPOOL Expand/Contract
The number of successful virtual pool expansions or contractions because of the ALTER BUFFERPOOL command.

VPOOL Expand Failed
The number of virtual buffer pool expansion failures.

Successful Dataset Opens
The number of data set open operations that are successful.

DFHSM Recall
Attempts to access data sets that are migrated by DFHSM.

DFHSM Recall Timeouts
Unsuccessful attempts to recall data sets because the timeout threshold (DSNZPARM RECALLD) is exceeded.

Sort Merge Passes
The number of merge passes for DB2 sort/merge processing.

Sort/Merge Workfile Requests
The number of work files requested during sort/merge processing.

Sort/Merge Workfile Requests Denied
The number of requests for work files that are denied during merge processing because of insufficient buffer resources.

Sort Merge Pass - Buff Short
The number of times that sort/merge cannot efficiently perform because of insufficient buffer resources. This field is incremented when the number of work files allowed is less than the number of work files requested.

Workfile Prefetch Disabled
The number of times a workfile prefetch is not scheduled because the prefetch quantity is zero.

Workfile Create Failed - No Buff
The number of times a work file is not created because of insufficient buffers (MVS/XA only).

Destructive Read Requests
The number of pages that are requested for destructive read processing.

Destructive Read Page Dequeue
The number of pages that are dequeued for destructive read processing.

Buffer Pool Snapshot Open Pagesets

This panel shows pageset information about specified buffer pools.

```
 _________________ ZBPSN    VTM     O2       V540.#P SN12 11/05/13 14:07:00   2
> Help PF1     Back PF3     Up PF7     Down PF8     Sort PF10     Zoom PF11
>
> A-BUFFER POOL    B-GROUP BUFFER POOL    *-BUFFER POOL SNAPSHOT    F-FILTER
================================================================================
>                      BUFFER POOL SNAPSHOT OPEN PAGESETS
>
 BPSN 8K0
+ <<< The following BP snapshot was collected on  11/05/13 at 14:07:00.   >>>
+
+ *
+ Pageset            Pageset     Use    Open  VP Pgs            VP Pgs   Grp
+ Name               Type        Count  DS    Current          Changed  Dep
+ -----------------  ----------  -----  ----  -------          -------  ---
+ DSNDB01.SPT01      TABLESPACE      2     1     4720                0   Y
+ DSNDB06.SYSDBASE   TABLESPACE      1     1     5152                2   Y
+ DSNDB06.SYSHIST    TABLESPACE      1     0        0                0   N
+ DSNDB06.SYSSTR     TABLESPACE      1     1        9                0   N
+ DSNDB06.SYSVIEWS   TABLESPACE      1     1      117                0   Y
+ DSNDB06.SYSXML     TABLESPACE      1     1        2                0   N
================================================================================
```

Navigation

For additional information about

- a particular pageset, move the cursor to the required pageset name line and press F11 (Zoom). For more information, see the “Buffer Pool Snapshot Datasets” on page 226 panel.
- other topics, use the PF keys.

Fields

Pageset Name
Name of open pagesets in the buffer pool. The pageset name consists of DBname.TSname for a tablespace, or DBname.ISname for an indexspace.

Pageset Type
Pageset type, which is either tablespace or indexspace.

Use Count
Number of applications currently accessing the pageset.

Open DS
Number of data sets open for the pageset.

VP Pgs Current
Number of pages currently in the virtual buffer pool for this data set.

VP Pgs Changed
Number of dirty pages currently in the virtual buffer pool for this data set.

GRP Dep
Indicates whether the object is group buffer pool dependent.

Buffer Pool Snapshot Datasets

This panel provides detailed information for each open data set in the buffer pool.

```
_________________ ZBPSD    VTM     O2       V540./I SE11 06/25/13 17:12:40   2
>  Help PF1           Back PF3               Up PF7              Down PF8
>
================================================================================
>                     BUFFER POOL SNAPSHOT DATASETS
>
 BPSD
+ BP: 0    Pageset Name: DSNDB01.SCT02     Type: TABLESPACE  Open Datasets:   1
+
+ Dataset Name: DBE1.DSNDBC.DSNDB01.SCT02.I0001.A001
+
+ VP Pages Current        =       10
+ VP Pages Maximum        =       22
+ VP Pages Changed        =        0     VP Pages Changed Maximum    =        6
+ Sync I/O Total Pages    =       78
+ Sync I/O Average Delay  =        1     Sync I/O Maximum Delay      =       37
+ Async I/O Average Delay =        0     Async I/O Maximum Delay     =       10
+ Async I/O Total Pages   =       68     Async I/O Total I/O Count   =       18
+ Group BP Dependent      =       No     Group Interest Level        =      N/A
+ Group BP Cache Level    =  Changed
================================================================================
```

Navigating

For additional information about other topics, use the PF keys.

Fields

BP
Buffer pool name.

Pageset Name
Name of the pageset. The pageset name comprises DBname.TSname for a tablespace, or DBname.ISname for an indexspace.

Type
Pageset type, either tablespace or indexspace.

Open Datasets
Number of data sets open for the pageset.

The following fields below are displayed for each open data set:

Dataset Name
The name of the data set associated with this pageset piece.

VP Pages Current
Number of pages currently in the virtual buffer pool for this data set.

VP Pages Maximum
Maximum number of pages concurrently in the virtual buffer pool for this data set - high-water mark since the last **DISPLAY BUFFERPOOL** command with the LSTATS option was issued.

VP Pages Changed
Number of dirty pages currently in the virtual buffer pool for this data set.

VP Pages Changed Maximum
Maximum number of dirty pages concurrently in the virtual buffer pool for this data set - high-water mark since the last **DISPLAY BUFFERPOOL** command with the LSTATS option was issued.

The following data set statistics are available only if there was activity for the data set since it was last displayed using the **DISPLAY BUFFERPOOL** command. These values match the data set statistics kept by DB2, which are incremented since the data set was last displayed using the **DISPLAY BUFFERPOOL** command. If all values are zero, N/A is displayed for these fields.

Sync I/O Total Pages
Total number of pages read or written synchronously for the data set.

Sync I/O Average Delay
Average synchronous I/O delay in milliseconds for pages in the data set.

Sync I/O Maximum Delay
Maximum synchronous I/O delay in milliseconds for pages in the data set.

Async I/O Average Delay
Average asynchronous I/O delay in milliseconds for pages in the data set.

Async I/O Maximum Delay
Maximum asynchronous I/O delay in milliseconds for pages in the data set.

Async I/O Total Pages
Total number of pages read or written asynchronously for the data set.

Async I/O Total I/O Count
Total number of asynchronous I/Os issued for the data set.

Group BP Dependent
Indicates whether the pageset or partition is dependent upon the group buffer pool from either

- active inter-DB2 read/write interest
- changed pages in the group buffer pool that have not yet been castout to DASD

This field applies only in a data sharing environment.

Group Interest Level
The highest interest level of all data sharing group members interested in a pageset or partition that is in the group buffer pool. This field applies only in a data sharing environment. Possible values:

R/O
Read-only interest

R/W
Read/write interest (higher)

Group BP Cache Level
Displays the default GBPCACHE option specified on CREATE TABLESPACE SQL statement. The default is CHANGED, which specifies that only updated pages are written to the group buffer pool. ALL specifies that pages are to be cached in the group buffer pool as they are read from DASD. This field applies only to a data sharing environment.

Group Buffer Pool Information

This panel provides information about group buffer pools that a DB2 member connected to.

This panel is only available in a data sharing environment.

```
_________________ ZGBPS    VTM     02       V540.#P SN12 11/05/13 14:08:11   2
> Help PF1     Back PF3     Up PF7     Down PF8     Sort PF10     Zoom PF11
> R.A.B
>
> A-BUFFER POOL             *-GROUP BUFFER POOL
================================================================================
>                        GROUP BUFFER POOL INFORMATION

 GBPS
+ *
+                                  Pages Not      Read/
+ Pool          Read      Read     Returned-      Write       Write       Pages
+ ID            Rate     Hit %     R/W Int %      Failed       Rate     Castout
+ --------    -------     -----     ---------    --------    -------    --------
+ GBP0         13.00      54.1          45.9           0      98.00       13717
+ GBP16K0        .00        .0            .0           0       2.66           8
+ GBP2           .00        .0            .0           0        .00           5
+ GBP3           .00      56.0          44.0           0        .00         381
+ GBP32K         .00        .0         100.0           0        .00         960
+ GBP8K0         .33        .0         100.0          34       5.33        8573
================================================================================
```

Navigation

For additional information about

- a group buffer pool, move the cursor to the buffer pool line and press F11 (Zoom). For more information, see the description of panel “Group Buffer Pool Detail” on page 229.
- buffer pools, enter A in the top line.
- other topics, use the PF keys.

Fields

Pool ID
The group buffer pool identifier.

Read Rate
The number of reads per second to the group buffer pool.

Read Hit %
The percentage of all Reads to the group buffer pool for which the needed data was found and returned to the member.

Pages Not Returned - R/W Int %
The percentage of all Reads to the group buffer pool where

- the data was not found in the group buffer pool and the member had to go to DASD to read the page, and

- other members had read/write interest in the pageset, so DB2 created a directory entry for this page if it did not already exist.

Read/Write Failed
The number of Read or Write requests to the group buffer pool that failed because of a lack of storage resources.

Write Rate
The number of Writes per second to the group buffer pool.

Pages Castout
The number of pages that this member has castout to DASD from the group buffer pool.

Group Buffer Pool Detail

This panel provides detailed information about the current activity in the specified DB2 group buffer pool or summarized information for all group buffer pools.

```
 _________________ ZGBP     VTM     O2       V540.#P SN12 11/05/13 14:08:43   2
> Help PF1               Back PF3              Up PF7           Down PF8
>
> A-BUFFER POOL    *-GROUP BUFFER POOL    C-BUFFER POOL SNAPSHOT   H-HISTORICAL
================================================================================
>                        GROUP BUFFER POOL DETAIL

 GBP   0
+ Collection Interval:  REALTIME                          Start:  11/05 14:08:11
+ Report Interval:      31 sec                              End:  11/05 14:08:43
+
+ Read Hit %              =        .0%
+
+                                  TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT
+                                QUANTITY  QUANTITY  (   31)  (    0)  (    0)
+                                --------  --------  -------  -------  -------
+ Reads - Cross-Invalidation:
+  Data Returned                    2231         0      .00      .00      .00
+  Data not in GBP-R/W Interest     1660         0      .00      .00      .00
+ Reads - Page Not Found:
+  Data Returned                      22         0      .00      .00      .00
+  Data not in GBP-R/W Interest      254         0      .00      .00      .00
+
+ Writes - Synchronous:
+  Changed Pages                   18745         0      .00      .00      .00
+  Clean Pages                         0         0      .00      .00      .00
+ Writes - Asynchronous:
+  Changed Pages                    2098         0      .00      .00      .00
+  Clean Pages                         0         0      .00      .00      .00
+ Write Failed - No Storage            0         0      .00      .00      .00
+
+ Pages Castout to DASD            13717         0      .00      .00      .00
+ GBP Castout Threshold Reached        0         0      .00      .00      .00
+ Castout Class Threshold Reached    287         0      .00      .00      .00
+ Other Requests                   21206         1      .03      .00      .00
================================================================================
```

Navigation

For additional information about:

- Buffer pool contents, select option **A-BUFFER POOL** at the top of the panel.
- Near-term history activity, select option **H-HISTORICAL** at the top of the panel.
- Other topics, use the PF keys.

Fields

If a group buffer pool is not currently in use by DB2, all fields are zero. OMEGAMON XE for DB2 PE displays accumulated counts again when DB2 is using the group buffer pool.

Collection Interval
Shows the REALTIME to indicate that you are looking at the realtime version of this panel and not at the corresponding near-term history panel. The collection interval and the report interval are the same in this panel.

Start
The start time of the report interval currently displayed.

Report Interval
The time in the last cycle (for example, between two presses of the Enter key).

End
The end time of the report interval currently displayed.

Read Hit %
The percentage of all Reads to the group buffer pool for which the needed data was found and returned to the member.

For each of the following fields, the following statistics values are provided:

TOTAL QUANTITY
Total quantity, which reflects the amount of activities since DB2 was started.

INTERVAL QUANTITY
Interval quantity, which reflects the amount of activities during the last cycle.

/SECOND
Rate per second during the last cycle. The number under /SECOND (in parentheses) is the number of seconds in the interval.

/THREAD
Rate per thread during the last cycle. The number under /THREAD (in parentheses) is the number of Create Threads during the interval.

/COMMIT
Rate per Commit during the last cycle. The number under /COMMIT (in parentheses) is the number of commit requests (including abort requests) during the interval.

Reads - Cross Invalidation: Data Returned
The number of reads to the group buffer pool required because the page in the member's buffer pool was invalidated, where the data was found and returned to the member.

Reads - Cross Invalidation: Data not in GBP-R/W Interest
The number of reads to the group buffer pool required because the page in the member's buffer pool was invalidated, where:

- The data was not found in the group buffer pool and the member had to go to DASD to read the page
- Other members had read/write interest in the pageset, so DB2 created a directory entry for this page if it did not already exist.

Reads - Page Not Found: Data Returned
The number of reads to the group buffer pool required because the page was not in the member's buffer pool where the data was found and returned to the member.

Reads - Page Not Found: Data not in GBP-R/W Interest
The number of reads to the group buffer pool required because the page was not in the member's buffer pool, where:

- The data was not found in the group buffer pool and the member had to go to DASD to read the page
- Other members had read/write interest in the pageset, so DB2 created a directory entry for this page if it did not already exist.

Writes - Synchronous: Changed Pages
The number of changed pages that are synchronously written to the group buffer pool. Pages can be forced out before the application commits if a buffer pool threshold is reached, or when P-lock negotiation forces the pages on the Vertical Deferred Write queue to be written to the group buffer pool.

Writes - Synchronous: Clean Pages
The number of clean pages that are synchronously written to the group buffer pool. DB2 writes clean pages for pagesets and partitions defined with GBPCACHE ALL.

Writes - Asynchronous: Changed Pages
The number of changed pages asynchronously written to the group buffer pool. Pages can be forced out before the application commits if a buffer pool threshold is reached, or when P-lock negotiation forces the pages on the Vertical Deferred Write queue to be written to the group buffer pool.

Writes - Asynchronous: Clean Pages
The number of clean pages asynchronously written to the group buffer pool. DB2 writes clean pages for pagesets and partitions defined with GBPCACHE ALL.

Write Failed - No Storage
The number of group buffer pool write requests that failed because of a shortage of coupling facility resources.

Pages Castout to DASD
The number of pages that this member has castout to DASD from the group buffer pool.

GBP Castout Threshold Reached
The number of times that castout was initiated because the group buffer pool castout threshold was reached.

Castout Class Threshold Reached
The number of times that castout was initiated because the castout class threshold was reached.

Other Requests
The number of other requests.

DB2 Log Manager Information

This panel shows information about the active logging and archiving activity of the DB2 log manager.

The panel shows current statistics about log read and write activity and read and write log allocations. The panel also provides information regarding where DB2 is in the checkpoint cycle.

```
 _________________ ZLOGM    VTM     O2       V540./C DB11 08/14/13 13:45:07   2
> Help PF1        Back PF3         Up PF7          Down PF8          Zoom PF11
> R.B
>
> H-HISTORICAL
================================================================================
>                           DB2 LOG MANAGER INFORMATION

 LOGM
+ Collection Interval:  REALTIME                        Start:  08/14 13:45:02
+ Report Interval:       4 sec                            End:  08/14 13:45:07
+
+ Logging Mode           =   SINGLE     Archiving Mode           =         DUAL
+ Number of Logs Defined =        3     Number of Logs Available =            2
+ Checkpoint Frequency   =   500000     Records Until Checkpoint =       499592
+ Input Buffer Size      =      60K     Output Buffer Size       =        4000K
+ Write Threshold        =       20
+ Current Log Record RBA = 00000000000C0254D4A2
+
+ Primary Active Log     = DSNB11.LOGCOPY1.DS01
+ Secondary Active Log   =
+
+                                  TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT
+                                QUANTITY  QUANTITY  (    4)  (    0)  (    0)
+                                --------  --------  -------  -------  -------
+ Reads from Output Buffers             0         0      .00      .00      .00
+ Reads from Active Log               357         0      .00      .00      .00
+ Reads from Archive Log                0         0      .00      .00      .00
+ Reads Delayed - Tape Contention       0         0      .00      .00      .00
+ Reads Delayed - No Tape Unit          0         0      .00      .00      .00
+ Look-Ahead TapeMounts Attempted       0         0      .00      .00      .00
+ Look-Ahead TapeMounts Performed       0         0      .00      .00      .00
+
+ Write NOWAIT Requests               496         0      .00      .00      .00
+ Write FORCE Requests                 54         0      .00      .00      .00
+ Write Delayed - No Buffer             0         0      .00      .00      .00
+
+ Write Active Log Buffers             87         0      .00      .00      .00
+ Active Log CIs Created               23         0      .00      .00      .00
+ Archive Log Read Allocations          0         0      .00      .00      .00
+ Archive Log Write Allocations         0         0      .00      .00      .00
+ Archive Log CIs Offloaded             0         0      .00      .00      .00
+ BSDS Access Requests                106         0      .00      .00      .00
+ Checkpoints                           0         0      .00      .00      .00
+ IFI Abends                            0         0      .00      .00      .00
+ IFI Unrecog Func                      0         0      .00      .00      .00
+ IFI Command Reqs                     15         0      .00      .00      .00
+ IFI READA Reqs                      325         0      .00      .00      .00
+ IFI READS Reqs                       33         3      .75      .00      .00
+ IFI WRITE Reqs                        0         0      .00      .00      .00
+ Data Capture Invoked                  0         0      .00      .00      .00
+ Data Capture READS                    0         0      .00      .00      .00
+ Data Capture Rec Returned             0         0      .00      .00      .00
+ Data Capture Row Returned             0         0      .00      .00      .00
+ Data Capture Desc Returned            0         0      .00      .00      .00
+ Data Capture Desc Performed           0         0      .00      .00      .00
+ Data Capture Table Returned           0         0      .00      .00      .00
+ Rollup (Threshold)                    0         0      .00      .00      .00
+ Rollup (Storage)                      0         0      .00      .00      .00
+ Rollup (Stallness)                    0         0      .00      .00      .00
+ Rollup (Non Qual)                     0         0      .00      .00      .00
================================================================================
```

Highlighting

OMEGAMON XE for DB2 PE highlights some fields in this panel to draw your attention to their current status:

Table 27. Highlighted fields in Log Manager Information panel

Field	Exception	Reason
Logs Available	LOGN	The number of log data sets available.

Table 27. Highlighted fields in Log Manager Information panel (continued)		
Field	**Exception**	**Reason**
Archive In Progress	ARCV	The archive log is waiting for a tape mount.

Navigation

For additional information about

- a particular log data set, move the cursor to the log data set name line and press F11 (Zoom). For more information, see the description of panel "DB2 Log Dataset Information" on page 235.
- Near-term history activity, select option **H-HISTORICAL** at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
Shows the REALTIME to indicate that you are looking at the realtime version of this panel and not at the corresponding near-term history panel. The collection interval and the report interval are the same in this panel.

Start
The start time of the report interval currently displayed.

Report Interval
The time in the last cycle (for example, between two presses of the Enter key).

End
The end time of the report interval currently displayed.

Logging Mode
The logging mode in use: DUAL or SINGLE. The logging mode is specified in the TWOACTV parameter of the DSNZPARM module.

Archiving Mode
The archiving mode: DUAL or SINGLE. The archiving mode is specified in the TWOARCH parameter of the DSNZPARM module.

Number of Logs Defined
The number of logs defined to DB2 at installation.

Number of Logs Available
The number of logs available that are not archived, that is, the number that are ready for use.

Checkpoint Frequency
The number of log records DB2 will write between checkpoints.

Records until Checkpoint
The number of log records to write until the next checkpoint.

Input Buffer Size
The size of the log buffer for reading. The buffer size is specified in the INBUFF parameter of the DSNZPARM module.

Output Buffer Size
The size of the log buffer for writing. The buffer size is specified in the OUTBUFF parameter of the DSNZPARM module.

Write Threshold
The number of 4K buffers that would normally be filled before a physical I/O is performed. This number is specified in the WRTHRSH parameter of the DSNZPARM module.

Current Log Record RBA
The relative byte address (RBA) of the record that was being logged at the end of the interval.

Primary Active Log
The data set name of the primary log.

Secondary Active Log
The data set name of the second copy of a dual logged log.

Archive in Progress
The data set name of the active archive log, if an archive is in progress.

For each of the following fields, the following statistics values are provided:

TOTAL QUANTITY
Total quantity, which reflects the amount of activities since DB2 was started.

INTERVAL QUANTITY
Interval quantity, which reflects the amount of activities during the last cycle.

/SECOND
Rate per second during the last cycle. The number under /SECOND (in parentheses) is the number of seconds in the interval.

/THREAD
Rate per thread during the last cycle. The number under /THREAD (in parentheses) is the number of Create Threads during the interval.

/COMMIT
Rate per Commit during the last cycle. The number under /COMMIT (in parentheses) is the number of commit requests (including abort requests) during the interval.

Reads from Output Buffers
The Reads that were satisfied from the output buffers.

Reads from Active Log
The Reads that were satisfied from the active log.

Reads from Archive Log
The Reads that were satisfied from the archive log.

Reads Delayed - Tape Contention
The number of reads delayed because a tape volume was already in use.

Reads Delayed - No Tape Unit
Number of archive log reads that were delayed because of unavailable tape units, or because the maximum amount of read parallelism is being used (not likely).

Look-Ahead Tape Mounts Attempted
Number of look-ahead tape mounts attempted.

Look-Ahead Tape Mounts Performed
Number of successful look-ahead tape mounts.

Write NOWAIT Requests
The times DB2 externalized log records asynchronously.

Write FORCE Requests
The times DB2 externalized log records synchronously.

Write Delayed - No Buffer
DB2 attempts to place log records in the output buffer when no log buffer could be found.

Write Active Log Buffers
Calls to the log write routine.

Active Log CIs Created
Active log control intervals created.

Archive Log Read Allocations
Archive read allocations, which reflect archive log open/close activity.

Archive Log Write Allocations
Archive write allocations, which reflect archive log open/close activity.

Archive Log CIs Offloaded
Number of active log control intervals offloaded to archive data sets.

BSDS Access Requests
Calls to the bootstrap data set access routine.

Checkpoints
The number of checkpoints DB2 takes since startup.

IFI Abends
The count of IFI abends.

IFI Unrecog Func
The count of IFI unrecognized functions.

IFI Command Reqs
The count of IFI command requests.

IFI READA Reqs
The count of IFI READA requests.

IFI READS Reqs
The count of IFI READS requests.

IFI WRITE Reqs
The count of IFI WRITE requests.

Data Capture Invoked
The number of log records retrieved for which data capture processing is invoked.

Data Capture READS
The number of data capture log reads for processing IFI requests for IFCID 0185.

Data Capture Rec Returned
The number of data capture log records returned.

Data Capture Row Returned
The number of data capture data rows returned.

Data Capture Desc Returned
The number of data capture data descriptions returned.

Data Capture Desc Performed
The number of data capture describes performed.

Data Capture Table Returned
The number of data capture tables returned.

Rollup (Threshold)
The number of rollup accounting records that are written because the rollup threshold is exceeded.

Rollup (Storage)
The number of rollup accounting records that are written because the rollup accounting storage threshold is exceeded.

Rollup (Stallness)
The number of rollup accounting records that are written because the staleness threshold is exceeded.

Rollup (Non Qual)
The number of records that failed to qualify for accounting rollup because all rollup key fields are NULL, or NULL values are not permitted.

DB2 Log Dataset Information

This panel shows information about the activity of the DB2 log manager in the area of active logging and archival.

The current statistics about log read and write activity and read and write log allocations are shown. In addition, information where DB2 is in the checkpoint cycle is shown.

```
_________________ ZLOGD    VTM     O2       V540.HZ SE11 06/24/13 19:12:39   2
> Help PF1                                                          Back PF3
================================================================================
>                          DB2 LOG DATASET INFORMATION

 LOGD
+  Primary Active Log Is    DBN1.SE11.LOGCOPY1.DS03
+  Log Percent Used   =                    0%
+  Log Dataset Size   =                73727999
+  Beginning Log RBA  =     00000000012BCDF2F000
+  Ending Log RBA     =     00000000012BD257EFFF
+  Current Log RBA    =     00000000012BCDF5AB68
+  Log Volser         =                  PMOSD1
+
+  Secondary Active Log Is  DBN1.SE11.LOGCOPY2.DS02
+  Log Percent Used   =                    0%
+  Log Dataset Size   =                73727999
+  Beginning Log RBA  =     00000000012BCDF2F000
+  Ending Log RBA     =     00000000012BD257EFFF
+  Current Log RBA    =     00000000012BCDF5AB68
+  Log Volser         =                  PMOSD2
+
+  Archive In Progress For  DBN1.SE11.ARCHLOG1.D13038.T1912386.A0018799
+  Percent Archive Complete                  38%
+  Begin RBA          =     00000000012BC98DF000
+  End RBA to Archive =     00000000012BCDF2EFFF
+  High RBA Archived  =     00000000012BCB3A4000
+  Output Device Type =             DASD
+  Output Volser      =                  PMOSM4
================================================================================
```

Highlighting

OMEGAMON XE for DB2 PE highlights some fields in this panel to draw your attention to their current status:

Table 28. Highlighted fields in Log Dataset Information panel

Field	Exception	Reason
Archive In Progress For	ARCV	The archive log is waiting for a tape mount.

Navigation

For additional information about other topics, use the PF keys.

Fields

Primary Active Log Is
The data set name of the active log.

Log Percent Used
The percentage of the active log that has been filled.

Log Dataset Size
The number of bytes in the log data set.

Beginning Log RBA
The beginning RBA address of the active log data set.

Ending Log RBA
The ending RBA address of the active log data set.

Current Log RBA
The current RBA address of the active log data set.

Log Volser
The volume serial(s) of the active log data set.

Secondary Active Log Is
The data set name of the secondary log.

Log Percent Used
The percentage of the secondary log that has been filled.

Log Dataset Size
The number of bytes in the secondary log data set.

Beginning Log RBA
The beginning RBA address of the secondary log data set.

Ending Log RBA
The ending RBA address of the secondary log data set.

Current Log RBA
The current RBA address of the secondary log data set.

Log Volser
The volume serial(s) of the secondary log data set.

Archive In Progress For
The data set name of the active archive log.

Begin RBA
The beginning RBA of the archive log.

End RBA to Archive
The last RBA to be archived.

High RBA Archived
The last RBA written to the archive log.

Percent Archive Complete
The amount of the archival that has completed.

Output Device Type
The device type of the archive log.

Output Volser
The volser(s) of the archive log.

EDM Pool Information

This panel provides information about the activity in the EDM pool and its performance.

Depending on the DB2 version that is used, the content of this panel is different.

The following panel shows the display of DB2 10:

```
 _________________ ZEDMP    VTM     O2       V540./C SZ91 07/30/13  2:04:12   2
>       Help PF1         Back PF3            Up PF7          Down PF8
> R.C
>
> A-EDM POOL SNAPSHOT                                          H-HISTORICAL
================================================================================
>                            EDM POOL INFORMATION
 EDMP
+ Collection Interval:  REALTIME                         Start:  07/30 02:04:09
+ Report Interval:       1 sec                             End:  07/30 02:04:12
+
+ Pool Usage    Pages  Pct              Percent of Total EDM Pool
+ ----------- ------- ---- |---10---20---30---40---50---60---70---80---90--100|
+ DBD Pool:              |                                                     |
+ Total         25600 100% |                                                     |
+  DBD Held       169   1% |>   .    .    .    .    .    .    .    .    .    .|
+   Stealable      83   0% |    .    .    .    .    .    .    .    .    .    .|
+  Free          25431  99% |-------------------------------------------------->|
+ In Use            86   0% |    .    .    .    .    .    .    .    .    .    .|
+
+ SKEL Pool:              |                                                     |
+ Total         25600 100% |                                                     |
+  SKCT Held        1   0% |    .    .    .    .    .    .    .    .    .    .|
+  SKPT Held       22   0% |    .    .    .    .    .    .    .    .    .    .|
+   Stealable      23   0% |    .    .    .    .    .    .    .    .    .    .|
+  Free          25577 100% |-------------------------------------------------->|
+ In Use             0   0% |    .    .    .    .    .    .    .    .    .    .|
+
+ STMT Pool:              |                                                     |
+ Total         28346 100% |                                                     |
+  STMT Held        4   0% |    .    .    .    .    .    .    .    .    .    .|
+  Free          28342 100% |-------------------------------------------------->|
+                           |---10---20---30---40---50---60---70---80---90--100|
+
+
+ xProc Request                                                             0
+ xProc Total Allocation                                                    0
+ Plan Below the Bar Allocation                                             0
+ Package Below the Bar Allocation                                          0
+ Plan Above the Bar Allocation                                         16896
+ Package Above the Bar Allocation                                          0
+
+
```

```
+
+                                  TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT
+                                QUANTITY  QUANTITY  (  342)  (    3)  (   28)
+                                --------  --------  -------  -------  -------
+
+ Database Descriptor (DBD) Reqs   4827113       108      .32    36.00     3.86
+ DBD Loads                              3         0      .00      .00      .00
+ % of DBD Loads from DASD             .00%      .00%     n/c      n/c      n/c
+
+ Cursor Table (CT) Reqs               149         3      .01     1.00      .11
+ CT Loads                              3         0      .00      .00      .00
+ % of CT Loads from DASD             2.01%      .00%     n/c      n/c      n/c
+
+ Package Table (PT) Reqs              825        28      .08     9.33     1.00
+ PT Loads                              32         0      .00      .00      .00
+ % of PT Loads from DASD             3.88%      .00%     n/c      n/c      n/c
+
+ Dynamic Sql (DSC) Reqs              1655        71      .21    23.67     2.54
+ DSC Loads                             17         0      .00      .00      .00
+ CATALOG Loads                         20         0      .00      .00      .00
+ % of CATALOG Loads into Pool        1.21%      .00%     n/c      n/c      n/c
+ % of DSC Loads into Pool            1.03%      .00%     n/c      n/c      n/c
+
+ PKG Search Not Found                   0         0      .00      .00      .00
+ PKG Search Not Found Insert            0         0      .00      .00      .00
+ PKG Search Not Found Delete            0         0      .00      .00      .00
+ Number of Statements                  36         0      .00      .00      .00
================================================================================
```

The following panel shows the display of DB2 11 and later versions:

```
 _________________ ZEDMP    VTM     O2       V540./C SE11 07/30/13  1:53:27   2
>       Help PF1         Back PF3            Up PF7          Down PF8
> R.C
>
> A-EDM POOL SNAPSHOT                                          H-HISTORICAL
================================================================================
>                            EDM POOL INFORMATION
 EDMP
+ Collection Interval:  REALTIME                         Start:  07/30 01:41:19
+ Report Interval:       4 sec                             End:  07/30 01:53:27
+
+ Pool Usage    Pages  Pct               Percent of Total EDM Pool
+ ----------- ------- ---- |---10---20---30---40---50---60---70---80---90--100|
+ DBD Pool:              |                                                     |
+ Total         25600 100% |                                                     |
+  DBD Held       108   0% |    .    .    .    .    .    .    .    .    .    .|
+   Stealable      13   0% |    .    .    .    .    .    .    .    .    .    .|
+  Free          25492 100% |-------------------------------------------------->|
+ In Use            95   0% |    .    .    .    .    .    .    .    .    .    .|
+
+ SKEL Pool:              |                                                     |
+ Total         25600 100% |                                                     |
+  SKCT Held        8   0% |    .    .    .    .    .    .    .    .    .    .|
+  SKPT Held      124   0% |    .    .    .    .    .    .    .    .    .    .|
+   Stealable     132   1% |>   .    .    .    .    .    .    .    .    .    .|
+  Free          25468  99% |-------------------------------------------------->|
+ In Use             0   0% |    .    .    .    .    .    .    .    .    .    .|
+
+ STMT Pool:              |                                                     |
+ Total         28346 100% |                                                     |
+  STMT Held    28338 100% |-------------------------------------------------->|
+  Free             8   0% |    .    .    .    .    .    .    .    .    .    .|
+                          |---10---20---30---40---50---60---70---80---90--100|
+
+
+ Shareable Static SQL Requests                                            15
+ Total Allocation for Shareable Static SQL                              23624
+ Plan Below the Bar Allocation                                              0
+ Package Below the Bar Allocation                                           0
+ Plan Above the Bar Allocation                                          21120
+ Package Above the Bar Allocation                                           0
+
+
```

```
+                                  TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT
+                                QUANTITY  QUANTITY  (    4)  (   11)  (   10)
+                                --------  --------  -------  -------  -------
+ Failures due to DBD Pool Full         0         0      .00      .00      .00 *DB2 11
+ Failures due to STMT Pool Full        0         0      .00      .00      .00 *DB2 11
+ Failures due to SKEL Pool Full        0         0      .00      .00      .00 *DB2 ll
+
+ Database Descriptor (DBD) Reqs       786        36     9.00     3.27     3.60
+ DBD Loads                              7         1      .25      .09      .10
+ % of DBD Loads from DASD             .89%     2.78%     n/c      n/c      n/c
+
+ Cursor Table (CT) Reqs               304         6     1.50      .55      .60
+ CT Loads                               6         0      .00      .00      .00
+ % of CT Loads from DASD             1.97%      .00%     n/c      n/c      n/c
+
+ Package Table (PT) Reqs              214         0      .00      .00      .00
+ PT Loads                              23         0      .00      .00      .00
+ % of PT Loads from DASD            10.75%      .00%     n/c      n/c      n/c
+
+ Dynamic Sql (DSC) Reqs              6024         0      .00      .00      .00
+ DSC Loads                           6011         0      .00      .00      .00
+ qisedspl-reqs                         75         0      .00      .00      .00
+ qisedspc-rows                          1         0      .00      .00      .00
+ qisedspm-text                          1         0      .00      .00      .00
+ CATALOG Loads                          1         0      .00      .00      .00 *DB2 12
+ % of CATALOG Loads into Pool         .00%      .00%     n/c      n/c      n/c *DB2 12
+ % of DSC Loads into Pool            99.78%      .00%     n/c      n/c
n/c
+ PKG Search Not Found                   0         0      .00      .00      .00
+ PKG Search Not Found Insert            0         0      .00      .00      .00
+ PKG Search Not Found Delete            0         0      .00      .00      .00
+ Number of Statements                2583         0      .00      .00      .00
================================================================================
```

Highlighting

OMEGAMON XE for DB2 PE highlights some fields in this panel to draw your attention to their current status:

Table 29. Highlighted fields in EDM Pool Information panel

Field	Exception	Reason
Pages In Use	EDMU	The utilization of the EDM pool has reached or exceeded its threshold.
Pct In Use	EDMU	The utilization of the EDM pool has reached or exceeded its threshold.

Navigation

For additional information about

- the contents of the EDM pool, select option **A-EDM Pool Snapshot**. For more information, see the description of panel "EDM Pool Snapshot Summary" on page 243.
- the corresponding near-term history display, enter H on the top line and press Enter.
- other topics, use the PF keys.

Fields

Collection Interval
In this field, always REALTIME is displayed to indicate that you are looking at the realtime version of this panel instead of the corresponding near-term history panel. On the EDM Pool Information panel, the collection interval and the report interval are the same.

Start
The start time of the report interval that is currently displayed.

Report Interval
The amount of time in the last cycle, for example, the time between two presses of the Enter key.

End
The end time of the report interval that is currently displayed.

Pool Usage
The following types of EDM pools are available:

- EDM Database Descriptor (DBD) Pool
- EDM Statement (STMT) Pool
- EDM Skeleton (SKEL) Pool

For the above pool types, the following information is displayed. It is based on a snapshot of the data that is taken at the end of the report interval.

Pages
The number of pages that is dedicated to a particular type of pool usage.

PCT
The percentage of the EDM pool dedicated to that type of usage.

Total
The total number of pages in this type of type of EDM pool. For DB2 12 the Total Pages is based on DSNZPARM configured Maximum.

Held
The number of pages held in this type of type of EDM pool.

CT Held
Pages held in RDS pool for the cursor tables.

This applies only to DB2 9, below and above the bar usage.

PT Held
Pages held in RDS pool for the package tables.

This applies only to DB2 9, below and above the bar usage.

SKCT Held
Pages held in SKEL pool for skeleton cursor tables.

DBD Held
Pages held in DBD pool.

STMT Held
Pages held in STMT pool.

Stealable
The total number of pages that can be reused.

Free
The number of pages currently not used by any object in this type of EDM pool.

In Use
The number of pages that are used in this type of EDM pool.

This applies only to DBD and SKEL pools.

The percentage of DBD In Use is calculated like this:

```
((In Use - Stealable/Reusable)/Total)*100
```

The percentage of SKEL in Use is calculated like this:

```
((SKCTs + SKPTs) - Stealable/Reusable)/Total)*100
```

xProc Request (QISEKSPG)
The total number of requests for PROCS.

This applies to DB2 10.

xProc Total Allocation (QISEKSPA)
The total number of pages that are allocated for xPROCS.

This applies to DB2 10.

Shareable Static SQL Requests (QISEKSPG)
The number of shareable static SQL statement requests.

This applies to DB2 11 or higher.

Total Allocation Shareable Static SQL (QISEKSPA8)
The total storage that is allocated to shareable static SQL statements.

This applies to DB2 11 or higher.

SKEL Reusable (QISEKLRU)
The total number of SKPT and SKCT pages that can be reused.

This applies to DB2 10 or higher.

DBD Reusable (QISEDLRU)
The total number of DBD pages that can be reused.

This applies to DB2 10 or higher.

Plan Below the Bar Allocation (QISESQCB)
The amount of storage below the bar that is allocated for plans.

This applies to DB2 10 or higher.

Package Below the Bar Allocation (QISESQKB)
The amount of storage below the bar that is allocated for packages.

This applies to DB2 10 or higher.

Plan Above the Bar Allocation (QISESQCA)
The amount of storage above the bar that is allocated for plans.

This applies to DB2 10 or higher.

Package Above the Bar Allocation (QISESQKA)
The amount of storage above the bar that is allocated for packages.

This applies to DB2 10 or higher.

For each of the following fields, the following statistics are provided:

TOTAL QUANTITY
The amount of activities that occurred since DB2 is started.

INTERVAL QUANTITY
The amount of activities that occur during the interval.

/SECOND
Rate per second. The number under /SECOND (in parentheses) is the number of seconds in the interval.

/THREAD
Rate per thread. The number under /THREAD (in parentheses) is the number of Create Threads during the interval.

/COMMIT
Rate per Commit. The number under /COMMIT (in parentheses) is the number of Commit requests (including abort requests) during the interval.

Failures due to DBD Pool Full
Failures that occurred because the DBD pool is full. DB2 10 and DB2 11 only.

Failures due to STMT Pool Full
Failures that occurred because the STMT pool is full. DB2 10 and DB2 11 only.

Failures due to SKEL Pool Full
Failures that occurred because the SKELpool is full. DB2 10 and DB2 11 only.

Database Descriptor (DBD) Reqs
Requests for database descriptors.

DBD Loads
Database descriptors that have to be loaded from DASD.

% of DBD Loads from DASD
The percentage of DBD requests that result in DT loads from DASD.

This value should be kept low. 20% or lower is considered acceptable.

Cursor Table (CT) Reqs
Requests for cursor tables.

CT Loads
Cursor tables that have to be loaded from DASD.

% of CT Loads from DASD
The percentage of CT requests that resulted in CT loads from DASD.

This value should be kept low. 20% or lower is considered acceptable.

Package Table (PT) Reqs
Requests for package tables.

PT Loads
Package tables that had to be loaded from DASD.

% of PT Loads from DASD
The percentage of PT requests that result in PT loads from DASD.

This value should be kept low. 20% or lower is considered acceptable.

Dynamic SQL (DSC) Reqs
Requests to cache dynamic SQL.

DSC Loads
Dynamic SQL caches that had to be loaded from DASD.

CATALOG Loads
Dynamic SQL cache statements that had to be loaded from CATALOG. DB2 12 and later. (Field name: QISEDPSF)

% of CATALOG Loads into Pool

The percentage of dynamic SQL cache requests that resulted in CATALOG loads into the EDMpool. The higher the value, the more stabilized queries from catalog are used to avoid full prepare. Formula for calculation: QISEDPSF/QISEDSG. DB2 12 and later.

% of DSC Loads into pool
The percentage of dynamic SQL cache requests that result in DSC loads into the EDM pool.

This value should be kept low. 40% or lower is considered acceptable.

Number of Statements
The number of statements in the EDM pool.

EDM Pool Snapshot Summary

This panel provides information about the contents of the EDM pool.

This information is summarized into the following categories:

- Database descriptors (DBDs)
- Cursor tables (CTs)
- Package tables (PTs)
- Skeleton cursor tables (SKCTs)
- Authorization caching (CACHE)
- Skeleton package tables (SKPTs)
- Dynamic SQL caching (SQL CACHE)
- Static SQL caching (SSC)
- Free storage (FREE).

The following panel applies to version 10 and version 11 of OMEGAMON for Db2 PE.

```
_____________ ZEDSN    VTM     O2       V540./C SE12 02/07/14 16:32:38   2
>  Help PF1                    Back PF3                              Zoom PF11
>  R.C.A
================================================================================
>                          EDM POOL SNAPSHOT SUMMARY
>
-EDSN
+ <<< The following EDM snapshot was collected on 02/07/14 at 16:32:38.   >>>
+
+ EDM              % of     Pages        Count of     Avg Pages     Max Pages
+ Storage Type     Pool     Alloc        Entries      Entry         Entry
+ ------------     ------   ---------    --------     ---------     ---------
+ DBDs               1.6%       95.0          14           6.7           8.0
+ FREEDBD           98.4%     5755.0           1        5755.0        5755.0
+
+ CACHE               .1%        3.0           3           1.0           1.0
+ SKCTs               .0%        1.0           1           1.0           1.0
+ SKPTs              1.3%       33.0           5           6.6          22.0
+ FREESKEL          98.6%     2523.0           1        2523.0        2523.0
+
+ SQL CACHE           .0%        4.0           1           4.0           N/A
+ Static SQL Cache    N/A       20.0          13           1.5           N/A
================================================================================
```

Navigation

For additional information about

- a particular EDM pool, move the cursor to the required line and press F11 (Zoom).
- other topics, use the PF keys.

Fields

Each field reflects the data that was available when collection was executed. OMEGAMON XE for DB2 PE collects data and refreshes the panel each time you navigate to the panel and each time you reinitiate collection by entering a hyphen (-) to the left of the EDSN command.

EDM Storage Type
A type of EDM storage. Possible values:

DBDs
Database descriptors

FREEDBD
Free database descriptors.

CACHE
Authorization cache storage

SKCTs
Skeleton cursor tables

SKPTs
Skeleton package tables

Static SQL Cache
Static SQL cache storage

EDM Snapshot Database Descriptors

This panel provides information about the database descriptors (DBDs) that are using some portion of the EDM pool.

One line of output is produced for each DBD that was residing in the pool when the displayed data was collected.

```
_________________ ZEDSD    VTM     O2       V540.#P SN12 11/05/13 14:10:09   2
>  Help PF1        Back PF3         Up PF7         Down PF8         Sort PF10
>
================================================================================
>                       EDM SNAPSHOT DATABASE DESCRIPTORS
>
 EDSD
+                    *
+                    DBD Name       Pages Alloc       DBD Size
+                    --------       -----------       --------
+                    DB2PM                   53         214004
+                    DMSYSWLD                 6          24218
+                    DSNDB06                 60         242270
+                    DSNRLST                  1           4028
+                    DSN32037                 1           4012
+                    WRKSN12                  1           4028
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

Each field reflects the data that was available when collection was executed. OMEGAMON XE for DB2 PE collects data and refreshes the panel each time you navigate to the panel.

DBD Name
The name of a DBD that resided in the EDM pool when the displayed data was collected.

Pages Alloc
The number of pages allocated for the DBD.

DBD Size
The actual size (in bytes) of the DBD.

EDM Snapshot Cursor Tables

This panel provides information about the cursor tables (CTs) that are using some portion of the EDM pool.

One line of output is produced for each CT that was residing in the pool when the displayed data was collected.

```
_________________ ZEDSC    VTM     O2       V540.#P SN12 11/05/13 14:10:40   2
>  Help PF1        Back PF3         Up PF7         Down PF8         Sort PF10
>
================================================================================
>                         EDM SNAPSHOT CURSOR TABLES
>
 EDSC
+ *
+ Planname   Connid     Corrid         Authid      Pages Alloc   Bytes Used
+ --------   --------   ------------   --------    -----------   ----------
+ ADB        TSO        MIS            MIS                   1         3560
+ DSNESPCS   TSO        MIS            MIS                   1         3584
+ KO2PLAN    RRSAF      OMEGAMON       OMPEUSER              1         3696
+ KO2PLAN    RRSAF                     OMPEUSER              1         3696
+ KO2PLAN    RRSAF                     OMPEUSER              1         3696
+ KO2PLAN    RRSAF                     OMPEUSER              1         3696
+ KO2PLAN    RRSAF                     OMPEUSER              1         3696
+ KO2PLAN    RRSAF                     OMPEUSER              1         3696
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

Each field reflects the data that was available when collection was executed. OMEGAMON XE for DB2 PE collects data and refreshes the panel each time you navigate to the panel.

Planname
The name of a plan that owns a CT that resides in the EDM pool.

Connid
The connection ID of a thread that owns a CT.

Corrid
The correlation ID of a thread that owns a CT.

Authid
The authorization ID of a thread that owns a CT.

Pages Alloc
The number of CT pages allocated for the thread.

Bytes Used
The number of bytes actually in use by the CTs that are owned by the thread.

EDM Snapshot Package Table Summary

This panel provides summary information for package tables (PTs) that are using some portion of the EDM pool.

One line of output is produced for each active thread located that is using PT storage.

To sort output by display column move the cursor under the display column headings you want to sort and press the sort key (PF10).

```
_________________ ZEDSP    VTM     O2       V540.#P SN12 11/05/13 14:11:17   2
>  Help PF1     Back PF3     Up PF7     Down PF8     Sort PF10     Zoom PF11
>
================================================================================
>                       EDM SNAPSHOT PACKAGE TABLE SUMMARY
>
 EDSP
+ *
+                                 Package  Pages  Avg Pages  Max Pages  Bytes
+ Planname Connid   Corrid       Count    Alloc  Package    Package    Used
+ -------- -------- ------------ -------  -----  ---------  ---------  --------
+ DSNESPCS TSO      MIS                1      1        1.0          1      4044
================================================================================
```

Navigation

For additional information about

- package tables in use by the thread, move the cursor to the line you want and press F11 (Zoom).
- other topics, use the PF keys.

Fields

Each field reflects the data that was available when collection was executed. OMEGAMON XE for DB2 PE collects data and refreshes the panel each time you navigate to the panel.

Planname
The thread planname that owns package table storage within the EDM pool.

Connid
The thread connection identifier that owns package table storage within the EDM pool.

Corrid
The thread correlation identifier that owns package table storage within the EDM pool.

Package Count
The number of package tables in use by the thread at time of collection.

Pages Alloc
The number of EDM pages allocated for package tables in use by the thread.

Avg Pages Package
The average number of EDM pages used by a single package table in use by the thread.

Max Pages Package
The maximum number of EDM pages used by a single package table in use by the thread.

Bytes Used
The number of bytes actually used within the EDM pages allocated for package tables in use by the thread.

EDM Snapshot Package Table Detail

This panel provides detailed information for package tables (PTs) that are used by an active thread. For each package table, one line of output is produced.

To sort the output by display column, move the cursor under the heading of the display column of your choice and press the sort key (PF10).

```
_____________ ZEDP2    VTM     O2       V540.#P SN12 11/05/13 14:11:37   2
>  Help PF1        Back PF3         Up PF7         Down PF8         Sort PF10
>
================================================================================
>                     EDM SNAPSHOT PACKAGE TABLE DETAIL
>
 EDP2
+
+   Planname=DSNESPCS  Connid=TSO       Corrid=MIS           Authid=MIS
+
+   *
+   Collection ID          Package ID            Pages Alloc     Bytes Used
+   ------------------     ------------------    -----------     ----------
+   DSNESM68               DSNESPCS                        1           4044
================================================================================
```

Fields

Each field reflects the data that is available when the collection is started. Each time you are navigating to the panel from the EDM Snapshot Summary display, data is collected by OMEGAMON for Db2 PE and PM and the panel is refreshed.

Planname
The plan name of the thread that is using the package tables.

Connid
The connection ID of the thread that is using the package tables.

Corrid
The correlation ID of the thread that is using the package tables.

Authid
The authentication ID of the thread that is using the package tables.

Collection ID
The collection identifier of the package table that is specified during the bind of the plan.

Package ID
The identifier of the package table that is specified during the bind of the plan.

Pages Alloc
The number of EDM pages that is allocated for the package table.

Bytes used
The number of bytes that is actually used within the EDM pages that are allocated for the package table.

EDM Snapshot Skeleton Cursor Tables

This panel provides information about the skeleton cursor tables (SKCTs) that are using some portion of the EDM pool.

One line of output is produced for each SKCT that was residing in the pool when the displayed data was collected.

```
_________________ ZEDSS    VTM     O2       V540.#P SN12 11/05/13 14:15:25   2
>  Help PF1        Back PF3         Up PF7         Down PF8         Sort PF10
>
================================================================================
>                     EDM SNAPSHOT SKELETON CURSOR TABLES
>
 EDSS
+                 *
+                 Planname       Pages Alloc       Bytes Used
+                 --------       -----------       ----------
+                 ADB                      1             3096
+                 DB2PM                    1             3096
+                 DSNESPCS                 1             3096
+                 DSNESPRR                 1             3096
+                 DSNTIA91                 2             7688
+                 KO2PLAN                  4            14040
+                 MISPOLY                  2             6640
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

Each field reflects the data that was available when collection was executed. OMEGAMON XE for DB2 PE collects data and refreshes the panel each time you navigate to the panel.

Planname
The name of a plan that owns an SKCT that resides in the EDM pool.

Pages Alloc
The number of SKCT pages that are allocated for the plan.

Bytes Used
The number of bytes actually in use by the SKCT that is owned by the plan.

EDM Snapshot Authorization Cache Storage

This panel provides information about DB2 authorization cache storage residing in the EDM pool.

One line of output is produced for each planname which has authorization cache storage allocated at the time the display data was collected. DB2 uses authorization cache storage to cache frequently used authorization identifiers, thus enabling authorization processing to be bypassed. As a result, processing costs associated with signon processing can be minimized. The size of cache storage might be specified when a plan is bound.

To sort output by display column move the cursor under the display column heading you want to sort and press the sort key (PF10).

```
_________________ ZEDCH    VTM     O2       V540.#P SN12 11/05/13 14:16:08   2
>  Help PF1        Back PF3         Up PF7         Down PF8         Sort PF10
>
================================================================================
>                  EDM SNAPSHOT AUTHORIZATION CACHE STORAGE
 EDCH
+
+ Total Cache Bytes Allocated  =    24576     Total Cache Bytes Used =     204
+ Total Number of Plans Cached =        8     Percent of Cache Used  =      .8%
+
+                   *
+                   Planname      Cache Size       % Used
+                   --------      ----------       ------
+                   ADB                 3073         1.1%
+                   DB2PM               3073         1.1%
+                   DSNESPCS            3073         1.1%
+                   DSNESPRR            3073         1.1%
+                   DSNREXX             3073          .0%
+                   DSNTIA91            3073         1.1%
+                   KO2PLAN             3073         1.1%
+                   MISPOLY             3073          .0%
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

Each field reflects the data that was available when collection was executed. OMEGAMON collects data and refreshes the panel each time you navigate to the panel.

Total Cache Pages Allocated
The total number of cache pages allocated in the EDM pool.

Total Cache Pages Used
The total number of cache pages that contain authorization data enabling authorization to be bypassed.

Total Number of Plans Cached
The total number of plans that have cache storage allocated.

Percent of Cache Used
The percentage of total cache storage containing authorization ID information.

Planname
The planname that has cache storage allocated in the EDM pool.

Cache Size
The number of EDM bytes allocated for cache storage for the plan.

% Used
The percentage of cache storage for the plan in use that contains authorization ID information.

EDM Snapshot Skeleton Package Table Summary

This panel provides information about the skeleton package tables (SKPTs that are using some portion of the EDM pool).

One line of output is produced for each SKPT collection identifier located in the pool when the display data was collected.

To sort output by display column move the cursor under the display column heading you want to sort and press the sort key (PF10).

```
_________________ ZEDST    VTM     O2       V540./I SE11 06/13/13 15:10:33   2
>  Help PF1     Back PF3     Up PF7     Down PF8     Sort PF10     Zoom PF11
>
================================================================================
>                 EDM SNAPSHOT SKELETON PACKAGE TABLE SUMMARY
>
 EDST
+ *
+                        Package    Pages    Avg Pages    Max Pages   Bytes
+ Collection ID          Count      Alloc    Package      Package     Used
+ ------------------     -------    -----    ---------    ---------   ---------
+ ADBL                         2        5          2.5            4       15256
+ DSNESPCS                     1        2          2.0            2        4280
+ DSNTEP2                      1        5          5.0            5       17424
+ DSNTIA11                     1        2          2.0            2        4280
+ DSNTIAP                      1        4          4.0            4       13744
+ HONG                         2       15          7.5            8       53148
+ HONGRSP2                     1        4          4.0            4       11352
+ HONGRSP3                     1       10         10.0           10       29500
+ KO2OM520                     3       34         11.3           22      104892
+ NULLID                       4       84         21.0           27      328768
================================================================================
```

Navigation

For additional information about

- detailed skeleton package table information, move the cursor to the line you want and press F11 (Zoom).
- other topics, use the PF keys.

Fields

Each field reflects the data that was available when collection was executed. OMEGAMON XE for DB2 PE collects data and refreshes the panel each time you navigate to the panel.

Collection ID
The collection identifier located in the pool. This value was specified when the package tables were bound.

Package Count
The number of skeleton package tables located in the pool containing the collection identifier.

Pages Alloc
The total number of EDM pool pages allocated for skeleton package tables containing the collection identifier.

Avg Pages Package
The average number of EDM pages per skeleton package table for the collection identifier.

Max Pages Package
The size of the largest skeleton package table in the EDM pool for the collection identifier.

Bytes Used
The number of bytes actually in use by skeleton package table information within the EDM pool pages allocated for the collection identifier.

EDM Snapshot Skeleton Package Table Detail

This panel provides detailed information for skeleton package tables (SKPTs) that are owned by a single collection identifier that is using some portion of the EDM pool. For each skeleton package table, one line of output is produced.

To sort the output by display column, move the cursor under the heading of the display column of your choice and press the sort key (PF10).

```
_____________ ZEDT2    VTM     O2       V540.#P SN12 11/05/13 14:17:57   2
>  Help PF1        Back PF3        Up PF7         Down PF8         Sort PF10
>
================================================================================
>                 EDM SNAPSHOT SKELETON PACKAGE TABLE DETAIL
>
 EDT2
+            Collection ID = DMSYSWLD
+
+            *
+            Package ID              Pages Alloc      Bytes Used
+            ------------------      -----------      ----------
+            DPTADD                           14           47128
+            DPTANO                            4           14996
+            DPTDEL                           14           42780
+            DPTMGR                           12           35940
+            DPTSEL                           13           37228
+            DPTUPD                           14           44524
+            DPTUPR                           17           54872
+            EMPADD                           32           99776
+            EMPANO                            4           14996
+            EMPQRY                           32           96040
+            EMPSEL                           12           34012
+            EMPUPD                           13           40760
+            JBSSEL                           19           61732
+            LCNSEL                           10           27608
+            PRJADD                           43          137328
+            PRJANO                            4           14996
+            PRJSEL                           12           33148
+            PRJUPD                           10           30260
+            SFNSEL                           20           66336
+            WLDJEMP1                          5           12728
+            WLDJEMP3                          7           20776
================================================================================
```

Fields

Each field reflects the data that is available when the collection is started. Each time you are navigating to the EDM Snapshot Skeleton Package Table Summary display, data is collected by OMEGAMON for Db2 PE and PM and the panel is refreshed.

Collection ID
The identifier of the collection that owns the skeleton package tables that are located in the pool.

Package ID
The identifier of the skeleton package table.

Pages Alloc
The total number of EDM pool pages that are allocated for the skeleton package table.

Bytes Used
The number of bytes that is actually used by the skeleton package table information within the EDM pool pages that are allocated for the skeleton package table.

Dynamic SQL Cache by Authid

This panel provides information about the dynamic SQL cache by Authid. You can also look at the dynamic SQL cache by end user ID, transaction ID, or by workstation name.

With this panel, you can identify problem statements in the dynamic SQL cache.

One line of output is produced for each authorization identifier (Auth ID) that is located in the cache when the displayed data is collected.

To sort the output by column, move the cursor under a column heading and press the sort key (PF10).

```
 _________________ ZEDDS    VTM     O2       V540./I SE11 06/13/13 15:11:44   2
>  Help PF1    Back PF3     Up PF7     Down PF8     Sort PF10     Zoom PF11
>
> *-BY AUTHID   B-ALL STMTS   C-BY TXID   D-BY WSNM   E-BY EUID
================================================================================
>             Dynamic SQL Cache Statistics by Authid
>
 EDDS
+ *
+ Authorization id   Entries CPU Time     Elasped Time Wait Time    GetPages
+ ------------------ ------- ------------ ------------ ------------ --------
+ HONG                    14 01-18:08     03-01:35     00:00:01.759 2989115K
+ HONG1                   14 00:00:15.384 00:00:23.059 00:00:00.013    22068
+ TAM                      1 00:00:18.860 00:00:20.398 00:00:00.037    48078
================================================================================
```

Navigation

For additional information about

- detailed dynamic SQL cache information for an authorization ID, move the cursor to the required line and press F11 (Zoom).
- other topics, use the PF keys.

Fields

Each field reflects the data that was available when collection was executed. OMEGAMON XE for DB2 PE collects data and refreshes the panel each time you navigate to the panel.

Authorization ID
The current SQLID of the user who did the initial PREPARE.

Entries
The number of dynamic SQL statements that are cached for each authorization ID.

CPU Time
The accumulated CPU time of all statements that are associated with the authorization ID. This time includes CPU that is consumed on an IBM specialty engine for all statements associated with this authorization ID.

Elapsed Time
The accumulated elapsed time that is used for all statements that are associated with this authorization ID.

Wait Time
The accumulated wait time that is used for all statements that are associated with the authorization ID including the following items:

Wait for Synch I/O (QW0316W1)
Wait for Lock/Latch (QW0316W2)
Wait Synch Exec Switch (QW0316W3)
Wait for Global Locks (QW0316W4)
Wait Other Thread Read (QW0316W5)
Wait Other Thread Write (QW0316W6)
Wait for Latch Req (QW0316W7)
Wait Time Page Latch (QW0316W8)
Wait for Drain Lock (QW0316W9)
Wait for Drain/Claim (QW0316WA)
Wait for Log Writer (QW0316WB)
Wait global child L-Locks (QW0316WC)
Wait global other L-Locks (QW0316WD)
Wait global P/P P-Locks (QW0316WE)

Wait global page P-Locks (QW0316WF)
Wait global other P-Locks (QW0316WG)
Wait for PQS (QW0316_PQS_WAIT)
Wait for PIPE (QW0316_PIPE_WAIT)

GetPages
The accumulated GET PAGES for all statements that are associated with the authorization ID.

Dynamic SQL Cache by Transaction ID

This panel provides information about the dynamic SQL cache by transaction ID. You can also look at the dynamic SQL cache by authid, end user ID, or workstation name.

With this panel, you can identify problem statements in the dynamic SQL cache.

One line of output is produced for each transaction identifier that owns the SQL cache storage when the displayed data is collected.

To sort output by display column, move the cursor under the column heading you want and press the sort key (PF10).

```
 _________________ ZEDDX    VTM     O2       V540./I SE11 05/05/13  4:06:00   2
>  Help PF1    Back PF3     Up PF7     Down PF8     Sort PF10     Zoom PF11
>
> A-BY AUTHID   B-ALL STMTS   *-BY TXID   D-BY WSNM   E-BY EUID
================================================================================
>         Dynamic SQL Cache Statistics by Transaction ID
>
 EDDX
+ *
+ Transaction id     Entries CPU Time     Elasped Time Wait Time    GetPages
+ ------------------ ------- ------------ ------------ ------------ --------
+ db2jcc_application       1 00:00:53.401 00:00:54.933 00:00:00.001  1186932
+ myApplicationInfor       1 00:00:17.612 00:00:18.155 00:00:00.000   395644
+ HONG                     4 00:00:00.000 00:00:00.001 00:00:00.000        6
+ HONGFE11              2571 00:00:00.145 00:00:00.150 00:00:00.000     5142
+ HONGSE10                 1 00:00:00.000 00:00:00.002 00:00:00.000        6
+ HONGSE11                 1 00:00:00.000 00:00:00.000 00:00:00.000        6
+ HONGSE12                 1 00:00:00.000 00:00:00.055 00:00:00.010        7
+ HONGSE13                 1 00:00:00.000 00:00:00.055 00:00:00.054        5
+ HONG1                    2 00:00:00.004 00:00:00.037 00:00:00.013       19
================================================================================
```

Navigation

For additional information about

- detailed dynamic SQL cache information for an transaction ID, move the cursor to the line you want and press F11 (Zoom).
- other topics, use the PF keys.

Fields

Transaction id
The transaction ID that is used to execute the dynamic SQL statement. Only the first 18-bytes of the transaction ID are displayed.

Entries
The number of dynamic SQL statements that are cached for each transaction ID.

CPU Time
The accumulated CPU time of all statements that are associated with the transaction ID. This time includes CPU that is consumed on an IBM specialty engine for all statements that are associated with this transaction ID.

Elapsed Time
The accumulated elapsed time that is used for all statements that are associated with this transaction ID.

Wait Time
The accumulated wait time that is used for all statements that are associated with the authorization ID including the following items:

Wait for Synch I/O (QW0316W1)
Wait for Lock/Latch (QW0316W2)
Wait Synch Exec Switch (QW0316W3)
Wait for Global Locks (QW0316W4)
Wait Other Thread Read (QW0316W5)
Wait Other Thread Write (QW0316W6)
Wait for Latch Req (QW0316W7)
Wait Time Page Latch (QW0316W8)
Wait for Drain Lock (QW0316W9)
Wait for Drain/Claim (QW0316WA)
Wait for Log Writer (QW0316WB)
Wait global child L-Locks (QW0316WC)
Wait global other L-Locks (QW0316WD)
Wait global P/P P-Locks (QW0316WE)
Wait global page P-Locks (QW0316WF)
Wait global other P-Locks (QW0316WG)
Wait for PQS (QW0316_PQS_WAIT)
Wait for PIPE (QW0316_PIPE_WAIT)

GetPages
The accumulated GET PAGES for all statements that are associated with the transaction ID.

Dynamic SQL Cache Statistics by Workstation Name

This panel provides information about the dynamic SQL cache by workstation name. You can also look at the dynamic SQL cache by authid, end user ID, or transaction ID.

With this panel, you can identify problem statements in the dynamic SQL cache.

One line of output is produced for each workstation name that owns the SQL cache storage when the displayed data is collected.

To sort output by display column, move the cursor under the column heading you want and press the sort key (PF10).

```
_________________ ZEDDW    VTM     O2       V540./I SE11 05/05/13  4:06:51   2
>  Help PF1    Back PF3     Up PF7     Down PF8     Sort PF10     Zoom PF11
>
> A-BY AUTHID   B-ALL STMTS   C-BY TXID   *-BY WSNM   E-BY EUID
================================================================================
>             Dynamic SQL Cache Statistics by Workstation Name
>
 EDDW
+ *
+ Workstation id     Entries CPU Time     Elasped Time Wait Time    GetPages
+ ------------------ ------- ------------ ------------ ------------ --------
+ myWorkStation-this       1 00:00:17.612 00:00:18.155 00:00:00.000   395644
+ BATCH                    4 00:00:00.001 00:00:00.113 00:00:00.064       24
+ IBM-67119346B51          1 00:00:53.401 00:00:54.933 00:00:00.001  1186932
+ RRSAF                 2571 00:00:00.145 00:00:00.150 00:00:00.000     5142
+ TSO                      6 00:00:00.004 00:00:00.038 00:00:00.013       25
================================================================================
```

Navigation

For additional information about

- detailed dynamic SQL cache information for a workstation name, move the cursor to the line you want and press F11 (Zoom).
- other topics, use the PF keys.

Fields

Workstation ID
The workstation name that is used to execute the dynamic SQL statement.

Entries
The number of dynamic SQL statements that are cached for each workstation name.

CPU Time
The accumulated CPU time of all statements that are associated with the workstation name. This time includes CPU that is consumed on an IBM specialty engine for all statements that are associated with this workstation name.

Elapsed Time
The accumulated elapsed time that is used for all statements that are associated with this workstation name.

Wait Time
The accumulated wait time that is used for all statements that are associated with the authorization ID including the following items:

Wait for Synch I/O (QW0316W1)
Wait for Lock/Latch (QW0316W2)
Wait Synch Exec Switch (QW0316W3)
Wait for Global Locks (QW0316W4)
Wait Other Thread Read (QW0316W5)
Wait Other Thread Write (QW0316W6)
Wait for Latch Req (QW0316W7)
Wait Time Page Latch (QW0316W8)
Wait for Drain Lock (QW0316W9)
Wait for Drain/Claim (QW0316WA)
Wait for Log Writer (QW0316WB)
Wait global child L-Locks (QW0316WC)
Wait global other L-Locks (QW0316WD)
Wait global P/P P-Locks (QW0316WE)
Wait global page P-Locks (QW0316WF)
Wait global other P-Locks (QW0316WG)
Wait for PQS (QW0316_PQS_WAIT)
Wait for PIPE (QW0316_PIPE_WAIT)

GetPages
The accumulated GET PAGES for all statements that are associated with the workstation name.

Dynamic SQL Cache Statistics by End User ID

This panel provides information about the dynamic SQL cache by end user ID. You can also look at the dynamic SQL cache by authid, end user ID, or transaction ID.

With this panel, you can identify problem statements in the dynamic SQL cache.

One line of output is produced for each end user ID that owns the SQL cache storage when the displayed data is collected.

To sort the output by column, move the cursor under a column heading and press the sort key (PF10).

```
 _________________ ZEDDU    VTM     O2       V540./I SE11 05/05/13  4:08:16   2
>  Help PF1    Back PF3     Up PF7     Down PF8     Sort PF10     Zoom PF11
>
> A-BY AUTHID   B-ALL STMTS   C-BY TXID   D-BY WSNM   *-BY EUID
================================================================================
>             Dynamic SQL Cache Statistics by End User ID
>
 EDDU
+ *
+ End User id        Entries CPU Time     Elasped Time Wait Time    GetPages
+ ----------------- ------- ------------ ------------ ------------ --------
+ myUserID-this is         1 00:00:17.612 00:00:18.155 00:00:00.000   395644
+ HONG                  2576 00:00:53.547 00:00:55.084 00:00:00.001  1192080
+ HONG1                    6 00:00:00.005 00:00:00.150 00:00:00.078       43
================================================================================
```

Navigation

For additional information about

- detailed dynamic SQL cache information for an end user ID, move the cursor to the line you want and press F11 (Zoom).
- other topics, use the PF keys.

Fields

End user ID
The end user ID that is used to execute the dynamic SQL statement.

Entries
The number of dynamic SQL statements that are cached for each end user ID.

CPU Time
The accumulated CPU time of all statements that are associated with the end user ID. This time includes CPU that is consumed on an IBM specialty engine for all statements that are associated with this end user ID.

Elapsed Time
The accumulated elapsed time that is used for all statements that are associated with this end user ID.

Wait Time
The accumulated wait time that is used for all statements that are associated with the authorization ID including the following items:

Wait for Synch I/O (QW0316W1)
Wait for Lock/Latch (QW0316W2)
Wait Synch Exec Switch (QW0316W3)
Wait for Global Locks (QW0316W4)
Wait Other Thread Read (QW0316W5)
Wait Other Thread Write (QW0316W6)
Wait for Latch Req (QW0316W7)
Wait Time Page Latch (QW0316W8)
Wait for Drain Lock (QW0316W9)
Wait for Drain/Claim (QW0316WA)
Wait for Log Writer (QW0316WB)
Wait global child L-Locks (QW0316WC)
Wait global other L-Locks (QW0316WD)
Wait global P/P P-Locks (QW0316WE)

Wait global page P-Locks (QW0316WF)
Wait global other P-Locks (QW0316WG)
Wait for PQS (QW0316_PQS_WAIT)
Wait for PIPE (QW0316_PIPE_WAIT)

GetPages
The accumulated GET PAGES for all statements that are associated with the end user ID.

Dynamic SQL Cache Statement Summary by Key Field

This panel displays the statements in dynamic SQL cache that belong to a specific key value. The key type and the key value are displayed in the heading like this: `key_type : key_value`.

The following key types are supported:

Key type
Key value

Authorization ID
QW0316X4

Transaction ID
QW0316T2

Workstation Name
QW0316XF

End User ID
QW0316XE

With this panel, you can identify problem statements in the dynamic SQL cache.

To sort the output by column, move the cursor under a column heading and press the sort key (PF10).

```
 _________________ ZEDD2    VTM     O2       V540.#P DC11 05/19/16 18:51:02   2
>  Help PF1    Back PF3    Up PF7     Down PF8    Sort PF10    Zoom PF11
>
================================================================================
>       Dynamic SQL Cache Statement Summary by Key Field
>
 EDD2
+             Authorization Id: HONG2
+                                                                          *
+                                                                        ACEL
+Len  CPU Time     SQL Text                                               DPS
+---- ------------ ------------------------------------------------------ ----
+  34 00:00:40.278 SELECT * FROM SYSIBM.SYSCOLUMNS A1                     N Y
+  34 00:00:00.000 SELECT COUNT(*) FROM HONG.RLOCKTB1                     N Y
+  34 00:00:44.894 SELECT * FROM SYSIBM.SYSCOLUMNS B1                     N Y
+ 130 00:00:00.017 SELECT CURRENT APPLICATION ENCODING  SCHEME, INTEGER(CU N Y
+  34 00:00:00.000 SELECT COUNT(*) FROM HONG.RLOCKTB2                     N Y
+  72 00:00:00.000 SELECT COUNT(*) FROM SYSIBM.SYSKEYS NOWTWO             N N
+  72 00:00:00.000 SELECT COUNT(*) FROM SYSIBM.SYSKEYS JUSTONE            N N
================================================================================
```

Navigation

For additional information about

- detailed dynamic SQL cache information for an transaction ID, move the cursor to the line you want and press F11 (Zoom).
- the statistics detail for a particular statement, place the cursor on the row that contains the statement and press PF11.
- other topics, use the PF keys.

Fields

Each field reflects the data that is available when collection is executed.

Length
The statement length of the SQL text in dynamic SQL cache.

CPU Time
The accumulated CPU time. This time includes CPU time that is consumed on an IBM specialty engine.

SQL text
The first 60 bytes of the SQL text of the statement.

ACEL
IDAA flag.

DPS
Dynamic Plan Stability flag (dynamic SQL only). DB2 12 only.

Dynamic SQL Cache Statistics

This panel provides additional details about the dynamic SQL cache.

The statistical data requires that monitor class 1 and IFCID 318 are started. This might be accomplished by starting the Near Term History collector.

With this panel, you can identify problem statements in the dynamic SQL cache.

One line of output is produced for each unique dynamic SQL statement.

To sort output by display column move the cursor under the display column heading you want and press the sort key (PF10).

```
_________________ ZEDDT    VTM     O2       V540.#P DC11 05/19/16 18:53:20   2
>  Help PF1    Back PF3     Up PF7     Down PF8     Sort PF10     Zoom PF11
>
> A-BY AUTHID   *-ALL STMTS   C-BY TXID   D-BY WSNM   E-BY EUID
================================================================================
>              Dynamic SQL Cache Statement Statistics
>     statistics require that monitor class 1 and ifcid 318 be started
>
>   place an 'a' before the EDDT command to get average for times and counts
>
 EDDT
+                                                                          *
+  Times     CPU         Elapsed       Wait      Get-   Sync  Sync
+  Exec.     Time        Time          Time      Pages  Reads Writes ACEL DPS
+ ------ ------------ ------------ ------------ ------ ------ ------ ---- ---
+      4 00:00:00.000 00:00:00.111 00:03:14.729     32      8      0 N    Y
+      4 00:00:00.000 00:00:00.078 00:01:29.582     24      6      0 N    Y
+      3 00:00:00.017 00:00:00.000 14-07:15          0      0      0 N    Y
+      2 00:00:44.894 00:00:00.009 37-13:32         42      0      0 N    Y
+      1 00:00:00.019 00:00:00.000 60-18:57          0      0      0 N    Y
+      2 00:00:40.278 00:00:00.010 37-13:32         42      2      0 N    Y
+      1 00:00:00.000 00:00:00.001 00:00:04.539      9      1      0 N    N
+      0 00:00:00.000 00:00:00.000 00:00:00.000      0      0      0 N    N
+      1 00:00:00.000 00:00:00.000 00:00:00.000      1      0      0 N    N
+      1 00:00:00.000 00:00:00.010 00:00:43.591     38      2      0 N    N
+      1 00:00:00.000 00:00:00.000 00:00:02.725      6      0      0 N    N
+      1 00:00:00.000 00:00:00.000 00:00:00.000     38      0      0 N    N
```

Navigation

For additional information about

- the dynamic SQL statement and statistics, move the cursor to the required line and press F11 (Zoom).
- other topics, use the PF keys.

Fields

Each field reflects the data that was available when collection was executed. OMEGAMON XE for DB2 PE collects data and refreshes the panel each time you navigate to the panel.

Times Exec.
The number of times that an SQL statement in cache was executed. For a cursor statement, this number represents the number of OPENs.

CPU Time
The accumulated CPU time used while executing in DB2.

Elapsed Time
The accumulated elapsed time for the SQL statement.

Wait Time
The accumulated time spent waiting in DB2 for all causes.

Get - Pages
The number of Getpage requests performed for the SQL statement.

Sync Reads
The number of synchronous Buffer Read operations performed for the SQL statement.

Sync Writes
The number of synchronous Buffer Write operations performed for the SQL statement.

ACEL
IDAA flag.

DPS
Dynamic Plan Stability flag (dynamic SQL only). DB2 12 only.

Static SQL Cache Statistics

This panel provides additional details about the static SQL cache.

The statistical data requires that monitor class 1 and ifcid 400 are started.

One line of output is produced for each unique static SQL statement.

The following panel shows the display of DB2 11 and DB2 12:

```
 _________________ ZESSS    VTM     O2       V540.HZ SE11 06/20/13 18:41:44   2
> Help PF1      Back PF3       Up PF7      Down PF8     Sort PF10    Zoom PF11
>
>  A - Packages     * - All Stmts
================================================================================
>         Static SQL Cache Statistics with Times and Counts
>
>     statistics require that monitor class 29 or ifcid 400 be started
>
 ESSS
+
+ Total Allocation for Shareable Static SQL              348160
+ Total Number of Statements in Static SQL Cache             24
+
+ *
+   Times      CPU          Elapsed        Wait       Get     Sync
+   Exec.      Time         Time           Time       Pages   Reads
+  ------  ------------  ------------  ------------   ------  ------
+      49  00:00:00.048  00:00:01.827  00:00:00.002     1815       5
+      49  00:00:00.000  00:00:00.090  00:00:00.000        0       0
+      49  00:00:00.005  00:00:00.947  00:00:00.000       98       1
+      49  00:00:00.007  00:00:01.390  00:00:00.003      294       4
+      49  00:00:00.015  00:00:01.948  00:00:00.000      294       0
+      49  00:00:00.021  00:00:00.726  00:00:00.003      688       5
+      49  00:00:00.005  00:00:01.293  00:00:00.000      150       6
+      49  00:00:00.009  00:00:00.583  00:00:00.001      248      10
+      12  00:00:00.000  00:00:00.022  00:00:00.000        0       0
+      12  00:00:00.000  00:00:00.027  00:00:00.000        0       0
+      12  00:00:00.000  00:00:00.013  00:00:00.000        0       0
+       8  00:00:00.000  00:00:00.065  00:00:00.000        0       0
+       3  00:00:00.000  00:00:00.008  00:00:00.000        0       0
+       3  00:00:00.000  00:00:00.001  00:00:00.000        0       0
+       2  00:00:00.006  00:00:00.300  00:00:00.221      470       2
+       1  00:00:00.000  00:00:00.000  00:00:00.000        0       0
+       1  00:00:00.000  00:00:00.035  00:00:00.000        3       1
+       1  04:14:30.425  08:10:42.681  00:00:00.000     261M       0
+       1  00:00:00.000  00:00:00.000  00:00:00.000        0       0
+       1  00:00:00.000  00:00:00.000  00:00:00.000        0       0
+       0  00:00:00.000  00:00:00.000  00:00:00.000        0       0
+       0  00:00:00.000  00:00:00.000  00:00:00.000        0       0
+       0  00:00:00.000  00:00:00.000  00:00:00.000        0       0
+       0  00:00:00.000  00:00:00.000  00:00:00.000        0       0
================================================================================
```

The following panel shows the display of DB2 10:

```
 _________________ ZESSS    VTM     O2       V540./C DA31 06/20/13 18:48:28
> Help PF1      Back PF3       Up PF7      Down PF8     Sort PF10    Zoom PF1
>
>  A - Packages     * - All Stmts
================================================================================
>         Static SQL Cache Statistics with Times and Counts
>
>     statistics require that monitor class 29 or ifcid 400 be started
>
 ESSS
+
+ Total 31-bit xPROC Storage for Static SQL Statements   765952
+ Total Number of Statements in Static SQL Cache            106
+
+ *
+   Times      CPU          Elapsed        Wait       Get     Sync
+   Exec.      Time         Time           Time       Pages   Reads
+  ------  ------------  ------------  ------------   ------  ------
+   21369  00:00:21.796  00:11:13.978  00:00:00.000    5834K   21365
+   13952  00:19:26.424  09:46:03.521  00:00:00.752      87M     87M
+   11003  00:00:08.269  00:04:33.869  00:00:00.000    2323K   11000
+    6972  00:00:00.017  00:00:00.419  00:00:00.000       63       0
+    5932  00:00:01.788  00:00:03.932  00:00:00.000     439K     532
+    5230  00:00:00.941  00:00:02.462  00:00:00.000    10276       4
+    5226  00:00:00.045  00:00:01.741  00:00:00.000      590       2
+    3608  00:00:02.681  00:01:28.910  00:00:00.000     725K    3610
+    2914  00:04:03.612  02:02:46.488  00:00:00.000      19M     18M
+     782  00:00:00.113  00:00:00.852  00:00:00.000     1567       3
+     752  00:00:00.003  00:00:00.014  00:00:00.000        0       0
+     752  00:00:00.000  00:00:00.008  00:00:00.000        0       0
+     752  00:00:00.000  00:00:00.000  00:00:00.000        0       0
+     752  00:00:00.069  00:00:00.844  00:00:00.000     6016       0
+     752  00:00:00.000  00:00:00.001  00:00:00.000        0       0
+     752  00:00:00.000  00:00:00.029  00:00:00.000        0       0
+     752  00:00:00.081  00:00:00.362  00:00:00.000     2256       0
+     529  00:00:00.005  00:00:00.014  00:00:00.000       64       0
+     321  00:00:00.002  00:00:00.024  00:00:00.000        0       0
+     321  00:00:00.051  00:00:01.036  00:00:00.000      590       0
+     267  00:00:02.414  00:00:47.986  00:00:00.000    81176   55795
+     264  00:00:00.041  00:00:00.348  00:00:00.000      792       0
+     258  00:00:00.173  00:00:04.416  00:00:00.000      597    1051
+       1  00:00:00.000  00:00:00.008  00:00:00.000        2       0
+       1  00:00:00.118  00:00:03.462  00:00:00.000     6398    6386
+       1  00:00:00.000  00:00:00.177  00:00:00.000        2       3
+       1  00:00:00.001  00:00:00.135  00:00:00.000      273       1
+       1  00:00:00.000  00:00:00.018  00:00:00.000        0       0
+       1  00:00:00.000  00:00:00.000  00:00:00.000        0       0
+       1  00:00:00.000  00:00:00.009  00:00:00.000        0       0
+       0  00:00:00.000  00:00:00.000  00:00:00.000        0       0
+       0  00:00:00.000  00:00:00.000  00:00:00.000        0       0
+       0  00:00:00.000  00:00:00.000  00:00:00.000        0       0
+       0  00:00:00.000  00:00:00.000  00:00:00.000        0       0
+       0  00:00:00.000  00:00:00.000  00:00:00.000        0       0
+       0  00:00:00.000  00:00:00.000  00:00:00.000        0       0
================================================================================
```

Navigation

You can scroll through the information using F7 and F8 (if the information requires more than one panel).

For more information about

- a particular static SQL cache, move the cursor to the respective information line and press F11 (Zoom). For more information, see the description of panel “EDM Snapshot Static SQL Cache Statement Detail” on page 264.

Fields

Total 31-bit xPROC storage for static SQL Statements
Total 31-bit xPROC storage that is used for static SQL statements (31-bit DBM1private variable pool).

This applies to DB10.

Total Allocation for Shareable Static SQL
The total allocated shareable storage for static SQL statements.

This applies to DB2 11 or higher.

Total number of statements in static SQL Cache
The count of SQL statements in the static SQL cache.

Times Exec.
The number of times that an SQL statement in cache was executed.

CPU Time
The accumulated CPU time used while executing in DB2. This time includes CPU that is consumed on an IBM specialty engine.

Elapsed Time
The accumulated elapsed time for the SQL statement.

Wait Time (Derived)
The accumulated time spent waiting in DB2 for all causes.

QW0401SI Accumulated wait for synchronous I/O
QW0401LK Accumulated wait for lock
QW0401EU Accumulated wait for synchronous execution unit switch
QW0401GL Accumulated wait time for global locks
QW0401OR Accumulated wait time for read activity done by another thread
QW0401OW Accumulated wait time for write activity done by another thread
QW0401LH Accumulated wait time for latch req
QW0401PL Accumulated wait for page latch
QW0401DL Accumulated wait for drain lock
QW0401CM Accumulated wait for drain lock waiting for for claims to be released
QW0401LW Accumulated wait for log writer
QW0401WC Accumulated wait for global child L-Locks. Db2 12 and later..
QW0401WD Accumulated wait for global other L-Locks. Db2 12 and later.
QW0401WE Accumulated wait for global P/P P-Locks. Db2 12 and later.
QW0401WF Accumulated wait for global page P-Locks. Db2 12 and later.
QW0401WG Accumulated wait for global other P-Locks. Db2 12 and later.
QW0401WH Accumulated wait for PIPE locks. Db2 12 and later.
QW0401WPQS Accumulated wait for PQS locks. Db2 12 and later.

GetPages
The number of Getpage requests performed for the SQL statement.

Sync Reads
The number of synchronous Buffer Read operations performed for the SQL statement.

Static SQL Cache Statistics with Package Information

The statistical data requires that monitor class 1 and ifcid 400 are started.

This panel organizes static SQL cache data by key fields. You can sort the fields to group similar SQL records together.

For the package and collection IDs, only the first 17-bytes are displayed. If the data is longer than 17 bytes, a plus (+) sign is shown to indicate that the actual data is longer than the data that is displayed in the panel. For an example, see the following panel.

With the information on this panel, database administrators can locate particular ZPARMS according to DB2 installation panels, so they can view related ZPARMs of the DB2 subsystem.

The following panel shows the display of DB2 10:

```
 _________________ ZESSK    VTM     O2       V540.#P SZ22 07/07/16 14:46:14   2
> Help PF1      Back PF3       Up PF7      Down PF8     Sort PF10    Zoom PF11
>
>  * - Packages     B - All Stmts
================================================================================
>          Static SQL Cache Statistics with Package Information
>
>     Statistics require that monitor class 29 or ifcid 400 be started
>
 ESSK
+
+ Total 31-bit xPROC Storage for Static SQL Statements   765952
+ Total Number of Statements in Static SQL Cache             21
+
+ *
+ Execs StmtID CPU Time     Elapsed Time Package       Collection ID      ACCEL
+ ----- ------ ------------ ------------ ------------- ------------------ -----
+  5553 596346 00:00:00.572 00:00:14.224 SWG0XVDS      DSN_DEFAULT_COLLI+ N/A
+  1676 596369 00:00:00.152 00:45:45.635 SWG0XVDS      DSN_DEFAULT_COLLI+ N/A
+  1676 596363 00:00:00.120 00:30:02.761 SWG0XVDS      DSN_DEFAULT_COLLI+ N/A
+   162 596345 00:00:00.029 00:00:00.038 SWG0XVDS      DSN_DEFAULT_COLLI+ N/A
+   123 596375 00:00:00.006 00:00:00.021 SWG0XVDS      DSN_DEFAULT_COLLI+ N/A
+     4 764511 00:00:00.000 00:00:00.103 DSQGICVS      Q                  N/A
+     2 764780 00:00:00.000 00:00:00.000 DSQGSDB2      Q                  N/A
+     1  2604K 00:00:00.000 00:00:00.000 FPEVWRPA      KO2OM530           N/A
+     1 764733 00:00:00.000 00:00:00.059 DSQGRDBR      Q                  N/A
+     1 764513 00:00:00.000 00:00:00.000 DSQGICVS      Q                  N/A
+     1 764774 00:00:00.000 00:00:00.000 DSQGSDB2      Q                  N/A
+     1 764910 00:00:00.000 00:00:00.070 DSQGSDB9      Q                  N/A
+     1  2604K 00:00:00.000 00:00:00.002 DGOVSDOB      KO2OM530           N/A
+     1  2604K 00:00:00.007 00:00:00.034 DGOVSDOB      KO2OM530           N/A
+     1  2604K 00:00:00.001 00:00:00.009 DGOVSDOB      KO2OM530           N/A
+     1  2604K 00:00:00.000 00:00:00.000 DGOVSDOB      KO2OM530           N/A
+     1  2604K 00:00:00.000 00:00:00.000 DGOVSDOB      KO2OM530           N/A
+     1  2604K 00:00:00.000 00:00:00.004 DGOVSDOB      KO2OM530           N/A
+     1  2604K 00:00:00.000 00:00:00.011 DGOVSDOB      KO2OM530           N/A
+     1  2604K 00:00:00.000 00:00:00.062 DGOVSDOB      KO2OM530           N/A
+     1 764466 00:00:00.000 00:00:00.028 DSQGBOR       Q                  N/A
================================================================================
```

The following panel shows the display of DB2 11 and later:

```
_________________ ZESSK    VTM     O2       V540.#P SEE2 07/07/16 14:42:16   2
> Help PF1      Back PF3       Up PF7      Down PF8     Sort PF10    Zoom PF11
>
>  * - Packages     B - All Stmts
================================================================================
>          Static SQL Cache Statistics with Package Information
>
>     Statistics require that monitor class 29 or ifcid 400 be started
>
 ESSK
+
+ Total Allocation for Shareable Static SQL              106496
+ Total Number of Statements in Static SQL Cache              9
+
+ *
+ Execs StmtID CPU Time     Elapsed Time Package       Collection ID      ACCEL
+ ----- ------ ------------ ------------ ------------- ------------------ -----
+     1  1015K 00:00:00.000 00:00:00.000 FPEVWRPA      KO2OM530           N
+     1  1015K 00:00:00.000 00:00:00.000 DGOVSDOB      KO2OM530           N
+     1  1015K 00:00:00.001 00:00:00.006 DGOVSDOB      KO2OM530           N
+     1  1015K 00:00:00.003 00:00:00.039 DGOVSDOB      KO2OM530           N
+     1  1015K 00:00:00.000 00:00:00.000 DGOVSDOB      KO2OM530           N
+     1  1015K 00:00:00.000 00:00:00.000 DGOVSDOB      KO2OM530           N
+     1  1015K 00:00:00.000 00:00:00.002 DGOVSDOB      KO2OM530           N
+     1  1015K 00:00:00.000 00:00:00.004 DGOVSDOB      KO2OM530           N
+     1  1015K 00:00:00.001 00:00:07.623 DGOVSDOB      KO2OM530           N
================================================================================
```

Navigation

For additional information about

- the statistics detail for a particular statement, place the cursor on the row that contains the statement and press PF11.
- other topics, use the PF keys.

Fields

The following fields are displayed for Static SQL cache:

Total 31-bit xPROC Storage for Static SQL Statements
The total 31-bit xPROC storage for static SQL statements (31-bit DBM1 private variable pool).

This applies to DB2 10.

Total Allocation for Shareable Static SQL
The total allocated shareable storage for static SQL statements.

This applies to DB2 11 and higher.

Total Number of Statements in Static SQL Cache
The count of static SQL statements in cache.

The following fields are displayed for each static SQL statement:

Execs
The number of executions.

StmtID
The statement identifier.

CPU Time
The accumulated in-DB2 CPU time. This time includes CPU that is consumed on an IBM specialty engine.

Elapsed Time
The accumulated in-DB2 elapsed time.

Package
The first 17 bytes of the package ID.

Collection ID
The first 17 bytes of the collection ID.

ACEL
IDAA flag.

EDM Snapshot Static SQL Cache Statement Detail

This panel provides static SQL cache statement detail.

The statistical data requires that monitor class 1 and ifcid 400 are started.

```
_________________ ZESS3    VTM     O2       V540./I SE11 04/02/16 15:08:18   2
>  Help PF1        Back PF3         Up PF7         Down PF8
>
>

================================================================================
>                 EDM Snapshot static SQL cache statement detail
>     statistics require that monitor class 29 or ifcid 400 be started
>
 ESS3
+
+ Insert Date                2013-03-26  Insert Time            09.53.53.42663
+ Update Date                2013-03-26  Update Time            09.53.53.45808
+
+ Statement Number                 5300  Times Executed                   4792
+ Getpages                          21  Rows Examined                       0
+ Rows Processed                     0  Sorts Performed                     0
+ Index Scans                        0  Tablespace Scans                    0
+ Buffer Writes                      0  Buffer Reads                        1
+ Parallel Groups Created            0  AVG Actual Degree                   0
+ AVG Estimated Degree               0  AVG Planned Degree
0
+
+ #RIDs Not Used/Storage             0  #RIDs Not Used/Limits               0
+ #RIDs Overflow/Storage             0  #RIDs Overflow/Limit                0
+ #RIDs HB Join/Storage              0  #RIDs HB Join/Limit                 0
+ #RIDs No IX Access                 0
+
+ Elapsed Time             00:00:00.014  CPU Time                 00:00:00.004
+

+ Wait for Synch I/O      00:00:00.017  Wait for Lock           00:00:00.000
+ Synch Exec Switch       00:00:00.000  Wait time Log Writer    00:00:00.000
+ Wait Othr Thread Read   00:00:00.000  Wait Othr Thread Write  00:00:00.000
+ Wait time for Latches   00:00:00.000  Wait Time Page Latch    00:00:00.000
+ Wait for Drain Lock     00:00:00.000  Wait for Drain/Claim
00:00:00.000
+ Wait Glb L-Locks        00:00:00.000  Wait Glb P/P P-Locks    00:00:00.000
+ Wait Glb Child L-Locks  00:00:00.000  Wait Glb Page P-Locks   00:00:00.000
+ Wait Glb Other L-Locks  00:00:00.000  Wait Glb other P-Locks  00:00:00.000
+ Wait for PIPE lock      00:00:00.000  Wait for PQS lock       00:00:00.000
+ Total Wait Time         00:00:00.000
+
+ Expansion Reason                      ACCEL Eligible
NO
+ Consistency token        0E5F1F1D09F140400154015E20130326
+ Collection               DSNUTILS
+ Package                  DSNUTILS
+
+ INSERT INTO SYSIBM . SYSPRINT ( SEQNO , TEXT ) VALUES ( : H , : H )
================================================================================
```

Navigation

You can scroll through the information using F7 and F8 (if the information requires more than one panel).

For additional options

- select one of the options from the panel
- use the PF keys.

Fields

Insert Date / Insert Time
The date and the time when the SQL statement is inserted in the EDM pool.

Update Date / Update Time
The date and the time when the SQL statement is last updated.

Statement Number
The number of the statement from the DB2 catalog.

Times Executed
The number of times this static SQL statement is executed.

Getpages
The number of pages that are returned.

Rows Examined
The number of rows that are examined.

Rows Processed
The number of rows that are processed.

Sorts Performed
The number of rows that are sorted.

Index Scans
The number of index scans that are performed.

Tablespace Scans
The number of tablespace scans that are performed.

Buffer Writes
The number of Buffer Write operations that are performed.

Parallel Groups Created
The number of parallel groups that are created.

AVG Actual Degree
The average actual degree of parallelism for all parallel groups. This value is calculated at execution time after buffer pool negotiation and system negotiation are taken into account.

This applies to DB2 11 and higher.

AVG Estimated Degree
The average estimated degree of parallelism for all parallel groups. The values for the estimated degree are calculated at bind time. They are based on the cost formula. The value for the average estimated degree is calculated at execution time.

This applies to DB2 11 and higher.

AVG Planned Degree
The average planned maximum degree of parallelism for all parallel groups. This value is calculated at execution time. It is the optimal degree of parallelism that can be obtained at execution time after host variables or parameter markers are resolved and before buffer pool negotiation and system negotiation are performed.

This applies to DB2 11 and higher.

RIDs Not Used/Storage
The number of times a RID list is not used because there is not enough storage available to hold the list of RIDs.

RIDs Not Used/Limit
The number of times a RID list is not used because the number of RIDs exceeds the DB2 limits.

RIDs Overflow/Storage
The number of times that a RID list overflows to a work file because a RID pool storage is not available to hold the list of RIDs.

This applies to DB2 11 and higher.

RIDs Overflow/Limit
The number of times that a RID list overflows to a work file because the number of RIDs exceeds internal limits.

This applies to DB2 11 and higher.

RIDs HB Join/Storage
The number of times that appending to a RID list for a hybrid join is interrupted because a RID pool storage is not available to hold the list of RIDs.

This applies to DB2 11 and higher.

RIDs HB Join/Limit
The number of times that appending to a RID list for a hybrid join is interrupted because the number of RIDs exceeds internal limits.

This applies to DB2 11 and higher.

RIDs No IX Access
The number of times that RID list retrieval for multiple index access is not done because DB2 cannot determine the outcome of index ANDing or ORing.

This applies to DB2 11 and higher.

Elapsed Time
The accumulated In-DB2 elapsed time.

CPU Time
The accumulated In-DB2 CPU time. This time includes CPU consumed on a Specialty Engine (SE).

Wait for Sync I/O
The accumulated waiting time for synchronous I/O.

Wait for Lock
The accumulated waiting time for lock.

Sync Exec Switch
The accumulated waiting time for a synchronous execution unit switch.

Wait time Log writer
The accumulated waiting time for log writers.

Wait Othr Thread Read
The accumulated wait time for read activity done by another thread.

Wait Othr Thread Write
The accumulated waiting time for writing activity that is done by another thread.

Wait time for Latches
The accumulated waiting time for latch requests.

Wait time Page Latch
The accumulated waiting time for page latches.

Wait time Drain Lock
The accumulated waiting time for drain locks.

Wait time drain/claim
The accumulated waiting time for drain locks that are waiting for claims to be released.

Wait Glb L-Locks
The accumulated waiting time for global locks.

Wait Glb P/P P-Locks
Accumulated wait for global P/P P-Locks for the statement. DB2 12 or later.

Wait Glb Child L-Locks
Accumulated wait for global child L-Locks for the statement. DB2 12 or later.

Wait Glb Page P-Locks
Accumulated wait for global page P-Locks for the statement. DB2 12 or later.

Wait Glb Other L-Locks
Accumulated wait for global other L-Locks for the statement. DB2 12 or later.

Wait Glb Other P-Locks
Accumulated wait for global other P-Locks for the statement. DB2 12 or later.

Wait for PIPE lock
Accumulated wait for pipe wait. DB2 12 or later.

Wait for PQS lock
Accumulated time waiting for parallel queries to synchronize between parent and child tasks. DB2 12 or later.

Total Wait Time
A summary of all waiting times.

Expansion Reason
The reason that caused the expansion. The query contains an implicit query transformation that is caused by one of the following items:

A
The SYSIBMADM.GET_ARCHIVE built-in global variable.

B
The current temporal BUSINESS_TIME special register.

S
The current temporal SYSTEM_TIME special register.

SB
The current temporal BUSINESS_TIME special register and the current temporal SYSTEM_TIME special register.

' '
The query does not contain an implicit query transformation that is caused by the current temporal BUSINESS_TIME special register, the current temporal SYSTEM_TIME special register, or the SYSIBMADM.GET_ARCHIVE built-in global variable.

N/A
No data available.

ACCEL Eligible
Statement is eligible to run on an accelerator. DB2 11 or later.

Consistency token
The consistency token of the package for this static SQL statement.

Collection
The collection ID of the package for this static SQL statement.

Package
The package ID for this static SQL statement.

SQL Text
If it can be found in the DB2 catalog tables for this statement, the SQL text is displayed.

EDM Snapshot Dynamic SQL Cache Statement Statistics Detail

This panel provides additional details about a particular SQL statement.

```
 _________________ ZEDD3    VTM     O2       V540./C SE11 07/30/13  1:59:11   2
>  Help PF1        Back PF3         Up PF7         Down
PF8

> A-SQL
PA

================================================================================
>            Dynamic SQL Cache Statement Statistics Detail
>     statistics require that monitor class 1 and ifcid 318 be started
EDD3
+             Authorization Id: HONG
+
+ Insert Date               07/29/2013  Insert Time            23:16:52.6634
+ Update Date               07/29/2013  Update Time            23:16:52.8470
+ Collection Began Date     07/29/2013  Collection Began Time  16:22:43.7640
+
+ Statement Token             0000177A  Times Executed                    1
+ Getpages                           5  Rows Examined                     0
+ Rows Processed                     1  Sorts Performed                   0
+ Index Scans                        1  Tablespace Scans                  0
+ Synchronous Buffer Reads           4  Synchronous Writes                0
+ Number of Current Users            1  Copies of Statement               1
+ Parallel Groups Created            0  AVG Actual Degree                 0
+ AVG Estimated Degree               0  AVG Planned Degree                0
+
+ #RIDs Not Used/Storage             0  #RIDs Not Used/Limit              0
+ #RIDs Overflow/Storage             0  #RIDs Overflow/Limit              0
+ #RIDs HB Join/Storage              0  #RIDs HB Join/Limit              0
+ #RIDs No IX Access                 0
+
+ Elapsed Time            00:00:00.140  CPU Time               00:00:00.000
+
+ Wait for Synch I/O      00:00:00.017  Wait for Lock/Latch    00:00:00.000
+ Synch Exec Switch       00:00:00.000  Wait for Log Writer    00:00:00.000
+ Wait Othr Thread Read   00:00:00.000  Wait Othr Thread Write 00:00:00.000
+ Wait for Latch Req      00:00:00.000  Wait Time Page Latch   00:00:00.000
+ Wait for Drain Lock     00:00:00.000  Wait for Drain/Claim
00:00:00.000
+ Wait Glb L-Locks        00:00:00.000  Wait Glb P/P P-Locks   00:00:00.000
+ Wait Glb Child L-Locks  00:00:00.000  Wait Glb Page P-Locks  00:00:00.000
+ Wait Glb Other L-Locks  00:00:00.000  Wait Glb other P-Locks 00:00:00.000
+ Wait for PIPE lock      00:00:00.000  Wait for PQS lock      00:00:00.000
+
+ Isolation Bind                    RR  Currentdata Bind                 N
+ Dynamic rules Bind                 R  Current Degree                   1
+ Current Rules                      D  Current Precision                N
+ Cursor Hold                        N  Concentrate Statement            N
+ Status of Statement          UNKNOWN  Expansion Reason
+ ACCEL Eligible                   NO
+ Stabilized Stmt ID                 4  Hash ID Version                  1
+ Query Hash ID           5B2636452024281302087373181208 76
+
+ DSG Member              SC21
+
+ Stabilization Grp
+   HONGTST2_BUT_WITH_LONGNM
+
+ Transaction Name
+   HONG2
+
+ Workstation Name
+   TSO
+
+ End User ID
+
+ Program Name
+   SYSLH200
+
+ Prepare ID
+
HONG
```

```
+ User Group
+   HONG
+
+ Object Qualifier
+   HONG
+
+ Ref Tabl Qualifier
+   HONG
+
+ Ref Table
+   HONGLTBN_WHICH_IS_MORE_THAN_80_CHARACTERS_LONG_SO_THEY_WILL_BE_DISPLAYE
+
+ Appl
Data

+
+ Schema
+
HONG

+
+   SELECT count_big(*) withAcctInfo from HONG.HONGLTBN_WHICH_IS_MORE_THAN_80_
+   CHARACTERS_LONG_SO_THEY_WILL_BE_DISPLAYE
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

Each field reflects the data that was available when collection was executed. OMEGAMON XE for DB2 PE collects data and refreshes the panel each time you navigate to the panel.

Insert Date/Time
The date and the time when the statement is inserted into the cache.

Update Date/Time
The date and the time when the statement is updated in the cache.

Collection Began Date/Time
The date and the time when the dynamic SQL cache statistics collection begins.

Statement Token
Unique statement identifier generated for uniquely identifying a statement in the prepared statement cache.

Times Executed
The number of times the SQL statement has been executed. For a cursor statement, this number represents the number of OPENs.

Getpages
The number of Getpage requests performed for the SQL statement.

Rows Examined
The number of rows examined for the SQL statement.

Rows Processed
The number of rows processed for the SQL statement. For example, the number of rows returned for a SELECT, or the number of rows affected by an INSERT, UPDATE, or DELETE.

Sorts Performed
The number of sorts performed for the SQL statement.

Index Scans
The number of index scans performed for the SQL statement.

Tablespace Scans
The number of tablespace scans performed for the SQL statement.

Synchronous Buffer Reads
The number of synchronous Buffer Read operations performed for the SQL statement.

Synchronous Writes
The number of synchronous Buffer Write operations performed for the SQL statement.

Number of Current Users
The number of current users of the statement. Current users have prepared or executed the statement during their current unit of work.

Copies of Statement
The number of copies of the statement that is owned by all threads in the system.

Parallel Groups Created
The number of parallel groups created for the SQL statement.

AVG Actual Degree
The average parallel group actual degree. It is obtained at execution time after considering the buffer pool negotiation and the system negotiation.

AVG Estimated Degree
The average parallel group estimated degree. This is the bind time estimated parallel group degree that is based on the cost formula. If the parallel group contains a host variable or a parameter marker, the bind time estimates the parallel group degree based on a valid assumption value.

AVG Planned Degree
The average parallel group plan degree. This is the ideal parallel group degree that is obtained at execution time after the host variable or the parameter marker value is plug-in and before buffer pool negotiation and system negotiation are performed.

RIDs Not Used/Storage
The number of times that a RID list is not used because enough storage is not available to hold the list of RIDs.

RIDs not Used/Limit
The number of times that a RID list is not used because the number of RIDs exceeded one or more internal DB2 limits.

RIDs Overflow/Storage
The number of times a RID list is overflowed to a work file because a RIDPOOL storage is not available to hold the list of the RIDs.

RIDs Overflow/Limit
The number of times a RID list is overflowed to a work file because the number of RIDs exceeded one or more internal limits.

This applies to DB2 11 and higher.

RIDs HB Join/Storage
The number of times a RID list append for a Hybrid Join is interrupted because a RIDPOOL storage is not available to hold the list of RIDs, for example, the number of times DB2 interrupts the RID phase and switches to the Data phase.

This applies to DB2 11 and higher.

RIDs HB Join/Limit
The number of times a RID list append for a Hybrid Join is interrupted because the number of RIDs exceeded one or more internal limits, for example, the number of times DB2 interrups the RID phase and switches to the Data phase.

This applies to DB2 11 and higher.

RIDs No IX Access
The number of times a RID list retrieval for multiple index access is skipped because DB2 can predetermine the outcome of index ANDing or ORing.

Elapsed Time
The accumulated elapsed time used for the SQL statement.

CPU Time
The accumulated CPU time for the SQL statement. This includes CPU that is consumed on an IBM specialty engine.

The following wait time fields are only collected when Accounting trace class 3 is active.

Wait for Synch I/O
The accumulated wait time for synchronous I/O operations.

Wait for Lock/Latch
The accumulated wait time for lock and latch requests.

Synch Exec Switch
The accumulated wait time for synchronous execution unit switch.

Wait for Log Writer
The accumulated wait time for log writers.

Wait Othr Thread Read
The accumulated wait time for read activity performed by another thread.

Wait Othr Thread Write
The accumulated wait time for write activity performed by another thread.

Wait for Latch Req
The accumulated wait time for Latch requests.

Wait Time Page Latch
The accumulated wait time for Page latches.

Wait for Drain Lock
The accumulated wait time for Drain locks.

Wait for Drain/Claim
The accumulated wait time for Drain locks that are waiting for claims to be released.

Wait for Glb L-Locks
The accumulated wait time for global locks.

Wait Glb P/P P-Locks
Accumulated wait for global P/P P-Locks for the statement. DB2 12 or later.

Wait Glb Child L-Locks
Accumulated wait for global child L-Locks for the statement. DB2 12 or later.

Wait Glb Page P-Locks
Accumulated wait for global page P-Locks for the statement. DB2 12 or later.

Wait Glb Other L-Locks
Accumulated wait for global other L-Locks for the statement. DB2 12 or later.

Wait Glb Other P-Locks
Accumulated wait for global other P-Locks for the statement. DB2 12 or later.

Wait for PIPE lock
Accumulated wait for pipe wait. DB2 12 or later.

Wait for PQS lock
Accumulated time waiting for parallel queries to synchronize between parent and child tasks. DB2 12 or later.

Isolation Bind
ISOLATION BIND is in effect on initial PREPARE; it does not reflect ISOLATION specified in the WITH clause

UR: ISOLATION(UR)
Uncommitted Read

CS: ISOLATION(CS)
Cursor stability

RS: ISOLATION(RS)
Read stability

RR: ISOLATION(RR)
Repeatable read

Currentdata Bind
The status of the CURRENTDATA BIND option:

- CURRENTDATA(YES)
- CURRENTDATA(NO)

Dynamic rules Bind
The status of the DYNAMICRULES BIND option:

- DYNAMICRULES(BIND)
- DYNAMICRULES(RUN)

Current Degree
The status of CURRENT DEGREE special register value:

- CURRENT DEGREE = 'ANY'
- CURRENT DEGREE = '1'

Current Rules
The status of CURRENT RULES special register value:

- CURRENT RULES = 'DB2'
- CURRENT RULES = 'SQL'

Current Precision
The status of CURRENT PRECISION special register value:

- CURRENT PRECISION = 'DEC31'
- CURRENT PRECISION = 'DEC15'

Cursor Hold
If YES, the statement was prepared for a held cursor. If NO, the statement was not prepared for a held cursor.

Concentrate Statement
An indicator of the cache literal replacement.

N
No literal replacement was done.

R
Literals were replaced in the statement.

D
Same as **R**, but the cached statement is a duplicate cache entry instance, because a cache match failed because of literal reusability criteria.

Status of statement
The status of the statement. The statement has actually been removed from the cache, but current users might still have an active copy.

BYDROP
The statement was invalidated by DROP or ALTER.

BYREVOKE
The statement was invalidated by REVOKE.

BYLRU
The statement was invalidated by LRU.

Expansion Reason
The reason that caused the expansion. The query contains an implicit query transformation that is caused by one of the following items:

A
The SYSIBMADM.GET_ARCHIVE built-in global variable.

B
The current temporal BUSINESS_TIME special register.

S
The current temporal SYSTEM_TIME special register.

SB
The current temporal BUSINESS_TIME special register and the current temporal SYSTEM_TIME special register.

' '
The query does not contain an implicit query transformation that is caused by the current temporal BUSINESS_TIME special register, the current temporal SYSTEM_TIME special register, or the SYSIBMADM.GET_ARCHIVE built-in global variable.

N/A
No data available.

ACCEL Eligible
Statement is eligible to run on an accelerator.

Stabilized StmtID
Stabilized dynamic query statement ID. DB2 12 and higher. (QW0316_SDQ_STMTID)

Query Hash ID
Hash ID of a stabilized dynamic query. DB2 12 and higher. (QW0316_QUERY_HASH_ID)

Hash ID Version
Version of stabilized dynamic query's hash ID. DB2 12 and higher. (QW0316_QUERY_HASH_VER)

Program Name
The name of the program. The value is provided on RRS sign-on or resign-on.

Transaction Name
The name of the transaction. The value is provided on RRS sign-on or resign-on.

Stabilization Grp
Group ID of a stabilized dynamic query. DB2 12 or higher. (Field name: QW0316_STBLGRP)

Workstation Name
The name of the workstation. The value is provided on RRS sign-on or resign-on.

End User ID
The identification (ID) of the end user. The value is provided on RRS sign-on or resign-on.

Prepare ID
The primary authorization ID of the user who did the initial PREPARE.

User Group
The current SQLID of the user who did the initial PREPARE.

Object Qualifier
The object qualifier for unqualified table names.

Ref Table Qualifier
The table qualifier.

Ref Table
The name of the table.

DSG Member
The data sharing DB2 member that cached the SQL statement.

Appl Data
An identification string that is provided by the user.

Schema
The special register of the current schema.

SQL Statement
The text of the SQL statement.

If the text of the SQL statement is no longer available from the SQL statement cache because of a fast changing SQL statement cache, a message is displayed instead of the text of the SQL statement.

EDM Snapshot Free Storage

This panel provides information about the free storage that is currently available (as of the time of data collection) in the EDM pool.

The EDM Snapshot Free Storage panel shows information about DBD. Depending on the type you are using, information is shown about RDS below, RDS above, or SKEL.

```
_________________ ZEDSF    VTM     O2       V540.#P SN12 11/05/13 14:31:22   2
>  Help PF1                                                          Back PF3
>
================================================================================
>                           EDM SNAPSHOT FREE STORAGE
>
 EDSF
+               Total DBD      Free Pages       = 25478
+               Total DBD      Free Entries     = 1
+               Largest Contiguous Free Entries = 25478
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

Each field reflects the data that was available when collection was executed. OMEGAMON XE for DB2 PE collects data and refreshes the panel each time you navigate to the panel.

Total DBD Free Pages
The number of pages of free storage that were available in the EDM pool when the displayed data was collected.

Total DBD Free Entries
The number of free storage entries that were available when the displayed data was collected.

Largest Contiguous Free Entries
The number of pages in each of the largest contiguous free storage entries in the EDM pool when the displayed data was collected. (Displays up to 5 values.)

Bind Statistics

Use this panel to view information about bind activities, for example, the number of automatic binds, automatic bind failures, static binds, and static bind failures.

```
_________________ ZBIND    VTM     O2       V540./I SN13 07/11/13 16:57:00   2
>        Help PF1          Back PF3            Up PF7          Down PF8
> R.D
>
> H-HISTORICAL
================================================================================
>                               BIND STATISTICS

 BIND
+ Collection Interval:  REALTIME                        Start:  07/11 15:30:17
+ Report Interval:       5 sec                            End:  07/11 16:57:00
+
+                                  TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT
+                                QUANTITY  QUANTITY  (    5)  (36017)  (36151)
+                                --------  --------  -------  -------  -------
+ Automatic Bind Plan Attempts          1         0      .00      .00      .00
+ Automatic Bind Plan Successes         1         0      .00      .00      .00
+ Automatic Bind Pkg Attempts           0         0      .00      .00      .00
+ Automatic Bind Pkg Successes          0         0      .00      .00      .00
+
+ Static Bind Plan Attempts             2         0      .00      .00      .00
+ Static Bind Plan Successes            1         0      .00      .00      .00
+ Static Bind Pkg Attempts          78335     33538  6707.60      .93      .93
+ Static Bind Pkg Successes         70961     30538  6107.60      .85      .84
+
+ Rebind Plan Attempts                  0         0      .00      .00      .00
+ Rebind Plan Successes                 0         0      .00      .00      .00
+ Rebind Pkg Attempts                   6         0      .00      .00      .00
+ Rebind Pkg Successes                  6         0      .00      .00      .00
+
+ Free Plan Attempts                    0         0      .00      .00      .00
+ Free Plan Successes                   0         0      .00      .00      .00
+ Free Pkg Attempts                 20556     12210  2442.00      .34      .34
+ Free Pkg Successes                20555     12210  2442.00      .34      .34
+
+ Plan Allocation Attempts          89407     36017  7203.40     1.00     1.00
+ Plan Allocation Successes         89406     36017  7203.40     1.00     1.00
+ Package Allocation Attempts       20405       229    45.80      .01      .01
+ Package Allocation Successes      20165       215    43.00      .01      .01
+ Auth Check Attempts              649630    175166  35033.2     4.86     4.85
+ Auth Check Successes             649618    175162  35032.4     4.86     4.85
+ Auth Check Using Cache            19542        85    17.00      .00      .00
+ Auth Check Public Authority        8066        85    17.00      .00      .00
+ Test Binds (No Plan ID)               0         0      .00      .00      .00
================================================================================
```

Fields

Collection Interval
Shows the REALTIME to indicate that you are looking at the realtime version of this panel and not at the corresponding near-term history panel. The collection interval and the report interval are the same in this panel.

Start
The start time of the report interval currently displayed.

Report Interval
The time in the last cycle (for example, between two presses of the Enter key).

End
The end time of the report interval currently displayed.

For each of the following fields, the following statistics values are provided:

TOTAL QUANTITY
Total quantity, which reflects the amount of activities since DB2 was started.

INTERVAL QUANTITY
Interval quantity, which reflects the amount of activities during the last cycle.

/SECOND
Rate per second during the last cycle. The number under /SECOND (in parentheses) is the number of seconds in the interval.

/THREAD
Rate per thread during the last cycle. The number under /THREAD (in parentheses) is the number of Create Threads during the interval.

/COMMIT
Rate per Commit during the last cycle. The number under /COMMIT (in parentheses) is the number of commit requests (including abort requests) during the interval.

Automatic Bind Plan Attempts
The attempts of DB2 to perform an automatic bind of a plan.

Automatic Bind Plan Successes
The successful attempts of DB2 to perform an automatic bind of a plan.

Automatic Bind Pkg Attempts
The attempts of DB2 to perform an automatic bind of a package.

Automatic Bind Pkg Successes
The successful attempts of DB2 to perform an automatic bind of a package.

Static Bind Plan Attempts
Represents the Bind subcommands issued, including the Bind Plan Add and Bind Plan Replace subcommands.

Static Bind Plan Successes
Represents the Bind subcommands that succeeded.

Static Bind Pkg Attempts
Represents the bind package subcommands issued, including the Bind Package Add and Bind Package Replace subcommands.

Static Bind Pkg Successes
Represents the bind package subcommands that succeeded.

Rebind Plan Attempts
Attempts to rebind a plan.

Rebind Plan Successes
Successful attempts to rebind a plan.

Rebind Pkg Attempts
Attempts to rebind a package.

Rebind Pkg Successes
Successful attempts to rebind a package.

Free Plan Attempts
Attempts to free a plan.

Free Plan Successes
Successful attempts to free a plan.

Free Pkg Attempts
Attempts to free a package.

Free Pkg Successes
Successful attempts to free a package.

Plan Allocation Attempts
The requests from the attachment facility to DB2 to allocate a bound plan for a user.

Plan Allocation Successes
Successful plan allocation attempts.

Package Allocation Attempts
The requests from the attachment facility to DB2 to allocate a bound package for a user.

Package Allocation Successes
Successful package allocation attempts.

Auth Check Attempts
Authorization checks for all plans

Auth Check Successes
Successful authorization checks.

Auth Check Using Cache
Successful authorization checks that were performed using cache.

Auth Check Public Authority
Successful authorization checks that were performed based upon execute authority granted to public.

Test Binds (No Plan ID)
Bind subcommands that were issued without a plan ID.

DB2 Subsystem Support Manager Statistics

This panel shows workload-related information about the monitored DB2 subsystem. The panel includes statistics related to Create Thread, Signon, Commit, and abnormal termination activity.

```
 _________________ ZSSSM    VTM     O2       V540./C SZ21 09/10/13 13:52:33   2
>       Help PF1         Back PF3             Up PF7            Down PF8
> R.E
>
> H-HISTORICAL
================================================================================
>                  DB2 SUBSYSTEM SUPPORT MANAGER STATISTICS
 SSSM
+ Collection Interval:  REALTIME                         Start:  09/10 13:49:55
+ Report Interval:       6 sec                             End:  09/10 13:52:33
+
+                                   TOTAL  INTERVAL  /SECOND
+                                QUANTITY  QUANTITY  (    6)
+                                --------  --------  -------
+ Identify Requests                   87         1      .17
+ Signon Requests                    126         2      .33
+ Create Thread Requests             129         2      .33
+ Create Thread Waits                  0         0      .00
+ Terminate Thread Requests          256         4      .67
+
+ Single Phase Commit Requests      4192         0      .00
+ Read Only Commit Requests          284         5      .83
+ Commit Phase 1 Requests              0         0      .00
+ Commit Phase 2 Requests             57         1      .17
+ Abort Requests                       0         0      .00
+ Total Commit Requests             4533         6     1.00
+
+ Indoubt Threads                      0         0      .00
+ Indoubts Resolved                    0         0      .00
+ Abends Detected - End of Task        2         0      .00
+ Abends Detected - End of Memory      0         0      .00
+
+ High Water Mark for IDFORE           0         0      .00
+ High Water Mark for IDBACK           9         0      .00
+ High Water Mark for CTHREAD          8         0      .00
================================================================================
```

Navigation

For additional information about

- Near-term history activity, select option **H-HISTORICAL** at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
Shows the REALTIME to indicate that you are looking at the realtime version of this panel and not at the corresponding near-term history panel. The collection interval and the report interval are the same in this panel.

Start
The start time of the report interval currently displayed.

Report Interval
The time in the last cycle (for example, between two presses of the Enter key).

End
The end time of the report interval currently displayed.

For each of the following fields, three statistics values are provided:

- Total quantity, which reflects the amount of activities since DB2 was started.
- Interval quantity, which reflects the amount of activities during the last cycle.
- Rate per second, which is the rate at which activities occurred during the last cycle. The number under / SECOND (in parentheses) is the number of seconds that made up the interval/cycle.

Identify Requests
Successful connections to DB2 from an allied address space.

Signon Requests
Successful requests to identify a new user for IMS or CICS. Thread Signon processing is applicable only in CICS-DB2 and IMS-DB2 attachment environments.

Create Thread Requests
Successful Create Thread requests.

Create Thread Waits
Create Thread requests that had to wait because no thread was available.

Terminate Thread Requests
Successful thread terminations.

Single Phase Commit Requests
Successful Commit requests that took place in a single-phase commit environment, for example, TSO.

Read Only Commit Requests
Commit requests that were read-only. Each of these requests increments the statistics field for phase 1 commits and the statistics field for read-only commits.

Commit Phase 1 Requests
Commit phase 1 requests in a two-phase-commit environment, for example, CICS and IMS.

Commit Phase 2 Requests
Commit phase 2 requests in a two-phase-commit environment, for example, CICS and IMS.

Abort Requests
Events that resulted in successfully backing out a unit of recovery.

Total Commit Requests
Includes single-phase, read-only, and phase 2 Commit requests.

Indoubt Threads
A thread goes indoubt in the CICS/IMS attachment to DB2 when one of the two subsystems goes down between Commit phase 1 and Commit phase 2.

Indoubts Resolved
Successful resolutions, either automatic or manual, of indoubt threads.

Abends Detected - End of Task
Tasks that abended while connected to DB2.

Abends Detected - End of Memory
The number of times a non-DB2 address space was deleted by MVS while connected to DB2.

High Water Mark for IDFORE
The maximum number of users that are identified to DB2 from TSO foreground at the same time.

High Water Mark for IDBACK
The maximum number of concurrent connections identified to DB2 from batch.

High Water Mark for CTHREAD
The maximum number of allied threads that are allocated concurrently.

Active Trace Summary

This panel provides information about the DB2 traces that are currently active. Each active trace is listed with identifying data, such as type, class, and destination.

```
_________________ ZTRACES  VTM     O2       V540.#P SE12 11/05/13 15:00:44   2
>       Help PF1      Back PF3      Up PF7      Down PF8       Zoom PF11
> R.F
================================================================================
>                           ACTIVE TRACE SUMMARY
 DTRS
+ Type          TNO  Trace Class             Destination     Planname Authid
+ ------------  ---  ----------------------- --------------- -------- --------
+ STATISTICS    001  01,03,04,05,06          SMF             *        *
+ ACCOUNTING    002  01                      SMF             *        *
+ MONITOR       003  01                      OP1             *        *
+ PERFORMANCE   004  18,24                   OP1             *        *
+ ACCOUNTING    005  01,02,03,07,08,10       OP2             *        *
+ MONITOR       006  01                      OP2             *        *
+ PERFORMANCE   007  30                      OP2             *        *
+ MONITOR       008  01                      SMF             *        *
+ PERFORMANCE   009  18                      OP3             *        *
+ MONITOR       014  01                      SMF             *        *
+ MONITOR       015  01                      SMF             *        *
================================================================================
```

Navigation

For more information about one of the following items, perform the corresponding task below:

- A particular trace, move the cursor to a trace information line and press F11 (Zoom). For more information, see the description of panel “Active Trace Detail” on page 281.
- Other topics, use the PF keys.

Fields

Type
The trace type.

TNO
The internal DB2 trace number assigned to the trace.

Trace Class
The active trace class(es) that are in use by this trace entry.

Destination
The destinations that are in use by this trace entry.

Planname
The planname qualifying the trace. If the trace was not qualified with a planname, this field contains an asterisk (*).

Authid
The authorization identifier used to qualify the trace. If the trace was not qualified with an authorization identifier, this field contains an asterisk (*).

Active Trace Detail

This panel shows DB2 trace activity at a detailed (IFCID) level. With this information you can determine how much overhead was incurred in the traces.

```
_________________ ZTRACED  VTM     O2       V540.#P DA41 11/05/13 16:01:47   2
> Help PF1              Back PF3              Up PF7                  Down PF8
================================================================================
>                            ACTIVE TRACE DETAIL
 DTRD
+    Trace Qualifications:
+ Number   = 015   Type = AUDIT         Destination = SMF           Asid = 003A
+ Class    = *
+ Rmids    = 01
+ Tdata    = CORRELATION,DISTRIBUTED
+ Plan     = PTAM           Location  = LOCTAMMMMMMMMMMMM
+ Authid   = ATAM           Wrkstn    = *
+ Connid   = *              Appname   = APPTAM
+ Corrid   = *              Userid    = TAM
+ Pkgloc   = *
+ Pkgcol   = *
+ Pkgprog  = *
+ Role     = L2L2L2L2L2L2L2
+ Audit Policy Names(AUDTPLCY):
+            AUDITADMN1
+            AUDITADMN2
+            AUDITADMN3
+
+    Misc Trace Information    = None
+
+    Exclude Trace Qualifications:
+ XPlan    = None           XLoc      = None
+ XAuthid  = None           XWrkstn   = None
+ XConnid  = None           XAppname  = None
+ XCorrid  = None           XUserid   = None
+ XPkgloc  = None
+ XPkgcol  = None
+ XPkgprog = None
+ XRole    = None
+
+    Total IFCIDS Active       = 2
+
+               IFCID    IFCID Description
+               _____    ________________________________________
+                361     ADMINISTRATIVE AUTHORITIES
+                362     START/STOP TRACE WITH AUDIT POLICY
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

Trace Qualifications:

Number
The internal DB2 trace number assigned to the trace.

Type
The trace type.

Destination
The destinations that are assigned to the trace on this line.

ASID
Specifies the address space for which trace data is collected.

Class
The active trace class(es) on this trace.

Rmids
The resource manager IDs (Rmids) specified when the trace was started. If the trace was qualified with no Rmids, this field contains an asterisk (*).

Tdata
The trace headers that are in use by this trace entry.

Plan
The plan name qualifying the trace. If the trace was not qualified with a Plan, this field contains an asterisk (*).

Location
The location name qualifying the remote trace. If the trace was not qualified with a location, this field contains an asterisk (*).

Authid
The authorization identifier (Authid) qualifying the trace. If the trace was not qualified with an authorization identifier, this field contains an asterisk (*).

Wrkstn
The workstation name (Wrkstn) qualifying the trace. If the trace was not qualified with a workstation name, this field contains an asterisk (*).

Connid
The connection name (Connid) qualifying the trace. If the trace was not qualified with a connection name, this field contains an asterisk (*).

Appname
The application name (Appname) qualifying the trace. If the trace was not qualified with an application name, this field contains an asterisk (*).

Corrid
The correlation name (Corrid) qualifying the trace. If the trace was not qualified with a correlation name, this field contains an asterisk (*).

Userid
The user name (Userid) qualifying the trace. If the trace was not qualified with a user name, this field contains an asterisk (*).

Pkgloc
The location name of the package (Pkgloc) qualifying the trace. If the trace was not qualified with the location name of the package, this field contains an asterisk (*).

Pkgcol
The collection name of the package (Pkgcol) qualifying the trace. If the trace was not qualified with the collection name of the package, this field contains an asterisk (*).

Pkgprog
The DBRM or program name (Pkgprog) qualifying the trace. If the trace was not qualified with a DBRM or program name, this field contains an asterisk (*).

Role
The connection role name qualifying the trace. If the trace was not qualified with a connection role name, this field contains an asterisk (*).

Audit Policy Names(AUDTPLCY)
Specifies a list of up to eight audit policy names (AUDTPLCY) for which trace information is gathered.

Miscellaneous trace information: The following fields are displayed if the Trace Destination field contains an OPx destination.

JOBNAME
The jobname that started the trace.

ASID
The address space ID of the job that started the trace.

PLANNAME
The plan name of the thread that is using the OPx destination.

AUTHID
The authorization identifier of the thread that started the trace. For active trace requests in use by OMEGAMON XE for DB2 PE, the authorization ID is that of the O2CI address space, not the authorization ID of the user issuing the start trace request.

CONNID
The connection ID of the thread that is using the OPx destination.

CORRID
The correlation ID of the thread that is using the OPx destination.

BUFSIZE
The buffer size value that was used when the trace was started.

Exclude Trace Qualifications:

XPlan
The exclude filtering for the plan name (XPlan). If the trace was not qualified with an XPlan , this field contains NONE.

XLoc
The exclude filtering for the location name (XLoc) qualifying the remote trace. If the trace was not qualified with an XLoc, this field contains NONE.

XAuthid
The exclude filtering for authorization identifier (Xauthid). If the trace was not qualified with an XAuthid, this field contains NONE.

XWrkstn
The exclude filtering for workstation name (XWrkstn). If the trace was not qualified with an XWrkstn, this field contains NONE.

XConnid
The exclude filtering for connection name (XConnid). If the trace was not qualified with an XConnid, this field contains NONE.

XAppname
The exclude filtering for application name (XAppname). If the trace was not qualified with an XAppname, this field contains NONE.

XCorrid
The exclude filtering for correlation name (XCorrid). If the trace was not qualified with an XCorrid, this field contains NONE.

XUserid
The exclude filtering for user name (XUserid). If the trace was not qualified with an XUserid, this field contains NONE.

XPkgloc
The exclude filtering for the location name of the package (XPkgloc). If the trace was not qualified with an XPkgloc, this field contains NONE.

XPkgcol
The exclude filtering for the collection name of the package (XPkgcol). If the trace was not qualified with an XPkgcol, this field contains NONE.

XPkgprog
The exclude filtering for DBRM or program name (XPkgprog). If the trace was not qualified with a XPkgprog, this field contains NONE.

XRole
The exclude filtering for connection role name (XRole). If the trace was not qualified with a XRole, this field contains NONE.

IFCID information:

Total IFCIDs Active
The total number of trace IFCIDs activated by the trace entry.

IFCID
The number of an active IFCID.

IFCID Description
The description of the IFCID on this line.

IRLM Startup Options and CSA Usage

This panel shows the Internal Resource Lock Manager (IRLM)'s startup options and current common storage (CSA/ECSA) usage.

```
_________________ ZRLMO    VTM     O2       V540./I SE11 06/25/13 16:19:49   2
>       Help PF1           Back PF3           Up PF7           Down PF8
> R.G.A

>                      IRLM START-UP OPTIONS AND CSA USAGE

> *-IRLM START-UP OPTIONS
================================================================================
>

 RLMO
+   IRLM Proc                  = SE11IRLM  IRLM Subsys               =     IE11
+   Cross Memory               =      YES  Identifier                =        1
+   Deadlock Time              =     5000  Deadlock Cycle            =        1
+   Maximum ECSA               =      N/A  Current Used ECSA         =      N/A
+   High Water Mark ECSA       =      N/A  Current Percentage ECSA   =      N/A
+   Subsystems Sharing IRLM    =        1  IRLM Internal Trace       =      OFF
+   ---------------------- Data Sharing Options -------------------------------
+   XCF Group Name             = DXE1      Max Users                  =      N/A
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

IRLM Proc
The MVS jobname associated with the IRLM address space.

IRLM Subsys
The IRLM MVS subsystem name.

Cross Memory
OMEGAMON XE for DB2 PE displays YES if IRLM is using cross memory services to communicate with the attached subsystems. NO is displayed if IRLM is using common storage (CSA/ECSA) for all locking requests. You can override this option at IRLM startup using the PC= parameter

Identifier
The IRLM identifier specified at startup.

Deadlock Time
The length of a local deadlock detection cycle, which is the number of seconds that will elapse before the IRLM will check for deadlocks on a single DB2 subsystem.

Deadlock Cycle
The number of local deadlock detection cycles that will elapse before the IRLM will perform a global deadlock check on all subsystems that are using that IRLM.

Maximum ECSA
The maximum amount of CSA/ECSA that IRLM can use if IRLMPC = NO. (See the **Cross Memory** field.)

Current Used ECSA
The amount of CSA/ECSA that IRLM is currently using.

High Water Mark ECSA
The largest amount of CSA/ECSA that IRLM has used since startup.

Current Percentage ECSA
The percentage of Maximum ECSA that IRLM is currently using.

Subsystems Sharing IRLM
The number of subsystems using the IRLM.

IRLM Internal Trace
The status of the internal trace (extremely high overhead). ON if the trace is turned on. OFF if the trace is turned off. This option is specified at IRLM startup using the ITRACE parameter.

Data sharing options:

XCF Group Name
The name of the cross-system coupling facility (XCF) group in which this IRLM belongs. This option is specified at IRLM startup using the GROUP= parameter.

Max Users
The maximum number of systems in the data sharing group. This option is specified at IRLM startup using the MAXUSRS= parameter. It is used to determine the size of each hash entry in the global lock structure.

DSNZPARM Thread Parameters

This panel displays the values that are specified in the DSNZPARM module for thread rmanagement parameters. It shows the name of the DSNZPARM module that is specified for DB2 startup and the date on which the module is assembled. It also shows a list of the default values of the DB2 application.

If a field is not available for the current Db2 release, the string N/A is displayed. For other conditions, for example, if specific Db2 traces are not started or control block data is not available, the string N/P is displayed.

```
_________________ ZPSYS    VTM     O2       V540.#P DC11 S 04/07/16  0:13:1810
>                          DSNZPARM THREAD PARAMETERS
 ZSYS
+ Collection Interval:  REALTIME                SNAPTIME: 04/07/16 00:13:18.92
+
+ DSNZPARM Module                               DSNZPARM
+ Assembly Date                                 03/17/16
+ Initial Module                                DSNZPARM
+ Assembly Date                                 03/17/16
+ Previous Module                               DSNZPARM
+ Assembly Date                                 03/17/16
+
+ DSNTIPE-Thread Management 1
+-----------------------------------
+ Max Users (CTHREAD)                              400
+ Max Remote Active (MAXDBAT)                      200
+ Max Remote Connected (CONDBAT)                 10000
+ Max TSO Connect (IDFORE)                         200
+ Max Batch Connect (IDBACK)                       200
+ Max Kept Dyn Stmts (MAXKEEPD)                   5000
+ Max Open File Refs (MAXOFILR)                    100
+
+ DSNTIPE1-Thread Management 2
+-----------------------------------
+ (REALSTORAGE_MANAGEMENT)                       AUTO
+ Contract Thread STG (CONTSTOR)                  N/A
+ Manage Thread Storage (MINSTOR)                 N/A
+ (PAGEABLE_1MB_FOR_THREADS)                     YES
+ Long Running Reader (LRDRTHLD)                  10
+ Data Def Timeout (DDLTOX)                        1
+ (INDEX_CLEANUP_THREADS)                         10
================================================================================
```

Fields

The **DSNZ** command displays the following lines to reflect the usage of the DB2 **SET SYSPARM** command. To each of these lines, the corresponding date on which this particular module is assembled is displayed.

DSNZPARM Module
The name of the DSNZPARM module specified for DB2 startup and the date on which this module was assembled.

Initial Module
The name of the initial DSNZPARM load module.

Previous Module
The name of the previous DSNZPARM load module.

DSNTIPE-Thread Management 1

Max Users (CTHREAD) (QWP1CT)
The maximum number of concurrent allied threads that might be active in DB2 from all sources. This includes threads for IMS, CICS, TSO (foreground and batch), RRSAF, and utilities.

Max Remote Active (MAXDBAT) (QWP1RMT)
The maximum number of distributed database access threads (DBATs) that can actively process SQL requests.

Max Remote Connected (CONDBAT) (QWP1CDB)
The maximum number of remote connected threads.

Max TSO Connect (IDFORE) (QWP1IDF)
The maximum number of concurrent connections from TSO foreground users that might access DB2 at one time.

Max Batch Connect (IDBACK) (QWP1IDB)
The maximum number of concurrent connections from batch jobs and utilities that might access DB2 at one time.

Max Kept Dyn Stmts (MAXKEEPD) (QWP4MXKD)
The maximum number of prepared dynamic statements saved past commit when dynamic statement caching is enabled.

Max Open File Refs (MAXOFILR) (QWP1MOFR)
The maximum number of concurrently open data sets for processing.

DSNTIPE-Thread Management 2

(REALSTORAGE_MANAGEMENT) (QWP4STMN)
This parameter determines whether DB2 storage is monitored.

Valid values:

```
A (AUTO)
N (ON)
O (OFF)
```

Contract Thread STG (CONTSTOR) (QWP4CONT)
This parameter determines whether thread CT Long Storage Pool is contracted.

Valid values:

```
NO
YES
```

Manage Thread Storage (MINSTOR) (QWP4MSTG)
This parameter determines whether DB2 is using storage management algorithms that minimize the amount of working storage that is consumed by individual threads. DB2 10 and DB2 11 only.

(PAGEABLE_1MB_FOR_THREADS) (QWP4P1MT)
Specifies whether DB2 may use 1 MB pageable storage when allocating hvshared above-the-bar object storage for thread pools and thread stack. Valid options are:

NO
DB2 cannot not use 1 MB pageable storage for these objects.

YES
DB2 may use 1 MB pageable storage for these objects. YES requires a level of z/OS that supports 1 MB pageable objects for hvshared. Sufficient real storage should be available to avoid performance issues related to paging. YES is the default for *PAGEABLE_1MB_FOR_THREADS*, but is enabled only if *realstorage_management=off.*

Z PARM NAME
PAGEABLE_1MB_FOR_THREADS.

DB2 12 and later.

Long Running Reader (LRDRTHLD) (QWP4LRTH)
This parameter determines the number of minutes that a READ claim is held by an agent before an IFCID 0313 record is written to report it as a long-running reader.

Data Def Timeout (DDLTOX) (QWP4DDLTO)
This parameter determines the SQL data definition time out factor.

(INDEX CLEANUP THREADS) (QWP4IXCU)
This parameter determines the maximum number of threads that can be created to process the cleanup of pseudo-deleted index entires on this subsystem on a data sharing member. Pseudo-deleted entries in an index are those that are logically deleted but still physically present in the index.

Valid values:

```
Integers between 0 - 128
```

Default: 10

DB2 11 and later.

DSNZPARM Trace Parameters

This panel shows traces, classes, the size of the internal trace table, and the size of the monitor trace buffer as specified in DSNZPARM for automatic startup. It shows the name of the DSNZPARM module that is specified for DB2 startup and the date on which the module is assembled. It also shows a list of the default values of the DB2 application.

If a field is not available for the current Db2 release, the string N/A is displayed. For other conditions, for example, if specific Db2 traces are not started or control block data is not available, the string N/P is displayed.

```
_________________ ZPTRC    VTM     O2       V540.#P DA41 S 11/05/13 16:03:23 2
>       Help PF1      Back PF3      Left PF10      Right PF11
> R.H.B
>       DSNZPARM INFORMATION:  Enter a selection letter on the top line.

>  A-THREAD    *-TRACE     C-LOGGING   D-ARCHIVING     E-AUTH/RLF/DDF   F-IRLM
>  G-STORAGE   H-DATASET   I-DDCS      J-DATA SHARING  K-STORED PROC    L-UTIL
>  M-APPL      N-DATA      O-PERF      P-BUFFERPOOL    Q-OTHERS
================================================================================
>                          DSNZPARM TRACE PARAMETERS
 ZTRC
+ Collection Interval:  REALTIME               SNAPTIME: 11/05/13 15:03:26.95
+
+ DSNZPARM Module                           DSNZPARM
+ Assembly Date                             06/30/11
+ Initial Module                            DSNZPARM
+ Assembly Date                             06/30/11
+ Previous Module                           DSNZPARM
+ Assembly Date                             06/30/11
+
+ DSNTIPN-Trace Parameters
+-----------------------------------
+ Audit Trace (AUDITST)                          NO
+ Trace Auto Start (TRACSTR)                     NO
+ Trace Size (TRACTBL)                           16
+ SMF Accounting (SMFACCT)                        1
+ SMF Statistics (SMFSTAT)                 1,3,4,5,6
+ Statistics Time (STATIME)                       1
+ Statistics Sync (SYNCVAL)                      NO
+ Dataset Stats Time (DSSTIME)                    5
+ Monitor Trace (MON)                             1
+ Monitor Size (MONSIZE)                    1048576
+ UNICODE IFCIDs (UIFCIDS)                      YES
+ DDF-RRSAF Accum (ACCUMACC)                     10
+ Aggregation Fields (ACCUMUID)                   0
+ Compress SMF Recs (SMFCOMP)                    NO
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

The **DSNZ** command displays the following lines to reflect the usage of the DB2 **SET SYSPARM** command. To each of these lines, the corresponding date on which this particular module is assembled is displayed.

DSNZPARM Module
The name of the DSNZPARM module that is specified for DB2 startup.

Initial Module
The name of the initial DSNZPARM load module.

Previous Module
The name of the previous DSNZPARM load module.

Assembly Date
The date on which this module was assembled.

DSNTIPN-Trace Parameters

Audit Trace (AUDITST) (QWP1AUDT)
This parameter determines the start options of the audit trace (4 bytes are used as bits 1-32).

Valid values:

Asterisk (*)
All bits are set to the value 1.

NO
The bit string consists of zero values.

1-32
If any class between 1 and 32 is defined, the NTH bit in the string from left to right is set to 1. This means it is turned on.

YES
The default of class 1 is used.

Trace Auto Start (TRACSTR) (QWP1TRST)
This parameter determines the start trace options for global trace classes (4 bytes are used as bits 1-32).

Valid values:

Asterisk (*)
All bits are set to the value 1.

NO
The bit string consists of zero values.

1-32
If any class between 1 and 32 is defined, the NTH bit in the string from left to right is set to 1. This means it is turned on.

YES
The default of class 1, 3, and 4 is used.

Trace Size (TRACTBL) (QWP1TRSZ)
This parameter determines the size of the trace table.

SMF Accounting (SMFACCT) (QWP1SMFA)
This parameter determines the SMF accounting start options (4 bytes are used as bits 1-32.

Valid values:

Asterisk (*)
All bits are set to the value 1.

NO
The bit string consists of zero values.

1-32
If any class between 1 and 32 is defined, the NTH bit in the string from left to right is set to 1. This means it is turned on.

YES
The default of class 1 is used.

SMF Statistics (SMFSTAT) (QWP1SMFS)
This parameter determines the SMF start options (4 bytes are used as bits 1-32).

Valid values:

Asterisk (*)
All bits are set to the value 1.

NO
The bit string consists of zero values.

1-32
If any class between 1 and 32 is defined, the NTH bit in the string from left to right is set to 1. This means it is turned on.

YES
The default of class 1 is used.

Statistics Time (STATIME) (QWP1STIM)
This parameter determines the time interval in minutes between the collection of statistics. At the end of this interval, statistics records are written.

Statistics Sync (SYNCVAL) (QWP1SYNV)
This parameter determines when DB2 statistics recording is synchronized, for example, 15 minutes past the hour.

Valid values:

```
1-59 minutes
```

Dataset Stats Time (DSSTIME) (QWP1DTIM)
This parameter determines the time interval in minutes before DB2 resets data set statistics that are collected for online performance monitors by using IFI reads requests for IFCID 0199.

Monitor Trace (MON) (QWP1MON)
This parameter determines the monitor tracing start options (4 bytes are used as bits 1-32).

Valid values:

Asterisk (*)
All bits are set to the value 1.

NO
The bit string consists of zero values.

1-32
If any class between 1 and 32 is defined, the NTH bit in the string from left to right is set to 1. This means it is turned on.

YES
The default of class 1 is used.

Monitor Size (MONSIZE) (QWP1MONS)
This parameter determines the monitor buffer size.

UNICODE IFCIDs (UIFCIDS) (QWP1_UNICODE)
This parameter determines whether fields that contain the characters %U in the comments are coded in Unicode (UTF-8).

Valid values:

1=YES
The trace is coded in Unicode.

0=NO
The trace is not coded in Unicode.

DDF-RRSAF Accum (ACCUMACC) (QWP1ACCU)
This parameter determines whether to roll up accounting data by end user for DDF or RRSAF threads.

Valid values:

```
NO
YES
```

Aggregation Fields (ACCUMUID) (QWP1ACID)
This parameter determines the subset of end user fields by which accounting data is aggregated.

Valid values:

0
End user ID, transaction name, and workstation name.

1
End user ID

2
End user transaction name

3
End user workstation name

4
End user ID and transaction name

5
End user ID and workstation name

6
End user transaction name and workstation name.

This value is ignored, if the parameter DDF-RRSAF Accum is set to N0.

Compress SMF Recs (SMFCOMP) (QWP1CSMF)
This parameter determines whether DB2 is compressing trace records that are written to SMF.

DSNZPARM Logging Parameters

This panel shows information about the logging parameters that are specified in the DSNZPARM module. It shows the name of the DSNZPARM module that is specified for DB2 startup and the date on which the module is assembled. It also shows a list of the default values of the DB2 application.

If a field is not available for the current Db2 release, the string N/A is displayed. For other conditions, for example, if specific Db2 traces are not started or control block data is not available, the string N/P is displayed.

```
_________________ ZPLOG    VTM     O2       V540.#P DC11 S 04/07/16  0:55:0211
 ZLOG
+ Collection Interval:  REALTIME               SNAPTIME: 04/07/16 00:55:02.26
+
+ DSNZPARM Module                           DSNZPARM
+ Assembly Date                             03/17/16
+ Initial Module                            DSNZPARM
+ Assembly Date                             03/17/16
+ Previous Module                           DSNZPARM
+ Assembly Date                             03/17/16
+
+ DSNTIPL-Active Log Parms
+-----------------------------------
+ Output Buffer Size (OUTBUFF)                4000
+ (REMOTE_COPY_SW_ACCEL)                    DISABLE
+
+ DSNTIPL1-Checkpoint Parameters
+-----------------------------------
+ Checkpoint Type (CHKTYPE)                  SINGLE
+ Check Frequent (CHKFREQ)                   500000
+ Records/Checkpoint (CHKLOGR)                    0
+ Minutes/Checkpoint (CHKMINS)                    0
+ UR Check Freq (URCHKTH)                         0
+ UR Log Write Check (URLGWTH)                    0
+ Limit Backout (LBACKOUT)                    AUTO
+ Backout Duration (BACKODUR)                    5
+ RO Switch Chkpts (PCLOSEN)                    10
+ RO Switch Time (PCLOSET)                      10
+ Levelid Update Freq (DLDFREQ)                  5
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

The **DSNZ** command displays the following lines to reflect the usage of the DB2 **SET SYSPARM** command. To each of these lines, the corresponding date on which this particular module is assembled is displayed.

DSNZPARM Module
The name of the DSNZPARM module that is specified for DB2 startup.

Initial Module
The name of the initial DSNZPARM load module.

Previous Module
The name of the previous DSNZPARM load module.

Assembly Date
The date on which this module was assembled.

DSNTIPL-Active Log Parms

Output Buffer Size (QWP2OBPS)
The OUTBUFF subsystem parameter determines the size of the output buffer that is used for writing active log data sets.

Valid values:

```
400K to 400000K
```

Default:

```
4000K
```

(REMOTE_COPY_SW_ACCEL) (QWP2RCSA)

Specifies whether DB2 uses software (SW) to control the remote copy process for active log output in peer-to-peer remote copy (PPRC) environments.

Valid values:

```
DISABLE (default)
ENABLE
```

DB2 12 and later.

DSNTIPL1-Checkpoint Parameters

Checkpoint Type (QWP1LOGT)
The CHKTYPE subsystem parameter indicates whether the interval between log checkpoints is based on the number of written log records, the time between checkpoints, or both.

Valid values:

```
SINGLE(LOGRECS or MINUTES)
BOTH
```

Check Frequent (QWP1LOGL)
The CHKFREQ subsystem parameter determines how many log records are created before log checkpoints occur.

Valid values:

```
1,000 - 16,000,000 (if CHKTYPE is SINGLE/LOGRECS)
1 - 60 (if CHKTYPE is SINGLE/MINUTES)
NOTUSED (if CHKTYPE is BOTH).
NOTUSED is displayed as 0.
```

Default:

```
500000
```

Records/Checkpoint (QWP1LOGR)
The RECORDS/CHECKPOINT parameter determines how many log records are created between log checkpoints.

Valid values:

```
1,000 - 99,999,999 (if CHKTYPE is BOTH)
NOTUSED (if CHKTYPE is SINGLE)
NOTUSED is displayed as 0.
```

Default:

```
NOTUSED(0)
```

Minutes/Checkpoint (QWP1LOGM)
The MINUTES/CHECKPOINT parameter determines how many minutes are passing between log checkpoints.

Valid values:

```
 1- 1439 (if CHKTYPE is BOTH)
NOTUSED (if CHKTYPE is SINGLE)
NOTUSED is displayed as 0.
```

Default:

```
NOTUSED(0)
```

UR Check Freq (QWP1URCK)
The URCHKTH subsystem parameter determines the number of checkpoint cycles to be completed before a warning message is issued to the console by DB2 for an uncommitted unit of recovery (UR).

If you do not want these warning messages to be issued, you can disable this option.

Valid values:

```
 0 to 255
```

Default:

```
5
```

Log Apply Storage V9 (QWP1FLBZ)
This parameter determines the maximum amount of dsn1dbm1 storage that can be used for fast log application.

This value is used by DB2 during the log application phase of the recover utility. This field corresponds to field the field **log apply storage** on the installation panel DSNTIPL.

UR Log Write Check (QWP1LWCK)
The URLGWTH subsystem parameter determines the number of log records that are written before a warning message is issued to the console by an uncommitted unit of recovery (UR).

If you do not want these warning messages to be issued, you can disable this option.

Valid values:

```
0 to 1000K
```

Default:

```
10K
```

Limit Backout (QWP1LMBO)
The LBACKOUT subsystem parameter determines whether DB2 postpones backward-log processing for some units of work.

Valid values:

```
AUTO
YES
LIGHT
LIGHTAUTO
NO
```

Default:

```
AUTO
```

Backout Duration (QWP1BDUR)
The BACKODUR subsystem parameter determines the number of log records that are backed out during a restart. This value is applied when the LIMIT BACKOUT field is set to AUTO, YES, LIGHT, or LIGHTAUTO.

Valid values:

```
0 to 255
```

Default:

```
5
```

RO Switch Chkpts (QWP1FREQ)
The PCLOSEN subsystem parameter determines the number of consecutive DB2 checkpoints that are allowed after a page set or partition is updated. After the specified number of checkpoints occurred, DB2 converts the page set or partition from read-write to read-only.

Valid values:

```
1 to 32767
```

Default:

```
10 checkpoints
```

RO Switch Time (QWP1TMR)
The PCLOSET subsystem parameter determines the number of minutes that can elapse after a page set or partition is updated. After the specified number of minutes, DB2 converts the set or partition from read-write to read-only.

Valid values:

```
1 to 32767
```

Default:

```
 10 minutes
```

Levelid Update Freq (QWP1DFRQ)
The DLDFREQ subsystem parameter determines whether the level ID of a page set or partition is to be updated at DB2-determined checkpoint intervals.

- If level ID updates for down-level detection are enabled (ON), 5 is displayed.
- If level-ID updates for down-level detection are disabled, (OFF), 0 is displayed.

Valid values:

```
ON
OFF
```

DSNZPARM Archiving Parameters

This panel shows information about the parameters that affect DB2 archiving.It shows the name of the DSNZPARM module that is specified for DB2 startup and the date on which the module is assembled. It also shows a list of the default values of the DB2 application.

If a field is not available for the current Db2 release, the string N/A is displayed. For other conditions, for example, if specific Db2 traces are not started or control block data is not available, the string N/P is displayed.

```
_________________ ZPARC    VTM     O2       V540.#P SC11 S 07/07/16 15:52:28 2
>       Help PF1      Back PF3      Left PF10      Right PF11
> R.H.D
>       DSNZPARM INFORMATION:  Enter a selection letter on the top line.

>  A-THREAD    B-TRACE     C-LOGGING   *-ARCHIVING     E-AUTH/RLF/DDF   F-IRLM
>  G-STORAGE   H-DATASET   I-DDCS      J-DATA SHARING  K-STORED PROC    L-UTIL
>  M-APPL      N-DATA      O-PERF      P-BUFFERPOOL    Q-OTHERS
================================================================================
>                        DSNZPARM ARCHIVING PARAMETERS
 ZARC
+ Collection Interval:  REALTIME                SNAPTIME: 07/07/16 15:52:29.00
+
+ DSNZPARM Module                                                  DSNZPARM
+ Assembly Date                                                    04/14/16
+ Initial Module                                                   DSNZPARM
+ Assembly Date                                                    04/14/16
+ Previous Module                                                  DSNZPARM
+ Assembly Date                                                    04/14/16
+
+ DSNTIPA-Archive Log Parameters
+-----------------------------------
+ Allocation Unit (ALCUNIT)                                          CYL
+ Primary Quantity (PRIQTY)                                          125
+ Secondary Quantity (SECQTY)                                         15
+ Catalog Archive Data Set (CATALOG)                                 N/A
+ Device Type 1 (UNIT)                                             DASD
+ Device Type 2 (UNIT2)                                            NONE
+ Block Size (BLKSIZE)                                            24576
+ Read Tape Units (MAXRTU)                                            2
+ Tape Unit Dealloc Period (DEALLCT)                                0: 0
+ Recording Max (MAXARCH)                                          10000
+ Write to Oper (ARCWTOR)                                           YES
+ Retention Period (ARCRETN)                                       9999
+ Quiesce Period (QUIESCE)                                            5
+ Compact Data (COMPACT)                                             NO
+ Single Volume (SVOLARC)                                            NO
+ (ZHYPERLINK)
+
+ DSNTIPH-System Resource
+-----------------------------------
+ Number of Active Logs (TWOACTV)                                     1
+ Number of Archive Logs (TWOARCH)                                    1
+ ARC1 Prefix (ARCPFX1)                          DBC1.SC11.ARCHLOG1
+ ARC2 Prefix (ARCPFX2)                          DBC1.SC11.ARCHLOG2
+ Timestamp Archives (TSTAMP)                                       YES
+
+ Others-System Resource
+-----------------------------------
+ Dual BSDS Mode (TWOBSDS)                                          YES
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

The **DSNZ** command displays the following lines to reflect the usage of the DB2 **SET SYSPARM** command. To each of these lines, the corresponding date on which this particular module is assembled is displayed.

DSNZPARM Module
The name of the DSNZPARM module that is specified for DB2 startup.

Initial Module
The name of the initial DSNZPARM load module.

Previous Module
The name of the previous DSNZPARM load module.

Assembly Date
The date on which this module was assembled.

DSNTIPA-Archive Log Parameters

Allocation Unit (QWP3CYL/QWP3TRCK)
The ALCUNIT subsystem parameter determines the unit type that is used by DB2 to allocate space for archive data sets.

Valid values:

```
BLK(BLOCK)
CYL(CYLINDER)
TRK(TRACK)
```

Default:

```
BLK
```

Primary Quantity (QWP3RISP)
The PRIQTY subsystem parameter determines the amount of primary space that is allocated for a disk data set. The units for this parameter are specified in the ALLOCATION UNITS field.

Valid values:

```
Blank
1 to 999999
```

Default:

```
Blank
```

Secondary Quantity (QWP3SECS)
The SECQTY subsystem parameter determines the amount of secondary space that is allocated for a disk data set. The units for this parameter are specified in the ALLOCATION UNITS field.

Valid values:

```
Blank
1 to 999999
```

Default:

```
Blank
```

Catalog Archive Data Set (CATALOG) (QWP3CTLG)
The value of the CATALOG DATA field specifies whether archive log data sets on tape are to be cataloged.

Valid values:

```
YES, NO
```

Default:

```
NO
```

DB2 10 and DB2 11 only.

Device Type 1 (QWP3UNT1)
The UNIT subsystem parameter determines the device type or the unit name that is used for storing the first copy of archive log data sets.

Valid values:

```
Device type
Unit name
```

Default:

```
TAPE
```

Device Type 2 (QWP3UNT2)
The UNIT2 subsystem parameter determines the device type or the unit name that is used for storing the second copy of archive log data sets.

Valid values:

```
Device type
Unit name
```

Default:

```
None
```

Block Size (QWP3BKSZ)
The BLKSIZE subsystem parameter determines the block size that is used for the archive log data set.

Valid values:

```
 8192 to 28672
```

Default:

```
24576
```

Read Tape Units (QWP2MRTU)
The MAXRTU subsystem parameter determines the maximum number of dedicated tape units that can be allocated to concurrently read archive log tape volumes.

Valid values:

```
1 to 99
```

Default:

```
2
```

Tape Unit Dealloc Period (QWP2DMIN:QWP2DSEC)
The DEALLCT subsystem parameter determines the length of time that an archive read tape unit can remain unused before it is deallocated.

The time is displayed like this: `Minutes : Seconds`

Valid values:

```
Minutes
Seconds
1440
NOLIMIT
```

Default:

```
0
```

Recording Max (QWP2ARCL)

The MAXARCH subsystem parameter determines the maximum number of archive log volumes that are recorded in the BSDS.

If you have a dual archive, this number is for each log data set. For example, if 500 is specified as the maximum number, allow 500 COPY-1 and 500 COPY-2 data sets in the BSDS.

Valid values:

```
10 to 10000
```

Default:

```
10000
```

Write to Oper (QWP3WTOR)

The ARCWTOR subsystem parameter determines whether DB2 sends a message to the operator and waits for a reply before attempting to mount an archive log data set.

Valid values:

```
NO
YES
```

Default:

```
YES
```

Retention Period (QWP3RETN)

The ARCRETN subsystem parameter determines the retention period. This is the number of days that DB2 retains archive log data sets.

The retention period is added to the current date to calculate the expiration date of the archive log data sets.

Valid values:

```
0 to 9999
```

Default:

```
9999
```

Quiesce Period (QWP3MQP)

The QUIESCE subsystem parameter determines the maximum amount of time in seconds that DB2 is allowed to attempt a full system quiesce.

Valid values:

```
1 to 999
```

Default:

```
5
```

Compact Data (QWP3COMP)

The COMPACT subsystem parameter determines whether data that is written to archive logs is compacted.

Valid values:

```
NO
YES
```

Default:

```
NO
```

Single Volume (QWP3SVOL)

The SVOLARC subsystem parameter determines whether a single volume is used by DB2 for disk archives.

When archiving to disk, the number of online storage volumes for the specified UNIT name is used to determine a count of candidate volumes up to 15.

Valid values:

```
NO
YES
```

Default:

```
NO
```

(ZHYPERLINK) - (QWP4ZHYPL)

The ZHYPERLINK subsystem parameter specifies the default scope of the zHyperLink protocol for I/O requests.

ZPARM NAME: ZHYPERLINK

Valid values are:

DISABLE
(Default) Db2 does not use zHyperLink for any I/O requests.

ENABLE
All eligible I/O requests that Db2 makes request the zHyperLink protocol.

DATABASE
Db2 requests the zHyperLink protocol only for database synchronous read I/Os.

ACTIVELOG
Db2 requests the zHyperLink protocol only for active log write I/Os.

Db2 11 and later.

DSNTIPH-System Resource

Number of Active Logs (QWP2DUAL)

The TWOACTV subsystem parameter determines the number of copies of the active log that is maintained by DB2.

Valid values:

```
1 (single locking)
2 (dual locking)
```

Default:

```
2
```

Number of Archive Logs (QWP2ADL)

The TWOARCH subsystem parameter determines the number of copies of the archive log that is produced by DB2 during offloading.

Valid values:

```
1
2
```

Default:

```
2
```

ARC1 Prefix (QWP3RE1N)

The ARCPFX1 subsystem parameter determines the prefix that is used for the first copy of the archive log data set.

Valid values:

```
Valid data set name prefix
1 to 35 characters
```

Default:

```
DSNCAT.ARCHLOG1 or DSNCAT.DSN1.ARCLG1
```

ARC2 Prefix (QWP3RE2N)

The ARCPFX2 subsystem parameter specifies the prefix that is used for the second copy of the archive log data set. If you use single logging, accept the default value.

Valid values:

```
Valid data set name prefix
1 to 35 characters
```

Default:

```
DSNCAT.ARCHLOG2 or DSNCAT.DSN1.ARCLG2
```

Timestamp Archives (QWP3DTIM)

The TSTAMP subsystem parameter determines whether the DB2 archive log data set name contains the date and time that the archive log data set is created.

Valid values:

```
NO
YES
EXT
```

Default:

```
NO
```

Dual BSDS Mode (QWP2DBSD)

The dual BSDS mode.

Valid values:

```
NO
YES
```

DSNZPARM Authorization, RLF and DDF Parameters

This panel shows information about the parameters that affect DB2 access and security. It shows the name of the DSNZPARM module that is specified for DB2 startup and the date on which the module is assembled. It also shows a list of the default values of the DB2 application.

If a field is not available for the current Db2 release, the string N/A is displayed. For other conditions, for example, if specific Db2 traces are not started or control block data is not available, the string N/P is displayed.

```
_________________ ZPCTL    VTM     O2       V540.#P DC11 S 04/07/16 23:10:44 2
>       Help PF1      Back PF3      Left PF10      Right PF11
> R.H.E
>       DSNZPARM INFORMATION:  Enter a selection letter on the top line.

>  A-THREAD    B-TRACE     C-LOGGING   D-ARCHIVING     *-AUTH/RLF/DDF   F-IRLM
>  G-STORAGE   H-DATASET   I-DDCS      J-DATA SHARING  K-STORED PROC    L-UTIL
>  M-APPL      N-DATA      O-PERF      P-BUFFERPOOL    Q-OTHERS
================================================================================
>             DSNZPARM AUTHORIZATION, RLF, AND DDF PARAMETERS
 ZCTL
+ Collection Interval:  REALTIME                SNAPTIME: 04/07/16 23:10:44.37
+
+ DSNZPARM Module                               DSNZPARM
+ Assembly Date                                 03/17/16
+ Initial Module                                DSNZPARM
+ Assembly Date                                 03/17/16
+ Previous Module                               DSNZPARM
+ Assembly Date                                 03/17/16
+
+ DSNTIPO-Operator Functions
+-----------------------------------
+ WTO Route Codes (ROUTCDE)                        1
+ Recall Data Base (RECALL)                      YES
+ Recall Delay (RECALLD)                         120
+ Auto Bind (ABIND)                              YES
+ Explain Processing (ABEXP)                     YES
+ Dprop Support (EDPROP)                          NO
+ Change Data Capture (CHGDC)                     NO
+ Site Type (SITETYP)                        LOCALSITE
+ Tracker Site (TRKRSITE)                         NO
+ Read Copy2 Archive (ARC2FRST)                   NO
+ (PROFILE_AUTOSTART)
NO
```

```
+ DSNTIPP-Protection 1
+-----------------------------------
+ Archive Log RACF (PROTECT)                      NO
+ Use Protection (AUTH)                         YES
+ Plan Auth Cache (AUTHCACH)                   3072
+ Package Auth Cache (CACHEPAC)             5242880
+ Routine Auth Cache (CACHERAC)             5242880
+ Auth Exit Limit (AEXITLIM)                     10
+ Auth Exit Check (AUTHEXIT_CHECK)           PRIMARY
+ (AUTHEXIT_CACHEREFRESH)                       NONE
+
```

```
+ DSNTIPP1-Protection 2
+-----------------------------------
+ System Admin 1 (SYSADM)                       HELM
+ System Admin 2 (SYSADM2)                    SYSADM
+ System Operator 1 (SYSOPR1)                   HELM
+ System Operator 2 (SYSOPR2)                   EMIL
+ Security Admin 1 (SECADM1)                  SECADM
+ Sec Admin1 Type (SECADM1_TYPE)              AUTHID
+ Security Admin 2 (SECADM2)                  SECADM
+ Sec Admin2 Type (SECADM2_TYPE)              AUTHID
+ (SEPARATE_SECURITY)                             N
+ Unknown Authid (DEFLTID)                   IBMUSER
+ Resource Authid (RLFAUTH)                   SYSIBM
+ Bind New Package (BINDNV)                  BINDADD
+ DBADM Create Auth (DBACRVW)                     NO
+ (REVOKE_DEPENDENT_PRIVILEGES)                   S
+
```

```
+ DSNTIPR-DDF 1
+-----------------------------------
+ DDF Startup Option (DDF)                     AUTO
+ Resync Interval (RESYNC)                       2
+ DDF Threads (CMTSTAT)                   INACTIVE
+ Max Type1 Inactive Thrds (MAXTYPE1)            0
+ Idle Thread Timeout (IDTHTOIN)                120
+ Extended Security (EXTSEC)                    YES
+
```

```
+ DSNTIP5-DDF 2
+-----------------------------------
+ TCP/IP Already Verified (TCPALVER)                  NO
+ Extended Option for TCPALVER                        NO
+ Extra Blocks Req (EXTRAREQ)                       100
+ Extra Blocks Srv (EXTRASRV)                       100
+ Hop Site Authorization (HOPAUTH) V9               N/A
+ TCP/IP Keepalive (TCPKPALV)                       120
+ Pool Thread Timeout (POOLINAC)                    120
+ Conn Queue Max Depth (MAXCONQN)                     0
+ Conn Queue Max Wait (MAXCONQW)                      0
================================================================================
```

```
+ DSNTIPO4-Resource Limit Facility
+-----------------------------------
+ RLF Auto Start (RLF)                             NO
+ RLF Scope (RLFENABLE)                         DYNAMIC
+ RLST Name Suffix (RLFTBL)                         01
+ RLST Access Err DSQL (RLFERR)                 NOLIMIT
+ RLST Access Err SSQL (RLFERRSTC)              NOLIMIT
+ RLST Access Err RemDSQL (RLFERRD)             NOLIMIT
+ RLST Access Err RemSSQL(RLFERRDSTC)           NOLIMIT
```

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

The **DSNZ** command displays the following lines to reflect the usage of the DB2 **SET SYSPARM** command. To each of these lines, the corresponding date on which this particular module is assembled is displayed.

DSNZPARM Module
The name of the DSNZPARM module that is specified for DB2 startup.

Initial Module
The name of the initial DSNZPARM load module.

Previous Module
The name of the previous DSNZPARM load module.

Assembly Date
The date on which this module was assembled.

DSNTIPO-Operator Functions

WTO Route Codes (ROUTCDE) (QWP1SMRC)
This parameter determines the z/OS console routing codes that are assigned to messages that are not solicited from a specific console.

Valid values:

```
2 bytes are used as bits 1-16
```

Recall Data Base (RECALL) (QWP4HRCL)
This parameter determines whether DFSMShsm automatic recall is performed for DB2 databases.

Recall Delay (RECALLD) (QWP4HRCD)
This parameter determines the maximum length of time in seconds that a program can be delayed for a DFSMShsm recall.

Auto Bind (ABIND) (QWP4ABN)
This parameter determines whether plans or packages can be rebound automatically.

Valid values:

COEXIST
Automatic rebind is performed in a data sharing coexistence environment if one of the following conditions are met:

- The plan or package is marked as invalid.
- The plan or package was last bound at the current release level. It is now running on a subsystem at the previous release level.

DISABLE
You must explicitly rebind any invalid plan or package before it can be used.

ENABLE
Automatic rebind is performed on plans or packages.

Explain Processing (ABEXP) (QWP4ABX)
This parameter determines whether EXPLAIN is allowed during AUTOBIND.

Dprop Support (EDPROP) (QWP4ENF)
DPROPNR support only.

Change Data Capture (CHGDC) (QWP4CDC)
This parameter determines the enablement of change data capture.

Site Type (SITETYP) (QWP4MSTY)
This parameter determines whether this system runs at the local site.

Tracker Site (TRKRSITE) (QWP4TRKR)
This parameter determines whether this subsystem is a remote tracker site for another DB2 system.

Read Copy2 Archive (ARC2FRST) (QWP2ARC2)
This parameter determines whether the COPY2 archives are read first when the DB2 subsystem is started.

(PROFILE_AUTOSTART) (QWP1PFSY)
Specifies whether start profile command processing is automatically initiated as part of DB2 startup.

- 0=NO
- 1=YES

DB2 12 and later.

DSNTIP-Protection 1

Archive Log RACF (PROTECT) (QWP3RTCT)
This parameter determines the RACF protection.

Use Protection (AUTH) (QWP4AUTH)
This parameter determines whether the DB2 authorization is enabled or disabled.

Valid values:

```
E=ENABLE(YES)
D=disable(NO)
```

Default:

```
E
```

Plan Auth Cache (AUTHCACH) (QWP4AUCA)
This parameter determines the authorization cache size.

Package Auth Cache (CACHEPAC) (QWP4PAC)
This parameter determines the size of package authorization cache.

Routine Auth Cache (CACHERAC) (QWP4RAC)
This parameter determines the amount of storage that is allocated to the caching of authorization information for all routines on this subsystem.

Default:

```
32K
```

Auth Exit Limit (AEXITLIM) (QWP4ACAN)
This parameter determines the abend count for the access control authorization exit.

Auth Exit Check (AUTHEXIT_CHECK) (QWP4RACK)
This parameter determines the authorization exit check.

Valid values:

```
P=PRIMARY
D=DB2
```

DB2 11 and later.

(AUTHEXIT_CACHEREFRESH) (QWP4AECR)
This parameter determines the authorization exit cache refresh.

Valid values:

```
A=ALL
N=NONE
```

DB2 11 and later.

DSNTIP1-Protection 2

System Admin 1 (SYSADM) (QWP4SADM)
The system administrator user ID 1.

If QWP4SADM_OFF is not set to 0, ths value is truncated. If QWP4SADM is truncated, this is the offset from the beginning of QWP4 TO QWP4SADM_LEN.

If QWP4SADM_OFF is not set to 0, use the following fields:

- Length of QWP4SADM_VAR
- System Administrator user ID 1

System Admin 2 (SYSADM2) (QWP4ADM2)
The system administrator user ID 1.

If QWP4ADM2_OFF is not set to 0, this value is truncated. If QWP4ADM2 is truncated, this is the offset from the beginning of QWP4 TO QWP4ADM2_LEN.

If QWP4ADM2_OFF is not set to 0, use the following fields:

- Length of QWP4ADM2_VAR
- System Administrator user ID 2

System Operator 1 (SYSOPR1) (QWP4OPR1)
The system operator user ID 1.

If QWP4OPR1_OFF is not set to 0, this value is truncated. If QWP4OPR1 is truncated, this is the offset from the beginning of QWP4 TO QWP4OPR1_LEN.

If QWP4OPR1_OFF is not set to 0, use the following fields:

- Length of QWP4OPR1_VAR
- System Operator user ID 1.

System Operator 2 (SYSOPR2) (QWP4OPR2)
The system operator user ID 1.

If QWP4OPR2_OFF is not set to 0, this value is truncated. If QWP4OPR2 is truncated, this is the offset from the beginning of QWP4 TO QWP4OPR2_LEN.

If QWP4OPR2_OFF is not set to 0, use the following fields:

- Length of QWP4OPR2_VAR
- System Operator user ID 2.

Security Admin 1 (SECADM1) (QWP4SECA1_E)
The security administrator 1 authorization ID.

If QWP4SECA1_OFF is not set to 0, this value is truncated. If the authorization is held by a role, this value is blank.

Sec Admin1 Type (SECADM1_TYPE) (QWP4SECA1_TYPE)
The security administrator type 1 authorization ID.

' '
Authorization ID

L
Role

Security Admin 2 (SECADM2) (QWP4SECA2_E)
The security administrator type 2 authorization ID.

If QWP4SECA1_OFF is not set to 0, this value is truncated. If the authorization is held by a role, this value is blank.

Sec Admin2 Type (SECADM2_TYPE) (QWP4SECA2_TYPE)
The security administrator type 2 authorization ID.

' '
Authorization ID

L
Role

(SEPARATE_SECURITY) (QWP4SEPS)
Specifies whether to separate DB2 security administrator duties from the DB2 system administrator duties.

Revoke:

Y
SYSADM cannot manage security objects such as roles and trusted contexts. SYSCTRL cannot manage roles.

N
SECADM or ACCESSCTRL AUTHORITY is required for security administration.

Unknown Authid (DEFLTID) (QWP4DFID)
The system administrator default user ID.

If QWP4DFID_OFF is not set to 0, this value is truncated. If QWP4DFID is truncated, this is the offset from the beginning of QWP4 TO QWP4DFID_LEN.

If QWP4DFID_OFF is not set to 0, use the following fields:

- LENGTH OF QWP4DFID_VAR
- SYSTEM DEFAULT USER ID.

Resource Authid (RLFAUTH) (QWP1RLFA)
The resource limit specification table authorization ID.

If QWP1RLFA_OFF is not set to 0, this value is truncated. If QWP1RLFA is truncated, this value is the offset from the beginning of QWP1 TO QWP1RLFA_LEN.

Use the following fields if QWP1RLFA_OFF is not set to 0:

- Length of QWP1RLFA_VAR
- Resource limit specification table authorization ID

Bind New Package (BINDNV) (QWP4BNVA)
When adding a new package or a new version of an existing package to a collection, one of the following authorities is required:

- BINDADD AUTHORITY

- BIND AUTHORITY

DBADM Create Auth (DBACRVW) (QWP4CRVW)
Specifies whether an authorization ID with DBADM authority can create a view or an alias for another authorization ID. Valid values are YES or NO. The default value is NO.

(REVOKE_DEPENDENT_PRIVILEGES) (QWP4RVDP)
Specifies whether to include dependent privileges on REVOKE:

Y
Dependent privileges are included.

N
Dependent privileges are not included.

S
The REVOKE statement specification is used.

DSNTIPR-DDF 1

DDF Startup Option (DDF) QWP9STRT)
The facility start parameter.

Resync Interval (RESYNC) (QWP9RYC)
The minutes between resynchronization periods.

DDF Threads (CMTSTAT) (QWP9CMST)
The status of the DDF thread.

Max Type1 Inactive Thrds (MAXTYPE1) (QWP9MAX1)
Specifies the maximum type 1 inactive threads that are allowed by DB2. 0 indicates that type 1 inactive connections are not allowed.

Idle Thread Timeout (IDTHTOIN) (QWP9TTO)
The approximate time in seconds that an active server thread can remain dormant before it is cancelled.

Extended Security (EXTSEC) (QWP1SCER)
This parameter determines the contents of the error message that is returned to a network client when a DDF connection request fails due to a security error. It also determines whether you can update an RACF password by using the DRDA change password function.

Y
Detailed error information is returned. You can update the password by using the DRDA function.

N
A generic error message is returned. You cannot update the RACF password by using the DRDA function.

DSNTIP5-DDF2

TCP/IP Already Verified (TCPALVER) (QWP9TCPA)
Specifies whether already verified connections are accepted from TCP/IP clients.

Valid values: YES or NO. If connections are not accepted, additional criteria might apply.

Extended Option for TCPALVER (QWP9TCPVE)
If YES is specified, user ID and password are required. These values must be AES-encrypted including RACF passtickets, or a KERBEROS ticket is required, or the connection is protected by one of the following options:

- AT-TLS policy (ensured via a DB2 SECPORT)
- IPSEC tunnel

Extra Blocks Req (EXTRAREQ) (QWP1EXBR)
The maximum number of extra query blocks that DB2 can request from a remote DRDA server.

Extra Blocks Srv (EXTRASRV) (QWP1EXBS)
The maximum number of extra query blocks that DB2 can return to a remote DRDA requester.

Hop Site Authorization (HOPAUTH) V9 (QWP4HOP)
For a non-DB2 requester that executes a package at a DB2 server that sends an SQL statement to another DB2 server, you can specify one of the following options:

ON
The authorization ID of the package owner is used for static SQL, and the ID of the process runner is used for dynamic SQL.

OFF
The authorization ID of the process runner is used for all statements.

TCP/IP Keepalive (TCPKPALV) (QWP9TCKA)
Determines whether to override the TCP/IP stack Keepalive value. The default value is 120.

You can specify the following values:

ENABLE
The TCP/IP value is not overwritten.

DISABLE
Keep alive probing is disabled.

1-65534 (SECONDS)
The TCP/IP stack Keepalive value should be replaced with the value that is displayed in this field.

Pool Thread Timeout (POOLINAC) (QWP9INAC)
Specifies the time in seconds that a DBAT can remain idle in the pool before it is terminated. If this parameter is set to 0, a DBAT is terminated instead of going into the pool if there is a sufficient number of threads in the pool to process the number of type 2 inactive threads that is currently existing.

Valid values: 0-9999.

Default: 120.

Conn Queue Max Depth (MAXCONQN) (QWP9MCONQN)
The maximum depth for the connection request queue of connections that are waiting for a DBAT to process a request. The minimum value is 1.

OFF
The queue is limited only by CONDBAT.

ON
The depth of the queue corresponds to the maximum value that is specified for MAXDBAT.

Conn Queue Max Wait (MAXCONQW) (QWP9MCONQW)
The maximum time in seconds for a connection to wait for a DBAT to process its request.

OFF
The connection waits indefinitely.

ON
The time value that is specified for IDTHTOIN is used. However, if IDTHTOIN is set to 0, w warning MNOTE is issued. It states that MAXONT is set to OFF because IDTHTOIN is set to 0. The minimum numeric value is 5. The maximum value is 3600 seconds.

This is the default value.

DSNTIP04 - Resource Limit Facility

RLF Auto Start (RLF) (QWP1RLF)
This parameter determines whether the resource limit facility (governor) starts automatically each time DB2 is started.

RLF Scope (RFLENABLE)

The level of RLF governing:

DYNAMIC
Dynamic SQL only

STATIC
Static SQL only

ALL
Both, dynamic and static SQL

DB2 12 and later.

RLST Name Suffix (RLFTBL) (QWP1RLFT)
This parameter determines the suffix that is used for the default resource limit specification table (RLST). The default RLST is used when the resource limit facility (governor) is started automatically or when the governor is started without a specified suffix.

RLST Access Error (RLFERR) (QWP1RLFR)
This parameter determines what DB2 is doing if the governor encounters a condition that prevents it from accessing the resource limit specification table. This setting applies also if DB2 cannot find an applicable row in the resource limit specification table. An applicable row applies to the authorization ID, plan or package name, and the name of the logical unit of work of the query user.

RLST Access Err SSQL (RLFERRSTC)

The action taken by DB2 when the governor cannot use the resource limit:

NOLIMIT
The static SQL statements run without limit.

NORUN
The static SQL statements terminated with an SQL error code. A number from 1 to 5000000 represents the number of CPU service units allowed for a query.

DB2 12 and later.

RLST Access Err RemDSQL (RLFERRD) (QWP9RLER)

Shows what DB2 does when the governor cannot access the resource limit specification table or when no row in the table matches the currently running statement. :

NOLIMIT
This is the default. It allows all dynamic SQL statements to run without limit.

NORUN
Terminates all dynamic SQL statements immediately with an SQL error code. A number from 1 to 5000000 is the default limit. If the limit is exceeded, the SQL statement is terminated.

RLST Access Err RemSSQL (RLFERRDSTC)

Shows what DB2 does when the governor cannot access the resource limit specification table or when no row in the table matches the currently running statement:

NOLIMIT
This is the default. It allows all static SQL statements to run without limit.

NORUN
Terminates all static SQL statements immediately with an SQL error code. A number from 1 to 5000000 is the default limit; if the limit is exceeded, the SQL statement is terminated.

DB2 12 and later.

DSNZPARM IRLM Parameters

This panel shows information about the Internal Resource Lock Manager (IRLM) with which DB2 communicates. It shows the name of the DSNZPARM module that is specified for DB2 startup and the date on which the module is assembled. It also shows a list of the default values of the DB2 application.

If a field is not available for the current Db2 release, the string N/A is displayed. For other conditions, for example, if specific Db2 traces are not started or control block data is not available, the string N/P is displayed.

```
_________________ ZPRLM    VTM     O2       V540./C DB1H S 07/31/13 15:17:15 2
>       Help PF1      Back PF3      Left PF10      Right PF11
> R.H.F
>       DSNZPARM INFORMATION:  Enter a selection letter on the top line.

>  A-THREAD    B-TRACE     C-LOGGING   D-ARCHIVING     E-AUTH/RLF/DDF   *-IRLM
>  G-STORAGE   H-DATASET   I-DDCS      J-DATA SHARING  K-STORED PROC    L-UTIL
>  M-APPL      N-DATA      O-PERF      P-BUFFERPOOL    Q-OTHERS
================================================================================
>                         DSNZPARM IRLM PARAMETERS
 ZRLM
+ Collection Interval:  REALTIME               SNAPTIME: 07/31/13 13:17:15.64
+
+ DSNZPARM Module                          DB1HUNIN
+ Assembly Date                            07/30/13
+ Initial Module                           DSNZPARM
+ Assembly Date                            07/29/13
+ Previous Module                          DSNZPARM
+ Assembly Date                            07/29/13
+
+ DSNTIPI-IRLM 1
+-----------------------------------
+ Subsystem Name (IRLMSID)                    IB1H
+ Resource Timeout (IRLMRWT)                   30
+ Auto Start (IRLMAUT)                        YES
+ Proc Name (IRLMPRC)                      DB1HIRLM
+ Time to Autostart (IRLMSWT)                 120
+ U Lock for RR or RS (RRULOCK)               YES
+ X Lock for Searched U/D (XLKUPDLT)           NO
+ IMS BMP Timeout (BMPTOUT)                    4
+ DL/I Batch Timeout (DLITOUT)                 6
+ Retain Lock Timeout (RETLWAIT)               0
+
+ DSNTIPJ-IRLM 2
+-----------------------------------
+ Locks per Table(space) (NUMLKTS)          2000
+ Locks Per User (NUMLKUS)                 10000
+ Deadlock Time                             5000
+ Deadlock Cycle                               1
+
+ Other IRLM Processing Parms
+-----------------------------------
+ PC Yes Specified                           YES
+ Current Timeout Interval                    30
+ IRLM Maximum CSA Allowed                     0
+ CF Lock Table Hash Entries                   0
+ CF Pending Hash Entries                      0
+ CF Lock Table List Entries                   0
+ Max 31-bit IRLM Private Storage              0
+ Max 64-bit IRLM Private Storage              0
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

The **DSNZ** command displays the following lines to reflect the usage of the DB2 **SET SYSPARM** command. To each of these lines, the corresponding date on which this particular module is assembled is displayed.

DSNZPARM Module
The name of the DSNZPARM module that is specified for DB2 startup.

Initial Module
The name of the initial DSNZPARM load module.

Previous Module
The name of the previous DSNZPARM load module.

Assembly Date
The date on which this module was assembled.

DSNTIPI-IRLM 1

Subsystem Name (IRLMSID) (QWP4ISID)
The name of the IRLM subsystem that is known to z/OS.

Resource Timeout (IRLMRWT) (QWP4TOUT)
The maximum amount of time in seconds that DB2 is waiting for the release of a locked resource.

Auto Start (IRLMAUT) (QWP4IAUT)
The IRLM start mode. OMEGAMON XE for DB2 PE displays YES if DB2 starts IRLM automatically or NO if it does not.

Proc Name (IRLMPRC) (QWP4IPRC)
The name of the IRLM procedure that is used by DB2 to start IRLM automatically.

Time to Autostart (IRLMSWT) (QWP4ISWT)
The time in seconds that DB2 waits for IRLM to start.

If this time expires and IRLM did not yet start, DB2 stops. This applies regardless whether IRLM is started automatically or not.

U Lock for RR or RS (RRULOCK) (QWP4RRU)
Determines whether the update (U) lock is used when using repeatable read (RR) or read stability (RS) isolation to access a table.

Valid values:

```
NO
YES
```

X Lock for Searched U/D (XLKUPDLT) (QWP4XLUD)
Use X lock for searched update or delete. If subsystem parameter XLKUPDT is set to NO, this bit is off. If subsystem parameter XLKUPDT is set to YES or TARGET, see QWP4XLUS.

IMS BMP Timeout (BMPTOUT) (QWP4WBMP)
Timeout multiplier for BMP a connection.

DL/I Batch Timeout (DLITOUT) (QWP4WDLI)
Timeout multiplier for DL/I batch connection.

Retain Lock Timeout (RETLWAIT) (QWP4WAIT)
Multiplier for determining how long a transaction waits for incompatible retained locks. This value is multiplied by the normal timeout multiplier of the connection.

If agents do not wait for incompatible retained locks, the value of this parameter is 0. The default is 0.

Utility Timeout (UTIMOUT)
Number of IRLM resource timeout intervals that a utility waits for a lock or claims to be released.

DSNTIPJ-IRLM 2

Locks per Table(space) (NUMLKTS) (QWP4LKTS)
The maximum number of page or row locks that can be held concurrently by a thread against a single table space for which LOCKSIZE ANY is specified before DB2 escalates the locking level to a table space lock.

The value 0 deactivates this feature.

Locks Per User (NUMLKUS) (QWP4LKUS)
The maximum number of page or row locks that can be held concurrently by a thread against all table spaces in the system including locks against data and index pages. Each lock averages 540 bytes. If this limit is reached, DB2 issues a return code RESOURCE UNAVAILABLE.

Deadlock Time (QWP5DLOK)
The time (in seconds or milliseconds) of the local deadlock detection cycle. Values between 1 and 5 are seconds. Values between 100 and 5000 are milliseconds. The initial value is retrieved from the

IRLMPROC DEADLOK parameter. This value can be changed dynamically with the MODIFY *irlmproc*,SET,DEADLOCK=*nnnn* command.

Deadlock Cycle (QWP5DCYC)
The number of local deadlock cycles that must expire before the IRLM performs global deadlock detection processing. This value is retrieved from the IRLMPROC DEADLOK parameter. In a data sharing environment, IRLM synchronizes all DEADLOK values in the group to the values specified on the most recent IRLM to join the group. The DEADLOK values can be changed by starting a member with the required values.

Other IRLM Processing parameters

PC Yes Specified (QWP5PCY)
Indicates whether the IRLM is to use the cross-address-space program call. This value is retrieved from the IRLMPROC PC parameter.

Current Timeout Interval (QWP5TVAL)
The initial value is retrieved from the Timeout Interval (IRLMRWT). The current value can be changed dynamically with the MODIFY *irlmproc*,SET,TIMEOUT=*nnnn*,*subsystem-name* command.

IRLM Maximum CSA Allowed (QWP5MCSA)
The maximum amount of common service area (CSA) and extended CSA (ECSA) that the IRLM for this DB2 uses for its lock control block structure. This value is retrieved from the IRLMPROC MAXCSA parameter.

CF Lock Table Hash Entries (QWP5HASH)
The number of lock table entries (LTE) that IRLM has allocated in the XCF LOCK structure. The initial value is calculated by the IRLM based on IRLMPROC parameters and the XCF LOCK structure size. This value can be changed dynamically with the MODIFY *irlmproc*,SET,LTE=*nnnn* command.

CF Pending Hash Entries (QWP5PHSH)
The number of LOCK HASH entries (LTE) that this IRLM can use on the next connect to the XCF LOCK structure. This value is set by MODIFY *irlmproc*,SET,LTE=*nnnn* command and exists until the next time the IRLM connects to the XCF LOCK structure or a subsequent MODIFY *irlmproc*,SET,LTE=*nnnn* command is issued.

CF Lock Table List Entries (QWP5RLE)
The number of entries (RLE) in the list of update locks that are currently held in the XCF LOCK structure. This list is sometimes called the "modify lock list" or "record list table". The initial value is calculated by the IRLM based on IRLMPROC parameters and the XCF LOCK structure size. This value can be changed dynamically with the MODIFY *irlmproc*,SET,LTE=*nnnn* command or a XCF LOCK structure resizing.

Max 31-bit IRLM Private Storage (QWP5BPM)
From a total of 2G virtual storage, a maximum amount of 31-bit IRLM private storage is available for normal operations in IRLM. IRLM reserves an additional 10% of the total 2G virtual storage for use by requests in IRLM. DB2 11 and later.

Max 64-bit IRLM Private Storage (QWP5APM)
From the total storage that is set as the MEMLIMIT, a maximum amount of 64-bit IRLM private storage is available for normal operations in IRLM. IRLM reserves an additional 10% of the total MEMLIMIT storage for use by requests that must be completed in IRLM. DB2 11 and later.

DSNZPARM Storage Parameters

This panel shows virtual storage allocations for the DB2 buffer pools and the Environmental Descriptor Manager (EDM) pool. It shows the name of the DSNZPARM module that is specified for DB2 startup and the date on which the module is assembled. It also shows a list of the default values of the DB2 application.

If a field is not available for the current Db2 release, the string N/A is displayed. For other conditions, for example, if specific Db2 traces are not started or control block data is not available, the string N/P is displayed.

```
4:35:52 PM: _________________ ZPSTG    VTM     O2       V540.#P SC11 S 07/07/16 16:35:51 2
>       Help PF1      Back PF3      Left PF10      Right PF11
> R.H.G
>       DSNZPARM INFORMATION:  Enter a selection letter on the top line.

>  A-THREAD    B-TRACE     C-LOGGING   D-ARCHIVING     E-AUTH/RLF/DDF   F-IRLM
>  *-STORAGE   H-DATASET   I-DDCS      J-DATA SHARING  K-STORED PROC    L-UTIL
>  M-APPL      N-DATA      O-PERF      P-BUFFERPOOL    Q-OTHERS
================================================================================
>                        DSNZPARM STORAGE PARAMETERS
 ZSTG
+ Collection Interval:  REALTIME               SNAPTIME: 07/07/16 16:35:51.89
+
+ DSNZPARM Module                                 DSNZPARM
+ Assembly Date                                   04/14/16
+ Initial Module                                  DSNZPARM
+ Assembly Date                                   04/14/16
+ Previous Module                                 DSNZPARM
+ Assembly Date                                   04/14/16
+
+ DSNTIPC-Storage Sizes
+-----------------------------------
+ Max Open Dataset (DSMAX)                          20000
+ EDM Statement Cache (EDMSTMTC)                  116107264
+ EDM DBD Cache (EDMDBDC)                          23961600
+ (EDM_SKELETON_POOL)                              83886080
+ EDM Limit Below the Bar (EDMPOOL)                     N/A
+ Sort Pool Size (SRTPOOL)                         10240000
+ (MAXSORT_IN_MEMORY)                                 1000
+ RID Pool Size (MAXRBLK)                         409600000
+
+ DSNTIPD-Sizes
+-----------------------------------
+ (LOB_INLINE_LENGTH)                                  0
+ User LOB Value STG (LOBVALA)                       N/A
+ System LOB Value STG (LOBVALS)                     N/A
+ User XML Value STG (XMLVALA)                       N/A
+ System XML Value STG (XMLVALS)                     N/A
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

The **DSNZ** command displays the following lines to reflect the usage of the DB2 **SET SYSPARM** command. To each of these lines, the corresponding date on which this particular module is assembled is displayed.

DSNZPARM Module
The name of the DSNZPARM module that is specified for DB2 startup.

Initial Module
The name of the initial DSNZPARM load module.

Previous Module
The name of the previous DSNZPARM load module.

Assembly Date
The date on which this module was assembled.

DSNTIPC-Storage Sizes

Max Open Dataset (DSMAX) (QWP4DSMX)
The maximum number of concurrently open data sets before deferred close.

This value is not an absolute limit. It is rather a target level of maximum open data sets that is used by the Deferred Close process of DB2. The practical limit depends on available storage below 16MB.

Valid values:

```
0-100000
```

EDM Statement Cache (EDMSTMTC) (QWP4ESTC)
The maximum size (in KB) of the statement cache that can be used by EDM. This value is either the DB2 startup value or a value (above the DB2 startup value) that you can specify with the SET SYSPARM command.

EDM DBD Cache (EDMDBDC) (QWP4EDBC)
The minimum size (in KB) of the DBD cache that can be used by EDM. This value is either the DB2 startup value or a value (above the DB2 startup value) that you can specify with the SET SYSPARM command.

EDM Limit Below the Bar (EDMPOOL) (QWP4EDPL)
Maximum size of the EDM Pool that is in below-the-bar storage. DB2 10 and DB2 11 only.

(EDM_SKELETON_POOL) (QWP4SKLC)
The EDM skeleton pool size in bytes (K=1024 bytes, M=1024 x 1024 bytes).

Sort Pool Size (SRTPOOL) (QWP4SPOL)
The size of the sort pool, KB.

(MAXSORT_IN_MEMORY) (QWP4MIMTS)
The maximum in-memory sort size. DB2 11 and later.

RID Pool Size (MAXRBLK) (QWP4RMAX)
The maximum number of RID blocks in bytes. If this value is zero, access path selections that require the RID pool (including List Prefetch and hybrid joins) will not be used.

DSNTIPD-Sizes

(LOB_INLINE_LENGTH) (QWP1LBIL)
The default number of bytes of a LOB that are stored in the base table.

User LOB Value STG (LOBVALA) (QWP1LVA)
The maximum number of kilobytes that a user can use to store LOB values. This field corresponds to field "User LOB Value Storage" on installation panel DSNTIP7. DB2 10 and DB2 11 only

System LOB Value STG (LOBVALS) (QWP1LVS)
The maximum number of megabytes that a subsystem can use to store LOB values. This field corresponds to field "System Value Storage" in DSN6SYSP. DB2 10 and DB2 11 only.

User XML Value STG (XMLVALA) (QWP1XVA)
Maximum amount of memory in KB for each user for storing XML values. DB2 10 and DB2 11 only.

System XML Value STG (XMLVALS) (QWP1XVS)
Maximum amount of memory in MB for the system for storing XML values. DB2 10 and DB2 11 only.

DSNZPARM Data set and Database Parameters

This panel shows information about the data set and database-related installation parameters in the DSNZPARM module. It shows the name of the DSNZPARM module that is specified for DB2 startup and the date on which the module is assembled. It also shows a list of the default values of the DB2 application.

If a field is not available for the current Db2 release, the string N/A is displayed. For other conditions, for example, if specific Db2 traces are not started or control block data is not available, the string N/P is displayed.

```
_________________ ZPDSN    VTM     O2       V540.#P SC11 S 07/08/16 10:16:33 2
>       Help PF1      Back PF3      Left PF10      Right PF11
> R.H.H
>       DSNZPARM INFORMATION:  Enter a selection letter on the top line.

>  A-THREAD    B-TRACE     C-LOGGING   D-ARCHIVING     E-AUTH/RLF/DDF   F-IRLM
>  G-STORAGE   *-DATASET   I-DDCS      J-DATA SHARING  K-STORED PROC    L-UTIL
>  M-APPL      N-DATA      O-PERF      P-BUFFERPOOL    Q-OTHERS
================================================================================
>                  DSNZPARM DATASET AND DATABASE PARAMETERS
 ZDSN
+ Collection Interval:  REALTIME               SNAPTIME: 07/08/16 10:16:33.22
+
+ DSNZPARM Module                                 DSNZPARM
+ Assembly Date                                   04/14/16
+ Initial Module                                  DSNZPARM
+ Assembly Date                                   04/14/16
+ Previous Module                                 DSNZPARM
+ Assembly Date                                   04/14/16
+
+ DSNTIP7-SQL Object Defaults 1
+-----------------------------------
+ Reordered Row Format (RRF)                          N/A
+ (OBJECT_CREATE_FORMAT)                          EXTENDED
+ (UTILITY_OBJECT_CONVERSION)                         NONE
+ Vary DS Control Interval (DSVCI)                     YES
+ Table Space Allocation (TSQTY)                         0
+ Index Space Allocation (IXQTY)                         0
+ Optimize Extent Sizing (MGEXTSZ)                      NO
+ (TS_COMPRESSION_TYPE)
+
+ DSNTIP71-SQL Object Defaults 2
+-----------------------------------
+ Default Partition Segsize (DPSEGSZ)                   32
+ Pct Free for Update (PCTFREE_UPD)                      0
+ (PAGESET_PAGENUM)                              ABSOLUTE
+ (RETRY_STOPPED_OBJECTS)                              NO
+ Pad Index By Default (PADIX)                         NO
+ (INDEX_MEMORY_CONTROL)                             AUTO
+ (DDL_MATERIALIZATION)                  ALWAYS_IMMEDIATE
+ (DEFAULT_INSERT_ALGORITHM)                         FAST
```

```
+
+ DSNTIP72-SQL Object Defaults 3
+-----------------------------------
+ Define Data Sets (IMPDSDEF)                         YES
+ Use Data Compression (IMPTSCMP)                      NO
+ (PREVENT_ALTERTB_LIMITKEY)                          NO
+ (IX_TB_PART_CONV_EXCLUDE)                          YES
+ Rename Table (RENAMETABLE)                     DISALLOW
+
+ DSNTIP91-Workfile Database
+-----------------------------------
+ Max Temp STG/AGENT (MAXTEMPS)                          0
+ Separate Work Files (WFDBSEP)                        NO
+ Max Temp RID (MAXTEMPS_RID)                            0
+ (WFSTGUSE_AGENT_THRESHOLD)                             0
+ (WFSTGUSE_SYSTEM_THRESHOLD)                           90
+
+ DSNTIPS-Auto Start DB/TS
+-----------------------------------
+ Restart or Defer (RESTART)                      RESTART
+ Auto Start Type (LIST or ALL)                       ALL
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

The **DSNZ** command displays the following lines to reflect the usage of the DB2 **SET SYSPARM** command. To each of these lines, the corresponding date on which this particular module is assembled is displayed.

DSNZPARM Module
The name of the DSNZPARM module that is specified for DB2 startup.

Initial Module
The name of the initial DSNZPARM load module.

Previous Module
The name of the previous DSNZPARM load module.

Assembly Date
The date on which this module was assembled.

DSNTIP7-SQL Object Default 1

Reordered Row Format (RRF) (QWP4RRF)
This parameter determines whether reordered row format is enabled.

YES
Enables reordered row format.

Db2 10 and Db2 11 only..

(OBJECT_CREATE_FORMAT) (QWP4OBCF)
This parameter determines whether new table spaces and indexes are created in one of the following formats:

1
Extended log record format

0
Basic log record format

Db2 11 and later..

(UTILITY_OBJECT_CONVERSION) (QWP4UTOC)
If RBALRSW format is not specified, this parameter converts existing table spaces and indexes that use extended log record addressing to basic log record addressing and vice versa. Db2 11 and later.

Vary DS Control Interval (DSVCI) (QWP1VVCI)
This parameter determines whether CI SIZE=PAGE is used when DB2-managed data sets are defined.

Table Space Allocation (TSQTY) (QWP1TSQT)
This parameter determines the default values in KB for PRIQTY and SEQCTY for table spaces.

Index Space Allocation (IXQTY) (QWP1IXQT)
This parameter determines the default values in KB for PRIQTY and SEQCTY for index spaces.

Optimize Extent Sizing (MGEXTSZ) (QWP1MESZ)
This parameter determines whether a sliding scale for secondary space allocations for DB2-managed data sets is enabled.

(TS_COMPRESSION_TYPE) - (QWP4TSCT)
The TS_COMPRESSION_TYPE subsystem parameter specifies the type of compression algorithm to use when Db2 creates new compressed table spaces, loads into, and reorganizes existing compressed table spaces.

ZPARM NAME: DSN6SPRM.TS_COMPRESSION_TYPE

Valid values are:

FIXED_LENGTH
(Default) Db2 uses its existing compression algorithm to perform compression and decompression of data stored in the table space. This is the default setting.

HUFFMAN
Db2 uses Huffman compression provided by IBM z14 or later hardware to perform compression and decompression of data stored in the table space. Huffman compression only applies to universal table spaces. All other table space types will use fixed-length compression regardless of the TS_COMPRESSION_TYPE setting.

Db2 12 and later.

DSNTIP71-SQL Object Default 2

Default Partition Segsize (DPSEGSZ) (QWP1DPSS)
This parameter determines the default segment size that is used for a partitioned table space when the CREATE TABLESPACE statement does not include the SEGSIZE parameter.

Pct Free for Update (PCTFREE_UPD) (QWP4PFUP)
This parameter determines the default percentage of each page that DB2 leaves as free space for updates when you create a table space without specifying the FOR UPDATE CLAUSE of the PCTFREE option and a table within that table space is populated. DB2 11 and later. Db2 11 and later.

(PAGESET_PAGENUM) (QWP4PSPN)

Specifies whether range-partitioned table spaces and associated indexes will be created to use absolute page numbers across partitions or relative page numbers.

A
Absolute page numbers

R
Relative page numbers

Db2 12 and later.

(RETRY_STOPPED_OBJECTS) (QWP4RSO)

Specifies whether DB2 should immediately reject requests for a stopped object or retry them, up to the IRLM timeout limit, to see if the object has been started.

NO
This is the default. It indicates that DB2 immediately rejects requests for a stopped object.

YES
DB2 retries such requests, up to the IRLM timeout setting, if the stopped object is restarted.

Db2 12 and later.

Pad Index By Default (PADIX) (QWP4PDIX)
This parameter determines whether new indexes are padded

Valid values:

NO
New indexes are not padded unless the PADDED option is included in the CREATE INDEX statement.

YES
New indexes are padded unless the NOT PADDED option is included in the CREATE INDEX statement.

Default:

```
NO
```

(INDEX_MEMORY_CONTROL) (QWP4IXMC)
Shows the amount of memory that DB2 should allocate for fast traversing of DB2 indexes:

1 = AUTO (default)
DB2 sets the upper limit of the storage to 20% of the currently allocated buffer pools.

0 = DISABLE
DB2 returns any existing storage allocated for fast index traversal and does not allocate any further storage for this purpose.

10 - 200000
Indicates the storage limit for fast index traversal in megabytes.

Db2 12 and later.

(DDL_MATERIALIZATION) (QWP4DDLM)
Specifies when DB2 materializes changes to the definition of an object. Valid values are:

ALWAYS IMMEDIATE (default)
Changes are materialized at the time the request is executed, and the containing table space is placed in the AREO* or REORP status.

ALWAYS PENDING
Changes are not materialized at the time that the request is executed, and the affected objects are available until it is convenient to implement changes. The containing table space is placed in the AREO* status.

Db2 12 and later.

(DEFAULT_INSERT_ALGORITHM) (QWP4DINA)
Specifies the default algorithm for inserting data into table spaces. Valid values:

BASIC(1) (default)
The basic insert algorithm is used.

FAST(2)
The fast insert algorithm is used.

Db2 12 and later.

Define Data Sets (IMPDSDEF) (QWP1DIDS)
This parameter determines the underlying data sets when a table space that is in an implicitly created database is created.

Use Data Compression (IMPTSCMP) (QWP1CITS)
This parameter determines whether data compression in table spaces in implicitly defined databases is used.

DSNTIP72-SQL Object Default 3

Define Data Sets (IMPDSDEF) (QWP1DIDS)
This parameter determines the underlying data sets when a table space that is in an implicitly created database is created.

Use Data Compression (IMPTSCMP) (QWP1CITS)
This parameter determines whether data compression in table spaces in implicitly defined databases is used.

(PREVENT_ALTERTB_LIMITKEY) (QWP4XPKE)

Determines whether DB2 disallows altering the limit key by using an ALTER TABLE statement for index-controlled partitioned table spaces. This alter operation places the table space in REORG-pending (REORP) restrictive status, and the data is not available until the affected partitions are reorganized. Use PREVENT_ALTERTB_LIMITKEY to avoid this data unavailability.

NO
Specifies that you can alter a limit key by using an ALTER TABLE statement for index-controlled partitioned table spaces. NO is the default.

YES
Specifies that it is not permitted to alter a limit key by using an ALTER TABLE statement for index-controlled partitioned table spaces. An ALTER TABLE statement must not attempt to alter the limit key for an index-controlled partitioned table.

Db2 11 and later.

(IX_TB_PART_CONV_EXCLUDE) (QWP4XPKE)
This parameter determines whether to include all columns in the partitioning key during the conversion from index-controlled partitioning to table-controlled partitioning.

Rename Table (RENAMETABLE) (QWP4ERTS)

Specifies whether the RENAME TABLE statement should extend to tables that are referenced in a view definition or the definition of an SQL table function:

ALLOW_DEP_VIEW_SQLTUDF
YES

DISALLOW_DEP_VIEW_SQLTUDF
NO

Db2 12 and later.

DSNTIP91-Workfile Database

Max Temp STG/AGENT (MAXTEMPS) (QWP4WFAL)
Specifies the maximum number of megabytes of temporary storage in the work file database that can be used by a single agend at any given time for all temporary tables. If 0 is specified, a limit is not enforced.

Valid values:

```
0 - 2147483647
```

Default: 0

Separate Work Files (WFDBSEP) (QWP4WFDBSEP)
This parameter determines whether DB2 provides an unconditional separation of table spaces in the work file database based on the allocation attributes of the table spaces.

Valid values:

YES
DB2 directs declared global temporary table (DGTT) work only to DB2-managed (STOGROUP) work file table spaces that are defined with a non-zero SECQTY and work file work only to other work file table spaces (DB2-managed table spaces that are defined with zero SECQTY or user-managed table spaces).

If a table space with the preferred allocation type is not available, an error messages is issued by DB2.

NO
DB2 attempts to direct (DGTT) work to DB2-managed (STOGROUP) work file table spaces that are defined with a non-zero SECQTY and work file work to any other work file table space (DB2-managed table spaces that are defined with zero SECQTY or user-managed table spaces.

If a table space with the preferred allocation type is available, DB2 selects a table space with a non-preferred allocation type.

Default: NO

Max Temp RID (MAXTEMPS_RID) (QWP4WFRD)
The maximum number of RID blocks of temporary storage in the work file database that a single RID list can use at any point in time.

(WFSTGUSE_AGENT_THRESHOLD) (QWP4WFAT)
Determines the percentage of the space that is available in the work file database on this DB2 subsystem or in this data sharing member that can be consumed by a single agent before a warning message is issued.

Space in the work file database can be configured for temporary (DGTT-ORIENTED) work and for sort work including CGTTS and trigger transition tables.

Valid values:

0
Agent-level space-usage alerts for the work file database are not issued by DB2.

This is the default setting.

1 - 100
If DSN6SPRM.WFDBSEP is set to YES, a warning message is issued by DB2 if the percentage of the total temporary work file space or the percentage of the total sort work file space that is consumed by an agent exceeds the specified threshold.

If DSN6SPRM.WFDBSEP is set to NO, a warning message is issued by DB2 if the percentage of the entire work file space (temporary and sort) that is consumed by an agent exceeds the specified threshold.

If DSN6SPRM.MAXTEMPS is greater than 0 and if the threshold that is specified for DSN6SPRM.MAXTEMPS is exceeded before the threshold that is specified for the WFSTGUSE_AGENT is reached, the warning message is not issued because MAXTEMPS is reached first by the agent. This results in a error message "Resource unavailable" with the SQL code -904.

Db2 11 and later.

(WFSTGUSE_SYSTEM_THRESHOLD) (QWP4WFST)
Determines the percentage of the space that is available in the work file database on this DB2 subsystem or in this data sharing member that can be consumed by all agents before a warning message is issued.

Valid values:

0
System-level space-usage alerts for the work file database are not issued by DB2.

1 - 100
If DSN6SPRM.WFDBSEP is set to YES, a warning message is issued by DB2 if the percentage of total temporary work file space or the percentage of total sort work file space that is consumed by all agents exceeds the specified threshold.

If DSN6SPRM.WFDBSEP is set to NO, a warning message is issued by DB2 if the percentage of the entire work file space (temporary and sort) that is consumed by all agents exceeds the specified threshold.

The default setting is 90. Db2 11 and later.

DSNTIPS-Auto Start DB/TS

Restart or Defer (RESTART) (QWP7STR)
This parameter determines whether DB2 databases are started automatically or are deferred.

Valid values:

NO
The specified databases and page sets are deferred.

YES
The specified databases are started automatically.

Auto Start Type (LIST or ALL) (SWP7STR)
This parameter determines the DB2 databases that are started or deferred.

Valid values:

ALL
When DB2 starts, all databases are started automatically.

LIST
When DB2 starts, a list of databases and table spaces and indexes is displayed. The databases and table spaces and indexes of this list are started automatically or they are deferred.

DSNZPARM Data Definition Control Support Parameters

This panel shows information about the Data Definition Control Support (DDCS) installation parameters in the DSNZPARM module. It shows the name of the DSNZPARM module that is specified for DB2 startup and the date on which the module is assembled. It also shows a list of the default values of the DB2 application.

If a field is not available for the current Db2 release, the string N/A is displayed. For other conditions, for example, if specific Db2 traces are not started or control block data is not available, the string N/P is displayed.

```
_________________ ZPDDC    VTM     O2       V540./C DB11 S 10/11/12 22:06:37 2
>       Help PF1      Back PF3      Left PF10      Right PF11
> R.H.I
>       DSNZPARM INFORMATION:  Enter a selection letter on the top line.

>  A-THREAD    B-TRACE     C-LOGGING   D-ARCHIVING     E-AUTH/RLF/DDF   F-IRLM
>  G-STORAGE   H-DATASET   *-DDCS      J-DATA SHARING  K-STORED PROC    L-UTIL
>  M-APPL      N-DATA      O-PERF      P-BUFFERPOOL    Q-OTHERS
================================================================================
>                   DATA DEFINITION CONTROL DSNZPARM PARAMETERS
 ZDDC
+ Collection Interval:  REALTIME               SNAPTIME: 10/11/12 20:00:20.56
+
+ DSNZPARM Module                                                  DSNZPARM
+ Assembly Date                                                    10/10/12
+ Initial Module                                                   DSNZPARM
+ Assembly Date                                                    10/10/12
+ Previous Module                                                  DSNZPARM
+ Assembly Date                                                    10/10/12
+
+ DSNTIPZ-Data Def Control
+-----------------------------------
+ Install DD CntlSupt (RGFINSTL)                                       NO
+ Control All Appl (RGFDEDPL)                                          NO
+ Require Full Names (RGFFULLQ)                                       YES
+ Unregist DDL Def (RGFDEFLT)                                      ACCEPT
+ ART/ORT Escape Char (RGFESCP)
+ Registration Owner (RGFCOLID)                                   DSNRGCOL
+ Regist Database (RGFDBNAM)                                      DSNRGFDB
+ Appl Registration Table (RGFNMPRT)                  DSN_REGISTER_APPL
+ Object Registration Tabl (RGFNMORT)                 DSN_REGISTER_OBJT
```

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

The **DSNZ** command displays the following lines to reflect the usage of the DB2 **SET SYSPARM** command. To each of these lines, the corresponding date on which this particular module is assembled is displayed.

DSNZPARM Module
The name of the DSNZPARM module that is specified for DB2 startup.

Initial Module
The name of the initial DSNZPARM load module.

Previous Module
The name of the previous DSNZPARM load module.

Assembly Date
The date on which this module was assembled.

DSNTIPZ-Data Def Control

Install DDCNTL Support (RGFINSTL) (QWP4REGI)
Determines whether data definition control support is used.

Control All Applications (RGFDEDPL) (QWP4REGD)
Determines whether only registered packages or plans can use DDL.

Require Full Names (RGFFULLQ) (QWP4REGQ)
Determines whether two-part names are required for every object that is registered in ORT.

Unregistered DDL Default (RGFDEFLT) (QWP4REGU)
This is a flag for unregistered DDL default.

00
Unregistered DDL are prohibited.

1X
Unregistered DDL can be used.

X1
Consult the art for unregistered DDL.

ART/ORT Escape Char (RGFESCP) (QWP4ESC)
The DDCS escape character for a search of the application registration table (ART) or the object registration table (ORT). This character is shown in both display and hexadecimal formats.

Registration Owner (RGFCOLID) (QWP4REGC)
Displays the owner of the application registration table and the object registration table.

If QWP4REGC_OFF is not set to 0, this value is truncated. If QWP4REGC is truncated, this is the offset from the beginning of QWP4 TO QWP4REGC_LEN.

If QWP4REGC_OFF is not set to 0, use the following fields:

- LENGTH OF QWP4REGC_VAR
- DDL REGISTRATION TABLE OWNER

Registration Database (RGFDBNAM) (QWP4REGN)
Specifies the name of the database that contains the registration tables.

Appl Registration Table (RGFNMPRT) (QWP4REGA)
Specifies the name of the application registration table.

If QWP4REGA_OFF is not set to 0, this value is truncated. If QWP4REGA is truncated, this is the offset from the beginning of QWP4 TO QWP4REGA_LEN.

If QWP4REGA_OFF is not set to 0, use the following fields:

- LENGTH OF QWP4REGA_VAR
- DDL REGISTRATION APPLICATION REGISTRATION TABLE NAME

Object Registration Table (RGFNMORT) (QWP4REGO)
Specifies the name of the object registration table.

If QWP4REGO_OFF is not set to 0, this value is truncated. If QWP4REGO is truncated, this is the offset from the beginning of QWP4 TO QWP4REGO_LEN.

If QWP4REGO_OFF is not set to 0, use the following fields:

- LENGTH OF QWP4REGO_VAR
- DDL REGISTRATION OBJECT REGISTRATION TABLE NAME

DSNZPARM Data Sharing Parameters

This panel shows information about the data sharing installation parameters in the DSNZPARM module. It shows the name of the DSNZPARM module that is specified for DB2 startup and the date on which the module is assembled. It also shows a list of the default values of the DB2 application.

If a field is not available for the current Db2 release, the string N/A is displayed. For other conditions, for example, if specific Db2 traces are not started or control block data is not available, the string N/P is displayed.

```
_________________ ZPSHR    VTM     O2       V540.#P SC11 S 07/08/16 10:44:53 2
>       Help PF1      Back PF3      Left PF10      Right PF11
> R.H.J
>       DSNZPARM INFORMATION:  Enter a selection letter on the top line.

>  A-THREAD    B-TRACE     C-LOGGING   D-ARCHIVING     E-AUTH/RLF/DDF   F-IRLM
>  G-STORAGE   H-DATASET   I-DDCS      *-DATA SHARING  K-STORED PROC    L-UTIL
>  M-APPL      N-DATA      O-PERF      P-BUFFERPOOL    Q-OTHERS
================================================================================
>                       DSNZPARM DATA SHARING PARAMETERS
 ZSHR
+ Collection Interval:  REALTIME               SNAPTIME: 07/08/16 10:44:53.41
+
+ DSNZPARM Module                          DSNZPARM
+ Assembly Date                            04/14/16
+ Initial Module                           DSNZPARM
+ Assembly Date                            04/14/16
+ Previous Module                          DSNZPARM
+ Assembly Date                            04/14/16
+
+ DSNTIPK-Data Sharing Parm
+-----------------------------------
+ Group Name (GRPNAME)                        DBC1
+ Member Name (MEMBNAME)                      SC11
+ Coordinator (COORDNTR)                       N/A
+ Assistant (ASSIST)                           N/A
+ Data Sharing Enabled (DSHARE)                YES
+ Random Attach (RANDOMATT)                     Y
+ (DEL_CFSTRUCTS_ON_RESTART)                   NO
+ (PEER_RECOVERY)                            NONE
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

The **DSNZ** command displays the following lines to reflect the usage of the DB2 **SET SYSPARM** command. To each of these lines, the corresponding date on which this particular module is assembled is displayed.

DSNZPARM Module
The name of the DSNZPARM module that is specified for DB2 startup.

Initial Module
The name of the initial DSNZPARM load module.

Previous Module
The name of the previous DSNZPARM load module.

Assembly Date
The date on which this module was assembled.

DSNTIPK-Data Sharing Parm

Group Name (GRPNAME) (QWPAGRPN)
The name of a new or of an existing DB2 data sharing group.

Member name (MEMBNAME) (QWPAMBRN)
The name of a new or of an existing DB2 data sharing member. This field displays N/A if data sharing is not enabled.

Coordinator (COORDNTR) (QWPACOOR)
Determines whether this DB2 can send parallel tasks to eligible DB2 members.

Valid values: Y (Yes) or N (No).

Default: Yes

DB2 10 only.

Assistant (ASSIST) (QWPAASST)
Determines whether this DB2 can assist parallel processing at BIND time and at RUN time.

To be used as an assistant at RUN time, the threshold of the VPPSEQT and the VPXPSEQT buffer pool must be greater than 0.

Valid values: Y (Yes) or N (No)If YES, this member can assist in parallel processing.

DB2 10 only.

Data Sharing (DSHARE) (QWPADSHR)
Determines whether DB2 data sharing is enabled.

Valid values: YES or NO.

Random Attach (RANDOMATT) (QWPARAND)
The flag whether this DB2 is eligible for the random group attach.

Valid values: Y (Yes) or N (No).

(DEL_CFSTRUCTS_ON_RESTART) (QWP1DCFS)
During restart, it is attempted to delete CF structures including the SCA, IRLM LOCK structures and allocated group buffer pools.

PEER_RECOVERY (QWPAPEERREC)
Specifies whether the data sharing member participates in data sharing peer recovery. Valid values

NONE (default)
Does not participate in peer recovery. Use this option if you have configured the z/OS Automatic Restart Manager (ARM) to restart failed DB2 members.

RECOVER
Member is recovered by a peer member if it fails.

ASSIST
Member attempts to initiate peer recovery for other failed members. When this member detects a failure it attempts to initiate a LIGHT(YES) restart for the failed member. if it has not already been initiated to recover the retained locks.

BOTH
Both RECOVER and ASSIST options are activated for this member

Db2 12 and later.

DSNZPARM Stored Procedures Parameters

This panel shows information about the use of stored procedures in the DB2 system.. It shows the name of the DSNZPARM module that is specified for DB2 startup and the date on which the module is assembled. It also shows a list of the default values of the DB2 application.

If a field is not available for the current Db2 release, the string N/A is displayed. For other conditions, for example, if specific Db2 traces are not started or control block data is not available, the string N/P is displayed.

```
_________________ ZPSTP    VTM     O2       V540.#P DA41 S 11/05/13 16:07:02 2
>       Help PF1      Back PF3      Left PF10      Right PF11
> R.H.K
>       DSNZPARM INFORMATION:  Enter a selection letter on the top line.

>  A-THREAD    B-TRACE     C-LOGGING   D-ARCHIVING     E-AUTH/RLF/DDF   F-IRLM
>  G-STORAGE   H-DATASET   I-DDCS      J-DATA SHARING  *-STORED PROC    L-UTIL
>  M-APPL      N-DATA      O-PERF      P-BUFFERPOOL    Q-OTHERS
================================================================================
>                    DSNZPARM STORED PROCEDURES PARAMETERS

 ZSTP
+ Collection Interval:  REALTIME               SNAPTIME: 11/05/13 15:07:05.85
+
+ DSNZPARM Module                              DSNZPARM
+ Assembly Date                                06/30/11
+ Initial Module                               DSNZPARM
+ Assembly Date                                06/30/11
+ Previous Module                              DSNZPARM
+ Assembly Date                                06/30/11
+
+ DSNTIPX-Routine Parameters
+-----------------------------------
+ Max Abend Count (STORMXAB)                      0
+ Timeout Value (STORTIME)                      180
+ WLM Environment (WLMENV)                  DSNWLMV10
+ Max Open Cursors (MAX_NUM_CUR)                500
+ Max Stored Procs (MAX_ST_PROC)               2000
+ Maximum LE Tokens (LEMAX)                      20
+ (BIF_COMPATIBILITY)                            V9
+ Admin Scheduler (ADMTPROC)
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

The **DSNZ** command displays the following lines to reflect the usage of the DB2 **SET SYSPARM** command. To each of these lines, the corresponding date on which this particular module is assembled is displayed.

DSNZPARM Module
The name of the DSNZPARM module that is specified for DB2 startup.

Initial Module
The name of the initial DSNZPARM load module.

Previous Module
The name of the previous DSNZPARM load module.

Assembly Date
The date on which this module was assembled.

DSNTIPX-Routine Parameters

Max Abend Count (STORMXAB) (QWP1SPAB)
The number of times a stored procedure can terminate abnormally before DB2 stops it, and rejects any further requests. Use the DB2 command START PROCEDURE to remove the stopped status.

Timeout Value (STORTIME) (QWP1SPTO)
The number of seconds to wait for an SQL CALL statement to be assigned for execution in the DB2 stored procedures address space.

If this value is set to 0, the request waits until a TCB is available and is not subject to timeout.

WLM Environment (WLMENV) (QWP1WLME)
This is the default WLM environment for user-defined functions and stored procedures. This value is used by DB2 if the WLM environment is not specified in a CREATE function or a CREATE PROCEDURE statement.

Max Open Cursors (MAX_NUM_CUR) (QWP4MXNC)
The maximum number of open cursors per thread.

Max Stored Procs (MAX_ST_PROC) (QWP4MXSP)
The maximum number of active stored procedures per thread.

Maximum LE Tokens (LEMAX) (QWP4LEM)
The maximum number of language environment tokens that are active at any time.

Valid values: 0 - 50.

Default: 20

Db2 10 and Db2 11 only.

(BIF_COMPATIBILITY) (QWP4BIF_COMPAT)
The BIF compatibility subsystem parameter specifies whether the built-in functions and specifications are to return results in the DB2 10 format or revert to the pre-version 10 format. BIF_COMPATIBILITY can have the following values:

```
CURRENT
V9
V9_TRIM
V9_DECIMAL_VARCHAR
N/P
```

Admin Scheduler (ADMTPROC) (QWP4ADMT)
The name of the JCL procedure that is used to start the DB2 administrative scheduler task address space.

DSNZPARM Application Parameters

This panel shows information about the parameters that affect the default settings of the DB2 application.It shows the name of the DSNZPARM module that is specified for DB2 startup and the date on which the module is assembled. It also shows a list of the default values of the DB2 application.

If a field is not available for the current Db2 release, the string N/A is displayed. For other conditions, for example, if specific Db2 traces are not started or control block data is not available, the string N/P is displayed.

```
_________________ ZPAPP    VTM     O2       V540./I SE11 G 06/27/13 21:49:00 2
>       Help PF1      Back PF3      Left PF10      Right PF11
> R.H.M
>       DSNZPARM INFORMATION:  Enter a selection letter on the top line.

>  A-THREAD    B-TRACE     C-LOGGING   D-ARCHIVING     E-AUTH/RLF/DDF   F-IRLM
>  G-STORAGE   H-DATASET   I-DDCS      J-DATA SHARING  K-STORED PROC    L-UTIL
>  *-APPL      N-DATA      O-PERF      P-BUFFERPOOL    Q-OTHERS
================================================================================
>              DSNZPARM APPLICATION PARAMETERS
 ZAPP
+ Collection Interval:  REALTIME               SNAPTIME: 06/27/13 19:49:00.37
+
+ Member Name                                      SE11               SE12
+ DSNZPARM Module                                DSNZPARM               N/P
+ Assembly Date                                  03/18/13               N/P
+ Initial Module                                 DSNZPARM               N/P
+ Assembly Date                                  03/18/13               N/P
+ Previous Module                                DSNZPARM               N/P
+ Assembly Date                                  03/18/13               N/P
+
+ DSNTIPF-Application Default 1
+-----------------------------------
+ Language Default (DEFLANG)                       IBMCOB             IBMCOB
+ Decimal Point (DECIMAL)                          PERIOD             PERIOD
+ String Delimiter (DELIM)                        DEFAULT            DEFAULT
+ SQL String Delimiter (SQLDELI)                  DEFAULT            DEFAULT
+ Dist SQL Str Delimiter (DSQLDELI)                 APOST              APOST
+ Mixed Data (MIXED)                                  NO                 NO
+ Single Byte CCSID (SCCSID)                        1148               1148
+ Mixed Byte CCSID (MCCSID)                        65534              65534
+ Double Byte CCSID (GCCSID)                       65534              65534
+ ASCII SBCS CCSID (ASCCSID)                         819                819
+ ASCII MBCS CCSID (AMCCSID)                       65534              65534
+ ASCII GBCS CCSID (AGCCSID)                       65534              65534
+ UNICODE SBCS CCSID (USCCSID)                        367                367
+ UNICODE MBCS CCSID (UMCCSID)                       1208               1208
+ UNICODE GBCS CCSID (UGCCSID)                       1200               1200
+ Def Encoding Scheme (ENSCHEME)                   EBCDIC             EBCDIC
+ Application Encoding (APPENSCH)                  EBCDIC             EBCDIC
+ Locale LC_TYPE (LC_TYPE)
+ (DEF_DECFLOAT_ROUND_MODE)              ROUND_HALF_EVEN    ROUND_HALF_EVEN
+
+ DSNTIP4-Application Default 2
+-----------------------------------
+ Minimum Divide Scale (DECDIV3)                      NO                 NO
+ Decimal Arithmetic (DECARTH)                     DEC15              DEC15
+ Use for Dynamicrules (DYNRULS)                     YES                YES
+ Describe for Static (DESCSTAT)                     YES                YES
+ Date Format (DATE)                                 ISO                ISO
+ Time Format (TIME)                                 ISO                ISO
+ Local Date Length (DATELEN)                          0                  0
+ Local Time Length (TIMELEN)                          0                  0
+ Impl Time Zone (IMPLICIT_TIMEZONE)              CURRENT            CURRENT
+ STD SQL Language (STDSQL)                           NO                 NO
+ Pad Nul-Terminated (PADNTSTR)                       NO                 NO
+
+ DSNTIP41-Application Default 3
+-----------------------------------
+ APPL COMPAT LEVEL (APPL_COMPAT)                  V11R1              V11R1
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

The **DSNZ** command displays the following lines to reflect the usage of the DB2 **SET SYSPARM** command. To each of these lines, the corresponding date on which this particular module is assembled is displayed.

DSNZPARM Module
The name of the DSNZPARM module that is specified for DB2 startup.

Initial Module
The name of the initial DSNZPARM load module.

Previous Module
The name of the previous DSNZPARM load module.

Assembly Date
The date on which this module was assembled.

DSNTIPF-Application Default 1

Language Default (QWPBLANG)
This parameter determines the programming language that is used for your site.

Valid values:

```
ASM
C
COBOL
COB2
CPP
FORTRAN
IBMCOB
PLI
```

Default: IBMCOB

Decimal Point (QWPBDEC)
This parameter determines the decimal point for numbers.

Valid values:

```
COMMA (,)
PERIOD (.)
```

Default: PERIOD

String delimiter (QWPBDL)
This parameter determines the string delimiter that is used for COBOL.

Valid values:

```
APOST (')
DEFAULT
QUOTE (")
```

Default: DEFAULT

SQL string delimiter (QWPBSDL)
This parameter determines the character that is used to delimit character strings in dynamic SQL.

Valid values::

```
APOST (')
DEFAULT
QUOTE (")
```

Default: DEFAULT

Dist SQL Str Delimiter (QWPBDSD)
This parameter determines the string delimiter that is used for bind operations at this DB2 site if the requester does not provide this information for DB2.

Valid values:

```
APOST (')
QUOTE (")
```

Default: APOST

Mixed Data (QWPBGRAF)

This parameter determines how the EBCDIC CCSID fields and the ASCII CCSID fields are interpreted by DB2. The MIXED DATA option does not affect the UNICODE CCSID field. Regardless of the setting for MIXED DATA, UNICODE UTF-8 data is considered as mixed data. Therefore UNICODE UTF-8 data is processed according to the rules for mixed data.

Valid values:

```
NO
YES
```

Default: NO

Single Byte (QWPBSID), Mixed Byte (QWPBMID), and Double Byte (QWPBGID) CCSID

The coded character set identifier (CCSID) for Single Byte Character Set (SBCS), Mixed Byte Character Set (MBCS), and Double Byte Character Set (DBCS).

This parameter determines the default CCSID for EBCDIC-encoded character data that is stored in your DB2 subsystem or in your data sharing system. This value is used by DB2 to perform the conversion of character data that is received from external sources including other database management systems.

Choose this value carefully to avoid the loss of data integrity. The values that you select for EBCDIC CCSID and ASCII CCSID are closely related.

Valid values:

```
1 to 65533
```

Default: None

DSNHDECP:
- SCCSID (single byte)
- MCCSID (mixed byte)
- GCCSID (double byte)

ASCII SBCS CCSID (QWPBASID), ASCII MBCS CCSID (QWPBAMID), and ASCII GBCS CCSID (QWPBAGID)

Coded character set identifier (CCSID) for ASCII Single Byte Character Set, (ASCCSID), ASCII Mixed Byte Character Set, and ASCII Double Byte Character Set.

This parameter determines the default coded character set identifier (CCSID) for ASCII-encoded character data that is stored in your DB2 subsystem or in your data sharing system. This value is used by DB2 to convert character data that is received from external sources including other database management systems.

You must specify a value for this field even if you do not use ASCII-encoded objects.

Choose this value carefully to prevent the loss of data integrity.

Valid values:

```
1 to 65533
```

Default: None

DSNHDECP:
- ASCCSID (single-byte)
- AMCCSID (mixed)
- AGCCSID (graphic)

UNICODE SBCS CCSID (QWPBUSID), UNICODE MBCS CCSID (QWPBUMID), and UNICODE GBCS CCSID (QWPBUGID)

Coded character set identifier (CCSID) for ASCII Single Byte Character Set, ASCII Mixed Byte Character Set, and ASCII Double Byte Character Set.

This parameter determines the CCSID that is used for Unicode data.

Valid values:

```
1208
```

Default: 1208

DSNHDECP:
USCCSID (367 for single-byte)
UMCCSID (1208 for mixed)
UGCCSID (1200 for graphic)

Def Encoding Scheme (QWPBENS)

This parameter determines the default format in which the data is stored in DB2.

Valid values:

```
ASCII
EBCDIC
UNICODE
```

Default: EBCDIC

Application Encoding (QWPBAPSC)

This parameter determines the default application encoding scheme of the system. It determines how data is interpreted by DB2. For example, if your default application encoding scheme is set to 37 and your EBCDIC coded character is set to 500, DB2 converts all data coming into the system to 500 from 37 before using it. This includes, but is not limited to, SQL statement text and host variables.

Valid values:

```
ASCII
EBCDIC
UNICODE
CCSID (1 to 65533)
```

Default: EBCDIC

Locale LC_TYPE (QWPBLCTP)

This parameter determines the system LOCALE LC_CTYPE.

A locale is the part of your system environment that depends on the language and on cultural conventions. An LC_CTYPE is a subset of a locale that applies to character functions.

Valid values:

```
A valid locale of 0 to 50 characters.
```

Default: Blank

DEF_DECFLOAT_ROUND_MODE (QWPBDDRM)

This parameter determines the default rounding mode for decimal floating-point values.

Valid values:

```
ROUND_CEILING
ROUND_DOWN
ROUND_FLOOR
ROUND_HALF_DOWN
ROUND_HALF_EVEN
ROUND_HALF_UP
ROUND_UP.
```

Default: ROUND_HALF_EVEN

DSNTIP4-Application Default 2

Minimum Divide Scale (QWP4DIV3)
This parameter determines whether to retain at least three digits to the right of the decimal point after any decimal division.

Valid values:

```
NO
YES
```

Default: NO

Decimal Arithmetic (QWPBARTH)
This parameter determines the rules that are used if both operands in a decimal operation have a precision of 15 or less.

Valid values:

```
DEC15
DEC31
15
1
DPP.S
```

Default: DEC15

Use for DynamicRules (QWPBDRLS)
This parameter determines whether DB2 is using the application programming default values that are specified on this panel or the values of the DB2 precompiler options for dynamic SQL statements. These are bound by using DYNAMICRULES bind, define, or invoke behavior.

Valid values:

```
NO
YES
```

Default: YES

Describe for Static (QWP4DSST)
This parameter determines whether DB2 is building a DESCRIBE SQL descriptor area (SQLDA) when binding static SQL statements. With DESCRIBE SQLDAs, DESCRIBE requests for static SQL statements can be executed successfully.

The DESCSTAT subsystem parameter provides the default value for the DESCSTAT BIND or REBIND option. The value of the DESCSTAT BIND or REBIND option always overrides the DESCSTAT subsystem parameter value.

Except for the following scenarios, a DESCRIBE request cannot be issued against a static SQL statement.

In a distributed environment, where DB2 for z/OS is the server and the requester supports extended dynamic SQL
In this scenario, a DESCRIBE request that is executed on an SQL statement in the extended dynamic package is considered by DB2 as a DESCRIBE on a static SQL statement in the DB2 package.

If a stored procedure result set is used by an application and a cursor must be allocated for this result set
In this scenario, the application can describe the cursor by using a DESCRIBE CURSOR statement. The SQL statement that is actually described is the statement for which the cursor is declared in the stored procedure. If that statement is static, a static SQL statement must be described.

Valid values:

```
NO
YES
```

Default: YES

Date Format (QWPBDATE)
This parameter determines the format that is used to represent dates in output.

Valid values:

```
EUR
ISO
JIS
LOCAL
USA
```

Default: ISO

Time Format (QWPBTIME)
This parameter determines the format that is used to represent time in output.

Valid values:

```
EUR
ISO
JIS
LOCAL
USA
```

Default: ISO

Local Date Length (QWPBDLEN)
If you use a locally defined date exit routine, this parameter determines the length of the longest field that is required to hold a date.

To use your own default date format, you must also enter LOCAL for the DATE FORMAT field on panel DSNTIP4.

Valid values:

```
  0
 10
254
```

Default: 0

Local Time Length (QWPBTLEN)
This parameter determines the time length default for the local format.

To use one of the following time formats that are provided by IBM, keep the default value of 0:

```
EUR
ISO
JIS
USA
```

Valid values:

```
  0
  8
254
```

Default: 0

Impl Time Zone (QWPBIMTZ)
This parameter determines the implicit time zone that is used when a time zone is not provided.

This parameter applies to DB2 table columns and routing parameters that are declared with TIMESTAMP WITH TIME ZONE data types.

Valid values:

```
CURRENT
SESSION
-12:59 to +14:00
```

Default: CURRENT

STD SQL Language (QWPBSQL)
This parameter determines the SQL standard that is used in writing application programs. Specifically, the parameter specifies whether the SQL language conforms to those portions of the 1992 ANSI SQL standard that are implemented by DB2.

Valid values:

```
NO
YES
```

Default: NO

Pad Nul-Terminated (QWPBPAD)
This parameter determines whether output host variables that are nul-terminated strings are padded with blanks and a nul-terminator.

Valid values:

```
NO
YES
```

Default: NO

DSNTIPF-Application Default 3

APPL COMPAT LEVEL (QWP4APCO)
This parameter determines the default release level of the APPLCOMPAT BIND and REBIND option.

Tip:

- Set all DB2 data sharing members to the same value.
- This system parameter is the default value when binding packages without explicitly specifying the APPLCOMPAT bind option. Ensure that all applications are ready for new compatibility behavior before you change the default value.

Valid values:

```
V10R1
V11R1
```

Default:
V11R1 after migration.
V12R1 for a new installation.

Db2 11 and later.

DSNZPARM Data Parameters

This panel shows information about the parameters that affect the default settings of the DB2 application.It shows the name of the DSNZPARM module that is specified for DB2 startup and the date on which the module is assembled. It also shows a list of the default values of the DB2 application.

If a field is not available for the current Db2 release, the string N/A is displayed. For other conditions, for example, if specific Db2 traces are not started or control block data is not available, the string N/P is displayed.

```
_________________ ZPDAT    VTM     O2       V540./I SE11 G 06/27/13 21:58:37 2
>       Help PF1      Back PF3      Left PF10      Right PF11
> R.H.N
>       DSNZPARM INFORMATION:  Enter a selection letter on the top line.

>  A-THREAD    B-TRACE     C-LOGGING   D-ARCHIVING     E-AUTH/RLF/DDF   F-IRLM
>  G-STORAGE   H-DATASET   I-DDCS      J-DATA SHARING  K-STORED PROC    L-UTIL
>  M-APPL      *-DATA      O-PERF      P-BUFFERPOOL    Q-OTHERS
================================================================================
>                       DSNZPARM DATA PARAMETERS
 ZDAT
+ Collection Interval:  REALTIME               SNAPTIME: 06/27/13 19:58:37.98
+
+ Member Name                                      SE11               SE12
+ DSNZPARM Module                                DSNZPARM               N/P
+ Assembly Date                                  03/18/13               N/P
+ Initial Module                                 DSNZPARM               N/P
+ Assembly Date                                  03/18/13               N/P
+ Previous Module                                DSNZPARM               N/P
+ Assembly Date                                  03/18/13               N/P
+
+ DSNTIPA2-Data
+-----------------------------------
+ Catalog Alias (CATALOG)                          DBE1               DBE1
+ SMS DAT Data Class (CATDDACL)                   XVSAM              XVSAM
+ SMS DAT Mgmt Class (CATDMGCL)                     DB2                DB2
+ SMS DAT Storage Class (CATDSTCL)                  DB2                DB2
+ SMS IX Data Class (CATXDACL)                    XVSAM              XVSAM
+ SMS IX Management Class (CATXMGCL)                DB2                DB2
+ SMS IX STO Class (CATXSTCL)                       DB2                DB2
+ Compress SPT01 (COMPRESS_SPT01)                   NO                 NO
+ (COMPRESS_DIRLOB)                                 NO                 NO
+ (SPT01_INLINE_LENGTH)                          32138              32138
+
+ DSNTIPO3-Default Startup
+-----------------------------------
+ Parameter Module                               DSNZPARM           DSNZPARM
+ Access Control (ACCESS_CNTL_MODULE)            DSNX@XAC           DSNX@XAC
+ Identify Auth (IDAUTH_MODULE)                  DSN3@ATH           DSN3@ATH
+ Signon (IGNON_MODULE)                          DSN3@SGN           DSN3@SGN
+
+ DSNTIPM-MVS Parameters
+-----------------------------------
+ Subsystem Name (SSID)                            SE11               SE12
+ Supress Soft Errors (SUPERRS)                     YES                YES
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

The **DSNZ** command displays the following lines to reflect the usage of the DB2 **SET SYSPARM** command. To each of these lines, the corresponding date on which this particular module is assembled is displayed.

DSNZPARM Module
The name of the DSNZPARM module that is specified for DB2 startup.

Initial Module
The name of the initial DSNZPARM load module.

Previous Module
The name of the previous DSNZPARM load module.

Assembly Date
The date on which this module was assembled.

DSNTIPA2-Data

Catalog Alias (QWP6CATN)
The value of the CATALOG ALIAS field determines the high-level qualifier for VSAM data sets that are used by the DB2 catalog and directory.

Valid values:

```
1 to 8 characters
```

Default: DSNCAT

SMS DAT Data Class (QWP4CDDC), SMS DAT Mgmt Class (QWP4CDMC), SMS DAT Storage Class (QWP4CDSC)
The DIRECTORY AND CATALOG DATA field determines the explicit Storage Management Subsystem (SMS) classes that are used to define VSAM data sets for the DB2 catalog and directory. Your SMS storage administrator defines these SMS classes.

To use ACS routines for defining these data sets, leave this field blank.

SMS IX Data Class (QWP4CXDC), SMS IX Management Class (QWP4CXMC), SMS IX STO Class (QWP4CXSC)
The DIRECTORY AND CATALOG INDEXES field determines the explicit Storage Management Subsystem (SMS) classes that are used to define VSAM data sets for DB2 catalog and directory indexes. Your SMS storage administrator defines these SMS classes.

To use ACS routines for defining these data sets, leave this field blank.

Compress SPT01 (COMPRESS_SPT01) (QWP4CS01)
The COMPRESS_SPT01 subsystem parameter determines whether the SPT01 directory table space is compressed.

Valid values: NO, YES.

Default: NO

(COMPRESS_DIRLOB) (QWP4CDRL)
Specifies whether DB2 compresses LOB table spaces in the DB2 directory the next time that the table spaces are reorganized. Valid values:

NO
LOB table spaces in the DB2 directory are not compressed

YES
LOB table spaces in the DB2 directory are compressed the next time they are reorganized.

Db2 12 and later.

(SPT01_INLINE_LENGTH) (QWP4S1IL)
The SPT01_INLINE_LENGTH subsystem parameter defines the maximum length of LOB column data in the SPT01 directory table space that is maintained in the base table. The length is specified in single-byte characters.

In a data sharing environment, all members must use the same setting for this parameter.

Valid values:

```
NOINLINE
1 to 32138
```

Default: 32138

DSNTIP03-Default Startup

Parameter Module (QWP1ZPNM)
The PARAMETER MODULE parameter defines the member name of the load module that is used for DB2 subsystem parameters.

Valid values:

```
1 to 8 characters
```

Default: DSNZPARM

Access Control (ACCESS_CNTL_MODULE) (QWP1DXAC)
This parameter defines the member name of the load module that is used for the DB2 access control exit routine.

Valid values:

```
For installation: 1 - 8 characters
For migration:    DSNX@XAC
```

Default: DSNX@XAC

Identify Auth (IDAUTH_MODULE) (QWP1DATH)
This parameter determines the member name of the load module that is used for the DB2 connection authorization exit routine.

Valid values:

```
For installation: 1 - 8 characters
For migration:    DSN3@ATH
```

Default: DSN3@ATH

Signon (SIGNON_MODULE) (QWP1DSGN)
This parameter determines the member name of the load module that is used for the DB2 sign-on exit routine.

Valid values:

```
For installation: 1 - 8 characters
For migration:    DSN3@SGN
```

Default: DSN3@SGN

DSNTIPM-MVS Parameters

Subsystem Name (SSID) (QWPBSSID) >
This parameter determines the z/OS subsystem name for DB2.

Valid values:

```
1 to 4 characters

The first character must be a letter (A - Z)
or one of the following symbols: #, $, or @.

The other characters must be any letter from A to Z,
integers from 0 - 9,
or any of the following symbols: #, $, or @.
```

Default: DSN1

Supress Soft Errors (SUPERRS) (QWP4SAE)
This parameter determines whether DB2 is recording errors such as invalid decimal data or arithmetic exceptions, and whether SQLCODEs are issued for these errors. These errors are recorded in the operating system data set SYS1.LOGREC.

Valid values:

```
NO
YES
```

Default: YES

DSNZPARM Performance and Optimization Parameters

This panel shows information about the parameters that affect DB2 performance and optimization. It shows the name of the DSNZPARM module that is specified for DB2 startup and the date on which the module is assembled. It also shows a list of the default values of the DB2 application.

If a field is not available for the current Db2 release, the string N/A is displayed. For other conditions, for example, if specific Db2 traces are not started or control block data is not available, the string N/P is displayed.

```
_________________ ZPPFM    VTM     O2       V540.#P DC11 S 04/08/16 20:56:36 2
>       Help PF1      Back PF3      Left PF10      Right PF11
> R.H.O
>       DSNZPARM INFORMATION:  Enter a selection letter on the top line.

>  A-THREAD    B-TRACE     C-LOGGING   D-ARCHIVING     E-AUTH/RLF/DDF   F-IRLM
>  G-STORAGE   H-DATASET   I-DDCS      J-DATA SHARING  K-STORED PROC    L-UTIL
>  M-APPL      N-DATA      *-PERF      P-BUFFERPOOL    Q-OTHERS
================================================================================
>            DSNZPARM PERFORMANCE  OPTIMIZATION PARAMETERS
 ZPFM
+ Collection Interval:  REALTIME               SNAPTIME: 04/08/16 20:56:36.20
+
+ DSNZPARM Module                          DSNZPARM
+ Assembly Date                            03/17/16
+ Initial Module                           DSNZPARM
+ Assembly Date                            03/17/16
+ Previous Module                          DSNZPARM
+ Assembly Date                            03/17/16
+
+ DSNTIP8-Perf and Optimization 1
+-----------------------------------
+ Cache Dynamic SQL (CACHEDYN)                 YES
+ (CACHEDYN_STABILIZATION)                    BOTH
+ Optimization Hints (OPTHINTS)                 NO
+ Evaluate Uncommitted (EVALUNC)                NO
+ Skip Uncomm Inserts (SKIPUNCI)                NO
+ Immediate Write (IMMEDWRI)                    NO
+ Plan Management (PLANMGMT)                EXTENDED
+ Plan Mgmt Scope (PLANMGMTSCOPE)                S
+ Pkgrel Commit (PKGREL_COMMIT)                YES
+ (XML_RANDOMIZE_DOCID)                         NO
+ Real Time Stats (STATSINT)                    30
+ Disable EDM RTS (DISABLE_EDMRTS)              NO
+ Statistics Feedback (STATFDBK_SCOPE)         ALL
+ (STATFDBK_PROFILE)                           YES
+
+ DSNTIP81-Perf and Optimization 2
+-----------------------------------
+ Current Degree (CDSSRDEF)                      1
+ Max Degree (PARAMDEG)                          0
+ Max Degree for DPSI (PARAMDEG_DPSI)            0
+ Parallel Efficiency (PARA_EFF)                50
+ Star Join Queries (STARJOIN)               DISABLE
+ Max Data Caching (MXDTCACH)                   20
+ Current Refresh Age (REFSHAGE)                 0
+ Current Maint Types (MAINTYPE)             SYSTEM
+
+ DSNTIP82-Query Accelerator Ref
+-----------------------------------
+ Accelerator Startup (ACCEL)                      A
+ (GET_ACCEL_ARCHIVE)                             NO
+ (QUERY_ACCELERATION)                          NONE
+ (QUERY_ACCEL_WAITFORDATA)

+ DSNTIP8A-Acceleration Options
+-----------------------------------
+ (QUERY_ACCEL_OPTIONS) - None
+ 1-MBCS EBCDIC
+ 2-INSERT FROM SELECT
+ 3-BYTE-BASED STRING FUNCTIONS
+ 4-DD/MM/YYYY LOCAL DATE FORMAT
+ 5-SYSTEM_TIME TEMPORAL QUERIES
+ 6-TS COLS WITH PRECISION OF 12
+ 7-YYYYMMDD LOCAL DATE FORMAT
+ 8-FAVOR NEW ACCELERATOR_TYPE
+ 9-ENABLE UNCERTAINTY COST EST
+ 10-BALANCE WORKLOAD BETWEEN VERS                NO
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

The **DSNZ** command displays the following lines to reflect the usage of the DB2 **SET SYSPARM** command. To each of these lines, the corresponding date on which this particular module is assembled is displayed.

DSNZPARM Module
The name of the DSNZPARM module that is specified for DB2 startup.

Initial Module
The name of the initial DSNZPARM load module.

Previous Module
The name of the previous DSNZPARM load module.

Assembly Date
The date on which this module was assembled.

DSNTIP8-Perf and Optimization 1

Cache Dynamic SQL (QWP4CDYN)
The CACHEDYN subsystem parameter determines whether prepared static SQL statements or dynamic SQL statements are cached for later use by eligible application processes.

Valid Values:

```
NO
YES
```

Default: YES

(CACHEDYN_STABILIZATION)

This ZPARM specifies how DB2 is to stabilize cached dynamic SQL statement. When a statement is stabilized, the current SQLID, statement text, and runtime structures are written to catalog tables. If a dynamic SQL statement is not present in the dynamic SQL statement cache, DB2 will load the runtime structures from catalog table rather than performing a full prepare. This extends the stability and reliability of performance of a dynamic SQL. It can have the following values:

CAPTURE
Statements may be stabilized through the -START DYNQUERY command using both MONITOR(NO) and MONITOR(YES). DB2 will not load stabilized statements from SYSDYNQRY.

LOAD
Statements may not be stabilized via any means. The -START DYNQUERY command will fail, and any MONITOR(YES) commands in progress will not stabilize statements, even if stabilization criteria are matched. During long prepare, DB2 will attempt to load stabilized statements from SYSDYNQRY with which to run.

BOTH
Statements may be stabilized through the -START DYNQUERY command via both MONITOR(NO) and MONITOR(YES). During long prepare, DB2 will attempt to load stabilized statements from SYSDYNQRY with which to run. BOTH is the default setting.

NONE
Statements may not be stabilized via any means. The -START DYNQUERY command will fail, and any MONITOR(YES) commands in progress will not stabilize statements, even if stabilization criteria are matched. DB2 will not load stabilized statements from SYSDYNQRY.

Db2 12 and later.

Optimization Hints (QWP4HINT)
The OPTHINTS subsystem parameter determines whether DB2 applies optimization hints when static SQL statements are bound or dynamic SQL statements are prepared.

Valid Values:

```
NO
YES
```

Default: NO

Evaluate Uncommitted (QWP4EVUN)
The EVALUNC subsystem parameter determines whether predicate evaluation is allowed on uncommitted data of other transactions. This parameter applies only to stage 1 predicate processing that uses table access for queries with isolation level RS or CS. Table access includes table space scan, index-to-data access, and RID-list processing.

Valid Values:

```
NO
YES
```

Default: NO

Skip Uncomm Inserts (QWP4SKUI)
The SKIPUNCI subsystem parameter determines whether statements ignore a row that is inserted by another transaction if the row is not yet detected as committed. A newly inserted row can be detected as committed only after the lock that is held on the row is released.

Valid Values:

```
NO
YES
```

Default: NO

Immediate Write (QWPAIMMW)
The IMMEDWRI subsystem parameter determines when updates to group buffer pool-dependent buffers are written to the coupling facility.

Valid Values:

```
NO
YES
```

Default: NO

Plan Management (QWP4PMGT)
The PLANMGMT subsystem parameter determines the default plan management policy that is used when the PLANMGMT option is not explicitly specified for the bind or the rebind of a package.

Valid Values:

```
BASIC
EXTENDED
OFF
```

Default: EXTENDED

Plan Mgmt Scope (QWP4PMSC)
The PLANMGMTSCOPE subsystem parameter determines the default plan management scope that is used when the PLANMGMTSCOPE option is not explicitly specified for the bind or rebind of a package.

The value in this field is meaningful only when the value of the PLAN MANAGEMENT field is set to BASIC or EXTENDED.

Valid Values:

```
A (ALL)
D (DYNAMIC)
S (STATIC)
```

Default: S (STATIC)

Pkgrel Commit (PKGREL_COMMIT) (QWP4PKRC)

YES indicates that the following operations on a package that are bound with RELEASE(DEALLOCATE) are permitted while the package is active and allocated by DB2:

- BIND and REBIND requests, including AUTOMATIC REBIND
- Data definition language changes to objects that are statically referenced by the package

Db2 11 and later.

(XML_RANDOMIZE_DOCID) (QWP1XRDI)

The XML_RANDOMIZE_DOCID subsystem parameter determines whether DB2 is sequentially or randomly generating the DOCID values for XML columns.

This parameter does not affect existing tables that have XML columns. These tables continue to generate DOCIDs in the order that is specified by the XML_RANDOMIZE_DOCID parameter when the table is created or in sequential order if the parameter was not specified.

Valid Values:

```
NO
YES
```

Default: NO

Real Time Stats (STATSINT) (QWP4INTE)

The time interval that DB2 waits before it attempts to write out page set statistics to the real-time statistics tables. This value is between 1 and 65535 minutes.

Disable EDM RTS (QWP4DEDR)

The DISABLE_EDMRTS subsystem parameter determines whether the collection of real-time statistics is disabled by the environmental description manager (EDM). Real-time statistics is tracking when packages were last used.

Valid Values:

```
NO
YES
```

Default: NO

Statistics Feedback (STATFDBK_SCOPE) (QWP4SFBS)

Specifies the scope of SQL statements for which DB2 is to recommend statistics. Possible values are:

- All (default): Statistics recommended for all SQL statements.
- Dynamic: Statistics recommended only for dynamically processed SQL statements.
- None: DB2 does not recommend statistics.
- Static: Statistics recommended only for statically processed SQL statements, that is, those that are bound to a package.

Db2 11 and later.

STATFDBK_PROFILE (QWP4SFPR)

Specifies whether statistics recommendations identified during query optimization directly result in modifications to statistics profiles.

Valid values:

```
YES
NO
```

Default: YES.

Db2 12 and later.

DSNTIP81-Perf and Optimization 2

Current Degree (CDSSRDEF)
The CDSSRDEF subsystem parameter determines the default value that is used for the CURRENT DEGREE special register. The default value is used when a degree is not explicitly set in the SQL statement SET CURRENT DEGREE.

Valid Values:

```
1
ANY
```

Default: 1

Max Degree (PARAMDEG)
The PARAMDEG subsystem parameter determines the maximum degree of parallelism that is allowed for a parallel group. If you specify a value for this parameter, you limit the degree of parallelism so that DB2 does not create too many parallel tasks that use virtual storage.

Valid Values:

```
0 to 254
```

Default: 0

Max Degree for DPSI (PARAMDEG_DPSI)
The PARAMDEG_DPSI system parameter determines the maximum degree of parallelism that you can specify for a parallel group in which a data partitioned secondary index (DPSI) is used to drive parallelism.

A DPSI is a nonpartitioning index that is physically partitioned according to the partitioning scheme of the table. If you specify a value that is greater than 0 for this parameter, you limit the degree of parallelism for DPSIs so that DB2 does not create too many parallel tasks that use virtual storage.

Valid Values:

```
0-254
DISABLE
```

Default: 0

Parallel Efficiency (PARA_EFF)
The PARA_EFF subsystem parameter determines the efficiency that DB2 assumes for parallelism when DB2 chooses an access path. The integer value that is used for this parameter represents a percentage efficiency.

Valid Values:

```
0  Ì 100
```

Default: 50

Star Join Queries (STARJOIN)
The STARJOIN subsystem parameter determines whether star join processing is enabled.

Valid Values:

```
DISABLE
ENABLE
1 to 32768
```

Default: DISABLE
ZPARM: DSN6SPRM STARJOIN

Max Data Caching (MXDTCACH)
The MXDTCACH subsystem parameter determines the maximum amount of memory in MB that is allocated for data caching per thread.

Valid Values:

```
 0 to 512
```

Default: 20

Current Refresh Age (REFSHAGE)

The REFSHAGE subsystem parameter determines the default value for the CURRENT REFRESH AGE special register. The default value is used when no value is explicitly set by using the SET CURRENT REFRESH AGE statement.

Valid Values:

```
0
ANY
```

Default: 0

Current Maint Types (MAINTYPE)

The MAINTYPE subsystem parameter determines the default value for the CURRENT MAINTAINED TABLE TYPES FOR > OPTIMIZATION special register. This value is used when no value is explsicitly set by using the SQL statement SET CURRENT MAINTAINED TABLE TYPES FOR OPTIMIZATION.

Valid Values:

```
ALL
NONE
SYSTEM
USER
```

Default: SYSTEM

DSNTIP82-Query Accelerator Refs

ACCELERATOR STARTUP (ACCEL) (QWP4ACCS)

This parameter determines whether accelerator servers are used with a DB2 subsystem, and how the accelerator servers are enabled and started.

Before you can start an accelerator server, it must be enabled.

You can modify this parameter online, however, if you change the setting from NO or COMMAND to AUTO, you must stop and restart DB2 to activate the new setting.

Valid Values:

```
A(AUTO)
C(COMMAND)
N(NO)
```

Default: NO

(GET_ACCEL_ARCHIVE) (QWP4CGAA)

The GET_ACCEL_ARCHIVE subsystem parameter determines the default value that is used for the CURRENT GET_ACCEL_ARCHIVE special register.

The GET_ACCEL_ARCHIVE subsystem parameter is used when no value is explicitly set for the CURRENT GET_ACCEL_ARCHIVE special register by the SQL statement SET CURRENT GET_ACCEL_ARCHIVE.

Valid Values:

```
NO
YES
```

Default: NO

(QUERY_ACCEL_OPTIONS) - None (QWP4QACO)

The QUERY_ACCEL_OPTIONS subsystem parameter determines whether certain types of queries are allowed to execute on an accelerator server.

Valid options:

YES

Query offloading is restricted to the standard SQL statements

NO

Options are set to the following list of possible values:

```
1, 2, 3, 4, 5, 6, 7
```

Valid Values:

Default: NONE

NONE

Query offloading is restricted to the standard SQL statements.

1

The queries that include data that is encoded by the multi-byte character set EBCDIC encoding scheme is not blocked from executing on IBM Db2 Analytics Accelerator for z/OS although IBM Db2 Analytics Accelerator for z/OS encodes the same data in the UTF-8 UNICODE encoding scheme.

EBCDIC and UNICODE implement different collating sequences.

- The collating sequence for UNICODE is numeric, uppercase characters, and lower case characters. (1, 2, 3, A, B, C, a, b, c).
- In EBCDIC, the collating sequence is lower case, upper case, and numeric (a, b, c, A, B, C, 1, 2, 3).

There are also differences in collating for the national characters. This affects the ordering of data and the results from range predicates. Therefore, in the following cases, a query that is executed in DB2 might return a different result set than the same query executed in IBM Db2 Analytics Accelerator for z/OS:

- If the tables include character columns where more than one of these groups can be found in the column values
- If the SQL statements include range predicates or ordering on these columns

2

The queries that include an INSERT from SELECT statement, the select part is not blocked from executing on IBM Db2 Analytics Accelerator for z/OS although the data operated on by the SELECT might not be current in IBM Db2 Analytics Accelerator for z/OS.

3

The queries that include DB2 byte-based string functions on data that is encoded by multi-byte character sets encoding schemes, for example, UNICODE, are not blocked from executing on IBM Db2 Analytics Accelerator for z/OS although IBM Db2 Analytics Accelerator for z/OS supports only character-based string functions.

If the data on which the string function is specified contains only single-byte characters, executing the function on IBM Db2 Analytics Accelerator for z/OS returns the same result as executing the function on DB2 no matter what encoding scheme is used for the data. However, if the data contains multi-byte characters, the results is not the same.

3

Queries that include DB2 byte-based string functions on data encoded by multi-byte character sets encoding schemes (like UNICODE) are not blocked from running on IDAA although IDAA supports only character-based string functions.

If the data on which the string function is specified contains only single-byte characters, running the function on IDAA returns the same result as running the function on DB2 irrespective of what

encoding scheme is used for the data. However, if the data contains multi-byte characters, the results is not the same.

4

Queries that reference an expression with a DATE data type that uses a LOCAL format are not blocked from executing on IDAA. IDAA uses the DD/MM/YYYY format to interpret the input and output data value. Specify option 4 only when you also specify LOCAL as the setting for the DSNHDECP.DATE parameter and your LOCAL date exit defines the specific DD/MM/YYYY date format. Otherwise, queries may return unpredictable results.

Note: Option 4 cannot be specified in combination with option 7.

5

SYSTEM_TIME temporal queries are offloaded to an accelerator. DB2 12 and later.

6

Queries that reference timestamp columns with precision of 12 are offloaded to an accelerator. DB2 12 and later.

7

Queries that reference an expression with a DATE data type that uses a LOCAL format are not blocked from running on IDAA. IDAA uses the yyymmdd format to interpret the input and output date value.

Specify option 7 only when you also specify LOCAL as the setting for the DSNHDECP.DATE parameter and your LOCAL date exit defines the specific yyymmdd date format. Otherwise, queries may return yyymmdd date format or unpredictable results. DB2 12 and later.

(QUERY_ACCELERATION) (QWP4CQAC)

The QUERY_ACCELERATION subsystem parameter determines the default value that is used for the CURRENT QUERY ACCELERATION special register.

The QUERY_ACCELERATION subsystem parameter is used when no value is explicitly set for the CURRENT QUERY ACCELERATION special register by the SQL statement SET CURRENT QUERY ACCELERATION.

Valid Values:

```
1, 2, 3, 4, 5
```

Default: 1

1 (NONE)

Determines that query acceleration is not used.

2 (ENABLE)

Determines that queries are accelerated if DB2 determines that acceleration is of advantage.

If an accelerator failure occurs while a query is running, or if the accelerator returns an error, DB2 returns a negative SQLCODE to the application.

3 (ENABLE_WITH_FAILBACK)

Determines that queries are accelerated if DB2 determines that acceleration is of advantage.

If the accelerator returns an error during PREPARE or first OPEN for the query, DB2 executes the query without the accelerator.

If the accelerator returns an error during FETCH or a subsequent OPEN, DB2 returns the error to the user. The query is not executed.

4 (ELIGIBLE)

Determines that queries are accelerated if they are eligible for acceleration.

DB2 does not use cost information to determine whether to accelerate the queries. Queries that are not eligible for acceleration are executed by DB2. If an accelerator failure occurs while a query is running, or if the accelerator returns an error, DB2 returns a negative SQLCODE to the application.

5 (ALL)
Determines that queries are accelerated if they are eligible for acceleration.

DB2 does not use cost information to determine whether to accelerate the queries. Queries that are not eligible for acceleration are not executed by DB2. An SQL error is returned. If an accelerator failure occurs while a query is running, or if the accelerator returns an error, DB2 returns a negative SQLCODE to the application.

(QUERY_ACCEL_WAITFORDATA) (QWP4QAWFD)
The QUERY_ACCEL_WAITFORDATA subsystem parameter determines the default value that is to be used for the CURRENT QUERY ACCELERATION WAITFORDATA special register. The QUERY_ACCEL_WAITFORDATA subsystem parameter is used when no value is explicitly set for the CURRENT QUERY ACCELERATION WAITFORDATA special register by the SQL statement.

Valid values
0.0 - 3600.0 or 0 - 3600 (seconds)

Default
0.0

ZPARM NAME:
DSN6SPRM.QUERY_ACCEL_WAITFORDATA

Db2 11 and later.

DSNTIP8A - Accelerator options

(QUERY_ACCEL_OPTIONS) - None (QWP4QACO/QWP4QANONE)
The QUERY_ACCEL_OPTIONS subsystem parameter controls whether certain types of queries are allowed to execute on an accelerator server.

Valid options

YES
Indicates that query offloading is restricted to the standard SQL statements.

NO
Indicates that options are set to the following list of possible values: 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10.

1 - MBCS EBCDIC (QWP4QAEBCM)

YES - Indicates that the queries that include data encoded by multi-byte character set EBCDIC encoding scheme are not blocked from executing on IDAA although IDAA encodes the same data in the UTF-8 UNICODE encoding scheme. Note that EBCDIC and UNICODE implement different collating sequences. The collating sequence for UNICODE is numeric, uppercase characters and then lower case characters (1, 2, 3, a, b, c, a, b, c). In EBCDIC, the collating sequence is lower case, upper case and then numeric (a, b, c, a, b, c, 1, 2, 3).

There are also differences in collating for the national characters. This affects both data ordering and the results from range predicates. Therefore, if the tables include character columns where more than one of these groups can be found in the column values and the SQL statements include range predicates or ordering on these columns, a query executed in DB2 may return a different result set than the same query executed in IDAA.

2 - INSERT FROM SELECT (QWP4QAIFSS)
YES - Indicates that the queries that include an insert from select statement, the select part is not blocked from executing on IDAA although the data operated on by the select may not be current in IDAA.

3 - BYTE-BASED STRING FUNCTIONS (QWP4QABBSF)

YES - Indicates that the queries that include DB2 byte-based string functions on data encoded by multi-byte character sets encoding schemes (like UNICODE) are not blocked from executing on IDAA although IDAA supports only character-based string functions. If the data on which the string function is specified contains only single-byte characters, executing the function on IDAA will return the same result as executing the function on DB2 irrespective of

what encoding scheme is used for the data. However, if the data contains multi-byte characters, the results will not be the same.

4 - DD/MM/YYYY LOCAL DATE FORMAT (QWP4QALDMY)
YES - Indicates that the queries that reference an expression with a DATE data type that uses a LOCAL format are not blocked from executing on IDAA. IDAA will use the dd/mm/yyyy format to interpret the input and output data value. Specify option 4 only when you also specify LOCAL as the setting for the DSNHDECP.DATE parameter and your LOCAL date exit defines the specific dd/mm/yyyy date format. Otherwise, queries may return unpredictable results.

Note: Option 4 cannot be specified in combination with option 7.

5 - SYSTEM_TIME TEMPORAL QUERIES (QWP4QASTTQ)
YES - Indicates that SYSTEM_TIME temporal queries will be offloaded to an accelerator.

6 - TS COLS WITH PRECISION OF 12 (QWP4QATS12)
Indicates that the queries that reference timestamp columns with precision of 12 will be offloaded to an accelerator.

7 - YYYYMMDD LOCAL DATE FORMAT (QWP4QALYMD)
YES - Indicates that the queries that reference an expression with a DATE data type that uses a LOCAL format are not blocked from executing on IDAA. IDAA will use the yyymmdd format to interpret the input and output date value. Specify option 7 only when you also specify LOCAL as the setting for the DSNHDECP.DATE parameter and your LOCAL date exit defines the specific yyymmdd date format. Otherwise, queries may return unpredictable results.

8 - FAVOR NEW ACCELERATOR_TYPE (QWP1QAFNAT)
YES - Specifies that in a Db2 environment that includes both a V5 accelerator server and a V7 accelerator server, statements that are eligible to be accelerated on either of the accelerator servers are sent to the V7 accelerator server.

9 - ENABLE UNCERTAINTY COST EST (QWP4QADUCE)
YES - Specifies that uncertainty cost consideration is enabled on the accelerator for offloaded queries.

10 - BALANCE WORKLOAD BETWEEN VERS (QWP4QAWBAL)
YES - Specifies that Db2 will attempt to balance query acceleration between different versions of accelerator servers based on the actual workload of each available server. Workload balancing can also be influenced by the CURRENT ACCELERATOR register. For example, when BALANCE WORKLOAD BETWEEN VERSIONS option = YES, if the CURRENT ACCELERATOR special register specifies a particular accelerator server, the workload will be offloaded only to that server if it is available, even if other accelerator servers with less workload are available.

Db2 11 and later.

Default
NONE(YES)

ZPARM NAME
DSN6SPRM.QUERY_ACCEL_OPTIONS

DSNZPARM Buffer Pool Parameters

This panel shows information about the parameters that affect DB2 buffer pool default settings. It shows the name of the DSNZPARM module that is specified for DB2 startup and the date on which the module is assembled. It also shows a list of the default values of the DB2 application.

If a field is not available for the current Db2 release, the string N/A is displayed. For other conditions, for example, if specific Db2 traces are not started or control block data is not available, the string N/P is displayed.

```
_________________ ZPBPL    VTM     O2       V540./C DB11 S 10/11/12 22:06:37 2
>       Help PF1      Back PF3      Left PF10      Right PF11
> R.H.P
>       DSNZPARM INFORMATION:  Enter a selection letter on the top line.

>  A-THREAD    B-TRACE     C-LOGGING   D-ARCHIVING     E-AUTH/RLF/DDF   F-IRLM
>  G-STORAGE   H-DATASET   I-DDCS      J-DATA SHARING  K-STORED PROC    L-UTIL
>  M-APPL      N-DATA      O-PERF      *-BUFFERPOOL    Q-OTHERS
================================================================================
>                         BUFFERPOOL DSNZPARM PARAMETERS
 ZBPL
+ Collection Interval:  REALTIME               SNAPTIME: 10/11/12 20:00:20.56
+
+ DSNZPARM Module                                                  DSNZPARM
+ Assembly Date                                                    10/10/12
+ Initial Module                                                   DSNZPARM
+ Assembly Date                                                    10/10/12
+ Previous Module                                                  DSNZPARM
+ Assembly Date                                                    10/10/12
+
+ DSNTIP1-Buffer Pools
+-----------------------------------
+ 4KBP for User Data (TBSBPOOL)                                       BP2
+ 8KBP for User Data (TBSBP8K)                                      BP8K0
+ 16KBP for User Data (TBSBP16K)                                    BP16K0
+ 32KBP for User Data (TBSBP32K)                                     BP32K
+ BP for LOB Data (TBSBPLOB)                                         BP9
+ BP for XML Data (TBSBPXML)                                        BP16K0
+ BP for INDEXES (IDXBPOOL)                                          BP1
```

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

The **DSNZ** command displays the following lines to reflect the usage of the DB2 **SET SYSPARM** command. To each of these lines, the corresponding date on which this particular module is assembled is displayed.

DSNZPARM Module
The name of the DSNZPARM module that is specified for DB2 startup.

Initial Module
The name of the initial DSNZPARM load module.

Previous Module
The name of the previous DSNZPARM load module.

Assembly Date
The date on which this module was assembled.

DSNTIP1-Buffer Pools

4KBP for User Data (TBSBPOOL)
Default 4KB Buffer Pool for:

- Table spaces with a 4KB page size in implicitly created databases
- Explicitly created table spaces with a 4KB page size and no buffer pool clause specified in the CREATE TABLESPACE statement.

This field corresponds to the field "Default 4-KB Buffer Pool for user data" on the installation panel DSNTIP1.

ZPARM name: TBSBPOOL in DSN6SYSP.

8KBP for User Data (TBSBP8K)
Default 8KB Buffer Pool for:

- Table spaces with a 8KB page size in implicitly created databases
- Explicitly created table spaces with a 8KB page size and no buffer pool clause specified in the CREATE TABLESPACE statement.

This field corresponds to the field "Default 8-KB Buffer Pool for user data" on the installation panel DSNTIP1.

ZPARM name: TBSBP8K in DSN6SYSP.

16KBP for User Data (TBSBP16K)
Default 16KB Buffer Pool for:

- Table spaces with a 16KB page size in implicitly created databases
- Explicitly created table spaces with a 16KB page size and no buffer pool clause specified in the CREATE TABLESPACE statement.

This field corresponds to the field "Default 16-KB Buffer Pool for user data" on the installation panel DSNTIP1.

ZPARM name: TBSBP16K in DSN6SYSP.

32KBP for User Data (TBSBP32K)
Default 32KB Buffer Pool for:

- Table spaces with a 32KB page size in implicitly created databases
- Explicitly created table spaces with a 32KB page size and no buffer pool clause specified in the CREATE TABLESPACE statement.

This field corresponds to the field "Default 32-KB Buffer Pool for User Data" on the installation panel DSNTIP1.

ZPARM name: TBSBP32K in DSN6SYSP.

BP for LOB Data (TBSBPLOB)
Name of the buffer pool that is used for implicitly created LOB table spaces.

This field corresponds to the field "Default Buffer Pool for User LOB Data" on installation panel DSNTIP1.

ZPARM name: TBSBPLOB in DSN6SYSP

BP for XML data (TBSBPXML)
Name of the buffer pool that is used for XML table spaces.

This field corresponds to the field "Default Buffer Pool for User XML Data" on the installation panel DSNTIP1.

ZPARM name: TBSBPXML in DSN6SYSP.

BP for indexes (IDXBPOOL)
Default buffer pool for user index spaces.

This field corresponds to the field "Default Buffer Pool for User Indexes" on the installation panel DSNTIP1.

ZPARM name: IDXBPOOL in DSN6SYSP.

DSNZPARM Utility Parameters

This panel displays information about the parameters that affect DB2 utility default settings. It shows the name of the DSNZPARM module that is specified for DB2 startup and the date on which the module is assembled. It also shows a list of the default values of the DB2 application.

If a field is not available for the current Db2 release, the string N/A is displayed. For other conditions, for example, if specific Db2 traces are not started or control block data is not available, the string N/P is displayed.

```
>       Help PF1      Back PF3      Left PF10      Right PF11
> R.H.L
>       DSNZPARM INFORMATION:  Enter a selection letter on the top line.

>  A-THREAD    B-TRACE     C-LOGGING   D-ARCHIVING     E-AUTH/RLF/DDF   F-IRLM
>  G-STORAGE   H-DATASET   I-DDCS      J-DATA SHARING  K-STORED PROC    *-UTIL
>  M-APPL      N-DATA      O-PERF      P-BUFFERPOOL    Q-OTHERS
================================================================================
>                        DSNZPARM UTILITY PARAMETERS
 ZUTL
+ Collection Interval:  REALTIME               SNAPTIME: 07/08/16 11:48:37.88
+
+ DSNZPARM Module                                                  DSNZPARM
+ Assembly Date                                                    04/14/16
+ Initial Module                                                   DSNZPARM
+ Assembly Date                                                    04/14/16
+ Previous Module                                                  DSNZPARM
+ Assembly Date                                                    04/14/16
+
+ DSNTIP6-Utility Parms 1
+-----------------------------------
+ Temp DS Unit Name (VOLTDEVT)                                        SYSDA
+ (UTIL_TEMP_STORCLAS)
+ Statistics History (STATHIST)                                       NONE
+ Statistics Rollup (STATROLL)                                         YES
+ Utility Timeout (UTIMOUT)                                             6
+ UT Sort DS Allocation (UTSORTAL)                                    N/A
+ Ignore Sortnum Stmt (IGNSORTN)                                       NO
+ Set Check Pending (CHECK_SETCHKP)                                   N/A
+ UT DB2 Sort Use (DB2SORT)                                           N/A
+ Template Time (TEMPLATE_TIME)                                       UTC
+ Max Utils Parallel (PARAMDEG_UTIL)                                   99
+ (STATCLGSRT)
+ (STATPGSAMP)
+
+ DSNTIP61-Utility Parms 2
+-----------------------------------
+ (COPY_FASTREPLICATION)                                        PREFERRED
+ Fast Restore (REC_FASTREPLICATION)                            PREFERRED
+ (FLASHCOPY_PPRC)                                               REQUIRED
+ (FLASHCOPY_XRCP)
+ Default Template (FCCOPYDDN)               DBC1.&DB..&SN..N&DSNUM..&UQ.
+ Copy (FLASHCOPY_COPY)                                               NO
+ Load (FLASHCOPY_LOAD)                                               NO
+ (FLASHCOPY_REORG_TS)                                                NO
+ (FLASHCOPY_REBUILD_INDEX)                                           NO
+ (FLASHCOPY_REORG_INDEX)                                             NO
+
+ DSNTIP62-Utility Parms 3
+-----------------------------------
+ (SYSTEM_LEVEL_BACKUPS)                                              NO
+ (RESTORE_RECOVER_FROMDUMP)                                          NO
+ (UTILS_DUMP_CLASS_NAME)
+ Max Tape Units (RESTORE_TAPEUNITS)                                   0
+ (REORG_IGNORE_FREE_SPACE)                                         N/A
+ Alternate Copy Pool (ALTERNATE_CP)
+ DB Backup STG Group (UTIL_DBBSG)
+ LOG Backup STG Group (UTIL_LGBSG)
+ (UTILS_HSM_MSGDS_HLQ)                                             N/P
+
+ DSNTIP63-Utility Parms 4
+-----------------------------------
+ (REORG_PART_SORT_NPSI)                                              AUTO
+ (REORG_LIST_PROCESSING)                                         PARALLEL
+ (REORG_MAPPING_DATABASE)
+ (REORG_DROP_PBG_PARTS)                                           DISABLE
+ (REORG_TS_NOPAD_DEFAULT)
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

The **DSNZ** command displays the following lines to reflect the usage of the DB2 **SET SYSPARM** command. To each of these lines, the corresponding date on which this particular module is assembled is displayed.

DSNZPARM Module
The name of the DSNZPARM module that is specified for DB2 startup.

Initial Module
The name of the initial DSNZPARM load module.

Previous Module
The name of the previous DSNZPARM load module.

Assembly Date
The date on which this module was assembled.

DSNTIP6 - Utility Parms 1

Temp DS Unit Name (VOLTDEVT) (QWP4VDTY)
This parameter determines the device type for temporary data sets.

(UTIL_TEMP_STORCLAS) (QWP4CHEC)
This parameter determines the name of the SMS storage class that is used by DB2 to define temporary shadow data sets. A blank value indicates that the temporary shadow data sets are defined in the same storage class as the production page set.

Statistics History (STATHIST) (QWP4STHT)
This parameter determines the default for the statistics history. Depending on the specified value, catalog changes that are made by DB2 are recorded in the catalog history tables.

Valid values:

ALL
All changes are recorded.

NONE
Changes are not recorded.

SPACE
All changes that are related to space are recorded.

ACCESSPATH
All changes that are related to accesspath are recorded.

Default: NONE

Statistics Rollup (STATROLL) (QWP4STRL)
This parameter determines the default for the statistics rollup. It controls whether the RUNSTATS utility aggregates partition-level statistics.

Valid values:

```
NO
YES
```

Utility Timeout (UTIMOUT) (QWP4UTO)
This parameter determines the utility timeout factor.

UT Sort Data Allocation (UTSORTAL) (QWP3SRAL)
Indicates that the utility will use sortnum elimination logic for sort tasks.

Valid values:

```
NO
YES
```

YES is the default. Db2 10 and Db2 11 only.

Ignore Sortnum Stmt (IGNSORTN) (QWP4IGSN)
This parameter determines whether the SORTNUM keyword specification in a UT JOB STMT is ignored.

Valid values:

```
NO
YES
```

Set Check Pending (CHECK_SETCHKP) (QWP4CSCP)
Specifies whether the check data and the check LOB utilities should place inconsistent objects in a check pending status. When these utilities detect an inconsistency in an object, they write a diagnostic message and end with return code 4.

Valid values:

YES
The object is placed in check pending status

NO (default)
The object is not placed in check pending status. Objects that are already in check pending status remain so.

```
NO
YES
```

Db2 10 and Db2 11 only.

UT DB2 Sort Use (DB2SORT)
Enables the use of the DB2 sort product from utilities when it is installed. DFSORT is used otherwise. Valid values are ENABLE (default) and DISABLE. Db2 10 and Db2 11 only.

Template Time (TEMPLATE_TIME) (QWP4TPTM)
This parameter determines the default setting for the TIME option of the DB2 UTILITIES TEMPLATE statement.

Valid values:

```
LOCAL
UTC (Coordinated universal time)
```

Default: UTC.

Db2 11 and later.

Max Utils Parallel (PARAMDEG_UTIL) (QWP4UMD)
This parameter determines the maximum degree of parallelism that is allowed when a DB2 utility is driving parallelism.

Valid values:

```
0 (Unlimited)
1 To 32767
```

Default: 99

Db2 11 and later.

(STATCLGSRT) - (QWP4STACS)
The STATCLGSRT subsystem parameter specifies how the sort program is to be used by the RUNSTATS utility or by an inline statistics job when collecting statistics on a single column that is defined with the COLGROUP option.

ZPARM NAME: DSN6SPRM.STATCLGSRT

Range: 0 - 4096 MB

Default: 10

0
An indication that a data sort is always performed.

1 - 4096
The amount of memory space for the utility to use to avoid the data sort. Values are specified in megabytes (for example, 4096, which is the maximum allowable value). Increasing the value might be necessary when utility jobs specify a large number of single-column COLGROUPs, and message DSNU1388I is issued. Although histogram statistics can be collected in the same RUNSTATS or inline statistics job, any COLGROUPs for which histogram statistics are being collected are not eligible for the sort-avoidance performance improvement. You can override the STATCLGSRT value for a particular utility job by specifying the STATCLGMEMSRT option on the utility statement.

Db2 11 and later.

(STATPGSAMP) - (QWP4STACS)
The STATPGSAMP subsystem parameter specifies whether the RUNSTATS utility uses page-level sampling by default for universal table spaces.

Default: S (SYSTEM)

ZPARM NAME: DSN6SPRM.STATPGSAMP

Valid values are:

S
(Default) Db2 determines the default sampling method. (FL 505) SYSTEM has the same meaning as YES.

Y
RUNSTATS always executes as if the TABLESAMPLE SYSTEM AUTO utility option is specified. (TABLESAMPLE SYSTEM AUTO specifies that RUNSTATS uses page sampling, and the utility determines the sampling rate.) The only exception is if the RUNSTATS statement contains TABLESAMPLE SYSTEM and a value other than AUTO. In that case, RUNSTATS uses that value instead of AUTO. If the SAMPLE utility option is specified to request row sampling, RUNSTATS ignores that option and uses page sampling instead.

N
RUNSTATS does not use page sampling by default. Any sampling is determined by the options that are specified in the RUNSTATS statement.

Db2 12 and later.

DSNTIP6 - Utility Parms 2

(COPY_FASTREPLICATION) (QWP4CYFR)
This parameter specifies for the COPY utility whether FlashCopy fast replication is preferred, required, or not used for the creation of the FlashCopy image copy.

Valid values:

Preferred
The COPY utility directs DSS COPY to use fast replication if available.

Required
The COPY utility directs DSS COPY to only use fast replication, ensuring that object copies occur as fast as possible. Resource contention and unavailability are reduced.

None
The COPY utility directs DSS COPY not to use fast replication.

Db2 12 and later.

Fast Restore (REC_FASTREPLICATION) (QWP4RFRP)
This parameter determines whether FlashCopy® is used by the RECOVER utility to recover from a FlashCopy image copy.

If you use BACKUP SYSTEM to create system-level backup copies, using FlashCopy for restoring might cause BACKUP SYSTEM to fail because cascading FlashCopy is not supported.

Valid values:

```
NONE
PREFERRED
REQUIRED
```

Default: PREFERRED

NONE
Standard input and output is used to restore the FlashCopy image copy.

PREFERRED
FlashCopy is only used if FlashCopy support is available.

REQUIRED
FlashCopy is used to recover from a FlashCopy image copy to ensure that copies are recovered as fast as possible. However, recovery fails if FlashCopy support is not available.

(FLASHCOPY_PPRC) (QWP4FCPPRC)
This parameter determines the behavior for DFSMSDSS FlashCopy requests by DB2 utilities when the target disk storage volume is the primary device in a peer-to-peer remote copy (PPRC) relationship. A PPRC relationship exists when a DB2 utility is using DFSMSDSS FlashCopy technology to create a FlashCopy image copy or shadow data sets (for the online check utility) and the target disk storage volume is mirrored by another disk device on a different system.

The FlashCopy PPRC option pertains to COPY, REORG TABLESPACE, REORG INDEX, REBUILD INDEX, LOAD, RECOVER, and the CHECK utilities.

Valid values:

Blank
Mirroring is not preserved by DFSMSDSS.

NONE
Mirroring is not preserved by DFSMSDSS when it is processing a DB2 utilities request, even if all configuration requirements for preserving the mirror operation are met.

PREFERRED
DFSMSDSS allows the volume pair to go into duplex pending state when processing a DB2 utilities request only if it is required.

REQUIRED
DFSMSDSS does not permit the PPRC volume pair to go into duplex pending state when processing a DB2 utilities request.

Default: REQUIRED

(FLASHCOPY_XRCP) - (QWP4FCXC)
The FLASHCOPY_XRCP subsystem parameter specifies whether a data set level FlashCopy operation is allowed to a primary volume in an XRC relationship when the z/OS DFSMSdss support for RPFC for XRC is installed and enabled.

ZPARM NAME: DSN6SPRM.FLASHCOPY_XRCP

Valid values are:

Y
(Default) If z/OS DFSMSdss support for RPFC in XRC is installed and enabled, supported utilities specify the FCTOXRCPrimary option when they issue DFSMSdss COPY commands. YES is ignored in the following situations:

- For CHECK utilities, if the CHECK_FASTREPLICATION subsystem parameter value is NONE.
- For the RECOVER utility, if the REC_FASTREPLICATION subsystem parameter value is NONE.

N
The utilities do not specify the FCTOXRCPrimary option when they issue DFSMSdss COPY commands.

Db2 12 and later.

Default Template (FCCOPYDDN) (QWP4FCCD)
Offset from the beginning of QWP4 to QWP4FCCD.

Fields for the FCOPYDDN subsystem parameter: Length of QWP4FCCD_VAR.

This parameter determines the default settings of the FCCOPYDDN subsystem parameter for the COPY, LOAD, REBUILD INDEX, REORG INDEX, and REORG TABLESPACE UTILITY CONTROL statements when the FlashCopy parameter is set to YES or CONSISTENT.

FCCOPYDDN determines a DB2 utilities template data set name expression that is used to derive the COPY DATA SET NAME that is allocated by the utility during operation.

Copy (FLASHCOPY_COPY) (QWP4FCCP)
This parameter determines whether the COPY utility is using FLASHCOPY=YES and the system parameter settings for FCCOPYDDN when these keywords are not included in the utility control statement.

Valid values:

```
NO
YES
```

DEFAULT: NO

Load (FLASHCOPY_LOAD) (QWP4FCLD)
This parameter defines whether the LOAD utility is using FLASHCOPY=YES and the system parameter setting for FCCOPYDDN when these keywords are not included in the utility control statement.

Valid values:

```
NO
YES
```

DEFAULT: NO

(FLASHCOPY_REORG_TS) (QWP4FROT)
This parameter determines whether the REORG TABLESPACE utility is using FLASHCOPY=YES and the system parameter setting for CCOPYDDN when these keywords are not included in the utility control statement.

Valid values:

```
NO
YES
```

DEFAULT: NO

(FLASHCOPY_REBUILD_INDEX) (QWP4FRBI)
This parameter determines whether the REBUILD INDEX utility is using FLASHCOPY=YES and the system parameter setting for FCCOPYDDN when these keywords are not included in the UTILITY CONTROL statement.

Valid values:

```
NO
YES
```

DEFAULT: NO

(FLASHCOPY_REORG_INDEX) (QWP4FROI)
This parameter determines whether the REORG INDEX utility is using FLASHCOPY=YES and the system parameter setting for FCCOPYDDN when these keywords are not included in the UTILITY CONTROL statement.

Valid values:

```
NO
YES
```

DEFAULT: NO

DSNTIP6 - Utility Parms 3

(SYSTEM_LEVEL_BACKUPS) (QWP4SLBU)
This parameter determines whether the RECOVER utility is using system-level backup copies as a recovery base additional to image copies and concurrent copies for object-level recoveries. If you do not want system-level backup copies with the BACKUP SYSTEM utility, specify NO.

For more information, see the chapter *Recover* in the *DB2 10 for z/OS, Utility Guide and Reference, SC19-2984-08*.

Valid values:

```
NO
YES
```

Default: NO

(RESTORE_RECOVER_FROMDUMP) (QWP4RRFD)
This parameter determines for the restore system and the RECOVER utilities whether the system-level backup that is selected as the recovery base is used from the disk copy of the system-level backup (NO) or from the dump on tape (YES).

Valid values:

```
NO
YES
```

Default:

```
NO
```

(UTILS_DUMP_CLASS_NAME) (QWP4RSDC)
This parameter determines the name of the DFSMSHSM dump clas that is used by the Restore System Utility to restore from a system-level backup that is dumped to tape.

Max Tape Units (RESTORE_TAPEUNITS) (QWP4RSMT)
This parameter determines the maximum number of tape units or tape drives that the Restore System Utility can use to restore from a system-level backup that is dumped to tape.

Valid values:

```
0 (No limit)
1-255
```

(REORG_IGNORE_FREE_SPACE) (QWP4RIFS)
This parameter specifies whether the Reorg Tablespace Utility should ignore the PCTFREE and FREEPAGE values while reloading data rows into a a PBG table space in the following circumstances:

- When a subset of the PBG partitions are reorganized
- When the table in the PBG table space as LOB columns

The default is NO (PCTFREE and FREEPAGE values are honored).

Db2 10 and Db2 11 only.

Alternate Copy Pool (ALTERNATE_CP) (QWP4BSACP)
Specifies an optional alternate SMS copy pool for the DB2 BACKUP SYSTEM utility.

Valid values:

blank (default)
DB2 BACKUP SYSTEM uses the standard copy pool only.

1- 16 alphanumeric characters
DB2 BACKUP SYSTEM uses the specified copy pool as the alternate copy pool for the system-level backups. DB2 BACKUP SYSTEM alternates between using the standard copy pool and the alternate copy pool for system-level backups.

Db2 12 and later.

DB Backup STG Group (UTIL_DBBSG) (QWP4UDBSG)

Specifies an optional backup SMS storage group to be used by the DB2 BACKUP SYSTEM utility for the DB copy pool.

Valid values:

blank (default)
DB2 BACKUP SYSTEM requests that DFSMShsm uses the copy pool backup storage group that is associated with each storage group in the copy pool.

Valid SMS storage group name
DB2 BACKUP SYSTEM requests that DFSMShsm uses the specified copy pool backup storage group. The specified storage group must defined with the COPY POOL BACKUP attribute.

Db2 12 and later.

LOG Backup STG Group (UTIL_LGBSG) (QWP4ULBSG)

Specifies an optional backup SMS storage group to be used by the DB2 BACKUP SYSTEM utility for the LOG copy pool.

Valid values:

blank (default)
DB2 BACKUP SYSTEM requests that DFSMShsm uses the copy pool backup storage group that is associated with each storage group in the copy pool.

Valid SMS storage group name
DB2 BACKUP SYSTEM requests that DFSMShsm uses the specified copy pool backup storage group. The specified storage group must defined with the COPY POOL BACKUP attribute.

Db2 12 and later.

(UTILS_HSM_MSGDS_HLQ) (QWP4UHMD)
Shows the high level qualifier (HLQ) for data sets (DS) to be allocated by the DB2 BACKUP SYSTEM and RESTORE SYSTEM utilities to receive messages from the Data Facility Hierarchical Storage Manager (DFHSM) and the IBM Data Facility Data Set Services (DFDSS).

Valid values:

- blank (default)
- Valid data set qualifier of 1 to 6 characters

Db2 12 and later.

DSNTIP63 - Utility Parms 4

(REORG_PART_SORT_NPSI) (QWP4RPSN)
This parameter determines the default method of building a non-partitioned secondary index (NPSI) during REORG TABLESPACE PART. This setting is used when the SORTNPSI keyword is not provided in the utility control statement.

The SORTNPSI keyword determines whether REORG TABLESPACE PART is sorting all keys of a NPSI. This setting is ignored for a REORG that is not part-level or a REORG with no NPSIS.

Valid values:

AUTO
If sorting all keys of the NPSI(s) improves the elapsed time and the CPU performance, all keys are sorted.

NO
If sorting all keys of the NPSI(s) improves the elapsed time and the CPU performance, all keys are sorted.

YES
Only the keys of the NPSI(s) that are in the scope of the REORG are sorted.

Default:

```
AUTO
```

(REORG_LIST_PROCESSING) (QWP4RLPR)
This parameter determines the default setting for the parallel option of the DB2 REORG TABLESPACE utility if the REORG TABLESPACE control statement does not include the parallel keyword. Depending on the value, the type of processing for partitioned table spaces is selected.

The DB2 REORG TABLESPACE utility can process partitions that are specified in the INPUT LISTDEF STATEMENT like this:

Valid values:

PARALLEL YES
All partitions are processed in a single utility execution

PARALLEL NO
Each partition is processed in a separate utility execution

Default:

```
PARALLEL YES
```

Db2 11 and later.

(REORG_MAPPING_DATABASE) (QWP4RMDB)
This parameter determines the default database that is used by REORG TABLESPACE SHRLEVEL CHANGE to create the mapping table. When a REORG TABLESPACE SHRLEVEL CHANGE REQUEST is processed, the REORG UTILITY can create its own mapping table and mapping index or it can process user input.

If this parameter is set to a valid database, REORG allocates the mapping table in the specified database.

If this parameter is set to NULL, REORG allocates the mapping table in an implicitely defined database.

(REORG_DROP_PBG_PARTS) (QWP4RPBG)
This parameter determines whether REORG removes trailing empty partitions when operating on an entire partitioned by growth (PBG) table space. An empty trailing partition occurs when REORG moves all data records from a partition into lower numbered partitions.

This parameter is only used if REORG runs against an entire PBG table space. It is ignored by REORGS of non-PBG table spaces and for partition-level REORGS of PBG table spaces.

Valid values:

ENABLE
If there is any trailing empty partition after REORG is completed, it is removed.

DISABLE
The number of PBG partitions that is present after REORG is completed is equal or greater than the number of partitions that was present before REORG was run. Even if REORG can relocate all data records into the lowest numbered partitions, trailing empty PBG partitions are retained.

Default:

```
DISABLE
```

Db2 11 and later.

(REORG_TS_NOPAD_DEFAULT) - (QWP4RTNP)
When the REORG TABLESPACE utility is run with DISCARD or UNLOAD EXTERNAL, the NOPAD option specifies whether variable-length columns in unloaded or discarded records occupy the actual data length without additional padding. The unloaded records can have varying lengths. The REORG_TS_NOPAD_DEFAULT subsystem parameter indicates whether the NOPAD option is NO or YES by default when it is omitted from the utility control statement.

ZPARM NAME: DSN6SPRM.REORG_TS_NOPAD_DEFAULT

Y

(Default) Specifies that, by default, the variable-length columns in the unloaded or discarded records occupy the actual data length without additional padding.

N

Specifies that, by default, REORG processing pads variable-length columns in the unloaded or discarded records to their maximum length; the unloaded or discarded records to their maximum length; the unloaded or discarded records have equal lengths for each table.

Db2 12 and later.

DSNZPARM Other System Parameters

This panel shows information about the installation parameters that affect Db2 subsystem default settings. These system parameters are not displayed from Db2 installation panels.

If a field is not available for the current Db2 release, the string N/A is displayed. For other conditions, for example, if specific Db2 traces are not started or control block data is not available, the string N/P is displayed.

```
 _________________ ZPOTH    VTM     O2       V540./C DB1H S 07/31/13 15:33:43 2
>       Help PF1      Back PF3      Left PF10      Right PF11
> R.H.Q
>       DSNZPARM INFORMATION:  Enter a selection letter on the top line.

>  A-THREAD    B-TRACE     C-LOGGING   D-ARCHIVING     E-AUTH/RLF/DDF   F-IRLM
>  G-STORAGE   H-DATASET   I-DDCS      J-DATA SHARING  K-STORED PROC    L-UTIL
>  M-APPL      N-DATA      O-PERF      P-BUFFERPOOL    *-OTHERS
================================================================================
>                         OTHER SYSTEM PARAMETERS
 ZOTH
+ Collection Interval:  REALTIME               SNAPTIME: 07/31/13 13:33:44.01
+
+ DSNZPARM Module                                        DB1HUNIN
+ Assembly Date                                          07/30/13
+ Initial Module                                         DSNZPARM
+ Assembly Date                                          07/29/13
+ Previous Module                                        DSNZPARM
+ Assembly Date                                          07/29/13
+
+ From DSN6SYSP
+-----------------------------------
+ Size of Local Trace Table (TRACLOC)                      16
+ Parallel Task AcctRollup (PTASKROL)                      NO
+ Measured Usage Pricing (SMF89)                           NO
+ DB2 OTC License Term (OTC_LICENSE)                       NO
+ Trackmod Implicit TS (IMPTKMOD)                         YES
+ Max DSSIZE Implicit TS (IMPDSSIZE)                       4
+
+ From DSN6LOGP
+-----------------------------------
+ Offload Option (OFFLOAD)                                 YES
+ (CDDS_MODE)
+ (CDDS_PREFIX)
+
+ From DSN6ARVP
+-----------------------------------
+ MSS Volume Group 1 Name (MVSGP)                          N/A
+ MSS Volume Group 2 Name (MVSGP2)                         N/A
```

```
+
+ From DSN6SPRM
+-----------------------------------
+ Enable Database Check (DBCHK)                              NO
+ Utility Cache Option (SEQPRES)                            N/A
+ 3990-3 Seq Cache (SEQCACH)                               N/A
+ Disable Code Page Protect (PROTOFF)                       NO
+ Varchar from Index (RETVLCFK)                             N/A
+ Outer Join Perf Enh (OJPERFEH)                            N/A
+ Minimun RID Lists (MINRBLK)                                1
+ NPAGES Threshold (NPGTHRSH)                                0
+ Star Join Threshold (SJTABLES)                            10
+ SMS Data Class for TS (SMSDCFL)                           N/A
+ SMS Data Class for IX (SMSDCIX)                           N/A
+ MIN SCALE DECIMAL DIVIDE (MINDVSCL)                      NONE
+ Max RDS OP Pool (MAX_OPT_STOR)                            40
+ Max CPU Sec OP Use (MAX_OPT_CPU)                         100
+ Disable SQLWANR1,5 (DISABSCL)                             N/A
+ Max Entry Seclabel Cache (SECLCACH)                       255
+ Max Numb in IN-List (INLISTP)                             50
+ Recover to Point-in-Time (RPITWC)                         YES
+ (UNION_COLNAME_7)                                          NO
+ Statistics Cluster (STATCLUS)                             N/A
+ (CACHEDYN_FREELOCAL)                                       1
+ (MAX_CONCURRENT_PKG_OPS)                                  10
+ (HONOR_KEEPDICTIONARY)                                    NO
+ (INDEX_IO_PARALLELISM)                                    YES
+ Z/OS Metrics (ZOSMETRICS)                                 YES
+ OPT I/O Weighting (OPTIOWGT)                              N/A
+ Enable Pair-wiseJoin (EN_PJSJ)                            NO
+ (REALSTORAGE_MAX)                                          0
+ (RESTRICT_ALT_COL_FOR_DCC)                                NO
+ (DISALLOW_DEFAULT_COLLID)                                 N/A
+ I/O Scheduling feature (SPRMIOP)                          YES
+ Correlation ID Monitor (SPRMOZCI)                 023.GCSCN602
+ User ID Monitor (SPRMOZUS)                              HONG
+ Value For Trigger Drain (SPRMTDD)                          1
+ Max # OF DDS Withhold (SPRMMDD)                            3
+ #Field Procs for TB Block (SPRMFDP)                        5
+ Max NotFound Hash Records (SPRMKFC)                      100
+ Max Extend Service Tasks (SPRMEST)                        20
+ Max ZIVLEMPEL Dict Entry (SPRMMDE)                      4096
+ ProjectZ Insert Threshold (SPRMZTN)                        2
+ Default index type (SPRMDXT)                               2
+ (OPT1ROWBLOCKSORT)                                        NO
+ (SUBQ_MIDX)                                               YES
```

```
+
+ (ACCELMODEL)                                        NO
+ (AUTH_COMPATIBILITY)                                NO
+ (CHECK_FASTREPLICATION)                         REQUIRED
+ (XML_RESTRICT_EMPTY_TAG)                            NO
+ (PREVENT_NEW_IXCTRL_PART)                           NO
+ (SUPPRESS_HINT_SQLCODE_DYN)                         NO
+ (LIKE_BLANK_INSIGNIFICANT)                          NO
+ (SIMULATED_CPU_COUNT)                                0
+ (SIMULATED_CPU_SPEED)                                0
+ (MATERIALIZED_NODET_SQLTUDF)                        NO
+ (MOVE_TO_ARCHIVE_DEFAULT)
+ (DISALLOW_SEL_INTO_UNION)
+ (COMCRIT)
+ (ENCRYPTION_KEYLABEL)
+
+ From DSN6FAC
+-------------------------------------
+ Enable SQL Interrupt (SQLINTRP)                      NO
+ (PRIVATE_PROTOCOL)                                   NO
+ DDF_COMPAT: IDNTFY_PRIOR_VERSION                      0
+ DDF_COMPAT: SP_PARMS_NJV                             NO
+ DDF_COMPAT: DISABLE_IMPCAST_NJV                      NO
+ DDF_COMPAT: DISABLE_IMPCAST_JV                       NO
+ DDF_COMPAT: IGNORE_TZ                                NO
+ DDF_COMPAT: SP_PARMS_JV                              NO
+
+ From DSNHDECP
+-------------------------------------
+ DB2 Supplied DECP Indic (DB2SUPLD)                    N
+ Charset Default (CHARSET)                           N/A
+
+ Others
+-------------------------------------
+ Space Above DB2 Leave Available                 39387136
+ Space Reserved For Critical Work                39387136
+ Space Reserved For z/OS Functions                  40960
+ Extended Datestamp Indicator                          NO
+ Online ZPARM Time of Last Change      07/30/13 13:44:59.62
+ Online ZPARM Type                                   LOAD
+ Number of Facility Entries                             1
+ Facility Name                                        DDF
+ SU Conversion Factor                                 281
+ New Function Mode (NEWFUN)                           YES
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

The **DSNZ** command displays the following lines to reflect the usage of the DB2 **SET SYSPARM** command. To each of these lines, the corresponding date on which this particular module is assembled is displayed.

DSNZPARM Module
The DSNZPARM module name specified for Db2 startup.

Initial Module
The name of the initial DSNZPARM load module.

Previous Module
The name of the previous DSNZPARM load module.

Assembly Date
The date on which this module was assembled.

From DSN6SYSP

Size of Local Trace Table (TRACLOC)
Determines a multiple of 4K that determines the size of the local trace tables.

Parallel Task AcctRollup
Indicates whether to roll up the accounting trace of the query parallel tasks into the accounting trace of the originating task. Valid values:

Yes
The originating task cuts an additional accounting trace record with all the roll-up values from parallel tasks.

This is the default value.

No
Each parallel task produces its own accounting trace.

Measured Usage Pricing
Indicates whether Db2 is tracking for measured usage pricing.

Default value: NO

Db2 OTC License Term (OTC_LICENSE)
Determines whether this Db2 subsystem or data sharing member operates under an OTC license. The terms of the OTC license are accepted. Valid values:

Not used
Indicates that an OTC license is not in effect on this Db2.

This is the default value.

Terms accepted
Indicates that an OTC license is in effect on the Db2 and that the owner accepts the terms of that license. To view the terms, see the member DSNTIPO1 of the SDSNSPFP target library for this version of Db2.

Trackmod Implicit TS
Determines whether Db2 tracks modifications to the pages of implicitly created table spaces.

This setting pertains only to the base table spaces. It is not used for implicitly created LOB or XML table spaces. Valid values:

Yes
Implicit table spaces are created. Db2 tracks changed pages in the space map pages to improve the performance of incremental image copy.

No
Db2 does not track changed pages in the space map pages. To determine whether a page is changed, the LRSN value is used.

Max DSSIZE Implicit TS
Determines the maximum DSSIZE in gigabytes that can be used by Db2 for creating each partition of an implicitly created base table space.

From DSN6LOGP

Offload Option
Determines whether online initiation of the offload process is used. Valid values: YES or NO.

Default: YES

(CDDS_MODE) - (QWP2CPSY, QWP2CSRC)

The CDDS_MODE subsystem parameter specifies how a member of a Db2 data sharing group participates in a GDPS Continuous Availability with zero data loss (GDPS Continuous Availability with zero data loss) environment.

ZPARM NAME: DSN6LOGP.CDDS_MODE

Valid values are:

NONE
(Default) The Db2 subsystem or data sharing group does not participate in a GDPS Continuous Availability with zero data loss environment. The subsystem or data sharing group member supports only the replication of its own log. The data set that the CDDS_PREFIX parameter specifies can be defined locally but is not used.

SOURCE
The data sharing group that contains the member that is being installed is the source group in an implementation of the GDPS Continuous Availability with zero data loss solution. The source data sharing group supports replication of the logs and log data sets of its members by another data sharing group, which is the proxy group in the implementation of the GDPS Continuous Availability with zero data loss solution. The proxy group performs replication of tables in the source data sharing group that are enabled for changed data capture. The source group must contain a key-sequenced data set with the name that is specified by the CDDS_PREFIX subsystem parameter. That data set is the compression dictionary data set (CDDS). When IFI READS calls are made to the proxy group to retrieve compressed log records, Db2 uses the CDDS to decompress the log records. The location of the source group must be defined in the communications database of the proxy group.

PROXY
The data sharing group that contains the member that is being installed supports only replication of log data sets for the source data sharing group in an implementation of the GDPS Continuous Availability with zero data loss solution. The location of the proxy group must be defined in the communications database of the source group.

Db2 11 and later.

(CDDS_PREFIX) - (QWP2CDDS)

The CDDS_PREFIX subsystem parameter specifies the prefix for the name of the data set that contains dictionaries that Db2 uses to decompress compressed log records when a proxy data sharing group in an implementation of the GDPS Continuous Availability with zero data loss (GDPS Continuous Availability with zero data loss) solution captures the log records on behalf of a source data sharing group. The data set is known as the compression dictionary data set (CDDS).

The data set name is formed by appending the string '.CDDS' to the value of CDDS_PREFIX.

Valid values: 1 - 39 bytes

Default: DSNCAT

ZPARM NAME: DSN6LOGP.CDDS_PREFIX

Db2 11 and later.

From DSN6ARVP

MSS Volume Group 1 Name
The name of the mass storage system volume group 1. Db2 10 only.

MSS Volume Group 2 Name
The name of the mass storage system volume group 2. Db2 10 only.

From DSN6PRM

Enable Database Check
Determines whether additional internal checking is performed to determine whether the database manager is producing defective data or index records. Internal checking increases the cost of a database request, however, it provides early detection of system errors that might produce incorrect data. Valid values: YES or NO.

Default: NO.

Utility Cache Option
Determines whether the sequential prestage function of 3990 sequential caching for utilities is used.

Db2 10 only.

3990-3 Seq Cache
Determines whether sequential mode to read cached data from a 3990 controller is used.

Db2 10 only.

Disable Code Page Protect
Determines whether Code Page Protect is used.

Varchar from Index
Determines whether Db2 can return data from an index key for a varying length column. Db2 10 only.

Outer Join Perf Enh
Determines whether outer join performance enhancements are used. Db2 10 only.

Minimum RID Lists
The minimum number of RID blocks in the Db2 subsystem.

NPAGES Threshold
The NPAGES threshold for optimizer.

Star Join Threshold
Determines the minimum number of tables in a query block before Db2 considers the query block for star join. Star join must be enabled before Db2 can use this system parameter. Valid values:

0
Star join is enabled for a query block with 10 or more tables.

This is the default setting.

1,2,3
Star joins is enabled.

4-225
Star join is enabled if the query block contains a minimum of this number of tables.

226-32767
Star join is not enabled.

SMS Data Class for TS
The SMS data class name that is used by Db2 when a cluster for a table space is defined. If this value is blank, a data class name is not used. Db2 10 only.

SMS Data Class for IX
The SMS data class name that is used by Db2 when a cluster for an index is defined. If this value is blank, a data class name is not used. Db2 10 only.

MIN SCALE DECIMAL DIVIDE
The minimum scale for the result of a decimal division.

Valid values: None (default), 3, or 6. If 3 or 6 is specified, this parameter overrides the DECDIV3 parameter.

Max RDS OP Pool (QWP4MXOS)
The maximum amount of RDS op pool storage in MB to be used by the Db2 Optimizer. Valid values: 0 to 100. If 0 is specified, Db2 uses the maximum of 100. Default: 20.

Max CPU Sec OP Use (QWP4MXOC)
The maximum amount of CPU time in seconds to be used by the Db2 Optimizer. Valid values: 0 to 500. If 0 is specified, Db2 uses the maximum of 500. Default: 100.

Disable SQLWANR1,5 (QWP4DSCM)
Do not set SQLWARN1, SQLWARN4 and SQLWARN5 after the scrollable cursor has been successfully opened. Db2 10 only.

Max Entry Seclabel Cache (QWP4SCLC)
Maximum number of entries in the SECLABEL cache. Used to avoid RACROUTE REQUEST=DIRAUTH REQUESTS.

Max Numb in IN-List (QWP4INLP)
The maximum number of elements in an IN-List for an in-list predicate to be optimized. If the IN-List contains this number or fewer elements, it is optimized in the following ways:

- The IN-List predicated is pushed down into a materialized view or table expression
- A correlated IN-List predicate in a subquery that is generated by transitive closure can be moved up to the parent query block.

Valid values: 0 to 5000. 0 means that no optimization occurs. The default is 50.

Recover to Point-in-Time (QWP4RPTC)
Recover to Point-In-Time with consistency.

(UNION_COLNAME_7) (QWP4UNM7)
The SQLNAME field in the SQLDA after a query describe in which the result table is the result of a union, is the name of the column from the first subquery of the union.

Statistics Cluster
Defines whether enhanced clustering is used. Db2 10 only.

(CACHEDYN_FREELOCAL)
Determines whether statements from the dynamic statement cache can be freed by Db2 to relieve storage constraints below the 2GB bar.

This parameter applies only for packages or plans that are bound with KEEPDYNAMIC(YES).

Valid values:

0
Statements cannot be freed from the cache.

1
Statements can be freed from the cache.

Db2 10 and Db2 11 only.

MAX_CONCURRENT_PKG_OPS
The maximum number of package requests that can be processed simultaneously.

(HONOR_KEEPDICTIONARY) (QWP4HKPD)
Valid values: YES, NO.

(INDEX_IO_PARALLELISM)
Determines whether index I/O parallelism is enabled. Db2 10 and Db2 11 only.

Z/OS Metrics
Determines whether the gathering of Z/OS metrix through the RMF interface is enabled.

OPT I/O Weighting
Determines whether the optimizer I/O weighting is enabled. Db2 10 only.

Enable Pair-wise Join
Determines whether pair-wise join is enabled.

(REALSTORAGE_MAX) (QWP4RSMX)
Maximum amount of real plus auxiliary storage that can be used.

(RESTRICT_ALT_COL_FOR_DCC) (QWP4RACD)
RESTRICT_ALT_COL_FOR_DCC.

(DISALLOW_DEFAULT_COLLID) (QWP4DDCI)
Disallow default collection ID. Db2 10 only.

I/O Scheduling feature
Determines whether the I/O scheduling feature is activated.

Correlation ID Monitor (QWP4OZCI)
Online system parameter correlation ID monitor.

User ID Monitor
Online system parameter user ID monitor.

If QWP4OZUS_OFF is not 0, this value is truncated. If QWP4OZUS is truncated, this is the offset from the beginning of QWP4 TO QWP4OZUS_LEN.

Value for Trigger Drain (QWP4TDDN)
Value for trigger drain.

Max # of DDS withhold (QWP4MDDN)
Maximum number of DDS with HOLD.

Field Procs for TB Block
The number of field procs for Describe Table Block.

Max NotFound Hash Records (QWP4KNFC)
Maximum number of "Not Found" hash records.

Max Extend Service Tasks (QWPEST)
Maximum extend service tasks.

Max ZIVLEMPEL Dict Entry (QWP4MDE)
Maximum number of ZIVLEMPEL dictionary entries.

ProjectZ Insert Threshold (QWP4ZTN)
Project Z insertion threshold.

Default index type (S) (QWP4DXTP)
Default index type (type 1 or type 2).

(OPT1ROWBLOCKSORT)
Determines for queries that use the option Optimize For 1 Row whether all access paths that require sorting are blocked if there is at least one access path that avoids sorting.

Valid values:

Enable
If the option Optimize For 1 Row is used with a query, the option Sort Access Paths is disabled if a No-Sort choice is available.

Disable
It is unlikely that Sort Access Paths is chosen by Db2. However, a Sort Access Path might win.

(SUBQ_MIDX)
Determines whether Multiple Index Access for queries that have subquery predicates is enabled.

(ACCELMODEL) (QWP4ACMO)
Specifies whether to enable the modeling of query workloads for evaluating the potential savings for both accumulated elapsed time and processor time if the plan is run on an accelerator server.

Only queries that Db2 deems eligible to run on an accelerator server are included in the accelerator-related fields of accounting trace IFCID 3. Valid values are:

NO (default)
Modeling is not done.

YES
Modeling is done. This value applies only when the following requirements are also met:

- The value of the QUERY ACCELRATION subsystem parameter value is NONE, ENABLE, ENABLE WITH FAILBACK or ELIGIBLE
- The CURRENT GET_ACCEL_ARCHIVE special register value is NO.
- The GET_ACCEL_ARCHIVE subsystem parameter value is NO If other values are specified, Db2 tries to accelerate queries instead of doing accelerator modeling.

(AUTH_COMPATIBILITY) (QWP4AUTCSU)
The AUTH_COMPATIBILITY parameter specifies whether the default authorization check is overridden when users request to use the UNLOAD utility. Valid values:

NO for blank (default)
Indicates that AUTH_COMPATIBILITY has no effect and that there is no authorization check override.

YES for SELECT_FOR_UNLOAD
When this value is specified, the UNLOAD utility checks if the user has the SELECT privilege on the target table. When this value is not specified, the UNLOAD utility checks if the user has the UNLOAD privilege on the target table.

Db2 12 and later.

(CHECK_FASTREPLICATION) (QWP4CFRP)
Specify the type of replication to be used by DSSCOPY when invoked by the Db2 check utilities to copy objects to shadow data sets. The check utilities use DSSCOPY to copy Db2 objects to shadow data sets for processing and can stipulate fast replication as either preferred or required. Valid values are:

REQUIRED (default)
The check utilities force DSSCOPY to use fast replication ensuring that object copies occur as quickly as possible. This reduces the opportunity for resource contention and unavailability. This option causes the check to fail if flash copy cannot be used.

PREFERRED
The check utilities direct DSSCOPY to use fast replication only if flash copy support is available.

NONE

XML_RESTRICT_EMPTY_TAG (QWP4NOET)
Specifies whether Db2 always serializes an empty XML element using a start-element tag followed by an end-element tag.

Valid values are NO and YES. NO is the default.

A value of NO means that Db2 serializes an empty XML element in either of the following ways:

- As a start-element tag followed by an end-element tag. For example

```
<emptyElement></emptyElement>
```

- As an empty-element tag. For example:

```
<emptyElement/>
```

A value of YES means that Db2 always serializes an empty XML element as a start-element tag followed by an end-element tag. For example:

```
<emptyElement></emptyElement>
```

Db2 12 and later.

(PREVENT_NEW_IXCTRL_PART) (QWP4PCIP)
The PREVENT_NEW_IXCTRL_PART subsystem parameter determines whether Db2 disallows the creation of new index-controlled partitioned tables. This subsystem parameter ensures that new partitioned tables use table-controlled partitioning, which is the preferred partitioning method for non-universal tablespaces. Valid values:

NO
Specifies that new index-controlled partitioned tables can be created.

YES
Specifies that new partitioned table spaces must use table-controlled partitioning. A CREATE INDEX statement must not attempt to create an index-controlled partitioned table.

(SUPPRESS_HINT_SQLCODE_DYN) (QWP4SHDE)
Specifies whether Db2 suppresses SQLCODE +394 and SQLCODE +395 when specified access paths are applied for dynamic SQL statements.

NO (default)
Specifies that Db2 issues SQLCODEs +394 and +395 for statement-level access paths and PLAN_TABLE access paths.

STMT
Specifies that Db2 suppresses SQLCODEs +394 and +395 for statement-level access paths for dynamic SQL statement.

ALL
Specifies that Db2 suppresses SQLCODEs +394 and +395 for statement-level access paths and PLAN_TABLE access paths for dynamic SQL statements.

The SUPPRESS_HINT_SQLCODE_DYN subsystem parameter does not apply to static SQL statements or dynamic EXPLAIN statements.

(LIKE BLANK INSIGNIFICANT) (QWP4LBIN)
Specifies whether blanks are significant when applying the LIKE predicate to a string. If set, the blank insignificant behavior applies. Valid values: YES, NO. The default is NO.

(SIMULATED_CPU_COUNT) (QWP4NCPU)
Specifies the number of CPUs that are being simulated. This parameter is to be used for Db2 optimization modeling only. Valid values are OFF and numbers 1 - 255. The parameter is online changeable.

The default value, OFF, means that Db2 optimizes for the number of CPUs on which it is running. This setting is recommended for production environments.

(SIMULATED_CPU_SPEED) (QWP4CPUM)
Specifies the microseconds of execution time for tasks or service request blocks (SRBs) per service unit for the CPU that is being simulated. This parameter is used only for Db2 optimization modeling. Valid values:

OFF
Db2 optimizes for the CPU on which it is running. Use this setting in production environments.

1 - 2,147,483,647
Microseconds of execution time for tasks or service request blocks (SRBs) per service unit for the CPU that is being simulated. For values 1 - 27, Db2 uses a value of 27.

(MATERIALIZE_NODET_SQLTIDF) (QWP4MNSU)
Specifies whether the Db2 database manager materializes the result of a user-defined SQL table function that is defined as NOT DETERMINISTIC. Valid values are:

NO (default)
The Db2 database manager does not materialize the result of a user-defined SQL table function that is defined as NOT DETERMINISTIC.

YES
The Db2 database manager materializes the result of a user-defined SQL table function that is defined as NOT DETERMINISTIC. Use this setting to avoid errors in processing SQL statements that reference those user-defined SQL table functions

Db2 12 and later.

(MOVE_TO_ARCHIVE_DEFAULT) - (QWP4MTAD)
Specifies the default for the SYSIBMADM.MOVE_TO_ARCHIVE built-in global variable.

ZPARM NAME: DSN6SPRM.MOVE_TO_ARCHIVE_DEFAULT

Valid values are:

N
(Default) Specifies that a delete of a row in an archive-enabled table will not result in storing a copy of the deleted row in the associated archive table.

E
Specifies that a delete of a row in an archive-enabled table will result in storing a copy of the deleted row in the associated archive table.

Y
Specifies that a delete of a row in an archive-enabled table will result in storing a copy of the deleted row in the associated archive table. Additionally, when the global variable is set to 'Y', an insert or update operation that specifies the archive-enabled table as the target of the statement will result in an error.

Db2 11 and later.

(DISALLOW_SEL_INTO_UNION) - (QWP4DSINUN)
Specifies whether to disallow a UNION or UNION ALL as the outermost from-clause of a SELECT INTO statement, which is invalid SQL syntax. Such statements were inadvertently allowed before Db2 12. However, in Db2 12 they are disallowed by default.

Online changeable: YES

ZPARM NAME: DSN6SPRM DISALLOW_SEL_INTO_UNION

Valid values are:

YES
(Default) SELECT INTO statements with UNION or UNION ALL as the outermost from-clause are not supported. This setting enforces valid SQL syntax.

NO
SELECT INTO statements with UNION or UNION ALL as the outermost from-clause are accepted. This setting tolerates invalid SQL syntax.

Db2 11 and later.

(COMCRIT) - (QWP4COMC)
Sets the Common Criteria environment, which requires that tables that you create (other than created global temporary tables, declared global temporary tables, and auxiliary tables) must have multilevel security.

ZPARM NAME: DSN6SPRM.COMCRIT

Security parameter: YES

Valid values are:

NO
(Default) The behavior of Db2 is unchanged.

YES
All tables that you create (other than created global temporary tables, declared global temporary tables, and auxiliary tables) must have multilevel security. If the AS SECURITY LABEL clause is missing from a table, an error occurs and the table is not created. Setting COMCRIT to YES causes some of the current installation and migration processes to fail. A value of YES also limits the number of concurrent sessions that are allowed for a primary authorization ID if a RACF custom field is defined for that ID.

Db2 11 and later.

(ENCRYPTION_KEYLABEL) - (QWP4ENKL)
The ENCRYPTION_KEYLABEL subsystem parameter specifies the name of an ICSF key label to provide to DFSMS when using z/OS DFSMS data set encryption support to define encrypted data sets for the Db2 catalog, directories, and archive logs. The setting is used to define encrypted data sets for the Db2 catalog, directory objects, user-defined indexes on the catalog, and archive logs only when the Db2 function level is V12R1M502 or higher. The default setting of blank means Db2 does not provide the key label during allocation of the data sets associated with the system objects. If non-blank, ENCRYPTION_KEYLABEL must be set to a string from 1 - 64 bytes that identifies a protected data key in the ICSF key repository. A change to this parameter does not take effect until you use the -SET SYSPARM command to bring it online. Even if you start or restart Db2 after changing the value, the change is not honored until you issue the -SET SYSPARM command. In Db2 data sharing, all members need to use the same setting. When changing the setting of ENCRYPTION_KEYLABEL for a data sharing group, make the change on all members before running the -SET SYSPARM command on any member.

Acceptable values: 1 - 64 bytes.

Default: Blanks

ZPARM NAME: DSN6SPRM.ENCRYPTION_KEYLABEL

Db2 12 and later.

From DSN6FAC

Enable SQL Interrupt
Determines whether SQL Interrupt processing is enabled.

Typically, this parameter is not modified unless remote client systems experience SQL interrupt-oriented failures and a disablement of the Db2 SQL Interrupt support is required until the remote client systems can be modified to tolerate this behavior.

Default: Enable.

(PRIVATE_PROTOCOL)
Determines the Db2 behavior that is relative to legacy private protocol usage.

NO
Does not allow private protocol-related behavior.

Indicates that plan owner-based package execution authorization semantics that might affect Db2 for z/OS DRDA requester systems that might rely on it are not honored.

Secondary IDs are utilized to determine package execution privileges that are relative to remote Db2 for z/OS applications.

This is the default value.

AUTH
Allows private protocol-related plan owner-based package authorization behavior.

Indicates that plan owner-based package execution authorization semantics are honored for the benefit of Db2 for z/OS DRDA requester systems that might rely on it.

Secondary IDs are not utilized to determine package execution privileges that are relative to remote Db2 for z/OS applications.

(DDF_COMPATIBILITY) (QWP9DDFCIP)
Determines whether DDF behavior for compatibility with previous releases is enabled.

Valid options are:

IDNTFY_V10_PRIOR_VER (Db2 10 only) IDNTFY_V11_PRIOR_VER (Db2 11 only)
Return information to ALL remote clients to reflect new-function support and product signature of previous version from where Db2 was migrated. Db2 identifies itself as the previous version. Does not apply in NFM. Applies only in CMn/ENFM and CMn*/ENFM*.

IDNTFY_V12_PRIOR_VER (Db2 12 only)
Specifies a Db2 12 server for which the new function has not been activated to identify itself to all remote clients as a Db2 11 server in new-function mode.

null
The DDF_COMPATIBILITY parameter has no effect and Db2 12 new function behavior is used for all applications.

DISABLE_IMPCAST_JV
Specifies that the Db2 for z/OS server disables implicit casting of input host variables from numeric data types to string data types, or from string data types to numeric data types, when the application is a Java client application that uses the IBM Data Server Driver for JDBC and SQLJ. If DISABLE_IMPCAST_JV is not specified, Db2 enables implicit casting of input host variables from numeric data types to string data types, or from string data types to numeric data types.

IGNORE_TZ
Specifies that the time zone information is ignored during boundary error checking for TIMESTAMP WITH TIME ZONE input variables when the target data type is TIMESTAMP and the client driver is IBM Data Server Driver for JDBC and SQLJ. IGNORE_TZ is deprecated. In Db2 11, IGNORE_TZ is effective only if application compatibility is set to V10R1. Db2 V12 and later.

SP_PARMS_NJV
Specifies that when a non-Java client application calls a Db2 for z/OS stored procedure, Db2 returns output argument values with data types that match the data types of the corresponding CALL statement arguments, unless either of the following conditions are true:

- The non-Java client is Version 10 or later.
- The stored procedure uses a parameter data type that was introduced in Db2 10 (XML, TIMESTAMP WITH TIMEZONE, or TIMESTAMP with precision greater than 6).

If either condition is true, Db2 returns output parameter values with data types that match the data types of the parameters in the stored procedure definition.

If SP_PARMS_NJV is not specified, Db2 returns output parameter values with data types that match the data types of the parameters in the stored procedure definition.

SP_PARMS_NJV is deprecated. Db2 ignores this value if application compatibility is set to V11R1 or later.

From DSNHDECP

Db2 Supplied DECP Indic (DB2SUPLD) (QWPBDB2S)
Db2-supplied DECP indication.

Charset Default (CHARSET) (QWPBCHAR)
Character set default. Db2 10 only.

Others

Space Above Db2 Leave Available
The amount of space that is kept available by Db2 for critical tasks.

Space Reserved for Critical Work
The amount of space that is reserved for critical work that must be completed.

Space Reserved for z/OS Functions
The amount of space that is reserved for z/OS functions.

Extended Datestamp Indicator
Determines whether the time stamp archive log data sets with the date in the format YYYYDDD are used.

New Function Mode
Determines whether subsystem is in the New Function mode.

Lock Manager Information

This panel shows information about current locking activity and claims and drains.

```
_________________ ZLOKM    VTM     O2       V540.#P SE12 DD/MM/YY 16:11:04   2
>       Help PF1         Back PF3             Up PF7            Down PF8
> R.I.A
>
> *-LOCK STATISTICS            B-GLOBAL LOCK STATISTICS            H-HISTORICAL
================================================================================
>                           LOCK MANAGER INFORMATION

 LOKM
+ Collection Interval:  REALTIME                         Start:  11/05 16:09:41
+ Report Interval:       2 sec                             End:  11/05 16:11:04
+
+                                   TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT
+                                QUANTITY  QUANTITY  (    2)  (    1)  (    0)
+                                --------  --------  -------  -------  -------
+ Deadlocks Detected                    0         0      .00      .00      .00
+ Timeouts Detected                     0         0      .00      .00      .00
+ Susp Detected - Lock Only             1         0      .00      .00      .00
+ Susp Detected - Latch Only          606         0      .00      .00      .00
+ Susp Detected - Other             87589         6     3.00     6.00      .00
+
+ Lock Escalations - to Shared          0         0      .00      .00      .00
+ Lock Escalations - to Exclusive       0         0      .00      .00      .00
+
+ Lock Requests                   2089890       141    70.50   141.00      .00
+ Unlock Requests                 2362800       129    64.50   129.00      .00
+ Query Requests                    71153         5     2.50     5.00      .00
+ Change Requests                   23948         7     3.50     7.00      .00
+ Other IRLM Requests                   3         0      .00      .00      .00
```

+ CLAIM/DRAIN INFORMATION + ---------- + Claim Requests 64895 21 10.50 21.00 .00 + Unsuccessful Claim Requests 0 0 .00 .00 .00 + Drain Requests 6276 0 .00 .00 .00 + Unsuccessful Drain Requests 0 0 .00 .00 .00

```
+ SECONDARY LATCH CONT. COUNTERS
+ ----------------------------
+ Main Latch Cont. (Held)              663         2     1.00      .00      .00
+ Main Latch Cont. (UseCnt)           1293         4     2.00      .00      .00
+ Secondary Latch Cont. (Held)        2179         6     3.00      .00      .00
+ RES Hashtbl Latch (Lock)            1023         5     2.50      .00      .00
+ WKUNIT Hashtbl Latch (Lock)            1         0      .00      .00      .00
+ RES Hashtbl Latch (Unlock)           208         1      .50      .00      .00
+ WKUNIT Hashtbl Latch (Unlock)          9         0      .00      .00      .00
+ RES Hashtbl Latch (Chng)               0         0      .00      .00      .00
+ WKUNIT Hashtbl Latch (Chng)            0         0      .00      .00      .00
+ RES Hashtbl Latch (Notify)             0         0      .00      .00      .00
+ Notify CB Latch Cont.                  4         0      .00      .00      .00
+ RES Hashtbl Latch (Compat)             3         0      .00      .00      .00
+ WKUNIT Hashtbl Latch (Compat)          0         0      .00      .00      .00
+ RES Hashtbl Latch (Async)              2         0      .00      .00      .00
+ WKUNIT Hashtbl Latch (Async)           0         0      .00      .00      .00
+ WKUNIT Hashtbl Latch (Sync)            0         0      .00      .00      .00
+ RES Latch Cont. Counter                4         0      .00      .00      .00
+ UseCnt for Compat QueElem              0         0      .00      .00      .00
+ Num of Compat QEs Gened              631         0      .00      .00      .00
+ Generic Latch Cont.                   45         0      .00      .00      .00
+ RES Hashtbl Latch (Query)              0         0      .00      .00      .00
+ WKUNIT Hashtbl Latch (Query)           0         0      .00      .00      .00
+ Total Local Deadlocks                  0         0      .00      .00      .00
+ Timeout RLBs Purged                    0         0      .00      .00      .00
+ Retryable ABENDs                       0         0      .00      .00      .00
+ Non Retryable ABENDs                   0         0      .00      .00      .00
+ Suspend Exit Counter               88956       374   187.00      .00      .00
+ Resume Exit Counter                88956       374   187.00      .00      .00
+ Status Exit Counter                    0         0      .00      .00      .00
+ Deadlock Exit Counter                  0         0      .00      .00      .00
+ Timeout Exit Counter                   0         0      .00      .00      .00
+
+ LATCH COUNTERS
+ ----------------------
+ Infrequently Used                      0         0      .00      .00      .00
+ Global Authorization Cache             4         0      .00      .00      .00
+ DDF Disconnect                         0         0      .00      .00      .00
+ SYSSTRING Cache                        0         0      .00      .00      .00
+ IRLM Data Sharing Exits                1         0      .00      .00      .00
+ Data Sharing Index Split               0         0      .00      .00      .00
+ Index Lotch and OBD Alloc             10         0      .00      .00      .00
+ Query Parallelism                   6188         0      .00      .00      .00
+ Utilities or Stored Proc               3         0      .00      .00      .00
+ Allied Agent Chain or Seq Desc         7         0      .00      .00      .00
+ DGTT Allocation                        0         0      .00      .00      .00
+ Global Transaction ID Table         2980        23    11.50      .00      .00
+ Pageset Operations                     0         0      .00      .00      .00
+ Bufferpool LRU                    197499      3588  1794.00      .00      .00
+ Archive Log Mode (Quiesce)             0         0      .00      .00      .00
+ UR Chain                               0         0      .00      .00      .00
+ RURE Chain                             0         0      .00      .00      .00
+ DDF Resynch List                       2         0      .00      .00      .00
+ Log Write                              2         0      .00      .00      .00
+ System Checkpoint                      4         0      .00      .00      .00
+ Accounting Rollup                   6584         0      .00      .00      .00
+ Internal Checkpoint                    0         0      .00      .00      .00
+ Buffer Manager                    186828      2004  1002.00      .00      .00
+ EDMPool or Prefetch                18539       168    84.00      .00      .00
+ Workfile Allocation                 1282         2     1.00      .00      .00
+ Dynamic Statement Cache              472         0      .00      .00      .00
+ Stored Proc or Auth Cache             49         0      .00      .00      .00
+ Stored Proc or Auth Cache             16         0      .00      .00      .00
+ FieldProcs and DDF Trans Mgr         726         0      .00      .00      .00
+ Agent Services                      5569        40    20.00      .00      .00
+ Storage Manager                     3244        27    13.50      .00      .00
+ Storage Manager                     4401        12     6.00      .00      .00
+ Index Lotch                            3         0      .00      .00      .00
================================================================================
```

Navigation

For additional information about

- global lock information, select option **B-GLOBAL LOCK STATISTICS** at the top of the panel.
- Near-term history activity, select option **H-HISTORICAL** at the top of the panel.

- other topics, use the PF keys.

Fields

Collection Interval
Shows the REALTIME to indicate that you are looking at the realtime version of this panel and not at the corresponding near-term history panel. The collection interval and the report interval are the same in this panel.

Start
The start time of the report interval currently displayed.

Report Interval
The time in the last cycle (for example, between two presses of the Enter key).

End
The end time of the report interval currently displayed.

For each of the following fields, the following statistics values are provided:

TOTAL QUANTITY
Total quantity, which reflects the amount of activities since DB2 was started.

INTERVAL QUANTITY
Interval quantity, which reflects the amount of activities during the last cycle.

/SECOND
Rate per second during the last cycle. The number under /SECOND (in parentheses) is the number of seconds in the interval.

/THREAD
Rate per thread during the last cycle. The number under /THREAD (in parentheses) is the number of Create Threads during the interval.

/COMMIT
Rate per Commit during the last cycle. The number under /COMMIT (in parentheses) is the number of commit requests (including abort requests) during the interval.

Lock manager information:

Deadlocks detected
The number of deadlocks detected.

Timeouts detected
Occasions when suspension of a unit of work lasted longer than the Internal Resource Lock Manager (IRLM) timeout value.

Susp detected - lock only
Suspensions of a unit of work because a lock could not be obtained.

Susp detected - latch only
Db2 internal latch suspensions.

Susp detected - other
Suspensions caused by something other than locks and latches.

Lock escalations - to shared
Occasions when the allowable number of locks per tablespace was exceeded, causing a page (IS) lock to escalate to a shared (S) lock.

Lock escalations - to exclusive
Occasions when the allowable number of locks per tablespace was exceeded, causing a page (ix) lock to escalate to an exclusive (x) lock.

Lock requests
Requests to IRLM to obtain a lock on a resource.

Unlock requests
Requests to IRLM to unlock a resource.

Query requests
Requests to IRLM to query a lock.

Change requests
Requests to IRLM to change a lock.

Other irlm requests
Requests to IRLM to perform a function other than those listed before.

Claim/drain information:

Claim requests
Number of claim requests.

Unsuccessful claim requests
Number of unsuccessful claim requests.

Drain requests
Number of drain requests.

Unsuccessful drain requests
Number of unsuccessful drain requests.

Secondary Latch Cont. Counters:

Main Latch Cont. (Held)
Main latch contention due to Main latch held.

Main Latch Cont. (UseCnt)
Main latch contention due to Use Count not being 0.

Secondary Latch Cont. (Held)
Secondary latch contention due to Main latch held.

RES Hashtbl Latch (Lock)
Resource Hash Table latch contention for LOCK.

WKUNIT Hashtbl Latch (Lock)
Workunit Hash Table latch contention for LOCK.

RES Hashtbl Latch (Unlock)
Resource Hash Table latch contention for UNLOCK.

RES Hashtbl Latch (Chng)
Resource Hash Table latch contention for CHANGE.

WKUNIT Hashtbl Latch (Chng)
Workunit Hash Table latch contention for CHANGE.

RES Hashtbl Latch (Notify)
Resource Hash Table latch contention for NOTIFY.

Notify CB Latch Cont.
Notify Control Block latch contention for NOTIFY.

RES Hashtbl Latch (Compat)
Resource Hash Table latch contention for COMPAT.

WKUNIT Hashtbl Latch (Compat)
Workunit Hash Table latch contention for COMPAT.

RES Hashtbl Latch (Async)
Resource Hash Table latch contention for ASYNC LOCK.

WKUNIT Hashtbl Latch (Async)
Workunit Hash Table latch contention for ASYNC LOCK.

WKUNIT Hashtbl Latch (Sync)
Workunit Hash Table latch contention for SYNC.

RES Latch Cont. Counter
Resource latch contention counter.

UseCnt for Compat QueElem
Use Count counter for Compat QEs (Queue Elemecreated to perform compatibility check of a wrequest following a lock grant/deny) in IRLM.

Num of Compat QEs Gened
The number of Compat QEs generated.

Generic Latch Cont.
Generic latch contentions.

RES Hashtbl Latch (Query)
Resource Hash Table latch contention for QUERY FAST (Fastpath QUERY request types).

WKUNIT Hashtbl Latch (Query)
Workunit Hash Table latch contention for QUERY FAST.

Total Local Deadlocks
Total number of local deadlocks.

Timeout RLBs Purged
Timeout RLBs purged by IRLM.

Retryable ABENDs
Re-tryable ABENDs in IRLM.

Non Retryable ABENDs
Non re-tryable ABENDs in IRLM.

Suspend Exit Counter
Suspend Exit counter (The number of times a DBMS exit code was called).

Resume Exit Counter
Resume Exit counter.

Status Exit Counter
Status Exit counter.

Deadlock Exit Counter
Deadlock Exit counter.

Timeout Exit Counter
Timeout Exit counter.

Latch Counters:

Infrequently Used
This field is infrequently used.

Global Authorization Cache
The predominant latch usage is: Global authorization cache.

DDF Disconnect
The predominant latch usage is: DDF disconnect.

SYSSTRING Cache
The predominant latch usage is: SYSSTRING cache.

IRLM Data Sharing Exits
The predominant latch usage is: IRLM data sharing exits or RLF.

Data Sharing Index Split
The predominant latch usage is: Data sharing index split.

Index Lotch and OBD Alloc
The predominant latch usage is: Index lotch and OBD allocation.

Query Parallelism
The predominant latch usage is: Query parallelism.

Utilities or Stored Proc
The predominant latch usage is: Utilities or stored procedure URIDs.

Allied Agent Chain or Seq Desc
The predominant latch usage is: Allied agent chain or sequence descriptors.

DGTT Allocation
The predominant latch usage is: DGTT allocation.

Global Transaction ID Table
The predominant latch usage is: Global transaction ID table.

Pageset Operations
The predominant latch usage is: Pageset operations.

Bufferpool LRU
The predominant latch usage is: Bufferpool LRU.

Archive Log Mode (Quiesce)
The predominant latch usage is: ARCHIVE LOG MODE(QUIESCE).

UR Chain
The predominant latch usage is: UR chain.

RURE Chain
The predominant latch usage is: RURE chain.

DDF Resynch List
The predominant latch usage is: DDF resynch list.

Log Write
The predominant latch usage is: Log write.

System Checkpoint
The predominant latch usage is: System checkpoint.

Accounting Rollup
The predominant latch usage is: Accounting rollup.

Internal Checkpoint
The predominant latch usage is: Internal checkpoint.

Buffer Manager
The predominant latch usage is: Buffer manager.

EDMPool or Prefetch
The predominant latch usage is: EDM pool or prefetch.

Workfile Allocation
The predominant latch usage is: Workfile allocation.

Dynamic Statement Cache
The predominant latch usage is: Dynamic statement cache.

Stored Proc or Auth Cache
The predominant latch usage is: Stored procedures or authorization cache.

Stored Proc or Auth Cache (QVLSLC27)
The predominant latch usage is: Stored procedures or authorization cache.

Stored Proc or Auth Cache (QVLSLC28)
The predominant latch usage is: Stored procedures or authorization cache.

FieldProcs and DDF Trans Mgr
The predominant latch usage is: Field procs and DDF transaction manager.

Agent Services
The predominant latch usage is: Agent services.

Storage Manager (QVLSLC31)
The predominant latch usage is: Storage manager.

Storage Manager (QVLSLC32)
The predominant latch usage is: Storage manager.

Index Lotch
The predominant latch usage is: Index lotch.

Global Lock Statistics

This panel shows information about current global locking activity in a data sharing environment.

```
_________________ ZGLOK    VTM     O2       V540./C SZ21 DD/MM/YY HH:MM:SS   2
>       Help PF1         Back PF3            Up PF7            Down PF8
> R.I.B
>
> A-LOCK STATISTICS            *-GLOBAL LOCK STATISTICS            H-HISTORICAL
================================================================================
>                           GLOBAL LOCK STATISTICS

 GLOK
+ Collection Interval:  REALTIME                          Start:  09/10 13:46:49
+ Report Interval:       3 sec                              End:  09/10 13:47:05
+
+ Total Global Contention  =           .5%   P-Lock/Notify Engines   =      500
+ False Contention         =           .1%
+
+                                   TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT
+                                QUANTITY  QUANTITY  (    3)  (    0)  (    0)
+                                --------  --------  -------  -------  -------
+ P-Lock Lock Requests               3972         0      .00      .00      .00
+ P-Lock Change Requests              193         0      .00      .00      .00
+ P-Lock Unlock Requests             3386         0      .00      .00      .00
+
+ XES Lock Requests                 60530        18     6.00      .00      .00
+ XES Change Requests                7326         0      .00      .00      .00
+ XES Unlock Requests               60764        18     6.00      .00      .00
+ XES Asynchronous Requests            28         0      .00      .00      .00
+ XES Sync to Async Conv             8928         9      .04     3.00      .03
+
+ Suspends-IRLM Global Contention     452         0      .00      .00      .00
+ Suspends-XES Global Contention        0         0      .00      .00      .00
+ Suspends-False Contention           162         0      .00      .00      .00
+
+ Negotiate Pageset P-Locks            82         0      .00      .00      .00
+ Negotiate Page P-Locks                0         0      .00      .00      .00
+ Negotiate Other P-Locks              62         0      .00      .00      .00
+ Negotiate P-Lock Change             128         0      .00      .00      .00
+
+ Incompatible Retained Locks           0         0      .00      .00      .00
+ Notify Messages Sent                719         0      .00      .00      .00
+ Notify Messages Received            942         0      .00      .00      .00
+ Engine Not Available                  0         0      .00      .00      .00
+ Very Conditional Rejections           0         0      .00      .00      .00
+
+ IRLM SYSTEM ACTIVITY COUNTERS
+ ----------------------------
+ CB Latch Cont.                     1198         2      .01      .67      .01
+ Global Deadlocks                      0         0      .00      .00      .00
+ Local Resource Cont.               1831         0      .00      .00      .00
+ Global Resource Cont.             10237         9      .04     3.00      .03
+ Cont. Exit Visits                  9193         9      .04     3.00      .03
+ False Cont.                        1212         1      .00      .33      .00
+ Plock Exit Visits                  2221         4      .02     1.33      .01
+ Notify Exit Visits                81892        70      .33    23.33      .23
================================================================================
```

Navigation

For additional information about:

- Lock information, select option **A-LOCK STATISTICS** at the top of the top of the panel.
- Near-term history activity, select option **H-HISTORICAL** at the top of the panel.
- Other topics, use the PF keys.

Fields

Collection Interval
Shows the REALTIME to indicate that you are looking at the realtime version of this panel and not at the corresponding near-term history panel. The collection interval and the report interval are the same in this panel.

Start
The start time of the interval currently displayed.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

End
The end time of the interval currently displayed.

Total Global Contention
The percent of synchronous XES lock, change, or unlock requests that resulted in global contention.

False Contention Percentage
The rate of false contentions to real contentions. This number should be no more than 50%.

P-Lock/Notify Engines
The number of engines available for P-lock exit or notify exit requests.

For each of the following fields, the following statistics values are provided:

TOTAL QUANTITY
Total quantity, which reflects the amount of activities since DB2 was started.

INTERVAL QUANTITY
Interval quantity, which reflects the amount of activities during the last cycle.

/SECOND
Rate per second during the last cycle. The number under /SECOND (in parentheses) is the number of seconds in the interval.

/THREAD
Rate per thread during the last cycle. The number under /THREAD (in parentheses) is the number of Create Threads during the interval.

/COMMIT
Rate per Commit during the last cycle. The number under /COMMIT (in parentheses) is the number of commit requests (including abort requests) during the interval.

P-lock Lock Requests
Number of lock requests for P-locks.

P-lock Change Requests
Number of change requests for P-locks.

P-lock Unlock Requests
Number of unlock requests for P-locks.

XES Lock Requests
The number of lock requests (both logical and physical) that are propagated to MVS XES synchronously under the caller's execution unit. This count does not include suspended requests. Only the most restrictive lock for a particular resource is propagated to XES and the coupling facility.

XES Change Requests
The number of change requests (both logical and physical) that are propagated to MVS XES synchronously under the caller's execution unit. This count does not include suspended requests.

XES Unlock Requests
The number of unlock requests (both logical and physical) that are propagated to MVS XES synchronously under the caller's execution unit. This count does not include suspended requests.

XES Asynchronous Requests
The number of L-locks and P-locks propagated to XES asynchronously. This occurs when a new inter-DB2 interest occurs on a parent resource or when a request completes after the requestor's execution unit has been suspended.

XES Sync to Async Conv
The number of sync to async heuristic conversions for LOCK requests in XES. This conversion is done when XES determines that it is more efficient to drive the request asynchronously to the CF.

Suspends-IRLM Global Contention
The number of suspends due to Internal Resource Lock Manager (IRLM) global resource contentions. IRLM lock states were in conflict and inter-system communication is required to resolve the conflict.

Suspends-XES Global Contention
The number of suspends due to MVS XES global resource contentions that were not IRLM-level contentions. The XES lock states were in conflict, but the IRLM lock states were not.

Suspends-False Contention
The number of suspends caused by MVS XES false contentions. XES detects hash class contention when two different locks on different resources hash to the same entry in the coupling facility lock table. The requester is suspended until it is determined that no real lock contention exists.

Negotiate Pageset P-Locks
The number of times this DB2 member was driven to negotiate a pageset/partition P-lock because of changing inter-DB2 interest levels on the pageset/partition.

Negotiate Page P-Locks
The number of times this DB2 member was driven to negotiate a page P-lock because of inter-DB2 P-lock contention.

Negotiate Other P-Locks
The number of times this DB2 member was driven to negotiate a P-lock type other than pageset/partition or page.

Negotiate P-Lock Change
The number of times a P-lock change request was issued during P-lock negotiation.

Incompatible Retained Locks
The number of global lock or change requests that failed because of an incompatible retained lock. Certain P-locks can be retained because of a system failure. Another DB2 member cannot access the data that the retained P-lock is protecting unless it requests a P-lock in a compatible state.

Notify Messages Sent
The number of notify messages sent.

Notify Messages Received
The number of notify messages received.

Engine Not Available
The number of times an engine was not available for a P-lock exit or a notify exit request.

Very Conditional Rejections
The number of rejections of very conditional requests which could not get processed because of the heuristic algorithm used by XES.

IRLM System Activity Counters:

CB Latch Cont.
Active IRLM Control Block latch contention counter.

Global Deadlocks
Total number of global deadlocks.

Local Resource Cont.
Local resource contentions.

Global Resource Cont.
Global resource contentions.

Cont. Exit Visits
Visits to the contention exit, and IRLM granted the request. How many times lock contention was found and the request was sent to IRLM contention Exit, and the request was granted.

False Cont.
False contentions.

Plock Exit Visits
Plock Exit counter.

Notify Exit Visits
Notify Exit counter.

SQL/RID Pool/Parallelism/Stored Procedure Information

This panel shows information about the current SQL, RID pool, Parallelism, and Stored Procedure activities.

```
_________________ ZSQLC    VTM     O2       V540./I SE11 DD/MM/YY 15:21:01   2
>       Help PF1         Back PF3 Up PF7              Down PF8
> R.J
>
> H-HISTORICAL
================================================================================
>             SQL/RID POOL/PARALLELISM/STORED PROCEDURE INFORMATION

 SQLC
+ Collection Interval:  REALTIME                         Start:  07/16 15:14:09
+ Report Interval:       2 min                             End:  07/16 15:21:01
+
++                            TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT    % OF
+ SQL Manipulative (DML)    QUANTITY  QUANTITY  (  124)  (    6)  (   20)     DML
+ ----------------------    --------  --------  -------  -------  -------  ------
+ SELECT                         243         0      .00      .00      .00     .00
+ INSERT                           2         0      .00      .00      .00     .00
+ UPDATE                           0         0      .00      .00      .00     .00
+ MERGE                            0         0      .00      .00      .00     .00
+ DELETE                           1         0      .00      .00      .00     .00
+ DESCRIBE                    10040        24      .19     4.00     1.20    2.16
+ DESCRIBE TABLE                  0         0      .00      .00      .00     .00
+ PREPARE                     10148        37      .29     6.16     1.85    3.33
+ OPEN CURSOR                 10202        13      .10     2.16      .65    1.17
+ FETCH                      532574      1017     8.20   169.50    50.85   91.78
+ CLOSE CURSOR                  178        13      .10     2.16      .65    1.17
+ REFRESH TABLE                   4         4      .03      .66      .20     .36 *DB2 12
+              Total DML     563392      1108     8.93   184.66    55.40  100.00
+
+                              TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT    % OF
+ SQL Control (DCL)          QUANTITY  QUANTITY  (  124)  (    6)  (   20)     DCL
+ ----------------------    --------  --------  -------  -------  -------  ------
+ CALL                             5         0      .00      .00      .00     .00
+ CONNECT (TYPE 1)                 0         0      .00      .00      .00     .00
+ CONNECT (TYPE 2)                10         0      .00      .00      .00     .00
+ GRANT                            0         0      .00      .00      .00     .00
+ LOCK TABLE                       0         0      .00      .00      .00     .00
+ RELEASE                          0         0      .00      .00      .00     .00
+ REVOKE                           0         0      .00      .00      .00     .00
+ SET CONNECTION                   0         0      .00      .00      .00     .00
+ SET CURRENT DEGREE               0         0      .00      .00      .00     .00
+ SET CURRENT RULES                0         0      .00      .00      .00     .00
+ SET CURRENT SQLID                8         2      .01      .33      .10   18.18
+ SET HOST VARIABLE               47         2      .01      .33      .10   18.18
+ SET CURRENT PATH                 0         0      .00      .00      .00     .00
+ SET CURRENT PRECISION            0         0      .00      .00      .00     .00
+ ASSOCIATE LOCATOR                0         0      .00      .00      .00     .00
+ ALLOCATE CURSOR                  0         0      .00      .00      .00     .00
+ HOLD LOCATOR                     0         0      .00      .00      .00     .00
+ FREE LOCATOR                     0         0      .00      .00      .00     .00
+ TRANSFER OWNERSHIP               7         7      .05     1.16      .35   63.63 *DB2 12
+              Total DCL          77        11      .08     1.83      .55  100.00
+
```

```
+
+                            TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT    % OF
+ SQL Definitional (DDL)  QUANTITY  QUANTITY  (  142)  (    2)  (    0)     DDL
+ ----------------------  --------  --------  -------  -------  -------  ------
+ CREATE TABLE                   0         0      .00      .00      .00     .00
+ CREATE GBL TEMP TABLE          0         0      .00      .00      .00     .00
+ DCL GBL TEMP TABLE             0         0      .00      .00      .00     .00
+ CREATE AUX TABLE               0         0      .00      .00      .00     .00
+ CREATE INDEX                   0         0      .00      .00      .00     .00
+ CREATE TABLESPACE              0         0      .00      .00      .00     .00
+ CREATE DATABASE                0         0      .00      .00      .00     .00
+ CREATE STOGROUP                0         0      .00      .00      .00     .00
+ CREATE SYNONYM                 0         0      .00      .00      .00     .00
+ CREATE VIEW                    0         0      .00      .00      .00     .00
+ CREATE ALIAS                   0         0      .00      .00      .00     .00
+ CREATE TRIGGER                 0         0      .00      .00      .00     .00
+ CREATE DISTINCT TYPE           0         0      .00      .00      .00     .00
+ CREATE FUNCTION                0         0      .00      .00      .00     .00
+ CREATE PROCEDURE               0         0      .00      .00      .00     .00
+ CREATE SEQUENCE                0         0      .00      .00      .00     .00
+ CREATE ROLE                    0         0      .00      .00      .00     .00
+ CREATE TRUSTED CTX             0         0      .00      .00      .00     .00
+ CREATE MASK/PERM               0         0      .00      .00      .00     .00
+ CREATE VARIABLE                0         0      .00      .00      .00     .00
+ DROP TABLE                     0         0      .00      .00      .00     .00
+ DROP INDEX                     0         0      .00      .00      .00     .00
+ DROP TABLESPACE                0         0      .00      .00      .00     .00
+ DROP DATABASE                  0         0      .00      .00      .00     .00
+ DROP STOGROUP                  0         0      .00      .00      .00     .00
+ DROP SYNONYM                   0         0      .00      .00      .00     .00
+ DROP VIEW                      0         0      .00      .00      .00     .00
+ DROP ALIAS                     0         0      .00      .00      .00     .00
+ DROP PACKAGE                   0         0      .00      .00      .00     .00
+ DROP TRIGGER                   0         0      .00      .00      .00     .00
+ DROP DISTINCT TYPE             0         0      .00      .00      .00     .00
+ DROP PROCEDURE                 0         0      .00      .00      .00     .00
+ DROP FUNCTION                  0         0      .00      .00      .00     .00
+ DROP SEQUENCE                  0         0      .00      .00      .00     .00
+ DROP TRUSTED CTX               0         0      .00      .00      .00     .00
+ DROP ROLE                      0         0      .00      .00      .00     .00
+ DROP MASK/PERM                 0         0      .00      .00      .00     .00
+ DROP VARIABLE                  0         0      .00      .00      .00     .00
+ ALTER TABLE                    0         0      .00      .00      .00     .00
+ ALTER INDEX                    0         0      .00      .00      .00     .00
+ ALTER TABLESPACE               0         0      .00      .00      .00     .00
+ ALTER DATABASE                 0         0      .00      .00      .00     .00
+ ALTER STOGROUP                 0         0      .00      .00      .00     .00
+ ALTER VIEW                     0         0      .00      .00      .00     .00
+ ALTER FUNCTION                 0         0      .00      .00      .00     .00
+ ALTER PROCEDURE                0         0      .00      .00      .00     .00
+ ALTER SEQUENCE                 0         0      .00      .00      .00     .00
+ ALTER JAR                      0         0      .00      .00      .00     .00
+ ALTER TRUSTED CTX              0         0      .00      .00      .00     .00
+ ALTER MASK/PERM                0         0      .00      .00      .00     .00
+ RENAME TABLE                   0         0      .00      .00      .00     .00
+ RENAME INDEX                   0         0      .00      .00      .00     .00
+ TRUNCATED TABLE                0         0      .00      .00      .00     .00
+ COMMENT ON                     0         0      .00      .00      .00     .00
+ LABEL ON                       0         0      .00      .00      .00     .00
+              Total DDL         0         0      .00      .00      .00     .00
+
```

```
+                          TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT
+ RID List Processing    QUANTITY  QUANTITY  (  142)  (    2)  (    0)
+ ---------------------  --------  --------  -------  -------  -------
+ Successful                   0         0      .00      .00      .00
+ Not Used (No Storage)        0         0      .00      .00      .00
+ Not Used (Max Limit)         0         0      .00      .00      .00
+ Not used (Final)                       0      .00      .00      .00
+ To WF (No Storage)           0         0      .00      .00      .00
+ To WF (Max Limit)            0         0      .00      .00      .00
+ Interrupted (No Stor)        0         0      .00      .00      .00
+ Interrupted (Max Lmt)        0         0      .00      .00      .00
+ Skipped (Adaptive IX)        9         0      .00      .00      .00 *DB2 12
+ Skipped (Index Known)        0         0      .00      .00      .00
+ Term (No Storage)            0         0      .00      .00      .00
+ Term (> RDS Limit)           0         0      .00      .00      .00
+ Term (> DM Limit)            0         0      .00      .00      .00
+ Term (> PROC Limit)          0         0      .00      .00      .00
+ HWM RID Blks Inuse           0       N/A      N/A      N/A      N/A
+ Curr RID Blks Inuse          0         0      .00      .00      .00
+ HWM RID Blks in WF           0       N/A      N/A      N/A      N/A
+ Curr RID Blks in WF          0         0      .00      .00      .00
+
+                          TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT
+ Query Parallelism       QUANTITY  QUANTITY  (  142)  (    2)  (    0)
+ ---------------------  --------  --------  -------  -------  -------
+ HWM degree Parallism          8       N/A      N/A      N/A      N/A
+ Max Degree (Planned)          8       N/A      N/A      N/A      N/A
+ Max Degree (Estimated)        8       N/A      N/A      N/A      N/A
+ Max Degree (Executed)         1         0      .00      .00      .00
+  Ran Planned                  1         0      .00      .00      .00
+  Ran Reduced (Storage)        0         0      .00      .00      .00
+  Ran Reduced (Negotia)        0         0      .00      .00      .00
+  Ran Seq (Cursor)             0         0      .00      .00      .00
+  Ran Seq (No Buffer)          0         0      .00      .00      .00
+  Ran Seq (No ESA Sort)        0         0      .00      .00      .00
+  Ran Seq (Autonomous)         0         0      .00      .00      .00
+  Ran Seq (Negotiate)          0         0      .00      .00      .00
+  One DB2 (Coord=No)           0         0      .00      .00      .00
+  One DB2 (Isolation)          0         0      .00      .00      .00
+  One DB2 (DCL GTT)            0         0      .00      .00      .00
+ Groups Intended               0         0      .00      .00      .00
+ Groups Skipped                0         0      .00      .00      .00
+ Reform (Config)               0         0      .00      .00      .00
+ Reform (No Buffer)            0         0      .00      .00      .00
```

```
+                          TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT
+ Miscellaneous          QUANTITY  QUANTITY  (    1)  (   10)  (   36)
+ ---------------------  --------  --------  -------  -------  -------
+ Incremental Bind              0         0      .00      .00      .00
+ Max SQL Levels                0         0      .00      .00      .00
+ Max LOB Storage (MB)          0         0      .00      .00      .00
+ Max XML Storage               0         0      .00      .00      .00
+ Array Expansions              0         0      .00      .00      .00
+ Sparse IX (Disabled)          0         0      .00      .00      .00
+ Sparse IX (Built WF)          0         0      .00      .00      .00
+ Fetched 1 Block Only          0         0      .00      .00      .00
+ Pipes Allocated               0         0      .00      .00      .00
+ Pipes Disabled                0         0      .00      .00      .00
+ Insert Algorithm 1         6675         0      .00      .00      .00
+ Insert Algorithm 2            0         0      .00      .00      .00
+ Execution History Lost        5         0      .00      .00      .00
+ HV Recording Lost Hist        0         0      .00      .00      .00
```

```
+                          TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT
+ Stored Procedures      QUANTITY  QUANTITY  (  142)  (    2)  (    0)
+ ---------------------  --------  --------  -------  -------  -------
+ Abended                       0         0      .00      .00      .00
+ Timed Out                     0         0      .00      .00      .00
+ Rejected                      0         0      .00      .00      .00
```

```
+
+                            TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT
+ User Defined Functions  QUANTITY  QUANTITY  (  142)  (    2)  (    0)
+ ----------------------  --------  --------  -------  -------  -------
+ Executed                       0         0      .00      .00      .00
+ Abended                        0         0      .00      .00      .00
+ Timed Out                      0         0      .00      .00      .00
+ Rejected                       0         0      .00      .00      .00
+
+                            TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT
+ Triggers                QUANTITY  QUANTITY  (  142)  (    2)  (    0)
+ ----------------------  --------  --------  -------  -------  -------
+ Stmt Triggers Executed         0         0      .00      .00      .00
+ Row Triggers Executed          0         0      .00      .00      .00
+ SQL Error in Trigger           0         0      .00      .00      .00
```

```
+
+                            TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT
+ Dynamic SQL             QUANTITY  QUANTITY  (  142)  (    2)  (    0)
+ ----------------------  --------  --------  -------  -------  -------
+ Prepares (Copy Found)         38         0      .00      .00      .00
+ Prepares (Catalog Fnd)         2         0      .00      .00      .00 *DB2 12
+ Prepares (Copy NFound)        46         0      .00      .00      .00
+ Prepares (Restrict IX)         0         0      .00      .00      .00
+ KeepDyn (Implicit)             0         0      .00      .00      .00
+ KeepDyn (Avoided)              0         0      .00      .00      .00
+ KeepDyn (Exceed Limit)         0         0      .00      .00      .00
+ KeepDyn (Invalidated)          0         0      .00      .00      .00
+ Literals (Parsed)              0         0      .00      .00      .00
+ Literals (Replaced)            0         0      .00      .00      .00
+ Literals (Matched)             0         0      .00      .00      .00
+ Literals (Duplicated)          0         0      .00      .00      .00
+
+                            TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT
+ ROW ID                  QUANTITY  QUANTITY  (  142)  (    2)  (    0)
+ ----------------------  --------  --------  -------  -------  -------
+ Successful                     0         0      .00      .00      .00
+ Revert to Index                0         0      .00      .00      .00
+ Revert to TS Scan              0         0      .00      .00      .00
+
+                            TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT
+ Row Processing          QUANTITY  QUANTITY  (  142)  (    2)  (    0)
+ ----------------------  --------  --------  -------  -------  -------
+ Rows Fetched              503342         0      .00      .00      .00
+ Rows Inserted                  0         0      .00      .00      .00
+ Rows Updated                   0         0      .00      .00      .00
+ Rows Deleted                   0         0      .00      .00      .00
+
+                            TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT
+ Currently Committed     QUANTITY  QUANTITY  (  142)  (    2)  (    0)
+ ----------------------  --------  --------  -------  -------  -------
+ Insert Rows Skipped            0         0      .00      .00      .00
+ Delete Rows Accessed           0         0      .00      .00      .00
+ Update Rows Accessed           0         0      .00      .00      .00
```

```
+
+                            TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT
+ Workfile Database       QUANTITY  QUANTITY  (  142)  (    2)  (    0)
+ ----------------------  --------  --------  -------  -------  -------
+ Curr WFDB For TS (KB)    134258K         0      .00      .00      .00
+ DGTT WF configed (KB)          0         0      .00      .00      .00
+ WF Stor Configed (KB)          0         0      .00      .00      .00
+ System WKDB threshold         90         0      .00      .00      .00
+ Max Total Storage              0       N/A      N/A      N/A      N/A
+ HWM DGTT WF Stor (KB)          0       N/A      N/A      N/A      N/A
+ HWM WF Storage (KB)            0       N/A      N/A      N/A      N/A
+ Curr DGTT WF Stor (KB)         0         0      .00      .00      .00
+ Curr WF Storage (KB)           0         0      .00      .00      .00
+ Storage in 4K TS               0         0      .00      .00      .00
+ Storage in 32K TS              0         0      .00      .00      .00
+ 32K used instead of 4K         0         0      .00      .00      .00
+ 4K used instead of 32K         0         0      .00      .00      .00
+ HWM DM WF Count                0       N/A      N/A      N/A      N/A
+ HWM NSort WF Count             0       N/A      N/A      N/A      N/A
+ Curr DM WF Count               0         0      .00      .00      .00
+ Curr NSort WF Count            0         0      .00      .00      .00
+ HWM DM WF size (KB)            0       N/A      N/A      N/A      N/A
+ Curr DM WF size (KB)           0         0      .00      .00      .00
+ HWM Sort WF Count              0       N/A      N/A      N/A      N/A
+ Curr Sort WF Count             0         0      .00      .00      .00
+ HWM Sort WF size (KB)          0       N/A      N/A      N/A      N/A
+ Curr Sort WF size (KB)         0         0      .00      .00      .00
+ WF Overflow to TS              0         0      .00      .00      .00
+ WF Not Created(NoStor)         0         0      .00      .00      .00
+ Agent Max Storage              0         0      .00      .00      .00
+ Number of Max Exceeded         0         0      .00      .00      .00
+ Agent WFDB threshold           0         0      .00      .00      .00
+ HWM WFDB by Thread(KB)         0       N/A      N/A      N/A      N/A
================================================================================
```

Navigation

For additional information about

- Near-term history activity, select option **H-HISTORICAL** at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
Shows the REALTIME to indicate that you are looking at the realtime version of this panel and not at the corresponding near-term history panel. The collection interval and the report interval are the same in this panel.

Start
The start time of the report interval currently displayed.

Report Interval
The time in the last cycle (for example, between two presses of the Enter key).

End
The end time of the report interval currently displayed.

Maximum Degree of Parallelism Executed
The maximum degree of parallel I/O processing for all parallel groups. This is a high-water mark.

For each field described below the following statistics are provided:

- The amount of activities that occur during the interval.
- Rate per minute during the last cycle. The number under /MINUTE is the number of minutes in the interval.
- Rate per thread during the last cycle. The number under /THREAD is the number of Create Threads during the interval.

- Rate per Commit during the last cycle. The number under /COMMIT is the number of commit requests (including abort requests) during the interval.
- Percentage of DML, DCL, or DDL during the last cycle.

SQL Manipulative (DML):

SELECT
SELECT statements executed to retrieve rows from a DB2 table.

INSERT
INSERT statements executed to add rows to a DB2 table.

UPDATE
UPDATE statements executed to alter existing rows in a DB2 table.

MERGE
The number of times a MERGE statement is executed.

DELETE
DELETE statements executed to remove rows from a DB2 table.

DESCRIBE
DESCRIBE statements executed to obtain information about prepared SQL statements.

DESCRIBE TABLE
DESCRIBE TABLE statements executed to obtain information about a table or view.

PREPARE
Occasions when SQL statements were dynamically prepared for execution.

OPEN CURSOR
OPEN statements executed to prepare cursors for subsequent Fetch operations.

FETCH
FETCH statements executed to retrieve rows from DB2 tables.

CLOSE CURSOR
CLOSE statements executed to close previously opened cursors.

REFRESH TABLE
Number of refresh table statements. DB2 12 and later. (Field name: QXTREFTBL)

Total DML
All data manipulative language statements.

SQL Control (DCL):

CALL
CALL statements executed to invoke a stored procedure.

CONNECT (Type 1)
CONNECT (Type 1) statements executed to connect an application process to a designated server.

CONNECT (Type 2)
CONNECT (Type 2) statements executed to connect an application process to a designated server.

GRANT
GRANT statements issued to extend DB2 privileges to users.

LOCK TABLE
LOCK TABLE statements issued to lock a tablespace or table in a segmented tablespace.

RELEASE
RELEASE statements executed to place one or more connections in the released state.

REVOKE
REVOKE statements issued to revoke users' DB2 privileges.

SET CONNECTION
SET CONNECTION statements executed to establish the application server of the process.

SET CURRENT DEGREE
SET CURRENT DEGREE statements executed to assign a value to the CURRENT DEGREE special register.

SET CURRENT RULES
SET CURRENT RULE statements executed to assign a value to the current rules special register.

SET CURRENT SQLID
SET CURRENT SQLID statements issued to change your current authorization ID.

SET HOST VARIABLE
SET *host-variable* statements issued.

SET CURRENT PATH
SET CURRENT PATH statements issued to assign a value to the CURRENT PATH special register.

SET CURRENT PRECISION
The number of Set Current Precision statements.

ASSOCIATE LOCATOR
The number of ASSOCIATE LOCATOR statements issued.

ALLOCATE CURSOR
The number of ALLOCATE CURSOR statements issued.

HOLD LOCATOR
The number of Hold Locator statements.

FREE LOCATOR
The number of Free Locator statements.

TRANSFER OWNERSHIP
Number of transfer ownership statements. DB2 12 and later. (Field name: QXTRNOWN)

Total DCL
All data control language statements.

SQL Definitional (DDL):

CREATE TABLE
CREATE TABLE statements issued to define a DB2 table.

CREATE GBL TEMP TABLE
The number of Create Global Temporary Table statements issued to create a description of a temporary table at the current server.

DCL GBL TEMP TABLE TH
The number of SQL Declare Global Temporary Table statements.

CREATE AUX TABLE
The number of Create Auxiliary Table statements.

CREATE INDEX
CREATE INDEX statements issued to establish indexes on DB2 tables.

CREATE TABLESPACE
CREATE TABLESPACE statements issued to establish DB2 tablespaces.

CREATE DATABASE
CREATE DATABASE statements issued to establish DB2 databases.

CREATE STOGROUP
CREATE STOGROUP statements issued to establish DB2 storage groups.

CREATE SYNONYM
CREATE SYNONYM statements issued to create alternate names for DB2 tables and views.

CREATE VIEW
CREATE VIEW statements issued to establish views of DB2 tables.

CREATE ALIAS
CREATE ALIAS statements issued to achieve "location transparency" of DB2 tables. This field is used primarily to refer to tables and views from remote DB2 subsystems in a distributed environment.

CREATE TRIGGER
CREATE TRIGGER statements issued to define a trigger in a schema and build a trigger package at the current server.

CREATE DISTINCT TYPE
CREATE DISTINCT TYPE statements issued to define a distinct type, which is a data type that a user defines. A distinct type must be sourced on one of the built-in data types.

CREATE FUNCTION
CREATE FUNCTION statements issued to register a user-defined function with an application server. You can register the following types of functions with this statement: external scalar, external table, and sourced.

CREATE PROCEDURE
CREATE PROCEDURE statements issued to define a stored procedure.

CREATE SEQUENCE
The number of Create Sequence statements.

CREATE ROLE
The number of Create Role statements.

CREATE TRUSTED CTX
The number of Create Trusted CTX statements.

CREATE MASK/PERM
The number of Create Mask or Create Permission statements.

CREATE VARIABLE
The number of Create Variable statements.Db2 11 and later.

DROP TABLE
DROP TABLE statements issued to remove tables from DB2 databases.

DROP INDEX
DROP INDEX statements issued to remove indexes from DB2 tables.

DROP TABLESPACE
DROP TABLESPACE statements issued to delete tablespaces.

DROP DATABASE
DROP DATABASE statements issued to delete databases.

DROP STOGROUP
DROP STOGROUP statements issued to delete storage group definitions.

DROP SYNONYM
DROP SYNONYM statements issued to delete alternative table names and view names.

DROP VIEW
DROP VIEW statements issued to delete table views.

DROP ALIAS
DROP ALIAS statements issued to delete view and table aliases from the DB2 catalog.

DROP PACKAGE
DROP PACKAGE statements issued to delete packages.

DROP TRIGGER
DROP TRIGGER statements issued to delete triggers.

DROP FUNCTION
DROP FUNCTION statements issued to delete user-defined functions.

DROP DISTINCT TYPE
DROP DISTINCT TYPE statements issued to delete user-defined data types.

DROP PROCEDURE
DROP PROCEDURE statements issued to delete stored procedures.

DROP SEQUENCE
The number of Drop Sequence statements.

DROP TRUSTED CTX
The number of Drop Trusted CTX statements.

DROP ROLE
The number of Drop Role statements.

DROP MASK/PERM
The number of Drop Mask or Drop Permission statements.

DROP VARIABLE
The number of Drop Variable statements. DB2 11 and later.

ALTER TABLE
ALTER TABLE statements issued to change table attributes.

ALTER INDEX
ALTER INDEX statements issued to change index attributes.

ALTER TABLESPACE
Alter Tablespace statements issued to change tablespace attributes.

ALTER STOGROUP
ALTER STOGROUP statements issued to add devices to and delete devices from storage groups.

ALTER VIEW
Number of Alter View statements.

ALTER DATABASE
ALTER DATABASE statements issued to change database attributes.

ALTER FUNCTION
ALTER FUNCTION statements issued to change the description of an external scalar or external table function at the current server.

ALTER PROCEDURE
ALTER PROCEDURE statements issued to change the description of a stored procedure at the current server.

ALTER SEQUENCE
The number of Alter Sequence statements.

ALTER TRUSTED CTX
The number of Alter Trusted CTX statements.

ALTER JAR
The number of Alter Jar statements.

ALTER MASK/PERM
The number of Alter Mask or Alter Permission statements.

RENAME TABLE
RENAME TABLE statements issued to rename an existing table.

RENAME INDEX
The number of Rename Index statements.

TRUNCATED TABLE
The number of Truncated Table statements issued to rename an existing table.

COMMENT ON
COMMENT ON statements issued to add or replace comments for user-defined objects (tables, views, columns, and sets of columns) in the DB2 catalog.

LABEL ON
LABEL ON statements issued to add or replace labels in DB2 catalog descriptions of tables, views, columns, and sets of columns.

Total DDL
All Data Definition Language statements.

RID List Processing: For each field described below the following statistics are provided:

- The amount of activities that occur during the interval.

- Rate per minute.
- Rate per thread.
- Rate per Commit.

For high water mark fields, N/A is displayed for rate fields. For interval quantity fields, the high water mark value is displayed at the end of the interval.

Successful
Number of times RID list processing was used when accessing a DB2 table.

This field is incremented once for a given table access for Index Access with list prefetch and for Multiple Index Access.

Not Used (No Storage)
Number of times RID list processing was terminated because of insufficient storage to hold the list of RIDs.

Not Used (Max Limit)
Number of times RID list processing was terminated because the number of RIDs would exceed a RID limit or threshold.

Not Used (Final)
Number of times RID list processing was not used. This field is incremented once when RID list processing could not be used for a given table access for Index Access with list prefetch and/or for Multiple Index Access. DB2 12 and later.

To WF (No Storage)
The number of times a RID list overflows to a work file because RIDPOOL storage is not available to hold the list of RIDs.

To WF (Max Limit)
The number of times a RID list overflows to a work file because the number of RIDs exceeds internal limits.

Interrupted (No Stor)
The number of times a RID list append for a Hybrid Join is interrupted because RIDPOOL storage is not available to hold the list of RIDs. This is the number of times DB2 interrupted the RID phase and switched to the Data phase.

Interrupted (Max Lmt)
The number of times a RID list append for a Hybrid Join is interrupted because the number of RIDs exceeds internal limits. This is the number of times DB2 interrupted the RID phase and switched to the Data phase.

Skipped (Adaptive IX)
The number of times a DM is not called for RID list retrieval for multiple index access or LPF because it was not necessary due to Runtime Adaptive Index processing being able to predetermine the outcome. DB2 12 and later. (Field name: QXRSDMAD)

Skipped (Index Known)
The number of times a RID list retrieval for multiple index access was skipped because it was not necessary due to DB2 being able to predetermine the outcome of index ANDing or ORing.

Term (No Storage)
The number of times RID list processing exhausted virtual storage.

Term (> RDS Limit)
The number of times RID list processing terminated because the number of RID entries was greater than the RDS limit. The RDS limit is the maximum (25% of table size, number of RIDs that can fit into the guaranteed number of RID blocks).

Term (> DM Limit)
The number of times RID list processing terminated because the number of RID entries was greater than the DM limit. The DM limit is approximately 26 million RIDs.

Term (> PROC Limit)
The number of times the maximum RID pool storage was exceeded. The default maximum RID pool size is the minimum (install value pool size, 10GB).

HWM RID Blks Inuse
The number of RID blocks currently in use.

Curr RID Blks Inuse
The highest number of RID blocks in use at any one time since DB2 startup time.

HWM RID Blks in WF
The highest number of RID blocks overflown (stored) to a work file at any time since DB2 startup.

Curr RID Blks in WF
The number of RID blocks currently residing in work file storage.

Query Parallelism: For each field described below the following statistics are provided:

- Total quantity, which reflects the amount of activities since DB2 was started.
- Interval quantity, which reflect activity during the last cycle.
- Rate per minute during the last cycle.
- Rate per thread during the last cycle.
- Rate per Commit during the last cycle.

HWM degree Parallelism
Maximum degree of parallelism among the parallel groups to indicate the extent to which query parallelism applies.

Max Degree (Planned)
The planned maximum degree of parallelism for a parallel group. This value is the optimal degree of parallelism that can be obtained at execution time after host variables or parameter markers are resolved and before buffer pool negotiation and system negotiation are performed. Db2 11 and later.

Max Degree (Estimated)
The estimated maximum degree of parallelism for a parallel group. This value is estimated at bind time, based on the cost formula. If a parallel group contains a host variable or parameter marker, the estimate is based on assumed values. Db2 11 and later.

Max Degree (Executed)
Total number of parallel groups executed.

Ran Planned
Total number of parallel groups that have a planned degree greater than one at run time and were executed to the same degree because of sufficient storage on the buffer pool.

Ran Reduced (Storage)
Total number of parallel groups that have a planned degree greater than one at run time but were processed to a parallel degree less than planned because of a storage shortage or contention on the buffer pool.

Ran Reduced (Negotia)
Number of parallel group degree to be reduced due to system negotiation result of system stress level. Db2 11 and later.

Ran Seq (Cursor)
Total number of parallel groups which fell back to sequential mode because the cursor might be used in UPDATE/DELETE.

Ran Seq (No Buffer)
Total number of parallel groups that have a planned degree greater than one at run time, but fell back to sequential mode because of storage shortage or contention on the buffer pool.

Ran Seq (No ESA Sort)
Total number of parallel groups which fell back to sequential mode due to lack of ESA sort support.

Ran Seq (No ESA Enc)
Total number of parallel groups executed in sequential mode due to the unavailable enclave. This applies only to DB2 9.

Ran Seq (Autonomous)
Total number of parallel groups which fell back to sequential mode due to executing under an autonomous procedure. This applies only to DB2 11 or higher.

Ran Seq (Negotiate)
Number of parallel groups that is degenerated to sequential mode due to system negotiation result of system stress level.

This applies only to DB2 11 or higher.

One DB2 (Coord=No)
Total number of parallel groups that are executed on a single DB2 because the COORDINATOR subsystem parameter is set to *NO*. When the statement is bound, the COORDINATOR subsystem parameter is set to *YES*. This situation might also occur when a plan or package is bound on a DB2 where the COORDINATOR subsystem parameter is set to *YES*, but is run on a DB2 where the subsystem parameter COORDINATOR is set to *NO*.

One DB2 (Isolation)
Total number of parallel groups that are executed on a single DB2 because of repeatable-read or read-stability isolation.

One DB2 (DCL GTT)
Total number of parallel groups that are part of a query block. The query block is using an UDF. It is executed on a single DB2 because a Declared Temporary Table exists in the application process. Neither the query block nor the parallel group is referencing a Declared Temporary Table. A parallel group might use or might not use an UDF.

Groups Intended
Total number of parallel groups that are intended to run across the data sharing group. This count is only incremented on the parallelism coordinator at run time.

Groups Skipped
The number of times that the parallelism coordinator must bypass a DB2 when distributing tasks because there is not enough buffer pool storage on one or more DB2 members.

This field is incremented only on the parallelism coordinator. It is only incremented once per parallel group even though it is possible that more than one DB2 systems have a buffer pool shortage for that parallel group. The purpose of this count is to indicate when there are not enough buffers on a member. Therefore, this count is incremented only when the buffer pool is defined to allow parallelism. For example, if VPXPSEQT is set to 0 on an assistant, DB2 does not send parallel work to the assistant, but this count is not incremented.

Reform (Config)
Total number of parallel groups for which DB2 reformulated the parallel portion of the access path because the sysplex configuration is different from the sysplex configuration at bind time. This counter is only incremented by the parallelism coordinator at run time.

Reform (No Buffer)
Total number of parallel groups for which DB2 reformulated the paralllel portion of the access path because there was not enough buffer pool resource. This counter is only incremented by the parallelism coordinator at run time.

Miscellaneous

Incremental Bind
Occurrences of incremental bind, which take place upon execution of a DB2 plan that is bound as VALIDATE(RUN).

Max SQL Levels
The maximum level of nested SQL cascading. This includes cascading because of triggers, UDFs, and stored procedures.

Max LOB Storage (MB)
Maximum storage that is used for LOB values.

Max XML Storage
Maximum storage that is used for XML values.

Array Expansions
The number of times an array variable is expanded beyond 32K.

This applies to DB2 11 or higher.

Sparse IX (Disabled)
The number of times that sparse index is disabled because of insufficient storage.

This applies to DB2 11 or higher.

Sparse IX (Built WF)
The number of times that sparse index built a physical work file for probing.

This applies to DB2 11 or higher.

Fetched 1 Block Only (QXR1BOAD)
The number of times 1 block is fetched and there were no further fetches. DB2 12 and later.

Pipes Allocated (QISTINPA)
The number of data manager fast insert pipes that were allocated since DB2 restart. Db2 12 and later.

Pipes Disabled (QISTINPD)
The number of data manager fast insert pipes that were disabled since DB2 restart. Db2 12 and later.

Insert Algorithm 1
INSERT algorithm type 1.Db2 12 and later.

Insert Algorithm 2
INSERT algorithm type 2. Db2 12 and later.

Execution History Lost
The number of execution histories lost. Db2 12 and later.

HV Recording Lost Hist
The number of HV recordings lost in execution history. Db2 12 and later.

Stored procedures: For each field described below the following statistics are provided:

- Total quantity, which reflects the amount of activities since DB2 was started.
- Interval quantity, which reflects activity during the last cycle.
- Rate per minute during the last cycle.
- Rate per thread during the last cycle.
- Rate per Commit during the last cycle.

Abended
CALL statements executed to invoke a stored procedure that terminated abnormally.

Timed Out
CALL statements executed to invoke a stored procedure that timed out while waiting to be scheduled.

Rejected
CALL statements executed to invoke a stored procedure that was in the STOP ACTION(REJECT) state.

User Defined Functions: For each field described below the following statistics are provided:

- Total quantity, which reflects the amount of activities since DB2 was started.
- Interval quantity, which reflects activity during the last cycle.
- Rate per minute during the last cycle.
- Rate per thread during the last cycle.
- Rate per Commit during the last cycle.

Executed
The number of user-defined functions (UDFs) executed.

Abended
The number of times a UDF abended.

Timed Out
The number of times a UDF timed out when waiting to be scheduled.

Rejected
The number of times a UDF was rejected.

Triggers: For each field described below the following statistics are provided:

- Total quantity, which reflects the amount of activities since DB2 was started.
- Interval quantity, which reflects activity during the last cycle.
- Rate per minute during the last cycle.
- Rate per thread during the last cycle.
- Rate per Commit during the last cycle.

Stmt Triggers Executed
The number of times a statement trigger was activated.

Row Triggers Activated
The number of times a row trigger was activated.

SQL Error in Trigger
The number of times an SQL error occurred during execution of a triggered action.

Dynamic SQL

Prepares (Copy Found)
The number of times a PREPARE request is satisfied by making a copy from the prepared statement cache.

Prepares (Catalog Found)
The number of times a PREPARE request is satisfied by making a copy from the stabilized statement in SYSIBM.SYSDYNQRY catalog table. The stabilized statement search is done only when no matching statement is found in the prepared statement cache. DB2 12 and later. (Field name: QXSTSFND)

Prepares (Copy NFound)
The number of times a PREPARE request is received but a matching statement is not found in the prepared statement cache. Cache search is only done for DML SQL and only if cache option is active.

Prepares (Restrict IX)
The number of PREPARE requests for which the use of index/indexes are restricted because the index is in a pending state.

KeepDyn (Implicit)
The number of times the following actions occurred:

- An implicit PREPARE is performed because the KEEPDYNAMIC(YES) option is used
- An OPEN, EXECUTE, or DESCRIBE of a dynamic statement occurred after a COMMIT, however, DB2 no longer had a valid copy of the executable version of the prepared statement.

KeepDyn (Avoided)
The number of times that a PREPARE is avoided because KEEPDYNAMIC(YES) is used together with prepared statement caching, and DB2 still had the copy of the executable version of the prepared statement.

KeepDyn (Exceed Limit)
The number of times that an executable copy of a prepared statement is discarded because the MAXKEEPD system limit is exceeded.

KeepDyn (Invalidated)
The number of times that a prepared statement is purged from the cache because a DROP, ALTER, or REVOKE statement is issued on a dependent object.

Literals (Parsed)
The number of times DB2 parsed dynamic statements because CONCENTRATE STATEMENTS WITH LITERALS behavior is in effect for the prepare of the statement for the dynamic statement cache.

Literals (Replaced)
The number of times DB2 replaced at least one literal in a dynamic statement because CONCENTRATE STATEMENTS WITH LITERALS is in effect for the prepare of the statement for dynamic statement cache.

Literals (Matched)
The number of times DB2 found a matching reusable copy of a dynamic statement in statement cache during preparation of a statement that had literals replaced because of CONCENTRATE.

Literals (Duplicated)
The number of times DB2 created a duplicate statement instance in the statement cache for a dynamic statement that had literals replaced by CONCENTRATE STATEMENTS WITH LITERALS behavior and the duplicate statement instance was needed because a cache match failed because of literal reusability criteria.

Row ID

Successful
The number of times that direct row access was successful.

Revert to Index
The number of times an attempt to use direct row access reverted to using an index to locate a record.

Revert to TS Scan
The number of times an attempt to use direct row access reverted to using a table space scan to locate a record.

Rows Processing

Rows Fetched
The number of fetched rows.

Rows Inserted
The number of inserted rows.

Rows Updated
The number of updated rows.

Rows Deleted
The number of deleted rows.

Currently Committed

Insert Rows Skipped
The number of rows that are skipped by read transactions because uncommitted inserts are performed when current committed read is in effect for fetch operations.

Delete Rows Accessed
The number of rows that are skipped by read transactions because uncommitted deletes are performed when current committed read is in effect for fetch operations.

Update Rows Accessed
The number of rows that are accessed by read transactions while uncommitted updates existed because currently committed read behavior is in effect for fetch operation.

Workfile Database (WFDB)

Curr WFDB For TS (KB)
Current total storage (KB) that is configured for all table spaces in the WFDB.

This applies to DB2 11 or higher.

DGTT WF configed (KB)
Total preferred STORAGE (KB) that is configured for DGTTs in the WFDB.

This applies to DB2 11 or higher.

WF Stor Configed (KB)
Total preferred STORAGE (KB) that is configured for work files in the WFDB.

This applies to DB2 11 or higher.

System WKDB threshold
The value in percent (%) for the threshold of the system-level WFDB space usage alert.

Valid values: 0 - 100

This applies to DB2 11 or higher.

Max Total Storage
The maximum total storage (KBs) that is used in the WFDB at system level for DGTTs and work files since DB2 is started. After restart, this value starts again with 0.

HWM DGTT WF Stor (KB)
The highest total storage (KB) that is used for DGTTs by all agents on the system since DB2 is started.

This applies to DB2 11 or higher.

HWM WF Storage (KB)
The highest total storage (KB) that is used for work files by all agents on the system since DB2 is started.

This applies to DB2 11 or higher.

Curr DGTT WF Stor (KB)
Current total storage (KB) that is used for DGTTs by all agents on the system since DB2 is started.

This applies to DB2 11 or higher.

Curr WF Storage (KB)
The current total storage (KB) that is used for work files by all agents on the system since DB2 started.

This applies to DB2 11 or higher.

Storage in 4K TS
Current 4KB table space storage that is used (KB).

Storage in 32K TS
Current 32KB table space storage that is used (KB).

32K used instead of 4K
The number of times a 32KB page TS is used when a 4KB page TS is to be preferred but not available.

4K used instead of 32K
The number of times a 4KB page TS is used when a 32KB page TS is to be preferred but not available.

HWM DM WF Count
High watermark count (maximum number) of SORT-related DM in-memory work files that are active at any point in time since DB2 is started.

HWM NSort WF Count
High watermark count (maximum number) of non-SORT-related DM in-memory work files that are active at any point in time since DB2 is started.

This applies to DB2 11 or higher.

Curr DM WF Count
The number of times SORT-related DM in-memory work files are currently active.

Curr NSort WF Count
The number of times non-SORT related DM in-memory work files are currently active.

This applies to DB2 11 or higher.

HWM DM WF size (KB)
High watermark count of maximum space in KB that is used for the active DM In-Memory work files at any point in time since DB2 is started.

Curr DM WF size (KB)
Total space in KB that is used for the currently active DM In-Memory work files.

HWM Sort WF Count
High watermark count (maximum number) of Sort-Inmem work files that are active at any point in time since DB2 is started.

Curr Sort WF Count
The number of times Sort-Inmem work files are currently active.

HWM Sort WF size (KB)
High watermark count of maximum space that is used for the active Sort-Inmem work files at any point in time since DB2 is started.

Curr Sort WF size (KB)
Total Space that is used for the currently active Sort-Inmem work files.

WF Overflow to TS
The number of times the type-2 in-memory work files overflow into a physical tablespace since DB2 is started.

This applies to DB2 11 or higher.

WF Not Created(NoStor)
The number of times a work file is not created as any type of DM in-memory work file because of critical storage conditions since DB2 is started.

This applies to DB2 11 or higher.

Agent Max Storage
The limit of the maximum storage per agent (KB).

Number of Max Exceeded
The number of times the maximum storage limit is exceeded.

Agent WFDB threshold
The value for the threshold of the agent-level WFDB space usage alert.

Valid values: 0 - 100.

This applies to DB2 11 or higher.

HWM WFDB by Thread(KB)
The highest amount of WFDB storage (KB) that is used by any thread on the system since DB2 is started.

This applies to DB2 11 or higher.

Open/Close Statistics

This panel shows information about open and close data set activity and information about Deferred Close activity.

```
_________________ ZOPCL    VTM     O2       V540./C SZ21 09/10/13 13:49:55   2
>        Help PF1          Back PF3            Up PF7          Down PF8
> R.K
>
> H-HISTORICAL
================================================================================
>                            OPEN/CLOSE STATISTICS

 OPCL
+ Collection Interval:  REALTIME                          Start:  09/10 13:46:49
+ Report Interval:       4 sec                              End:  09/10 13:49:55
+
+ Maximum Number of Open Datasets (DSMAX)      =    20000
+ Checkpoints to Pseudo-Close (PCLOSEN)        =        5
+ Elapsed Time to Pseudo-Close (PCLOSET)       =       10
+ Current Number Open Datasets                 =      154
+ High Water Mark Open Datasets                =      154
+ High Water Mark Not-in-use Datasets          =      150
+ Current Number Not-in-use Datasets           =      150
+
+                                    TOTAL  INTERVAL  /SECOND  /THREAD  /COMMIT
+                                 QUANTITY  QUANTITY  (    4)  (    1)  (    6)
+                                 --------  --------  -------  -------  -------
+ Not-in-use Datasets Requested      58047         7     1.75     7.00     1.17
+ Not-in-use Datasets Closed             0         0      .00      .00      .00
+ Datasets Converted to Read-Only       94         0      .00      .00      .00
================================================================================
```

Navigation

For additional information about

- Near-term history activity, select option **H-HISTORICAL** at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
Shows the REALTIME to indicate that you are looking at the realtime version of this panel and not at the corresponding near-term history panel. The collection interval and the report interval are the same in this panel.

Start
The start time of the report interval currently displayed.

Report Interval
The time in the last cycle (for example, between two presses of the Enter key).

End
The end time of the report interval currently displayed.

Maximum Number of Open Datasets (DSMAX)
The value specified for the installation parameter DSMAX. DB2 uses this value to determine when the drain process should be initiated to close unused data sets.

Checkpoints to Pseudo-Close (PCLOSEN)
The number of consecutive checkpoints that a data set or partition must go through since it was last updated before being selected for pseudo-close, that is, the state changed from read-write to read-only.

Elapsed Time to Pseudo-Close (PCLOSET)
The time in minutes that must elapse since a data set or partition was last updated before it can be selected for pseudo-close.

Current Number Open Datasets
The current number of open data sets.

High Water Open Datasets
The maximum number of data sets open at any one time since DB2 was started.

High Water Mark Not-in-use Datasets
The maximum number of pagesets specified with CLOSE(YES) that are not in use but are not physically closed.

Current Number Not-in-use Datasets
The current number of open pagesets specified with CLOSE(YES) that are not in use but are not physically closed.

For each of the following fields, the following statistics values are provided:

TOTAL QUANTITY
Total quantity, which reflects the amount of activities since DB2 was started.

INTERVAL QUANTITY
Interval quantity, which reflects the amount of activities during the last cycle.

/SECOND
Rate per second during the last cycle. The number under /SECOND (in parentheses) is the number of seconds in the interval.

/THREAD
Rate per thread during the last cycle. The number under /THREAD (in parentheses) is the number of Create Threads during the interval.

/COMMIT
Rate per Commit during the last cycle. The number under /COMMIT (in parentheses) is the number of commit requests (including abort requests) during the interval.

Not-in-use Datasets Requested
Number of requests to open a data set that was on the deferred close queue. When this occurs, a physical data set Open is not necessary.

Not-in-use Datasets Closed
Number of not-in-use data sets that were closed because the total number of open data sets reached the Deferred Close threshold. The Deferred Close threshold is based on the smaller of the values of DSMAX or the MVS DD limit.

Datasets Converted to Read-Only
The number of infrequently updated data sets converted from read-write to read-only (pseudo-close). The SYSLGRNG entry is closed at this time.

DB2 Command Statistics

This panel shows information about current DB2 command activity.

```
 _________________ ZCMDS    VTM     O2       V540./C SE11 07/30/13  1:50:15   2
>        Help PF1          Back PF3            Up PF7          Down PF8
> R.L
>
> H-HISTORICAL
================================================================================
>                          DB2 COMMANDS STATISTICS

 CMDS
+ Collection Interval:  REALTIME                          Start:  07/30 01:49:09
+ Report Interval:       1 min                              End:  07/30 01:50:15
+
+                                              TOTAL  INTERVAL  /SECOND    % OF
+ DB2 Command                                QUANTITY  QUANTITY  (   66)   TOTAL
+ ----------------------------------------  --------  --------  -------  ------
+ ALTER BUFFERPOOL                                0         0      .00      .0
+ ALTER GROUPBUFFERPOOL                           0         0      .00      .0
+ ALTER UTILITY                                   0         0      .00      .0
+ ARCHIVE LOG                                     0         0      .00      .0
+ CANCEL (DDF) THREAD                             0         0      .00      .0
+ DISPLAY ARCHIVE                                 0         0      .00      .0
+ DISPLAY BUFFERPOOL                              0         0      .00      .0
+ DISPLAY DATABASE                                1         0      .00      .0
+ DISPLAY GROUP                                 260         0      .00      .0
+ DISPLAY GROUPBUFFERPOOL                         0         0      .00      .0
+ DISPLAY LOCATION                                0         0      .00      .0
+ DISPLAY PROCEDURE                               0         0      .00      .0
+ DISPLAY RLIMIT                                  0         0      .00      .0
+ DISPLAY THREAD                                  0         0      .00      .0
+ DISPLAY TRACE                                   0         0      .00      .0
+ DISPLAY UTILITY                                 0         0      .00      .0
+ DISPLAY FUNCTION                                0         0      .00      .0
+ DISPLAY LOG                                     0         0      .00      .0
+ MODIFY TRACE                                    0         0      .00      .0
+ RECOVER BSDS                                    0         0      .00      .0
+ RECOVER INDOUBT                                 0         0      .00      .0
+ RESET INDOUBT                                   0         0      .00      .0
+ RESET GENERICLU                                 0         0      .00      .0
+ SET ARCHIVE                                     0         0      .00      .0
+ START DATABASE                                  0         0      .00      .0
+ START DB2                                       1         0      .00      .0
+ START DDF                                       0         0      .00      .0
+ START PROCEDURE                                 0         0      .00      .0
+ START RLIMIT                                    0         0      .00      .0
+ START TRACE                                    55         0      .00      .0
```

```
+ START FUNCTION                                 0         0      .00      .0
+ STOP DATABASE                                  0         0      .00      .0
+ STOP DB2                                       0         0      .00      .0
+ STOP DDF                                       0         0      .00      .0
+ STOP PROCEDURE                                 0         0      .00      .0
+ STOP RLIMIT                                    0         0      .00      .0
+ STOP TRACE                                    39         0      .00      .0
+ STOP FUNCTION                                  0         0      .00      .0
+ TERM UTILITY                                   0         0      .00      .0
+ SET LOG                                        0         0      .00      .0
+ DISPLAY ACCEL                                  1         1      .02    10.0
+ START ACCEL                                    1         1      .02    10.0
+ STOP ACCEL                                     1         1      .02    10.0
+ SET SYSPARM                                    0         0      .00      .0
+ DISPLAY DDF                                    1         1      .02    10.0
+ ACCESS DATABASE                                0         0      .00      .0
+ START PROFILE                                  1         1      .02    10.0
+ STOP PROFILE                                   1         1      .02    10.0
+ DISPLAY PROFILE                                3         3      .05    30.0
+ MODIFY DDF                                     1         1      .02    10.0
+ ACTIVATE FUNCTION LEVEL                        1         0      .00      .0
+ START DYNQUERYCAPTURE                          3         0      .00      .0
+ STOP DYNQUERYCAPTURE                           2         0      .00      .0
+ DISPLAY DYNQUERYCAPTURE                       10         0      .00      .0
+ UNRECOGNIZED COMMAND                           1         0      .00      .0
+                           Total              367        10      .15   100.0
================================================================================
```

Navigation

For additional information about

- Near-term history activity, select option **H-HISTORICAL** at the top of the panel.
- other topics, use the PF keys.

Fields

- Total Quantity - activity since DB2 was started.
- Interval Quantity - activity during the last cycle.
- Rate per second during the last cycle.
- Percentage of total commands since DB2 was started.

ALTER BUFFERPOOL
ALTER BUFFERPOOL commands executed to alter attributes for active or inactive buffer pools.

ALTER GROUP BUFFERPOOL
ALTER GROUPBUFFERPOOL commands executed to alter attributes of group buffer pools.

ARCHIVE LOG
ARCHIVE LOG commands executed to initiate a DB2 active log switch.

CANCEL DDF THREAD
CANCEL DDF THREAD commands executed to cancel a thread.

DISPLAY ARCHIVE
DISPLAY ARCHIVE commands executed to display input archive log information.

DISPLAY BUFFERPOOL
DISPLAY BUFFERPOOL commands executed to display statistics for active or inactive buffer pools.

DISPLAY DATABASE
DISPLAY DATABASE commands executed to display status information about tablespaces and indexspaces within a database.

DISPLAY GROUP
DISPLAY GROUP commands executed to display statistics about the data sharing group to which the DB2 subsystem belongs.

DISPLAY GROUP BUFFERPOOL
DISPLAY GROUPBUFFERPOOL commands executed to display attributes of group buffer pools.

DISPLAY LOCATION
DISPLAY LOCATION commands executed to display statistics about threads with distributed relationships.

DISPLAY PROCEDURE
DISPLAY PROCEDURE commands executed to display statistics about stored procedures.

DISPLAY RLIMIT
DISPLAY RLIMIT commands executed to display the current status of the resource limit facility.

DISPLAY THREAD
DISPLAY THREAD commands executed to display status information about DB2 threads.

DISPLAY TRACE
DISPLAY TRACE commands executed to display a list of active traces.

DISPLAY UTILITY
DISPLAY UTILITY commands executed to display status information about DB2 utility jobs.

MODIFY TRACE
MODIFY TRACE commands executed to change the IFCIDs being traced for an active trace.

RECOVER BSDS
RECOVER BSDS commands executed to recover a boot strap data set that has been disabled by an error.

RECOVER INDOUBT
RECOVER INDOUBT commands executed to recover threads left in the indoubt status.

RESET GENERICLU
RESET GENERICLU commands executed to purge information stored by VTAM in the coupling facility for one or more partners of a particular DB2 subsystem.

RESET INDOUBT
RESET INDOUBT commands executed to purge indoubt thread information.

SET ARCHIVE
SET ARCHIVE commands executed to change the maximum tape units and the de-allocation time parameters originally set in the installation parameters.

START DATABASE
START DATABASE commands executed to make stopped databases available for use.

START DB2
START DB2 commands executed.

START DDF
START DDF commands executed to start the distributed data facility.

START PROCEDURE
START PROCEDURE commands executed to activate the definition of a stored procedure which was stopped, or refreshes a stored procedure that is cached.

START RLIMIT
START RLIMIT commands executed to start the resource limit facility.

START TRACE
START TRACE commands executed to begin collection of DB2 trace records.

STOP DATABASE
STOP DATABASE commands executed to make specified databases unavailable for use.

STOP DB2
STOP DB2 commands executed.

STOP DDF
STOP DDF commands executed to stop the distributed data facility.

STOP PROCEDURE
STOP PROCEDURE commands executed to prevent DB2 from accepting SQL CALL statements for one or more stored procedure.

STOP RLIMIT
STOP RLIMIT commands executed to stop the resource limit facility.

STOP TRACE
STOP TRACE commands executed to stop collection of DB2 trace records.

TERM UTILITY
TERM UTILITY commands executed to terminate execution of a utility job.

SET LOG
Set Log commands that are executed to modify the checkpoint frequency that are specified during installation.

DISPLAY ACCEL
Display Accelerator commands that are executed to display details about accelerators that are connected to the current subsystem.

START ACCEL
Start Accelerator commands that are executed to activate an accelerator.

STOP ACCEL
Stop Accelerator commands that are executed to deactivate an accelerator.

SET SYSPARM
The number of **DB2 SET SYSPARM** commands that are issued. This includes normal and abnormal completion of the command.

DISPLAY DDF
The number of **DB2 DISPLAY DDF** commands that are issued. This includes normal and abnormal completion of the command.

ACCESS DATABASE
The number of **DB2 ACCESS DATABASE** commands that are issued. This includes normal and abnormal completion of the command.

START PROFILE
The number of **DB2 START PROFILE** commands that are issued. This includes normal and abnormal completion of the command.

STOP PROFILE
The number of **DB2 STOP PROFILE** commands that are issued. This includes normal and abnormal completion of the command.

DISPLAY PROFILE
The number of **DB2 DISPLAY PROFILE** commands that are issued. This includes normal and abnormal completion of the command.

MODIFY DDF
The number of **DB2 MODIFY DDF** commands that are issued. This includes normal and abnormal completion of the command.

This field is only displayed for DB2 10 or above.

ACTIVATE FUNCTION LEVEL (Q9STCTEN)
The number of DB2 ACTIVATE FUNCTION LEVEL commands issued. This includes normal and abnormal completion of the command. DB2 12 and later.

START DYNQUERYCAPTURE (Q9STCTSQ)
The number of DB2 START DYNQUERYCAPTURE commands issued. This includes normal and abnormal completion of the command. DB2 12 and later.

STOP DYNQUERYCAPTURE (QSTCTXQ)
The number of DB2 STOP DYNQUERYCAPTURE commands issued. This includes normal and abnormal completion of the command. DB2 12 and later.

DISPLAY DYNQUERYCAPTURE (Q9STCTDQ)
The number of DB2 DISPLAY DYNQUERYCAPTURE commands issued. This includes normal and abnormal completion of the command. This field only shown for DB2 12 and later.

UNRECOGNIZED COMMAND
Number of unrecognized commands.

Total
All DB2 commands.

DB2 Storage

This menu option provides access to realtime DB2 storage management performance and statistics information.

The statistics data shown in the following panels is based on and derived from IFCID 225 performance data. When the menu option is invoked, data is requested from DB2 through READS, derived fields are calculated, and the requested data is displayed. To ensure consistency among data on subsequent panels, this data is kept in memory and is used as long as option M (`DB2 Storage`) is invoked again. If the Enter key is pressed on any of the panels, the data is refreshed and consistently used on all subsequent panels.

If data for certain fields on subsequent panels is not available or cannot be calculated because of differences of the installed DB2 version, the contents are marked as `N/A`.

The following panels are accessible:

- “Address Space Summary” on page 403
- “Thread Information” on page 407
- “Shared and Common Storage” on page 408
- “Statement Cache and XProc Detail” on page 412
- “Pool Detail” on page 413
- “IRLM Storage Usage” on page 414

Address Space Summary

Use the **Address Space Summary** panel to view information about the size and usage of the DBM1 and DIST address spaces.

```
 _________________ ZJ225    VTM     O2       V540.#P DC11 MM/DD/YY HH:MM:SS   2
>       Help PF1         Back PF3             Up PF7            Down PF8
> R.M.A
>
> *-Address Space Summary B-Thread Information C-Shared and Common Storage
> D-Stmt Cache and xProc  E-Pool Detail        F-IRLM Storage
================================================================================
>                  Address Space Summary
 J22A
+      Address Space Name                                      DBM1      DIST
+
+      Average Thread Footprint (MB)                           0.22       N/A
+      Maximum Number of Thread                                4517       N/A
+      Castout Buffer Storage (MB)                                0       N/A
+
+      24-Bit Low Private                                    172032    253952
+      24-Bit High Private                                   483328    274432
+      High Address 24-Bit Private Region                  00030000  00044000
+      31-Bit Extended Low Private                         86728704   8060928
+      31-Bit Extended High Private                        33611776  13905920
+      High Address 31-bit Private Region                  26400000  218B0000
+      Extended Region Size                                1555456K  1555456K
+
+      31-Bit Storage Reserved for Must-Complete Operation   155545K   155545K
+      31-Bit Storage Reserved for Z/OS Use                   40960     40960
+      Storage Cushion Warning to Contract                   155545K   155545K
+      Storage Cushion (MB)                                      303       N/A
+
+      Total 31-Bit Getmained Stack                         8515584   1523712
+      Total 31-Bit Stack In Use                            7024640   1130496
+      Total 31-Bit Variable Pool Storage                   2846720    360448
+      Total 31-Bit Fixed Pool Storage                       118784     86016
+      Total 31-Bit Getmained Storage                        267272     12634
+      Total 31-Bit Storage (MB)                                 11       N/A
+      Amount of Available 31-Bit Storage                  1437932K  1534000K
+      Total 31-Bit Storage Inuse Percentage                    10.8       2.4
+      Db2 31-Bit Storage Inuse Percentage                        .0       N/A
+
+      Total 64-Bit Private Variable Pool Storage            201736K    167936
+      Total 64-Bit Private Fixed Pool Storage             10891264    110592
+      Total 64-Bit Private Getmained Storage                109636K         0
+      Total 64-Bit Private Storage for Storage              2449408   1400832
+
+      Real 4K Frames In Use                                   76432      1061
+      Real 4K Frames In Use (64-Bit)                          64911        86
+        Real 4K Frames In Use(64-Bit Private)                 46552        83
+      HWM of Real 4K Frames                                   77031       383
+      4K Auxiliary Slots In Use                               74089      2066
+      4K Auxiliary Frames In Use(64-Bit)                      59518       372
+        4K Auxiliary Frames In Use(64-Bit Private)             34409       341
+      HWM of 4K Auxiliary Frames                              59518       372
+
+      Real 2G Frames In Use (64-Bit)                              0         0
================================================================================
```

Figure 2. Address Space Summary panel (ZJ225)

Fields

Address Space Name
The address space names, DBM1 (database service) and DIST (distributed data facility).

Db2 field
QW0225AN

Average Thread Footprint (MB)
The average size of all threads in the address space.

Maximum Number of Thread
The maximum number of threads in the address space.

Castout Buffer Storage (MB)
The size of the castout buffer.

24-Bit Low Private
The amount of private z/OS storage below the 16 MB line. This storage is obtained from bottom upward, usually for unauthorized programs.

Db2 field
QW0225LO

24-Bit High Private
The amount of private z/OS storage below the 16 MB line. This storage is obtained from top downward, usually for authorized programs.

Db2 field
QW0225HI

High Address 24-Bit Private Region
The current high address of the 24-bit private region.

Db2 field
QW0225TP

31-Bit Extended Low Private
The amount of private z/OS storage above the 16 MB line. This storage is obtained from bottom upward, usually for unauthorized programs.

Db2 field
QW0225EL

31-Bit Extended High Private
The amount of private z/OS storage above the 16 MB line. This storage is obtained from top downward, usually for authorized programs.

Db2 field
QW0225EH

High Address 31-bit Private Region
The current high address of 31-bit private region.

Db2 field
QW0225EP

Extended Region Size
The size of the z/OS extended region.

Db2 field
QW0225TP

31-Bit Storage Reserved for Must-Complete Operation
The size of the 31-bit storage reserved for operations that must be completed.

Db2 field
QW0225CR

31-Bit Storage Reserved for z/OS Use
The size of the 31-bit storage reserved for z/OS.

Db2 field
QW0225MV

Storage Cushion Warning to Contract
The storage cushion warning to contract.

Db2 field
QW0225SO

Storage Cushion
The storage cushion.

Calculation
QW0225SO + QW0225CR + QW0225MV

Total 31-Bit Getmained Stack
The getmained stack storage.

Db2 field
QW0225GS

Total 31-Bit Stack In Use
The total size of the 31-bit stack in use.

Db2 field
QW0225SU

Total 31-Bit Variable Pool Storage
The variable storage below the 31-bit bar.

Db2 field
QW0225VR

Total 31-Bit Fixed Pool Storage
The fixed storage below the 31-bit bar.

Db2 field
QW0225FX

Total 31-Bit Getmained Storage
The getmained storage below the 31-bit bar.

Db2 field
QW0225GM

Total 31-Bit Storage (MB)
The total size of the 31-bit storage.

Amount of Available 31-Bit Storage
The amount of available 31-bit storage.

Db2 field
QW0225AV

Total 31-Bit Storage Inuse Percentage
The total 31-bit storage inuse percentage.

Calculation
(QW0225RG - QW0225AV) / QW0225RG

Db2 31-Bit Storage Inuse Percentage
The Db2 31-bit storage inuse percentage.

Calculation
(QW0225GM + QW0225VR + QW0225FX + QW0225GS) / QW0225RG

Total 64-Bit Private Variable Pool Storage
The total size of the 64-bit private variable pool storage.

Db2 field
QW0225VA

Total 64-Bit Private Fixed Pool Storage
The total size of the 64-bit private fixed pool storage.

Db2 field
QW0225FA

Total 64-Bit Private Getmained Storage
The total size of the 64-bit private getmained storage.

Db2 field
QW0225GA

Total 64-Bit Private Storage for Storage
The total size of the 64-bit private storage allocated for storage manager control structures.

Db2 field
QW0225SM

Real 4K Frames In Use
The number of real 4K frames in use for 31-bit and 64-bit private pools.

Db2 field
QW0225RL

Real 4K Frames In Use (64-Bit)
The number of real 4K frames in use for 64-bit private pools.

Db2 field
QW0225HVPagesInReal

Requires
z/OS version 1.11 and later

Real 4K Frames In Use (64-Bit Private)
The number of real 4K frames in use for 64-bit private storage. This field is a subset of **Real 4K Frames In Use (64-Bit)** (QW0225HVPagesInReal) and does not include buffer pool storage.

Db2 field
QW0225PriStg_Real

Requires
z/OS version 1.10 and later

HWM of Real 4K Frames
The high-water mark for the number of real 4K frames in use for 64-bit private pools.

Db2 field
QW0225HVGPagesInReal

Requires
z/OS version 1.11 and later

4K Auxiliary Slots In Use
The number of 4K auxiliary slots in use for 31-bit and 64-bit private pools.

Db2 field
QW0225AX

4K Auxiliary Frames In Use (64-Bit)
The number of 4K auxiliary frames in use for 64-bit private pools.

Requires
z/OS version 1.11 and later

4K Auxiliary Frames In Use (64-Bit Private)
The number of 4K auxiliary slots in use for 64-bit private storage (does not include buffer pool storage, only includes auxiliary slots occupied by pages that are paged out).

Db2 field
QW0225PriStg_Aux

Requires
z/OS version 1.10 and later

HWM of 4K Auxiliary Frames
The high-water mark for the number of 4K auxiliary frames in use.

Real 2G Frames in Use (64-bit)
The number of real 2G frames in use for 64-bit private.

Db2 field
QW0225HVPagesInReal2G

Requires
z/OS version 1.11 and later

Db2 12 and later

Thread Information

This panel provides information about threads, DBATs, and various engines.

```
_________________ ZJ225B   VTM     O2       V540.#P SE12 11/05/13 16:24:03   2
>       Help PF1         Back PF3            Up PF7            Down PF8
> R.M.B
>
> A-Address Space Summary *-Thread Information C-Shared and Common Storage
> D-Stmt Cache and xProc  E-Pool Detail        F-IRLM Storage
================================================================================
>                  Thread Information
 J22B
+      Active Threads                                                    8
+      Active and Disconnected DBATs                                     0
+      Prefetch Engines                                                 13
+      Deferred Write Engines                                            1
+      Castout Engines                                                   1
+      GBP Write Engines                                                 9
+      P-Lock/Notify Exit Engines                                        2
+      Active Parallel Child Threads                                     0
================================================================================
```

Navigation

You can scroll through the information using F7 and F8 (if the information requires more than one panel).

For additional options

- select one of the options from the panel. The same snapshot of DB2 performance data is used as long as Enter is not pressed.
- use the PF keys.

Fields

Active Threads
Shows the number of active threads (QW0225AT).

Active and Disconnected DBATs
Shows the number of active and disconnected DBATs (QW0225DB).

Prefetch Engines
Shows the number of prefetch engines (QW0225PF).

Deferred Write Engines
Shows the number of deferred write engines (QW0225DW).

Castout Engines
Shows the number of castout engines (QW0225CE).

GBP Write Engines
Shows the number of GBP write engines (QW0225GW).

P-Lock/Notify Exit Engines
Shows the number of P-lock/notify exit engines (QW0225PL).

Active Parallel Child Threads
Shows the number of active parallel child threads (QW0225PT).

Shared and Common Storage

Use the **Shared and Common Storage** panel to view information about the shared and common storage areas.

```
_________________ ZJ225C   VTM     O2       V540.#P SE12 MM/DD/YY HH:MM:SS   2
>       Help PF1         Back PF3            Up PF7            Down PF8
> R.M.C
>
> A-Address Space Summary B-Thread Information *-Shared and Common Storage
> D-Stmt Cache and xProc  E-Pool Detail        F-IRLM Storage
================================================================================
>                  Shared and Common Storage
 J22C
+      MVS Extended CSA Size                                      308156K
+
+      Total 31-Bit Common Fixed Pool Storage                      876544
+      Total 31-Bit Common Variable Pool Storage                   692224
+      Total 31-Bit Common Getmained Storage                       113709
+
+      Total 64-Bit Common Fixed Pool Storage                     5632000
+      Total 64-Bit Common Variable Pool Storage                  305196K
+      Total 64-Bit Common Getmained Storage                       200512
+
+      Total 64-Bit Common Storage for SM Cntl Struct             1400832
+      Total 64-Bit Shared Storage for SM Cntl Struct             2056192
+
+      Total 64-Bit Shared Variable Pool Storage                 13443072
+      Total 64-Bit Shared Fixed Pool Storage                     3067904
+      Total 64-Bit Shared Getmained Storage                      9834416
+
+      Total 64-Bit Shared System Agent Stack                      262144K
+      Total 64-Bit Shared System Agent Stack In Use              33292288
+      Total 64-Bit Shared Non-System Agent Stack                  786432K
+      Total 64-Bit Shared Non-System Agent Stack In Use           4194304
+
+      Number of Shared Memory Objects                                 10
+      Number of 64-Bit Shared Memory Pages                       475136K
+      High Water Mark 64-Bit Shared Bytes                       1900544M
+
+      Number of 64-Bit Shared Pages In Real Storage                16203
+      Number of Auxiliary Slots fir 64-Bit Shared Storage          44326
+      Number of 64-Bit Paged-in Shared Pages                       10056
+      Number of 64-Bit Paged-out Shared Pages                      60729
+
+      Number of 4K Frames In Use for 64-Bit Shared Storage          2361
+      Number of 4K Auxiliary Slots for 64-Bit Shared Storage        2686
+      Number of 4K Frames In Use for 64-Bit Shared Stack             600
+      Number of 4K Auxiliary Slots for 64-Bit Shared Stack          3407
+      Number of 4K Frames In Use for 64-Bit Common Storage          4988
+      Number of 4K Auxiliary Slots for 64-Bit Common Storage        2394
+
+      Log Mgr Write Buffer Frames in REAL                          1023
+      Log Mgr Write Buffer Frames in AUX                             11
+      Log Manager Control Frames in REAL                              1
+      Log Manager Control Frames in Aux                               0
================================================================================
```

Figure 3. Shared and Common Storage panel (ZJ225C)

Fields

MVS Extended CSA Size
The extended CSA size.

Db2 field
QW0225EC

Total 31-Bit Common Fixed Pool Storage
The total size of the 31-bit common fixed pool storage.

Db2 field
QW0225FC

Total 31-Bit Common Variable Pool Storage
The total size of the 31-bit common variable pool storage.

Db2 field
QW0225VC

Total 31-Bit Common Getmained Storage
The total size of the 31-bit common getmained storage.

Db2 field
QW0225GC

Total 64-Bit Common Fixed Pool Storage
The total size of the 64-bit common fixed pool storage.

Db2 field
QW0225FCG

Total 64-Bit Common Variable Pool Storage
The total size of the 64-bit common variable pool storage.

Db2 field
QW0225VCG

Total 64-Bit Common Getmained Storage
The total size of the 64-bit common getmained storage.

Db2 field
QW0225GCG

Total 64-Bit Common Storage for SM Cntl Struct
The total size of the 64-bit common storage allocated for storage manager control structures.

Db2 field
QW0225SMC

Total 64-Bit Shared Storage for SM Cntl Struct
The total size of the 64-bit shared storage for storage manager control structures.

Db2 field
QW0225SMS

Total 64-Bit Shared Variable Pool Storage
The total size of the 64-bit shared variable pool storage.

Db2 field
QW0225SV

Total 64-Bit Shared Fixed Pool Storage
The total size of the 64-bit shared fixed pool storage.

Db2 field
QW0225SF

Total 64-Bit Shared Getmained Storage
The total size of the 64-bit shared getmained storage.

Db2 field
QW0225SG

Total 64-Bit Shared System Agent Stack
The total size of the 64-bit shared storage allocated for system agent stack use.

Db2 field
QW0225GSG_SYS

Total 64-Bit Shared System Agent Stack In Use
The total size of the 64-bit shared system agent stack that is in use.

Db2 field
QW0225SUG_SYS

Total 64-Bit Shared Non-System Agent Stack
The total size of the 64-bit shared storage allocated for non-system agent stack use.

Db2 field
QW0225GSG

Total 64-Bit Shared Non-System Agent Stack In Use
The total size of the 64-bit shared non-system agent stack that is in use.

Db2 field
QW0225SUG

Number of Shared Memory Objects
The number of shared memory objects allocated for the LPAR.

Db2 field
QW0225SHRNMOMB

Number of 64-Bit Shared Memory Pages
The number of 64-bit shared memory pages allocated for the LPAR (this count includes hidden pages).

Db2 field
QW0225SHRPAGES

High Water Mark 64-Bit Shared Bytes
The high-water mark of the 64-bit shared bytes for the LPAR.

Db2 field
QW0225SHRGBYTES

Number of 64-Bit Shared Pages In Real Storage
The number of 64-bit shared pages backed in real storage (4K pages) for the LPAR.

Db2 field
QW0225SHRINREAL

Number of Auxiliary Slots fir 64-Bit Shared Storage
The number of auxiliary slots used for 64-bit shared storage for the LPAR.

Db2 field
QW0225SHRAUXSLOTS

Number of 64-Bit Paged-in Shared Pages
The number of 64-bit shared pages paged in from auxiliary storage for the LPAR.

Db2 field
QW0225SHRPAGEINS

Number of 64-Bit Paged-out Shared Pages
The number of 64-bit shared pages paged out to auxiliary storage for the LPAR.

Db2 field
QW0225SHRPAGEOUTS

Number of 4K Frames in Use for 64-Bit Shared Storage
The number of real 4K frames in use for 64-bit shared storage, recorded at the subsystem level (does not include shared stack storage).

Db2 field
QW0225ShrStg_Real

Requires
z/OS version 1.10 and later

Number of 4K Auxiliary Slots for 64-Bit Shared Storage
The number of 4K auxiliary slots in use for 64-bit shared storage, recorded at the subsystem level (only includes auxiliary slots occupied by pages that are paged out, does not include shared stack storage).

Db2 field
QW0225ShrStg_Aux

Requires
z/OS version 1.10 and later

Number of 4K Frames in Use for 64-Bit Shared Stack
The number of real 4K frames in use for 64-bit shared stack storage, recorded at the subsystem level.

Db2 field
QW0225ShrStkStg_Real

Requires
z/OS version 1.10 and later

Number of 4K Auxiliary Slots for 64-Bit Shared Stack
The number of 4K auxiliary slots in use for 64-bit shared stack storage, recorded at the subsystem level (only includes auxiliary slots occupied by pages that are paged out).

Db2 field
QW0225ShrStkStg_Aux

Requires
z/OS version 1.10 and later

Number of 4K Frames in Use for 64-Bit Common Storage
The number of real 4K frames in use for 64-bit common storage, recorded at the subsystem level.

Db2 field
QW0225ComStg_Real

Requires
z/OS version 1.10 and later

Number of 4K Auxiliary Slots for 64-Bit Common Storage
The number of 4K auxiliary slots in use for 64-bit common storage, recorded at the subsystem level (only includes auxiliary slots occupied by pages that are paged out).

Db2 field
QW0225ComStg_Aux

Requires
z/OS version 1.10 and later

Log Mgr Write Buffer Frames in REAL
The number of frames in real storage that are used for log manager write buffers.

Requires
DB2 11 and higher

Log Mgr Write Buffer Frames in AUX
The number of auxiliary frames that are used for log manager write buffers.

Requires
DB2 11 and higher

Log Manager Control Frames in REAL
The number of frames in real storage that are used for log manager control structures.

Requires
DB2 11 and higher

Log Manager Control Frames in Aux
The number of frames in auxiliary storage that are used for log manager control structures.

Requires
DB2 11 and higher

Statement Cache and XProc Detail

This panel provides information about the usage of the SQL statement cache and the xProc storage.

```
>       Help PF1         Back PF3             Up PF7            Down PF8
> R.M.D
>
> A-Address Space Summary B-Thread Information C-Shared and Common Storage
> *-Stmt Cache and xProc  E-Pool Detail        F-IRLM Storage
================================================================================
>              Statement Cache and XProc Detail
 J22D
+      Total Allocated Shareable Storage for Dynamic SQL           12414976
+      Total Requested Shareable Storage for Dynamic SQL           10630160
+      HWM Requested Shareable Storage for Dynamic SQL             10630160
+      Total Allocated Shareable Storage for Static SQL              667648
+
+      Number of Stmts in 64-Bit Storage                                  0
+      Number of Stmts in 64-Bit Storage When Interval HWM Is Set         0
+
+      Total Stmt Cache Storage(64-Bit)                                   0
+      High Water Mark for Stmt Cache Storage(64-Bit) This Interval       0
+      Timestamp of High Water Mark 64-Bit Local Pools  2016-07-26 22:28:52
+      Total 64-Bit Statement 2G Cache Block Storage               23199744
+      Stmt Cache Hash Entry Allocation                             5580541
================================================================================
```

Navigation

You can scroll through the information using F7 and F8 (if the information requires more than one panel).

For additional options

- select one of the options from the panel. The same snapshot of DB2 performance data is used as long as Enter is not pressed.
- use the PF keys.

Fields

Total xPROC Storage for Dynamic SQL
Shows the total size of the xPROC storage for dynamic SQL that is used by active threads and globaly cached statements.

This applies to DB2 10.

Allocated xPROC Storage for Dynamic SQL
Shows the size of the allocated xPROC storage for globally cached statements.

This applies to DB2 10.

High Water Mark xPROC Storage for Dynamic SQL
Shows the largest amount of allocated xPROC storage so far.

This applies to DB2 10.

Total xPROC Storage for Static SQL
Shows the size of the total xPROC storage that is used for static SQL statements.

This applies to DB2 10.

Total Allocated Shareable Storage for Dynamic SQL
Shows the total allocated sharable storage for dynamic SQL used by active threads (64-bit shared system variable pools)

This applies to DB2 11 or higher.

Total Requested Shareable Storage for Dynamic SQL
Shows the total requested sharable storage for dynamic SQL used by active threads (64-bit shared system variable pools).

This applies to DB2 11 or higher.

HWM Requested Shareable Storage for Dynamic SQL
Shows the total allocated sharable storage for static SQL statements (64-bit shared system variable pools).

This applies to DB2 11 or higher.

Total Allocated Shareable Storage for Static SQL
Shows the high water mark of total requested sharable storage for dynamic SQL used by active threads (64-bit shared system variable pools).

This applies to DB2 11 or higher.

Number of Stmts in 64-Bit Storage
Shows the number of statements in the 64-bit agent local pool (64-bit shared agent local variable pools).

Number of Stmts in 64-bit storage when interval HWM Is Set
Shows the number of statements at the time a new interval High Water Mark is set for 64-bit shared agent local variable pools (default statistics interval: 1 minute).

Total Stmt Cache Storage(64-Bit)
Shows the allocated statement cache storage that is in 64-bit agent local pools (64-bit shared agent local variable pools).

High Water Mark for Stmt Cache Storage(64-Bit) This Interval
Shows the largest amount of allocated statement cache storage in 64-bit shared agent local pools in this interval (default statistics interval: 1 minute).

Timestamp of High Water Mark 64-Bit Local Pools
Shows the timestamp when the largest amount of storage in 64-bit agent local pools was allocated after the last IFCID 0225 record was written (64-bit shared agent local variable pools).

Total 64-Bit Statement 2G Cache Block Storage
Shows the total statement cache storage blocks above the bar (64-bit shared variable pool).

Stmt Cache Hash Entry Allocation (QW0225DMH)
The amount of storage that is allocated for hashing entries in the dynamic statement cache. Db2 12 and later.

Pool Detail

This panel displays data for DB2 10 and higher.

```
 _________________ ZJ225E   VTM     02       V540.#P SE12 11/05/13 16:24:49   2
>       Help PF1         Back PF3             Up PF7            Down PF8
> R.M.E
>
> A-Address Space Summary B-Thread Information C-Shared and Common Storage
> D-Stmt Cache and xProc  *-Pool Detail        F-IRLM Storage
================================================================================
>                       Pool Detail
 J22E
+      Total Agent Local Storage                                 458752
+      Total System Agent Storage                                356352
+      Total Buffer Manager Storage Blocks                       528384
+
+      Total Agent Local Storage(64-Bit)                       12124160
+      Total System Agent Storage(64-Bit)                       7581696
+      Total RID Pool Storage(64-Bit)                                 0
+      Total Compression Dictionary Storage(64-Bit)               16384
+      Total Array Variable Storage                                   0
================================================================================
```

Navigation

You can scroll through the information using F7 and F8 (if the information requires more than one panel).

For additional options

- select one of the options from the panel. The same snapshot of DB2 performance data is used as long as Enter is not pressed.
- use the PF keys.

Fields

Total Agent Local Storage
Shows the total agent local storage (31-bit DBM1 private variable pools) (QW0225AL).

Total System Agent Storage
Shows the total system agent storage (31-bit DBM1 private variable pools) (QW0225AS).

Total Buffer Manager Storage Blocks
Shows the total buffer manager storage blocks (31-bit DBM1 private variable pools) (QW0225BB).

Total Agent Local Storage (64-Bit)
Shows the total size of the agent-related 64-bit local storage (64-bit shared variable pools) (QW0225ALG).

Total System Agent Storage (64-Bit)
Shows the total size of the 64-bit storage used by system agents (64-bit shared variable pools) (QW0225ASG).

Total RID Pool Storage (64-Bit)
Shows the total size of the RID pool storage (64-bit shared fixed pool) (QW0225RP).

Total Compression Dictionary Storage (64-Bit)
Shows the total compression dictionary storage (64-bit DBM1 private getmained) (QW0225CD).

Total Array Variable Storage
Shows the total array variable storage.

This applies to DB2 11 and higher.

IRLM Storage Usage

This panel shows the usage of IRLM storage.

This panel displays data for DB2 11 and higher.

```
_________________ ZJ225F   VTM     O2       V540./I DB1H 05/31/13  0:38:37   2
>       Help PF1         Back PF3             Up PF7            Down PF8
> R.M.F
>
> A-Address Space Summary B-Thread Information C-Shared and Common Storage
> D-Stmt Cache and xProc  E-Pool Detail        *-IRLM Storage
================================================================================
>                       IRLM Storage Usage
 J22F
+      Currently Used ECSA                                      550951
+      ECSA High Water Mark                                     550951
+
+      Currently Used 31-bit IRLM Private                            0
+      High Water Mark for 31-bit IRLM Private                       0
+      Threshold 31-Bit IRLM Private Storage                         0
+
+      Currently Used 64-bit IRLM Private                            0
+      High Water Mark for 64-bit IRLM Private                       0
+      Threshold 64-Bit IRLM Private Storage                         0
+
+      Currently Used 64-bit Common                                  0
+      High Water Mark for 64-bit Common                             0
================================================================================
```

Fields

Currently Used ECSA (QW0225I_BBECSA)
The amount of ECSA that is currently used. This value is the total of all ECSA IRLM pools.

ECSA High Water Mark (QW0225I_BBESCAH)
The highest amount of ECSA that is used so far. This value is the total of all ECSA IRLM pools.

Currently Used 31-bit IRLM Private (QW0225I_BBPVT)
The amount of 31-bit IRLM private storage that is currently in used. This value is the total of all 31-bit IRLM private pools.

High Water Mark for 31-bit IRLM Private (QW0225I_BBPVH)
The highest amount of 31-bit IRLM private storage that is used so far. This value is the total of all 31-bit IRLM private pools.

Threshold 31-Bit IRLM Private Storage (QW0225I_BPMAX)
The maximum amount of virtual 31-bit IRLM private storage that is available for normal IRLM execution. If this value is exceeded, only requests for storage tasks that must be completed are granted.

Currently Used 64-bit IRLM Private (QW0225I_ABPVT)
The amount of 64-bit IRLM private storage that is currently used. This value is the total of all 64-bit IRLM private pools.

High Water Mark for 64-bit IRLM Private (QW0225I_ABPVH)
The highest amount of 64-bit IRLM private storage that is used so far. This value is the total of all 64-bit IRLM private pools.

Threshold 64-Bit IRLM Private Storage (QW0225I_APMAX)
The maximum amount of virtual 64-bit IRLM private storage that is available for normal IRLM execution. If this value is exceeded, only requests for storage tasks that must be completed are granted.

Currently used 64-bit common (QW0225I_ABCSA)
The amount of 64-bit common storage that is currently used. This value is the total of all 64-bit common IRLM pools.

High Water Mark for 64-bit common (QW0225I_ABCSH)
The highest amount of 64-bit common storage that is used so far. This value is the total of all 64-bit common IRLM pools.

GBP Coupling Facility Cache Structure Statistics Summary

This panel shows a summary of the DB2 group buffer pool (GBP) coupling facility cache structure statistics. It can be displayed in S mode or in G mode. In S mode, a summary of the Group Buffer Pools of the *current* member is displayed. In G mode, a summary of the Group Buffer Pools of *all* members is displayed.

The following panel shows a summary of the GBP Coupling Facility Cache Structure Statistics in S mode.

```
_________________ ZS254    VTM     O2       V540./I SN13 S 02/12/13  5:32:01 2
>       Help PF1      Back PF3     Up PF7   Down PF8       Zoom PF11
> R.O
>
>       GBP COUPLING FACILITY CACHE STRUCTURE STATISTICS SUMMARY
 S254
+ Collection Interval:  REALTIME               SNAPTIME: 02/12/13 04:32:01.72
+
+ GBPName  ReadMiss  WriteMiss XIDirRClm CastOut   DirEntry  DataEnty  TotChnge
+ -------- --------- --------- --------- --------- --------- --------- --------
+     GBP0         0         0         0     10923       316         2        0
+     GBP1         0         0         0         0         0         0        0
+     GBP2         0         0         0         0         0         0        0
+   GBP8K0         0         0     30727         8         1         0        0
+    TOTAL         0         0        30        10         0         0        0
================================================================================
```

The following panel shows a summary of the GBP Coupling Facility Cache Structure Statistics in G mode.

```
_________________ ZS254    VTM     O2       V540./I SN13 G 02/12/13  5:32:40 2
>       Help PF1      Back PF3     Up PF7   Down PF8       Zoom PF11
> R.O
>
>       GBP COUPLING FACILITY CACHE STRUCTURE STATISTICS SUMMARY
 S254
+ Collection Interval:  REALTIME               SNAPTIME: 02/12/13 04:32:40.05
+
+
+ DSG Member:  SN13
+ GBPName  ReadMiss  WriteMiss XIDirRClm CastOut   DirEntry  DataEnty  TotChnge
+ -------- --------- --------- --------- --------- --------- --------- --------
+     GBP0         0         0         0     10923       316         2        0
+     GBP1         0         0         0         0         0         0        0
+     GBP2         0         0         0         0         0         0        0
+   GBP8K0         0         0     30727         8         1         0        0
+    TOTAL         0         0        30        10         0         0        0
+
+ DSG Member:  SN12
+ GBPName  ReadMiss  WriteMiss XIDirRClm CastOut   DirEntry  DataEnty  TotChnge
+ -------- --------- --------- --------- --------- --------- --------- --------
+     GBP0         0         0         0     10923       316         2        0
+   GBP8K0         0         0     30727         8         1         0        0
+    TOTAL         0         0        30        10         0         0        0
+
+ DSG Member:  SN11
+ GBPName  ReadMiss  WriteMiss XIDirRClm CastOut   DirEntry  DataEnty  TotChnge
+ -------- --------- --------- --------- --------- --------- --------- --------
+     GBP0         0         0         0     10923       316         2        0
+    TOTAL         0         0         0        10         0         0        0
+
+ DSG Member:  SN14
+ GBPName  ReadMiss  WriteMiss XIDirRClm CastOut   DirEntry  DataEnty  TotChnge
+ -------- --------- --------- --------- --------- --------- --------- --------
+     GBP0         0         0         0     10923       316         2        0
+     GBP1         0         0         0         0         0         0        0
+   GBP8K0         0         0     30727         8         1         0        0
+  GBP16K0         0         0         0         0         0         0        0
+    TOTAL         0         0        30        10         0         0        0
================================================================================
```

Navigation

You can browse details of a group buffer pool or the TOTAL values by moving the cursor to the appropriate line in the panel and pressing PF11 (Zoom).

For additional information about

- G mode in S mode or vice versa, replace the letter S with G or vice versa.
- other members of the data sharing group or other DB2 subsystems that are monitored by the current server, type over the DB2 SSID.
- the details of a particular GBP cache structure statistics, move the curser to the GBP of your choice and click F11 (Zoom).
- other topics, use the PF keys.

Fields

GBPName
The name of the group buffer pool.

ReadMiss
The Read Miss Cache Full Counter shows the number of times that a coupling facility read request specifies a page for which a directory entry does not exist or is not created because the storage in the group buffer pool is insufficient.

A nonzero value in this field indicates that the size of the backing coupling facility cache structure might be too small to support the current workload.

WriteMiss
The Write Miss Cache Full Counter shows the number of times a coupling facility write request is not completed because the storage in the group buffer pool is insufficient.

The value in this field indicates that the data page resources of the coupling facility are faster consumed than the DB2 castout process can free them. For information about alleviating this condition, see *DB2 Data Sharing: Planning and Administration*.

XIDirRClm
The XI Directory Entry Reclaim Counter shows the number of times a directory is reclaimed (stolen) and cross-invalidation (XI) signals are sent because the named page is cached in one or more DB2 buffer pools. This means that the stolen directory entry has registered DB2 interest.

A high number might indicate a problem. Check the hit ratio of the group buffer pool to determine whether the lack of directory entries might be causing excessive reads from the group buffer pool.

CastOut
The Castout Counter shows the number of castout operations that are performed. Castout is the process of writing pages from the group buffer pool to DASD.

DirEntry
The Directory Entry Counter shows the number of directory entries that are allocated for the coupling facility cache structure (DB2 group buffer pool). A directory entry contains control information for one database page. The directory entry is used by the coupling facility to determine where to send cross-validation signals when a page of data is changed or when the directory entry must be reused.

This value is a snapshot value. It is not affected by an incremental display or a cumulative display.

DataEntry
The Data Entry Counter shows the number of data entries that are allocated for the coupling facility cache structure (DB2 group buffer pool). The data entries are the actual places where the data page resides.

This value is a snapshot value. It is not affected by an incremental display or a cumulative display.

TotChnge
The Total Changed Counter shows a snapshot value of the current number of changed pages. This value is not affected by an incremental display or a cumulative display.

GBP Coupling Facility Cache Structure Statistics

This panel shows detail information about DB2 Group Buffer Pool (GBP) coupling facility cache structure statistics.

Total values are depicted in KB with a scale of 1000.

```
_________________ ZP254    VTM     O2       V540./I SN14 02/25/13 14:30:27   2
>       Help PF1      Back PF3     Up PF7     Down PF8
>
>
>       GBP COUPLING FACILITY CACHE STRUCTURE STATISTICS
Z254   SN12    :GBP8K0
+
+ Group Buffer Pool Name                    GBP8K0
+ Explicit XI Counter                           0
+ Read Hit Counter                             12
+ Read Miss Directory Hit Counter            14040
+ Read Miss Assign Suppressed Counter            7
+ Read Miss Name Assigned Counter            50593
+ Read Miss Cache Full Counter                   0
+ Changed Page Write Hit Counter                72
+ Clean Page Write Hit Counter                   0
+ Write Miss Cache Full Counter                  0
+ Directory Entry Reclaim Counter            47722
+ Data Entry Reclaim Counter                    30
+ XI Dir Entry Reclaim Counter               60865
+ Castout Counter                               56
+ Directory Entry Counter                        1
+ Data Entry Counter                             0
+ Total Changed Counter                          0
+
+ Secondary Bufferpool
+-----------------------------------
+ Changed Page Write Hit Counter 2               0
+ Write Miss Cache Full Counter 2                0
+ Directory Entry Counter 2                      0
+ Data Entry Counter 2                           0
+ Total Changed Counter 2                        0
================================================================================
```

Navigation

You can view other GBP data without going back to the summary display panel by replacing the member name and the GBP name.

For additional information about

- data that is related to the member MBR1 of the same data sharing group and the group buffer pool GBP1, replace SN12 :GBP8K0 with MBR1 :GBP1. If the names of the member and the group buffer pool have less than 8 characters, they must be padded with blanks.
- other topics, use the PF keys.

Fields

Group Buffer Pool Name
The name of the group buffer pool.

Explicit XI Counter
The Explicit XI Counter shows the number of times that:

- a request is made to the coupling facility to explicitly cross-invalidate a page
- XI signals are sent because the named page is cached in one or more DB2 buffer pools.

Read Hit Counter
The Read Hit Counter shows the number of times that a page is returned on a coupling facility read request.

Read Miss Directory Hit Counter
The Read Miss Directory Hit counter shows the number of times that a coupling facility read request specifies a page for which a directory entry exists, however, data is not cached for that page.

Read Miss Assign Suppressed Counter
The Read Miss Assignment Suppressed Counter shows the number of times that a coupling facility read request specifies a page for which a directory entry does not exists or is not created. DB2 does not create a directory entry if it does not need to register the page to the coupling facility for cross-invalidation (XI) because no other DB2 in the group has read or write interest in the page set or partition. This counter also represents the number of times that pages are deregistered due to buffer stealing.

Read Miss Name Assigned Counter
The Read Miss Name Assigned Counter shows the number of times that a coupling facility read request specifies a page for which a directory entry is created.

Read Miss Cache Full Counter
The Read Miss Cache Full Counter shows the number of times that a coupling facility read request specifies a page for which a directory entry does not exist or is not created because the storage in the group buffer pool is insufficient.

A nonzero value in this field indicates that the size of the backing coupling facility cache structure might be too small to support the current workload.

Changed Page Write Hit Counter
The Changed Page Write Hit Counter shows the number of times a coupling facility write request for a changed page is completed successfully.

Clean Page Write Hit Counter
The Clean Page Write Hit counter shows the number of times a coupling facility write request for a clean page is completed successfully.

Write Miss Cache Full Counter
The Write Miss Cache Full Counter shows the number of times a coupling facility write request is not completed because the storage in the group buffer pool is insufficient.

The value in this field indicates that the data page resources of the coupling facility are faster consumed than the DB2 castout process can free them. For information about alleviating this condition, see *DB2 Data Sharing: Planning and Administration*.

Directory Entry Reclaim Counter
The Directory Entry Reclaim Counter shows the number of times a name assignment requires that a directory entry is reclaimed by the coupling facility.

Data Entry Reclaim Counter
The Data Entry Reclaim Counter shows the number of times a name assignment requires that a data page is reclaimed by the coupling facility.

XI Dir Entry Reclaim Counter
The XI Directory Entry Reclaim Counter shows the number of times a directory is reclaimed (stolen) and cross-invalidation (XI) signals are sent because the named page is cached in one or more DB2 buffer pools. This means that the stolen directory entry has registered DB2 interest.

A high number might indicate a problem. Check the hit ratio of the group buffer pool to determine whether the lack of directory entries might be causing excessive reads from the group buffer pool.

Castout Counter
The Castout Counter shows the number of castout operations that are performed. Castout is the process of writing pages from the group buffer pool to DASD.

Directory Entry Counter
The Directory Entry Counter shows the number of directory entries that are allocated for the coupling facility cache structure (DB2 group buffer pool). A directory entry contains control information for one

database page. The directory entry is used by the coupling facility to determine where to send cross-validation signals when a page of data is changed or when the directory entry must be reused.

This value is a snapshot value. It is not affected by an incremental display or a cumulative display.

Data Entry Counter
The Data Entry Counter shows the number of data entries that are allocated for the coupling facility cache structure (DB2 group buffer pool). The data entries are the actual places where the data page resides.

This value is a snapshot value. It is not affected by an incremental display or a cumulative display.

Total Changed Counter
The Total Changed Counter shows a snapshot value of the current number of changed pages. This value is not affected by an incremental display or a cumulative display.

Changed Page Write Hit Counter 2
The Changed Page Write Hit Counter 2 for the secondary group buffer pool shows the number of successfully completed coupling facility write requests for changed pages.

Write Miss Cache Full Counter 2
The Write Miss Cache Full Counter for the secondary group buffer pool shows the number of coupling facility write requests that cannot complete because the coupling facility storage resources are insufficient.

Directory Entry Counter 2
The Directory Entry Counter for the secondary group buffer pool shows a snapshot value of the number of allocated directory entries.

Data Entry Counter 2
The Data Entry Counter for the secondary group buffer pool shows a snapshot value of the number of allocated data entries.

Total Changed Counter 2
The Total Changed Counter for the secondary group buffer pool shows a snapshot value of the number of allocated data entries that are currently in changed state.

Accelerator Statistics Overview

This panel displays the Analytics Accelerators that are available in the current DB2 subsystem. With this information, you can analyze the usage of the devices.

```
 _________________ ZZIDA    VTM     O2       V540./C DB51 S 01/29/15 14:45:26 2
> Help PF1      Back PF3      Up PF7      Down PF8      Zoom PF11
> R.N
================================================================================
>                         Accelerator Summary

 ZIDS
+ Collection Interval:  REALTIME               SNAPTIME: 01/29/15 13:45:26.13
+
+ IDAA Integrated Synchronization
+-----------------------------------
+ Log Reader CPU Time                                  0
+ Log Reader zIIP Time                                0
+ Log Reader zIIP Eligible Time                       0
 ZIDA
+ Collection Interval:  REALTIME               SNAPTIME: 01/29/15 13:45:26.13
+
+ Name     Product  State        Repl. State  Requests Active   Max Actv
+ -------- -------- ------------ ------------ -------- -------- --------
+ VMNPS52  AQT04012 ONLINE       STARTED             0        0        6
================================================================================
```

Navigation

For additional information about

- a particular Analytics Accelerator, move the cursor to the Analytics Accelerator line and press F11 (Zoom).
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

For each of the available accelerators, the following information is displayed on the Accelerator Summary panel:

IDAA Integrated Synchronization
The asynchronous log reader task statistics accumulated over all log reader tasks since Db2 start.

Log Reader CPU Time
The log reader CPU time.

Log Reader zIIP Time
The log reader zIIP time.

Log Reader zIIP Eligible Time
The log reader zIIP eligible time.

Number of accelerators defined
The number of accelerators that are defined on the system.

Name
The name of the Accelerator.

Product
The product ID.

State
The state of the Accelerator.

Repl. State
The state of Replication processing on this Accelerator.

Requests
The number of Accelerator requests that are processed since the Accelerator was started.

Active
The number of active requests that are processed on the Accelerator.

Max Actv
The high water mark of concurrent requests on the Accelerator.

Accelerator Statistics Detail

Depending on the version of the Analytics Accelerator that you are using, the information about the activity of a specified Analytics Accelerator is different. The version number of the Analytics Accelerator is displayed in the Product ID field.

Accelerator Detail

If the product ID is lower than AQT04010, the Accelerator Detail panel is displayed. It might look like this:

```
_________________ ZACSD    VTM     O2       V540./C DA31 03/25/13 16:58:59   2
>       Help PF1         Back PF3             Up PF7            Down PF8
> R.N
================================================================================
>                        Accelerator Detail
 ACSD
+ Collection Interval:  REALTIME                         Start:  03/25 16:49:04
+ Report Interval:      10 min                             End:  03/25 16:58:59
+
+ Name                       =   VMNPS52
+ State                      =   ONLINE
+ Product ID                 =   AQT03010
+ Curr Active Requests       =          0
+ Max Active Requests        =          4
+ Avg Coord CPU              =     30.00%
+ Avg Worker CPU             =       .00%
+ Total Num Processors       =          8
+ Processing Capacity        =          0
+ Act Worker Nodes           =          2
+ Avg Queue Wait Time (MS)   =         47
+ Max Queue Wait Time (MS)   =        141
+ Query Queue Len 3 HR Avg   =          0
+ Query Queue Len 24 HR Avg  =          0
+ Max Query Queue Len        =          0
+ Avail Disk (MB)            =     195426
+ DB Disk Avail (MB)         =        288
+ In-use Disk                =       .21%
+
+                                  TOTAL  INTERVAL  /SECOND
+                                QUANTITY  QUANTITY  (  594)
+                                --------  --------  -------
+ Query Reqs Since Start              61         2      .00
+ Failed Reqs Since Start              1         0      .00
+ Failed Reqs Inv State                0         0      .00
+ Total Num Accel Connects            62         2      .00
+ Total Num Accel Requests           124         4      .00
+ Total Timed out Reqs                 0         0      .00
+ Total Failed Reqs                    0         0      .00
+ Num Bytes Sent                  172758      6242    10.50
+ Num Bytes Received            33810260   3679800  6194.94
+ Num Msgs Sent                      682        22      .03
+ Num Msgs Received                  706        24      .04
+ Num Blocks Sent                      0         0      .00
+ Num Blocks Received                 62         2      .00
+ Num Rows Sent                        0         0      .00
+ Num Rows Received                 90854     10104    17.01
+
+
+                                Time Data
+                                              TOTAL         INTERVAL
+                                            QUANTITY         QUANTITY
+-------------------------------------------------------------------------------
+ TCP/IP Services Elapsed Time                0.000000         0.000000
+ CPU Time Executing SQL Stmts                0.000000         0.000000
+ CPU Time for Replication                         N/P              N/P
+ CPU Time Load/Archive/Restore               0.000000         0.000000
+ Accel Elapsed Time                          0.000000         0.000000
+ Accum Wait Time                             0.000000         0.000000
+
================================================================================
```

Navigation

For more information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
The value REALTIME indicates that the collection interval and the report interval are the same.

Start
The start time of the report interval that is currently displayed.

Report Interval
The amount of time in the last cycle, for example, the time inbetween the Enter key was pressed twice.

End
The end time of the report interval that is currently displayed.

Name (Q8STNAME)
The name of the Accelerator.

State (Q8STTATE)
The current state of the Accelerator. The following list shows the values for the state:

```
INITIALIZED
INITING
ONLINE
PAUSED
OFFLINE
STOPPED
MAINTENANCE
```

Product ID (Q8STPRID)
The internal product ID. It includes the version of the Accelerator.

Curr Active Requests
The number of requests that are currently processed on the Accelerator.

Max Active Requests
The high water mark of concurrent active requests on the Accelerator.

Avg Coord CPU
The average percentage of the time that the CPU is busy for the Accelerator coordinator node.

Avg Worker CPU
The average percentage of the time that the CPU is busy for the Accelerator worker node.

Total Num Processors
The total number of processors for all the nodes in the Accelerator.

Processing Capacity
The total capacity of the processors in the Accelerator.

Act Worker Nodes
The number of worker nodes that are defined in the Accelerator.

Avg Queue Wait Time (MS)
The average time that a query is queued in the Accelerator.

Max Queue Wait Time (MS)
The maximum time that a query is queued in the Accelerator.

Query Queue Len 3 HR Avg
The average length of a queue during the past 3 hours.

Query Queue Len 24 HR Avg
The average length of a queue during the past 24 hours.

Max Query Queue Len
The maximum queue time a query is queued.

Avail Disk (MB)
The amount of disk space that is available on Accelerator.

DB Disk In Use (MB)
The amount of disk space that is used by database objects.

In-use Disk
The percentage of disk space that is used.

The following statistics are displayed for the fields below in tabular format:

TOTAL QUANTITY
The amount of activity since DB2 was started.

INTERVAL QUANTITY
The amount of activity during the last cycle.

/ SECOND (594)
The rate per second during the last cycle. The value in parentheses indicates the number of seconds in the interval.

These are the fields for which the statistics above are displayed:

Successful Requests
The number of query requests sent by this DB2 that are successfully completed since the Accelerator is started.

Failed Reqs Since Start
The number of query requests that are sent by this DB2 since the Accelerator is started that failed for any reason.

Failed Reqs Inv State
The number of query requests that are sent by this DB2 since the Accelerator is started that failed because the Accelerator is in an invalid state. This value is a subset of the value in the field **Failed Reqs Since Start**.

Total Num Accel Connects
The number of connections that are started between this DB2 subsystem and the Accelerator.

Total Num Accel Requests
The number of requests that are sent to the Accelerator from this DB2 subsystem.

Total Timed Out Reqs
The number of requests that failed due to a timeout while waiting for the Accelerator.

Total Failed Reqs
The total number of failed Accelerator requests. This number includes any timeout errors.

Num Bytes Sent
The count of bytes of data that is sent to the Accelerator.

Num Bytes Received
The count of bytes of data that is received from the Accelerator.

Num Messages Sent
The count of messages that are sent to the Accelerator.

Num Messages Received
The count of messages that are received from the Accelerator.

Num Blocks Sent
The count of blocks that are sent to the Accelerator.

Num Blocks Received
The count of blocks that are received from the Accelerator.

Num Rows Sent
The count of data rows that are sent to the Accelerator.

Num Rows Received
The count of data rows that are received from the Accelerator.

The following statistics are displayed for the fields below in tabular format:

Total Times
The amount of time that is consumed since the Accelerator is activated.

Interval Times
The amount of time that is consumed in the current interval.

These are the fields for which the statistics above are displayed:

In DB2 CPU Time
The CPU time that is consumed within the Analytics Accelerator.

TCP/IP Services Elapsed Time (Q8STTELA)
The total elapsed time from the time DB2 started to process requests until the requests are complete

Accel CPU Time (Q8STACPU)
This is the CPU time consumed within the Accelerator device.

Accel Elapsed Time (Q8STAELA)
The total elapsed time that the thread is processed on the Accelerator. The Accelerator time is a subset of the In-DB2 time.

Accum Wait Time (Q8STAWAT)
The total wait time within the Accelerator.

Accelerator Detail Subsystem Perspective

If the product ID is greater than or equal to AQT04010, the Accelerator Detail Subsystem Perspective panel is displayed. It shows information from the perspective of the individual DB2 subsystem. It might look like this:

```
_________________ ZZID4    VTM     O2       V540./C DB51 S 01/29/15 14:45:49
>       Help PF1         Back PF3            Up PF7            Down PF8
>
> *-DB2 PERSPECTIVE B-ACCEL PERSPECTIVE
================================================================================
>          Version 4 Accelerator Detail Subsystem Perspective
 ZID4
+
+ Collection Interval:  REALTIME               Start: 01/29/15 13:45:26.13
+ Report Interval:     23 sec                 End:   01/29/15 13:45:49.26
+
+
+ Name                                                    VMNPS52
+ State                                                    ONLINE
+ Product ID                                              AQT04012
+ Server Start Time                              01/19/15 02:48:10.63
+ Status Change Time                             01/19/15 02:48:10.67
+ Curr Active Queries                                             0
+ Max Active Queries                                             0
+ Replication State                                       STARTED
+ Replication Latency                                    0.000000
+ Replication Status Change                      01/26/15 18:30:11.67
+ Replication Velocity                                   1.000549
+ Disk In Use This DB2 (MB)                                   204
+ Current Queue Len Db2                                         0
+ WAITFORDATA Success Db2                                      20
+ WAITFORDATA Expired Db2                                      32
+
+                                          TOTAL     INTERVAL      /SECOND
+                                       QUANTITY     QUANTITY      (   23)
+-------------------------------------------------------------------------
+ Successful Requests                          0            0            0
+ Failed Requests                              0            0            0
+ Total Num Accel Connects                     0            0            0
+ Total Num Accel Requests                     0            0            0
+ Total Timed Out Reqs                         0            0            0
+ Total Failed Reqs                            0            0            0
+ Number Bytes Sent                            0            0            0
+ Number Bytes Received                        0            0            0
+ Number Msgs Sent                             0            0            0
+ Number Msgs Received                         0            0            0
+ Number Blocks Sent                           0            0            0
+ Number Blocks Recieved                       0            0            0
+ Number Rows Sent                             0            0            0
+ Number Rows Received                         0            0            0
+
+                              Replication Data
+                                          TOTAL     INTERVAL      /SECOND
+                                       QUANTITY     QUANTITY      (   23)
+-------------------------------------------------------------------------
+ Log Records Read                        387086            0            0
+ Log Records Read Accel Tables           387086            0            0
+ Log Records Bytes Processed           25547808            0            0
+ Rows Inserted Accel Tables                   0            0            0
+ Rows Updated Accel Tables                    0            0            0
+ Rows Deleted Accel Tables                    0            0            0
```

```
+
+                                Time Data
+                                                    TOTAL         INTERVAL
+                                                 QUANTITY         QUANTITY
+-------------------------------------------------------------------------
+ TCP/IP Services Elapsed Time                    0.000000         0.000000
+ CPU Time Executing Queries                      0.000000         0.000000
+ CPU Time for Replication                        4.189145              N/P
+ CPU Time Load/Archive/Restore                   0.050000         0.000000
+ Accel Elapsed Time                              0.000000         0.000000
+ Accum Wait Time                                 0.000000         0.000000
+
+                       Statements Sent to Accelerator
+                                                  TOTAL     INTERVAL      /SECOND
+                                               QUANTITY     QUANTITY      (    3)
+-------------------------------------------------------------------------------
+ INSERT                                               0            0            0
+ UPDATE                                               0            0            0
+ DELETE                                               0            0            0
+ DROP                                                 0            0            0
+ CREATE                                               0            0            0
+ COMMIT                                               0            0            0
+ ROLLBACK                                             0            0            0
+ OPEN                                                 0            0            0
================================================================================
```

Navigation

For more information about

- an aggregation of accelerator details of all DB2 subsystems that are connected to the Analytics Accelerator, select the option **B-ACCELERATOR PERSPECTIVE**.
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
The value REALTIME indicates that the collection interval and the report interval are the same.

Start
The start time of the report interval that is currently displayed.

Report Interval
The amount of time in the last cycle, for example, the time inbetween the Enter key was pressed twice.

End
The end time of the report interval that is currently displayed.

Name (Q8STNAME)
The name of the Accelerator.

State (Q8STTATE)
The current state of the Accelerator. The following list shows the values for the state:

```
INITIALIZED
INITING
ONLINE
PAUSED
OFFLINE
STOPPED
MAINTENANCE
```

Product ID (Q8STPRID)
The internal product ID. It includes the version of the Accelerator.

Server Start Time (Q8STTART)
The time the Accelerator server process is started.

Status Change Time (Q8STTATC)
The time the last status change is recorded.

Curr Active Queries (Q8STNCQS)
The number of queries that are processed currently on behalf of this DB2.

Max Active Queries (Q8STMNQS)
The maximum number of concurrent queries that are processed on behalf of this DB2.

Replication State (Q8STCSS)
The state of replication processing for this DB2.

Replication Latency (Q8STCRL)
The replication latency for this DB2.

Replication Status Change (Q8STTLSC)
The time the last replication status change is recorded.

Replication Velocity (Q8STVLCS)
Replication velocity of this Db2 subsystem. Replication velocity is measured in Db2 log seconds replicated per second to the Accelerator. The value in this field is in microseconds. For external use, convert the value to seconds. This value might be negative if replication for the Accelerator is stopped, or if replication information for the Accelerator is not yet available.

Disk in Use This DB2 (Q8STDSKB)
The amount of disk space that is used by database objects.

Current Queue Len Db2 (Q8STCQLS)
The current queue length at the accelerator back-end for this Db2 subsystem.

WAITFORDATA Success Db2 (Q8STTDPS)
Total number of successful query requests that were sent by this Db2 subsystem to the accelerator, and were run with the WAITFORDATA delay protocol.

WAITFORDATA Expired Db2 (Q8STEDPS)
Total number of query requests that were sent by this Db2 subsystem to the accelerator, were run with the WAITFORDATA delay protocol, and expired because the total wait time was greater than the specified WAITFORDATA value.

The following statistics are displayed for the fields below in tabular format:

TOTAL QUANTITY
The amount of activity since the Accelerator is activated.

INTERVAL QUANTITY
The amount of activity during the last cycle.

/SECOND (1)
The rate per second during the last cycle. The value in parentheses indicates the number of seconds in the interval.

These are the fields for which the statistics above are displayed:

Successful Requests (Q8STSREQ)
The number of query requests sent by this DB2 since the Accelerator is started that completed successfully.

Failed Requests (Q8STFREQ)
The number of query requests sent by this DB2 since the Accelerator is started that failed for any reason.

Total Num Accel Connects (Q8STCONN)
The number of connections that are started between this DB2 subsystem and the Accelerator.

Total Num Accel Requests (Q8STREQ)
The number of requests that are sent to the Accelerator from this DB2 subsystem.

Total Timed Out Reqs (Q8STTOUT)
The number of requests that failed due to a timeout waiting for the Accelerator.

Total Failed Reqs (Q8STFAIL)
The total number of failed Accelerator requests. This number includes any timeout errors.

Number Bytes Sent
The number of bytes of data that is sent to the Accelerator.

Number Bytes Received (Q8STBYTR)
The number of bytes that are received.

Number Messages Sent (Q8STMSGS)
The number of messages that are sent to the Accelerator.

Number Messages Received (Q8STMSGR)
The number of messages that are received from the Accelerator.

Number Blocks Sent (Q8STBLKS)
The number of blocks that are sent to the Accelerator.

Number Blocks Received (Q8STBLKR)
The number of blocks that are received by the Accelerator.

Number Rows Sent (Q8STROWS)
The number of data rows that are sent to the Accelerator.

Number Rows Received (Q8STROWR)
The number of data rows that are received by the Accelerator.

The following set of statistic fields is related to replication processing. If replication is not configured for this Accelerator, these fields are not displayed.

Log Records Read (Q8STNLRS)
The total number of log records that is read by capture agents on this DB2.

Log Records Read Accel Tables (Q8STNLTS)
The number of log records that are read by capture agents on this DB2 for tables that reside in this Accelerator.

Log Record Bytes Processed (Q8STNBS)
The number of bytes that are processed by capture agents for this DB2.

Rows Inserted Accel Tables (Q8STNIS)
The number of inserted rows that are processed by capture agents on this DB2 for tables that reside in this Accelerator.

Rows Updated Accel Tables (Q8STNUS)
The number of updated rows that are processed by capture agents on this DB2 for tables that reside in this Accelerator.

Rows Deleted Accel Tables (Q8STNDS)
The number of inserted rows that are processed by capture agents on this DB2 for tables that reside in this Accelerator.

The following statistics are displayed for the fields below in tabular format:

TOTAL QUANTITY
The amount of time that is consumed since the Accelerator is activated.

INTERVAL QUANTITY
The amount of time that is consumed in the current interval.

These are the fields for which the statistics above are displayed.

TCP/IP Services Elapsed Time (Q8STTELA)
The total elapsed time from the time DB2 started to process a request until the time the request is completed.

CPU Time Executing Queries (Q8STTCQS)
The CPU time that is consumed by the Analytics Accelerator for processing queries.

CPU Time for Replication (Q8STTCCS)
The CPU time that is consumed by the Analytics Accelerator for replication.

CPU Time for Load/Archive/Restore (Q8STTCMS)
The CPU time that is consumed by the Analytics Accelerator for maintenance.

Accel Elapsed Time (Q8STAELA)
The total elapsed time that the thread is processed on the Analytics Accelerator. The Accelerator time is a subset of the In DB2 time.

Accum Wait Time (Q8STAWAT)
The total wait time within the Analytics Accelerator.

Statements sent to Accelerator

Insert
The number of Insert statements issued for IDT (Q8STINSC) objects from DB2 to the accelerator.

Update
The number of Update statements issued for IDT (Q8STUPDC) objects from DB2 to the accelerator.

Delete
This is the number of Delete statements issued for IDT (Q8STDELC) objects from DB2 to the accelerator.

Drop
The number of Drop statements issued for IDT (Q8STDRPC) objects from DB2 to the accelerator.

Create
The number of Create statements issued for IDT (Q8STCRTC) objects from DB2 to the accelerator.

Commit
The number of Commit statements issued for IDT (Q8STCMTC) objects from DB2 to the accelerator.

Rollback
This is the number of Rollback statements issued for (Q8STRBKC) IDT objects from DB2 to the accelerator.

Open
The number of Open statements issued for IDT (Q8STOPNC) objects from DB2 to the accelerator.

Accelerator Detail Accelerator Perspective

This panel displays detailed information that is aggregated across all DB2 subsystems that are connected to the Analytics Accelerator.

```
_________________ ZZIDP    VTM     O2       V540./C DB51 S 01/29/15 14:48:15 2
>       Help PF1         Back PF3             Up PF7            Down PF8
>
> A-DB2 PERSPECTIVE *-ACCEL PERSPECTIVE
================================================================================
>          Version 4 Accelerator Detail Accelerator Perspective
 ZIDP
+
+ Collection Interval:  REALTIME               Start: 01/29/15 13:48:09.50
+ Report Interval:      5 sec                  End:   01/29/15 13:48:15.11
+
+
+ Name                                                    VMNPS52
+ State                                                    ONLINE
+ Product ID                                             AQT04012
+ Server Start Time                          01/19/15 02:48:10.63
+ Status Change Time                         01/19/15 02:48:10.67
+ Curr Active Queries                                         0
+ Max Active                                                  6
+ Avg Coord CPU                                            3.99
+ Avg Worker CPU                                           0.00
+ Total Num Processors                                      N/P
+ Act Worker Nodes                                          N/P
+ Current Queue Length                                       0
+ Max Queue Length                                           0
+ Avg Queue Wait Time (MS)                  0.003623
+ Max Queue Wait Time (MS)                  0.011989
+ Disk Space for All DB2 (MB)                               N/P
+ Disk In Use All DB2 (MB)                                  N/P
+ In-Use TEMP Data (MB)                                      0
+ In-Use LOG Data (MB)                                     976
+ Mem Avail User Data (MB)                                1295
+ Mem Avail User Reqs (MB)                                3258
+ Sort Overflows                                             0
+ Buffer Pool Hit Ratio                                  99.99
+ Transfer Rate In (KB/S)                                    1
+ Transfer Rate Out(KB/S)                                    1
+ WAITFORDATA Successful                                    20
+ WAITFORDATA Expired                                       32
+ Log Reader CPU Time                                 0.273891
+ Log Reader zIIP Time                               27.440887
+ Log Reader zIIP Eligible Time                       0.358064
+
+                                          TOTAL     INTERVAL      /SECOND
+                                       QUANTITY     QUANTITY      (    5)
+-------------------------------------------------------------------------
+ Successful Requests                      98301            0            0
+ Failed Reqs Since Start                      0            0            0
+
+                               Replication Data
+                                          TOTAL     INTERVAL         /SECOND
+                                       QUANTITY     QUANTITY      (    5)
+----------------------------------------------------------------------------
+ Log Records Read                        391902       391902     78380.40
+ Log Records Read Accel Tables           388444       388444     77688.80
+ Log Records Bytes Processed           25637304     25637304     5127.46K
+ Rows Inserted Accel Tables                   0            0            0
+ Rows Updated Accel Tables                    0            0            0
+ Rows Deleted Accel Tables                    0            0            0
+
+                                 Time Data
+                                             TOTAL         INTERVAL
+                                          QUANTITY         QUANTITY
+-------------------------------------------------------------------------
+ CPU Time Executing Queries          2:00:34.930000         0.000000
+ CPU Time for Replication                31.955084        31.955084
+ CPU Time Load/Archive/Restore          2:10.300000         0.000000
================================================================================
```

Navigation

For more information about

- the activity in the specified Analytics Accelerator, select the option **A-DB2 PERSPECTIVE**.
- related topics, select one of the options at the top of the panel.

- other topics, use the PF keys.

Fields

Collection Interval
The value REALTIME indicates that the collection interval and the report interval are the same.

Start
The start time of the report interval that is currently displayed.

Report Interval
The amount of time in the last cycle, for example, the time inbetween the Enter key was pressed twice.

End
The end time of the report interval that is currently displayed.

Name (Q8STNAME)
The name of the Accelerator.

State (Q8STTATE)
The current state of the Accelerator. The following list shows the values for the state:

```
INITIALIZED
INITING
ONLINE
PAUSED
OFFLINE
STOPPED
MAINTENANCE
```

Product ID (Q8STPRID)
The internal product ID. It includes the version of the Accelerator.

Server Start Time (Q8STTART)
The time the Accelerator server process is started.

Status Change Time (Q8STTATC)
The time the last status change is recorded.

Curr Active Queries (Q8STNCQS)
The number of queries that are processed currently on behalf of this DB2.

Max Active Queries (Q8STMNQS)
The maximum number of concurrent queries that are processed on behalf of this DB2.

Avg Coord CPU (Q8STCCPU_64)
The utilization of the CPU on the coordinator node.

Avg Worker CPU (Q8STWCPU_64)
The utilization of the CPU on worker nodes.

Total Num Processors (Q8STCORS)
The total number of CPU cores that are available for worker nodes.

Act Worker Nodes (Q8STWNOD_64)
The number of nodes that are active.

Current Queue Length (Q8STCQL)
The length of the waiting work queue.

Max Queue Length
The high watermark of the query queue length at the accelerator.

Avg Queue Wait Time (MS) (Q8STQUEW)
The average waiting time in a work queue.

Max Queue Wait Time (MS)
The maximum waiting time in a work queue.

Disk Space for All DB2 (MB) (Q8STDSKA)
The storage that is available on the disk.

Disk In Use All DB2 (MB) (Q8STDSA)
The total disk space that is used in all databases.

In-Use TEMP Data (MB) (Q8STTSA)
Amount of disk space, in megabytes, across all Db2 subsystems, for temporary data.

In-Use LOG Data (MB) (Q8STLSA)
Amount of disk space, in megabytes, across all Db2 subsystems, for log data.

Mem Avail User Data (MB) (Q8STTMUD)
Total amount of memory that is configured for buffer pools, across all worker nodes, in megabytes. This value is the amount of memory that is available for user data.

Mem Avail User Reqs (MB) (Q8STTMPS)
Total amount of memory that is available for processing SQL queries or data manipulation language statements in the Accelerator, in megabytes.

Sort Overflows (Q8STOFLW)
The number of sort overflows at the Accelerator back-end. A sort overflow occurs when an SQL statement can not be processed entirely in memory.

Buffer Pool Hit Ratio (Q8STABHR)
The accelerator buffer pool hit ratio. This value is the buffer pool hit ratio for all work that the Accelerator performs on behalf of currently paired Db2 subsystems.

Transfer Rate In (KB/S) (Q8STANUI)
Current inbound transfer rate for data transmitted through a network interface between the Accelerator and Db2, in kilobytes per second.

Transfer Rate Out (KB/S) (Q8STANUO)
Current outbound transfer rate for data transmitted through a network interface between the Accelerator and Db2, in kilobytes per second.

WAITFORDATA Successful (Q8STTDPA)
Total number of successful query requests that were sent by all Db2 subsystems to the Accelerator, and were run with the WAITFORDATA delay protocol.

WAITFORDATA Expired (Q8STEDPA)
Total number of query requests that were sent by all Db2 subsystems to the accelerator, were run with the WAITFORDATA delay protocol, and expired because the total wait time was greater than the specified WAITFORDATA value.

Log Reader CPU Time (Q8STLRCP)
CPU time used by Integrated Synchronization asynchronous log reader task on behalf of this accelerator. (Db2 V12 and later)

Log Reader zIIP Time (Q8STLRZI)
zIIP time used by Integrated Synchronization asynchronous log reader task on behalf of this accelerator. (Db2 V12 and later)

Log Reader zIIP Eligible Time (Q8STLRZE)
zIIP eligible time for Integrated Synchronization asynchronous log reader task on behalf of this accelerator. (Db2 V12 and later)

The following statistics are displayed for the fields below in tabular format:

TOTAL QUANTITY
The amount of activity since DB2 was started.

INTERVAL QUANTITY
The amount of activity during the last cycle.

/ SECOND (594)
The rate per second during the last cycle. The value in parentheses indicates the number of seconds in the interval.

These are the fields for which the statistics above are displayed:

Successful Requests
The number of query requests sent by this DB2 that are successfully completed since the Accelerator is started.

Failed Reqs Since Start
The number of query requests that are sent by this DB2 since the Accelerator is started that failed for any reason.

The following set of statistic fields is related to replication processing. If replication is not configured for this Accelerator, these fields are not displayed.

Log Records Read (Q8STNLRS)
The total number of log records that is read by capture agents on this DB2.

Log Records Read Accel Tables (Q8STNLTS)
The number of log records that are read by capture agents on this DB2 for tables that reside in this Accelerator.

Log Record Bytes Processed (Q8STNBS)
The number of bytes that are processed by capture agents for this DB2.

Rows Inserted Accel Tables (Q8STNIS)
The number of inserted rows that are processed by capture agents on this DB2 for tables that reside in this Accelerator.

Rows Updated Accel Tables (Q8STNUS)
The number of updated rows that are processed by capture agents on this DB2 for tables that reside in this Accelerator.

Rows Deleted Accel Tables (Q8STNDS)
The number of inserted rows that are processed by capture agents on this DB2 for tables that reside in this Accelerator.

The following statistics are displayed for the fields below in tabular format:

TOTAL QUANTITY
The amount of time that is consumed since the Accelerator is activated.

INTERVAL QUANTITY
The amount of time that is consumed in the current interval.

These are the fields for which the statistics above are displayed.

CPU Time Executing Queries (Q8STTCQS)
The CPU time that is consumed by the Analytics Accelerator for processing queries.

CPU Time for Replication (Q8STTCCS)
The CPU time that is consumed by the Analytics Accelerator for replication.

CPU Time for Load/Archive/Restore (Q8STTCMS)
The CPU time that is consumed by the Analytics Accelerator for maintenance.

Chapter 9. Application Trace Facility (ATF)

Select this main menu option to access the Application Trace Facility (ATF) to trace the execution of a DB2 application.

The information gathered in these traces helps in the analysis of application flow and resource consumption. The Application Trace Facility provides the following types of performance information:

- SQL trace information including static host variables and dynamic parameter markers
- Sort activity information
- Pageset access and scan information
- Locking information
- Application In-DB2 time and In-DB2 CPU time

The data that is collected by the Application Trace Facility is stored in a VSAM file or resident in memory. If the data is not stored in a VSAM file, it is only available for the current OMEGAMON for Db2 PE session.

All Application Trace Facility (ATF) panels show the current state of an application trace, including a possible trace data set full condition, as `ABENDED`, `ACTIVE`, `INACTIVE`, or `DSN FULL`. A state of `INIT-XXX` might be shown briefly during early stages of initialization. For more information, see the description of panel "View the Active In-Memory Non-Dataset Trace" on page 441.

Application Trace Facility Menu

This menu provides access to panels from which you can start an application trace, store trace data, review the data collected by an application trace, stop an application trace, and release the storage data set.

You can use this panel to specify the criteria for the application to be traced and to store the trace output. Trace output can have the following formats:

In memory trace
Trace data is stored in the virtual storage of the OMEGAMON for Db2 PE address space. It is limited to the total amount of storage that is available. The storage is owned by the VTAM session that started the trace. The trace starts as soon as you are completing the start request. If the VTAM session terminates while the trace is running, the trace is terminated and the trace output is lost. When the trace is completed, the data is only available to the VTAM session that started the trace. If the VTAM session terminates, or if you request another in memory application trace, the trace is discarded.

To control the TRACE request, select option **B -VIEW TRACE**. To terminate the trace or to view the trace contents, select option **C - Stop Trace**.

VSAM Dataset Trace
The trace is written to a VSAM dataset. It is limited by the size of the dataset. You can define whether the trace is to run immediately or to be deferred (scheduled) for execution at a later time. If the trace is started or scheduled, the VTAM session that requests the trace does not need to stay active for the trace to complete successfully. Information about the trace is maintained for the duration of the OMEGAMON for Db2 PE address space, unless it is manually deleted. You can view the trace data from any VTAM session.

To control the trace, select option **H - QUEUED Traces** and select the appropriate element.

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```
_________________ ZATMENU  VTM     O2       V540./C DA31 06/19/13 19:46:00   3
>       Help PF1                                              Back PF3
> A.    Current Trace Status: INACTIVE
>                  Enter a selection letter on the top line.
================================================================================
>                       APPLICATION TRACE FACILITY MENU

_ A  SPECIFY TRACE ...... Request and start an application trace
_ B  VIEW TRACE ......... View the active In-memory, non-dataset
trace
_ C  STOP TRACE ......... Stop the active In-memory, non-dataset
trace

_ D  SELECT DATASET ..... Specify a trace dataset to view  (Deprecated-Use
H)
_ E  VIEW DATASET ....... View the selected trace dataset  (Deprecated-Use
H)
_ F  STOP VIEW .......... Release the selected dataset     (Deprecated-Use
H)

_ G  CREATE DSN ......... Create a new VSAM LDS for trace output

_ H  QUEUED Traces ...... Manage Queued VSAM Application Trace Requests

================================================================================
```

Navigation

The following menu options are available. To select an item, enter the appropriate letter on the command line of the panel. For example, you might want to enter A to specify a trace.

A - Specify Trace
Provides a fill-in-the-blank panel to identify the application to trace. Select this option to specify or to start an active trace. You can also capture the trace output for later viewing in a dataset.

For more information, see the description of panel "Specify Application Trace" on page 437.

B - View Trace
Shows an overview of the trace status and output information that is generated by the trace.

This option is only available for traces that are not written to a VSAM dataset.

For more information, see the description of panel "View the Active In-Memory Non-Dataset Trace" on page 441.

C - Stop Trace
Stops the active trace of the specified application.

This option is only available for traces that are not written to a VSAM dataset.

For more information, see the "Stop In-Memory Non-Dataset Trace Requests" on page 442 panel.

D - Select Dataset
Select this option to select a data set that previously captured trace output.

This option is deprecated in version 5.2.0 and subsequent versions. To select a data set that contains previously captured trace output, enter option H to manage traces that are written to a VSAM data set.

For more information, see the description of panel "Select Data Set and Trace Parameters" on page 443.

E - View Dataset
Select this option to view the data in the selected trace data set.

This option is deprecated in version 5.2.0 and subsequent versions. To view the data in the selected trace data set, enter option H to manage traces that are written to a VSAM data set.

For more information, see the description of panel "Application Trace Thread Summary - View Dataset" on page 445.

F - Stop View
Select this option to release a previously selected trace data set from OMEGAMON for Db2 PE.

This option is deprecated in version 5.2.0 and subsequent versions. To release a selected trace data set from OMEGAMON for Db2 PE, enter option H to manage traces that are written to a VSAM data set.

For more information, see the description of panel “Stop Viewing Trace Dataset” on page 446.

G - CREATE DSN
Select this option to create a new VSAM linear data set for storing the trace output.

For more information, see the description of panel “Create Application Trace Data Set Name” on page 446.

H - QUEUED TRACES
Select this option to manage the queue of application trace requests that are written to a VSAM dataset..

You can use the 3270 Tab key in panels that permit for data entry. The 3270 Tab key eases the navigation in panels with multiple data entry fields.

Specify Application Trace

Use this panel to specify the criteria for the application to be traced and the data set to which the trace data is to be stored for later analysis.

All ATF panels display the current trace status. The following values might be displayed:

ACTIVE
The application trace is active.

INACTIVE
The application trace is inactive.

DSN FULL
The output file ran out of space.

INIT-XXX
This status is briefly displayed during an early stage of initialization.

ABENDED
The application trace is abended.

```
_________________ ZATRQ    VTM     O2       V540./C DA31 06/19/13 19:57:13   3
>         Help PF1                                          Back PF3
> A.A     Current Trace Status: INACTIVE
> *-SPECIFY TRACE    B-VIEW TRACE       C-STOP TRACE       D-SELECT DSN
> E-VIEW DATASET     F-STOP VIEW        G-CREATE VSAM LDS  H-QUEUED TRACES
================================================================================
>                          SPECIFY APPLICATION TRACE
 ATRQ
+ Type DB2 Plan name to be traced.
:         DSN= ____________________________________________  Mode= Append
:    PLANNAME= ________   ________  ________  ________  ________
+                         Plan name(s) or ALL for all active threads
:      AUTHID= ________   ________  ________  ________  ________
+                         DB2 Authorization Identifier(s)
:     TSOUSER= ________  TSO UserID        |   STATSQL= N   Static  SQL?  (Y/N)
:     JOBNAME= ________  Job Name          |   SQLDATA= Y   Dynamic SQL?  (Y/N)
:    CICSTRAN= ____      CICS Trans ID     |  LOCKDATA= Y   Lock    Data? (Y/N)
:    CICSCONN= ________  CICS Connection ID|  SCANDATA= Y   Scan    Data? (Y/N)
:     PSBNAME= ________  IMS PSB Name      |  THRDDATA= Y   Thread  Data? (Y/N)
:       IMSID= ________  IMS Region ID     |  CONNDATA= Y   Connect Data? (Y/N)
:         SMF= N   Output to SMF? (Y/N)    |  HOSTVARS= N   Host Variable?(Y/N)
:         GTF= N   Output to GTF?(Y/N)
:     MEMSIZE= 02  (01-04MEG)  TIME= 0005  (0001-0060)  FLUSH= 300  (001-300)
:    DEFERRED:  STDATE= MM/DD/YYYY  STTIME= HH:MM  (mm/dd/yyyy dd.mm.yyyy)
================================================================================
```

You can trace up to five individual plans or all plans (threads) executing in the DB2 system. To limit trace overhead incurred by the DB2 subsystem and OMEGAMON XE for DB2 PE, qualify your trace request as much as possible. To qualify a trace request, enter the required information for only one of the connection types (TSO, batch, CICS, or IMS).

Note: Use SMP/E USERMOD if you want to change default options and limits listed below. See TKANSAM(KO2MOD01) for more information.

Navigation

For additional options, use the PF keys.

Fields

DSN
The name of a VSAM data set. If you want trace data to be saved for later viewing, enter the name of a preallocated, preformatted data set; otherwise, leave this field blank.

For considerations about sizing VSAM data sets for various record types and output devices, see *Configuration and Customization*.

For procedures about customizing the Application Trace Facility, see *Configuration and Customization*. The ATF uses only the primary extent of a data set; it does not use secondary extents. Keep this in mind when considering space requirements for the trace data.

MODE
Defines whether trace data is appended to existing data in the VSAM data set that is specified in the DSN field. You can use the following values:

APPEND
Any previously collected trace data is retained and new data is appended to the end of existing data.

This is the default value.

REUSE
Deletes existing trace data from a data set before new trace data is added.

You can change the default value by adding the keyword ATFMODE to the member OMPEOPTS in the *rhilev*.RKD2PAR(OMPEOPTS) data set. Valid values for the keyword ATFMODE are APPEND or REUSE.

PLANNAME
The DB2 plan names of the application threads to be traced. To trace all thread activity, set the plan name to ALL. This field is required.

The specification of individual plan names and individual authorization IDs is restricted such that you can specify either up to five plan names and one authorization ID or one plan name and up to five authorization IDs.

AUTHID
The DB2 authorization IDs of the application (threads) to be traced. This field is optional, however, you should supply one or more authorization IDs to limit trace overhead and the amount of data collected.

See also PLANNAME for possible restrictions.

TSOUSER
The TSO user ID of the application (thread) to be traced if the application originates from a DB2 TSO connection. This limits the amount of trace data collected and overhead incurred.

JOBNAME
The jobname of the application (thread) to be traced if the application originates from a DB2 batch (TSO background) connection. This limits the amount of trace data collected and overhead incurred.

CICSTRAN
The transaction ID of the application (thread) to be traced if the application originates from a DB2 CICS connection. This limits the amount of trace data collected and overhead incurred.

CICSCONN
The DB2 connection ID of the CICS region from which the application (thread) originates. This limits the amount of trace data collected and overhead incurred.

PSBNAME
The IMS PSB name of the application (thread) if the application originates from the DB2 IMS connection. This limits the amount of trace data collected and overhead incurred.

IMSID
The IMSID of the IMS region from which the application (thread) originates. This limits the amount of trace data collected and overhead incurred.

SMF
Specifies whether the trace data will be written out to SMF in addition to the capture. The default is N. SMF and GTF are mutually exclusive fields. You can specify N for both fields, but not Y.

GTF
Specifies whether the trace data will be written out to GTF in addition to the capture. The default is N. SMF and GTF are mutually exclusive fields. You can specify N for both fields, but not Y.

STATSQL
Specify Yes to enable display of static SQL statements.

SQLDATA
Specify No to inhibit collection of DB2 SQL trace records. This reduces the number of captured trace records and associated overhead.

SQLDATA activates the following IFCIDs:

- 58 END OF SQL STATEMENT EXECUTION
- 59 START OF FETCH SQL STATEMENT EXEC
- 60 START OF SELECT SQL STATEMENT EXEC
- 61 START OF INSERT, UPDATE, DELETE SQL
- 62 START OF DDL STATEMENT EXECUTION
- 63 SQL STATEMENT TO BE PARSED
- 64 START PREPARE SQL STATEMENT EXEC
- 65 START OPEN CURSOR STATIC/DYN SQL
- 66 START CLOSE CURSOR STATIC/DYN SQL
- 177 SUCCESSFUL PACKAGE ALLOCATION
- 233 START/END CALL TO USER ROUTINE

LOCKDATA
Specify NO to inhibit collection of DB2 lock trace records. This reduces the number of captured trace records and associated overhead.

LOCKDATA activates the IFCID 21 DETAIL LOCK REQ.ON RETURN FROM IRLM.

SCANDATA
Specify NO to inhibit collection of DB2 scan trace records. This reduces the number of captured trace records and associated overhead.

SCANDATA activates the following IFCID(s):

- 15 INPUT MATCH./NON-MATCH.INDEX SCAN
- 16 INPUT TO THE FIRST INSERT
- 17 INPUT TO SEQUENTIAL SCAN
- 18 END INDEX SCAN, INSERT, SEQ. SCAN
- 221 PARALLEL DEGREE FOR PARALLEL GROUP

- 222 PARALLEL GROUP ELAPSED TIME
- 231 PARALLEL GROUP COMPLETION

THRDDATA
Specify NO to inhibit collection of DB2 thread trace records. This reduces the number of captured trace records and associated overhead.

THRDDATA activates the following IFCID(s):

- 68 BEGINNING OF A ROLLBACK REQUEST
- 69 ENDING OF A ROLLBACK REQUEST
- 70 BEGIN COMMIT PHASE 2 REQUEST
- 71 END COMMIT PHASE 2 REQUEST
- 73 ENDING OF A CREATE THREAD REQUEST
- 74 BEGINNING OF TERM. THREAD REQUEST

CONNDATA
Specify NO to inhibit collection of DB2 connection trace records. This reduces the number of captured trace records and associated overhead.

CONNDATA activates the following IFCID(s):

- 84 BEGIN PHASE 1 COMMIT REQUEST
- 85 END PHASE 1 COMMIT REQUEST
- 86 BEGINNING OF SIGNON REQUEST
- 87 ENDING OF SIGNON REQUEST
- 88 BEGINNING OF A SYNC REQUEST
- 89 ENDING OF A SYNC REQUEST
- 95 SORT STARTED
- 96 SORT ENDED

HOSTVARS
Specify Y to enable input HOSTVAR data collection. The default is N.

HOSTVARS activates the IFCID 247 SQLDA AND INPUT HOST VARIABLE DATA.

MEMSIZE
Specifies the amount of virtual memory to be used for the collection work area. You can specify a value from 1 to 4 MB.

The default value is 2 MB.

TIME
The time (in minutes) that OMEGAMON XE for DB2 PE will trace the application. The default is 5 minutes. The trace time can be any value from 1 through 60 minutes. The length of the application trace should be minimized to limit the resource utilization (CPU, memory) required by the facility.

FLUSH
The interval at which ATF processing will flush those Unit of Work (UOW) records that are complete and write them to the VSAM data set. The default is 300 seconds (5 minutes).

DEFERRED
Optionally, you can defer the start of the trace request by specifying the following fields:

STDATE
The date (in mm/dd/yyyy or dd.mm.yyyy format) the trace request is to start. You can specify the current date or a date in the future.

STTIME
The time (in 24 hour format) the trace is to start. This field is required, if STDATE is specified.

If STDATE represents the current date, STTIME must be a time in the future.

If STDATE is for a future date, this field must be a valid time.

If the OMEGAMON Collector Address Space is stopped, all scheduled requests will be lost. Both fields must be entered for the request is to be deferred. Deferred requests must be written to VSAM datasets.

Deferred information cannot be entered when the ATF command is entered from the Thread Detail display.

When you complete the fields in this panel and press Enter, OMEGAMON XE for DB2 PE displays a confirmation panel that contains the values you supplied. To start the application trace using these values, press Enter. To change the values without starting a trace, press F3.

View the Active In-Memory Non-Dataset Trace

This panel shows information about the status of the current trace and a summary of the application (DB2 thread) information that is being collected.

All ATF screens display the Current Trace Status. The basic status values are INACTIVE or ACTIVE. Plans are listed in descending order of in-DB2 CPU time used.

To view unit of work summary information for a traced application thread, place the cursor on the line of a plan name and press PF11.

```
 _________________ ZATVW    VTM     O2       V540.#P SE12 11/05/13 16:28:32   3
>       Help PF1      Back PF3      Up PF7      Down PF8       Zoom PF11
> A.B   Current Trace Status: ACTIVE
> A-SPECIFY TRACE    *-VIEW TRACE       C-STOP TRACE       D-SELECT DSN
> E-VIEW DATASET     F-STOP VIEW        G-CREATE VSAM LDS  H-QUEUED TRACES
================================================================================
>                     APPLICATION TRACE THREAD SUMMARY
 ATVW
+ Trace Status           = ACTIVE        Trace Time Remaining      = 00:04:44
+ Trace Start Time       = 16:28:16      Trace Start Date          = 11/05/2013
+ Trace End Time         = 00:00:00      Trace End Date            = 00/00/0000
+ Trace Time Limit       = 00:05:00      Trace Records Collected   =        0
+
+ Trace Request Information :
+
+ PLANNAME   = QMF910
+ AUTHID     = HONG
+ CICSTRAN   = QMFE
+ STATSQL    = Y
+ HOSTVARS   = Y
================================================================================
```

After an in-memory trace is started successfully, you can view the trace output by using option **B - View Trace** from the main menu.

Navigation

For additional information about

- a particular thread, move the cursor to the thread line and press F11 (Zoom). For more information, see the description of panel “Application Trace Unit of Work Activity Summary” on page 452.
- other topics, use the PF keys.

Fields

Trace Status
The current status of the trace:

ACTIVE
The trace is still collecting data.

INACTIVE
The time specified on the trace request has elapsed and application trace collection has terminated.

Trace Time Remaining
The time remaining if the trace is still active. If the trace is inactive, this field contains zeros.

Trace Start Time
The time the trace started.

Trace Start Date
The date the trace started.

Trace End Time
The time the trace stopped if trace status is inactive. If the trace is still active, this field contains zeros.

Trace End Date
The date the trace stopped if trace status is inactive. If the trace is still active, this field contains zeros.

Trace Time Limit
The trace time limit specified when the trace was started.

Trace Request Information:

This section displays the request criteria that you specified in the Specify Application Trace panel. For example:

```
PLANNAME
AUTHID
TSOUSER
STATSQL
HOSTVARS
```

ATF summary data collected:

This section displays the ATF summary data that is collected since the start of the ATF in-memory trace. The summary data is organized by planname.

Planname
The DB2 plan name of the thread.

Connid
The DB2 connection identifier of the thread.

Corrid
The DB2 correlation identifier of the thread.

Authid
The DB2 authorization identifier of the thread.

InDB2 CPU
The CPU time (in seconds) used by the thread while executing in DB2.

SQL
The total number of SQL statements issued by the thread.

Commits
The total number of Commits that occurred for the thread.

Aborts
The total number of aborts that occurred for the thread.

Stop In-Memory Non-Dataset Trace Requests

Use this panel to manually stop an application trace that is currently active.

A application trace is normally terminated after the trace time limit that is specified during the trace request has expired.

```
_________________ ZATST    VTM     O2       V540.#P SE12 11/05/13 16:29:17   3
>       Help PF1                                          Back PF3
> A.C   Current Trace Status: ACTIVE
> A-SPECIFY TRACE    B-VIEW TRACE       *-STOP TRACE       D-SELECT DSN
> E-VIEW DATASET     F-STOP VIEW        G-CREATE VSAM LDS  H-QUEUED TRACES
================================================================================
>                        STOP APPLICATION TRACE REQUEST

> To stop active application tracing, space over the > before ATST and
> press ENTER.

>ATST
================================================================================
```

Stopping trace collection does not delete trace information collected. It simply stops the active trace request. All data collected before trace termination is still available for viewing.

Navigation

For additional options, use the PF keys.

Fields

OMEGAMON XE for DB2 PE does not display any fields on the Stop Application Trace Request panel.

Select Data Set and Trace Parameters

Use this panel to specify a data set with application trace data so that you can view the trace data. You can also specify selection criteria to limit the data to be reported.

```
_________________ ZATRD    VTM     O2       V540.#P SE12 11/05/13 16:31:55   3
>       Help PF1                                          Back PF3
> A.D   Current Trace Status: ACTIVE
> A-SPECIFY TRACE    B-VIEW TRACE       C-STOP TRACE       *-SELECT DSN
> E-VIEW DATASET     F-STOP VIEW        G-CREATE VSAM LDS  H-QUEUED TRACES
================================================================================
>                     SELECT DATASET AND TRACE PARAMETERS
 ATRD
+
+ Option H Is Recommended for Accessing VSAM Trace Datasets
+
+ Enter trace dataset which contains the captured trace, and additional
+ (optional) selection criteria to limit trace information reported.
+ When complete press ENTER
+
:             DSN= ____________________________________________ (Required)
:       STARTDATE= ________ (MM.DD.YY) STARTTIME= ________ (HH.MM.SS)
:         ENDDATE= ________ (MM.DD.YY)   ENDTIME= ________ (HH.MM.SS)
:           DB2ID= ____     DB2 Subsystem ID
:           MVSID= ____     MVS System ID
:        PLANNAME= ________ ________ ________ ________ ________
:                  Plan name(s)
:          AUTHID= ________ ________ ________ ________ ________
:                  DB2 authorization identifier(s)
:         TSOUSER= ________ TSO USERID (TSO foreground application)
:         JOBNAME= ________ Job Name (TSO batch application)
:        CICSTRAN= ____     CICS transaction identifier
:        CICSCONN= ________ CICS connection identifier
:         PSBNAME= ________ IMS PSB name
:           IMSID= ________ IMS ID of the IMS region
:       STATICSQL= N        Static SQL?(Y/N)  HOSTVARS= N   Host Variable?(Y/N)
================================================================================
```

The data set must be a VSAM data set that was used to capture an application trace (by specifying the data set name on the Specify Application Trace panel).

You can limit the data to be reported by applying one or more selection criteria. For example, you can specify a time period, individual plan names or authorization IDs, or qualify a connection type. If no

selection criteria are applied, all trace data from the specified data set are reported. By applying selection criteria, you also limit the reporting overhead incurred by OMEGAMON XE for DB2 PE.

Navigation

For additional options, use the PF keys.

Fields

DSN
The name of the VSAM data set that contains the captured trace information. This field is required.

STARTDATE
The starting date delimiting the records to be displayed.

STARTTIME
The starting time delimiting the records to be displayed.

ENDDATE
The ending date delimiting the records to be displayed.

ENDTIME
The ending time delimiting the records to be displayed.

DB2ID
The identifier of the DB2 subsystem to be displayed.

MVSID
The identifier of the MVS where the monitored DB2 resides.

PLANNAME
DB2 plan names to be displayed.

AUTHID
DB2 authorization IDs to be displayed.

TSOUSER
The TSO user ID of the application (thread), if the application originates from a DB2 TSO connection.

JOBNAME
The jobname of the application (thread), if the application originates from a DB2 batch (TSO background) connection.

CICSTRAN
The transaction ID of the application (thread), if the application originates from a DB2 CICS connection.

CICSCONN
The DB2 connection ID of the CICS region from which the application (thread) originates.

PSBNAME
The IMS PSB name of the application (thread), if the application originates from the DB2 IMS connection.

IMSID
The IMSID of the IMS region from which the application (thread) originates.

STATIC SQL(Y/N)
Specifying Y or N determines whether static SQL text is retrieved from the catalog table.

Host Variable(Y/N)
Specifying Y or N determines whether input host variable information is retrieved from the VSAM dataset and displayed on panel ZATD1.

This option applies only to the VSAM ATF. To control whether input host variable data is collected into a VSAM dataset, use the HOSTVARS option on the panels ZATRQ or ZATRQ2.

Application Trace Thread Summary - View Dataset

This panel shows information about the specified trace request and a summary of application (DB2 thread) information that is being captured in this data set.

```
_________________ ZATVD    VTM     O2       V540.#P SE12 11/05/13 16:33:45   3
>       Help PF1      Back PF3      Up PF7      Down PF8       Zoom PF11
> A.E   Current Trace Status: INACTIVE
> A-SPECIFY TRACE    B-VIEW TRACE       C-STOP TRACE       D-SELECT DSN
> *-VIEW DATASET     F-STOP VIEW        G-CREATE VSAM LDS  H-QUEUED TRACES
================================================================================
>               APPLICATION TRACE THREAD SUMMARY -- VIEW DATASET
 ATVD
+
+ Option H Is Recommended for Accessing VSAM Trace Datasets
+
+
+ DSN               = MIS.ATF.D0813B
+
+ Planname Connid   Corrid       Authid   DB2  MVS  InDB2 CPU Commits  Aborts
+ -------- -------- ------------ -------- ---- ---- --------- -------- ------
+ DSNESPCS TSO      MIS          MIS      SN11 PMO4    .23093       17      0
================================================================================
```

Each time you navigate to this panel and each time you press Enter, the data set information is refreshed.

Navigation

For additional information about

- a particular thread, move the cursor to the thread line and press F11 (Zoom). For more information, see the description of panel “Application Trace Unit of Work Activity Summary” on page 452.
- other topics, use the PF keys.

Fields

Trace parameters: This section displays the specified data set name and the specified trace request information, similar to the Application Trace Thread Summary panel.

Thread information: This section shows a summary of thread activities for the specified trace request.

Planname
The DB2 plan name of the thread.

Connid
The DB2 connection identifier of the thread.

Corrid
The DB2 correlation identifier of the thread.

Authid
The DB2 authorization ID of the thread.

DB2
The identifier of the DB2 subsystem that is monitored.

MVS
The identifier of the MVS where the monitored DB2 resides.

InDB2 CPU
The CPU time (in seconds) used by the thread while executing in DB2.

Commits
The total number of Commits located for the thread.

Aborts
The total number of aborts located for the thread.

Stop Viewing Trace Dataset

Use this panel to release a data set that was previously selected on the Select Dataset and Trace Parameters panel.

Releasing a data set makes it available for redefinition and recreation. The data will still be available for viewing after the data set is released.

```
_________________ ZATSD    VTM     O2       V520.#P SE12 11/05/13 16:34:12   3
>       Help PF1                                              Back PF3
> A.F   Current Trace Status: INACTIVE
> A-SPECIFY TRACE    B-VIEW TRACE       C-STOP TRACE       D-SELECT DSN
> E-VIEW DATASET     *-STOP VIEW        G-CREATE VSAM LDS  H-QUEUED TRACES
================================================================================
>                          STOP VIEWING TRACE DATASET

> To release the data set from OMEGAMON, space over the > before ATSD
> and press ENTER.

> This panel is deprecated in OMPE V520.  The recommended method to access
> ATF trace data written to a VSAM dataset is via Option "H", QUEUED TRACES.

>ATSD
================================================================================
```

Navigation

For additional options, use the PF keys.

Create Application Trace Data Set Name

Use this panel to create a VSAM linear data set that can be used as the target for application trace output data.

```
_________________ ZLDSC    VTM     O2       V540.#P SE12 11/05/13 16:34:31   3
>         Help PF1                                            Back PF3
> A.G     Current Trace Status: INACTIVE
> A-SPECIFY TRACE    B-VIEW TRACE       C-STOP TRACE       D-SELECT DSN
> E-VIEW DATASET     F-STOP VIEW        *-CREATE VSAM LDS  H-QUEUED TRACES
================================================================================
>                          CREATE APPLICATION TRACE DSN
 LDSC
+
:       DSN= ____________________________________________ Data set name
:       SIZE= 050 Size of dataset in megabytes (1-2048)
:       VOLUME= ______ Volume id for dataset creation
================================================================================
```

Navigation

For additional options, use the PF keys.

Fields

DSN
The name of the dataset to be created.

SIZE
The size of the dataset (in MB). The maximum value is 2048.

VOLUME
The volume serial number of the volume on which the dataset is to be placed.

Processing Traces Written to VSAM Datasets

This panel shows information about the status of the current trace and a summary of the application (DB2 thread) information that is collected.

```
 _________________ ZATQM    VTM     O2       V540./C DA31 06/27/13 23:41:10   3
> Help PF1      Back PF3       Up PF7      Down PF8     Zoom PF11
> A.H     Current Trace Status: INACTIVE
> A-SPECIFY TRACE    B-VIEW TRACE       C-STOP TRACE       D-SELECT DSN
> E-VIEW DATASET     F-STOP VIEW        G-CREATE VSAM LDS  *-QUEUED TRACES
================================================================================
>                VIEW APPLICATION TRACE VSAM REQUEST QUEUE
 ATQM
+                  Scheduled        Completion                  First    First
+  Status    SSID  Date       Time  Date       Time   Owner    Plan     AUTHID
+  ========= ====  ========== ===== ========== =====  ======== ======== =======
+  Pending   DA31  00/00/0000  0:00                   WDRI     APPLPLN1
+      DSN=WDRI.V510BETA.DS3.ATF
+  Executing DA31  06/27/2013 23:40                  WDRI     APPLPLAN
+      DSN=WDRI.V510BETA.DS2.ATF
+  Scheduled DA31  06/28/2013  2:00                  WDRI     WAYNEPLN
+      DSN=WDRI.V510BETA.DS1.ATF
+  Complete  DA31  06/27/2013 21:32 06/27/2013 21:47  WDRI     WAYNEPLN
+      DSN=WDRI.V510BETA.DS0.ATF
================================================================================
```

Navigation

For individual information about:

- A particular trace entry, move the cursor to the trace description line and press F11 (Zoom).
- Related topics, select one of the options at the top of the panel.
- Other topics, use the PF keys.

Fields

Status
The current state of the trace request. The following values might be displayed:

Pending
The request is awaiting processing.

Scheduled
The request starts at the scheduled time.

Executing
The trace request is currently executing.

Complete
The request has completed. Warning might be displayed.

Failed
The trace execution cannot be started.

Obsolete
The VSAM dataset that is used for this completed trace is overwritten by a subsequent trace.

SSID
The DB2 subsystem that the trace collects data from.

Scheduled Start
The following fields contain information about the scheduled or the actual start date and time of the trace.

Date
The start date for this trace if a deferred date is specified in the trace request. If no start date is specified and if the request is pending, the date is displayed like this: `00/00/0000`. When the trace starts executing, the actual start date is displayed.

Time
The start time for this trace if a deferred time is specified in the trace request. If no start time is specified and if the request is pending, the time is displayed like this: `00:00`. When the trace starts executing, the actual start time is displayed.

Completion
The following fields contain information about the actual completion date and time of the trace.

Date
The date the trace completed.

Time
The time the trace completed.

Owner
The owner ID of the trace. If a logon exit is provided, this field displays the USERID from that exit. If a logon exit is not provided, this field contains the VTAM LUNAME of the VTAM session.

First Plan
The name that is specified for the first plan in the trace request.

First AUTHID
The first author ID that is specified in the trace request. If an author ID is not specified, this field is blank.

VSAM Trace Entry Detail

This panel shows information about the status of the selected trace and a summary of the application (DB2 thread) information that is collected.

The information includes counts of the number of records that are collected and lost. If the counts of records that are lost are not zeros, it indicates that the rate at which DB2 generates the records is too fast for the capture facility. In this case, you should specify more selection criteria to restrict the data.

```
 _________________ ZATVB    VTM     O2       V540./C DA31 06/28/13  0:07:45   2
>       Help PF1      Back PF3      Up PF7      Down PF8
> *-VIEW TRACE       B-VIEW DATASET     C-DELETE ENTRY     D-STOP TRACE
================================================================================
>                   QUEUED APPLICATION TRACE DETAILS
 ATVW
+ Queued Request Owner   = WDRI          Type                      = Immediate
+ Trace Status           = ACTIVE        Trace Time Remaining      = 00:29:27
+ Trace Start Time       = 00:07:12      Trace Start Date          = 06/28/2013
+ Trace End Time         = 00:00:00      Trace End Date            = 00/00/0000
+ Trace Time Limit       = 00:30:00
+
+ DSN                    = WDRI.V510BETA.DS4.ATF
+
+ Trace records captured =     318       Trace records lost        =       0
+ UOW records captured   =       2       UOW records lost          =       0
+
+ Trace Request Information :
+
+ PLANNAME   = WAYNEPLN
+
:  STATSQL= N
+ HOSTVARS= N
+
+              Trace data is being captured to dataset.
+              Please view trace from dataset using option B
================================================================================
```

Navigation

For additional information about:

- Managing the trace output, select one of the options at the top of the panel.
- Other topics, use the PF keys.

Fields

Queued Request Owner
This field displays the USERID that is used to log on to OMEGAMON for Db2 PE or the VTAM Terminal ID that the request is issued from if external security is disabled for the OMEGAMON for Db2 PE server.

Type
This field identifies the type of queued request. Valid values:

Immediate
This request is queued for execution. The queue is processed

Scheduled
This request is scheduled to be executed at a particular time.

Trace Status
The following trace information is available:

OBSOLETE
The VSAM dataset used for this trace has been overwritten by > a subsequent trace, so the trace data cannot be confirmed.

ABENDED
The trace is terminated due to ABEND.

ACTIVE
The trace is still collecting data.

INACTIVE
The time that is specified in the trace request elapsed and the application trace collection terminated.

DSN FULL
The VSAM data set that is used for storing the trace data is full.

Trace Time Remaining
The time remaining if the trace is still active. If the trace is inactive, this field contains zero.

Trace Start Time
The time the trace started.

Trace Start Date
The date the trace started.

Trace End Time
The time the trace ended.

Trace End Date
The date the trace ended.

Trace Time Limit
The trace time limit that is specified when the trace is started.

DSN
The specified name of the data set that holds data to be captured.

Trace records captured
The number of records that are captured.

Trace records lost
The number of trace records that are lost.

If a nonzero value is displayed in this field, DB2 generated trace records too fast for the capture facility. You can use trace criteria to limit the amount of data to be captured.

UOW records captured
The number of Unit of Work (UOW) records that are captured.

UOW records lost
The number of UOW records that are lost.

If a nonzero value is displayed in this field, DB2 generated UOW records too fast for the capture facility. You can use trace criteria to limit the amount of data to be captured.

Viewing Dataset

This panel displays the trace selection criteria and the application trace output that is generated from data that is contained in the selected input dataset.

All ATF screens display the current trace status. The following values are available:

ACTIVE or INACTIVE
Basic status values.

DSN FULL
The output file ran out of space.

INIT-XXX
This value is displayed briefly during various stages of initialization.

ABENDED
The job abended.

Plans are displayed in descending order based on in-DB2 CPU time used.

The section Trace parameters displays the specified data set name and the specified trace request information, similar to the Application Trace Thread Summary panel.

The section Thread information shows a summary of thread activities for the specified trace request.

```
_________________ ZATQD    VTM     O2       V540.#P SE12 11/05/13 16:39:58   3
>       Help PF1      Back PF3      Up PF7      Down PF8       Zoom PF11
> A.H.B   Current Trace Status: INACTIVE
> A-VIEW TRACE       *-VIEW DATASET     C-DELETE ENTRY     D-STOP TRACE
================================================================================
>               APPLICATION TRACE THREAD SUMMARY -- VIEW DATASET
 ATVD
+
+ DSN               = MIS.ATF
+ Start Date        = 11/05/2013          Start Time       = 16:38:41
+
+ Planname Connid   Corrid       Authid   DB2  MVS  InDB2 CPU Commits  Aborts
+ -------- -------- ------------ -------- ---- ---- --------- -------- ------
+ DSNESPCS TSO      MIS          MIS      SE12 PMO4    .18827        5      0
================================================================================
```

Navigation

To view a summary of the unit of work for a traced application thread, place the cursor on a plan name and press PF11.

Fields

Planname
The DB plan name of the thread.

Connid
The DB2 connection identifier of the thread.

Corrid
The DB2 correlation identifier of the thread.

Authid
The DB2 authorization ID of the thread.

DB2
The identifier of the DB2 subsystem that is monitored.

MVS
The identifier of the MVS where the monitored DB2 resides.

InDB2 CPU
The CPU time (in seconds) that is used by the thread while running in DB2.

Commits
The total number of Commits that are located for the thread.

The numbers that are displayed for Commits do not include implicit actions that are associated with task termination.

Aborts
The total number of aborts that are located for the thread.

The numbers that are displayed for Aborts do not include implicit actions that are associated with task termination.

Deleting Entries

This panel is displayed to delete the currently selected trace entry. It will not delete the dataset, but will remove the entry from the list of managed traces.

If the trace is not yet executing, you can delete the entry by removing the character > in front of the ATQX command and pressing the Enter key.

If the trace is currently executing, an error message is issued. You must use option D to stop the trace before you can delete it.

```
_________________ ZATQX    VTM     O2       V540./C DA31 06/28/13  0:16:32   3
>       Help PF1      Back PF3      Up PF7      Down PF8       Zoom PF11
> A.H.C   Current Trace Status: INACTIVE
> A-VIEW TRACE       B-VIEW DATASET     *-DELETE ENTRY     D-STOP TRACE
================================================================================
>               APPLICATION TRACE QUEUE - DELETE ENTRY
>
 ATQV
+  Owner                 = WDRI          State                     = Complete
+  First Plan            = WAYNEPLN      First Authid              =
+  Dataset               = WDRI.V510BETA.DS4.ATF
>
>  To delete this ATF Request, remove the ">" preceding the following
>  command and press the ENTER key.  Note, if the status is EXECUTING,
>  the ATQX command will stop the the trace, but NOT delete the entry.
>
>ATQX
================================================================================
```

Stopping Traces

This panel is used to stop a VSAM Trace request, before the requested duration completes.

If the trace is executing, you can stop the trace by removing the character > in front of the ATQX command and pressing the Enter key.

If the trace is not yet executing, an error message is displayed.

```
_________________ ZATQS    VTM     O2       V540./C DA31 06/28/13  0:20:59   3
>       Help PF1      Back PF3      Up PF7      Down PF8       Zoom PF11
> A.H.C   Current Trace Status: INACTIVE
> A-VIEW TRACE       B-VIEW DATASET     C-DELETE ENTRY     *-STOP TRACE
================================================================================
>               APPLICATION TRACE QUEUE - STOP TRACE.
>
 ATQV
+  Owner                = WDRI          State                     = Executing
+  First Plan           = WAYNEPLN      First Authid              =
+  Dataset              = WDRI.V510BETA.DS4.ATF
>
>  To stop this TRACE Request, remove the ">" preceding the following
>  command and press the ENTER key.  Note, if the status is not EXECUTING,
>  the ATQS command will fail.
>
>ATQS
================================================================================
```

Application Trace Unit of Work Activity Summary

This panel summarizes thread unit of work activity information for the selected thread.

A single line of output is produced for every commit or abort (either in-flight or complete) that has associated SQL activity. You can evaluate application resource use on a thread unit of work basis.

The unit of work is defined by a commit or thread abort. It shows a single line of information for every commit or abort located for the thread.

All ATF screens display the Current Trace Status. The basic status values are INACTIVE or ACTIVE. The status DSN FULL is displayed if the output file has run out of space. The status INIT-XXX is displayed briefly during various stages of initialization. The status ABENDED might also be displayed.

Unit of work entries are displayed in LIFO (last in first out) order. When you view trace data that is stored in a VSAM dataset, units of work are also sorted by date of occurrence.

An asterisk (*) in column 2 indicates that this UOW ended with COMMIT.

```
_________________ ZATVC    VTM     O2       V540.#P SE12 11/05/13 16:40:49   3
> Help PF1         Back PF3         Up PF7         Down PF8         Zoom PF11
>         Current Trace Status: INACTIVE
================================================================================
>                     APPLICATION TRACE UNIT OF WORK SUMMARY
 ATVC
+ Planname=DSNESPCS   Connid=TSO        Corrid=MIS            Authid=MIS
+
+ Date   Start Time  Progname InDB2 Time   InDB2CPU  SQL    Sort Locks  Rows
+ ----- ------------ -------- ------------ --------- ------ ---- ------ -------
+*11/05 16:39:07.360 DSNESM68 00:02.55730     .03411     24    0    361     219
+*11/05 16:39:03.538 DSNESM68 00:03.40427     .05251     33    0    674     459
+*11/05 16:39:00.395 DSNESM68 00:02.92977     .03548     21    0    500     298
+*11/05 16:38:51.869 DSNESM68 00:07.98119     .05858     17    0    562    7505
+*11/05 16:38:51.568 DSNESM68 00:00.23238     .00593     16    3    222     445
+ 11/05 16:38:49.958 DSNESM68 00:00.00414     .00166      4    0     10       4
================================================================================
```

Navigation

For additional information about

- a particular unit of work, move the cursor to the required line and press F11 (Zoom). For more information, see the description of panel “Application Trace Program Summary (with activity counts)” on page 453.
- other topics, use the PF keys.

Fields

Planname
The DB2 plan name of the application.

Connid
The DB2 connection identifier of the application.

Corrid
The DB2 correlation identifier of the application.

Authid
The DB2 authorization identifier of the application.

Date
The date on which the Commit or abort (unit of work) occurred. This field is displayed only when you are viewing trace data from a data set.

Start Time
The start time of the DB2 Commit/abort (unit of work).

Progname
The first application program name located for the thread Commit or abort (unit of work).

InDB2 Time
The In-DB2 time for the thread Commit or abort (unit of work).

InDB2 CPU
The In-DB2 CPU time for the thread Commit or abort (unit of work). For parallel task activity, this value represents the sum of the parent and child tasks.

SQL
The number of SQL calls issued in the DB2 unit of work.

Sorts
The number of sorts processed in the DB2 unit of work.

Locks
The number of locks acquired in the DB2 unit of work. For parallel task activity, this value represents the sum of the parent and child tasks.

Rows
The number of rows processed in the DB2 unit of work. For parallel task activity, this value represents the sum of the parent and child tasks.

Application Trace Program Summary (with activity counts)

This panel shows information about the traced application thread unit of work at the program level (with activity counts).

OMEGAMON XE for DB2 PE shows a single line summary of each program that executed at least one SQL call during the trace.

```
_________________ ZATVS    VTM     O2       V540.#P SE12 11/05/13 16:45:31   3
> Help PF1         Back PF3         Up PF7         Down PF8         Zoom PF11
>
>         APPLICATION TRACE:  Enter a selection letter on the top line.
>         Current Trace Status: INACTIVE
> *-PROGRAM    B-SQL INDEX    C-SQL DETAIL    D-LOCK DETAIL    E-EVENT DETAIL
================================================================================
>                      APPLICATION TRACE PROGRAM SUMMARY
 ATVS
+ Planname=DSNESPCS   Connid=TSO        Corrid=MIS            Authid=MIS
+
+ Progname  InDB2 Time    InDB2 CPU  SQL     Sorts   Locks   Pages   Rows
+ --------  ------------  ---------  ------  ------  ------  ------  -------
+ DSNESM68  00:00.00414      .00166       4       0       8      14        4
================================================================================
```

Navigation

For additional information about

- a particular program, move the cursor to the program line and press F11 (Zoom). For more information, see the description of panel “Application Trace Program Detail” on page 454.
- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Planname
The DB2 plan name of the application.

Connid
The DB2 connection identifier of the application.

Corrid
The DB2 correlation identifier of the application.

Authid
The DB2 authorization identifier of the application.

Progname
The application program name invoked by application.

InDB2 Time
The elapsed time incurred while executing in DB2.

InDB2 CPU
The CPU time incurred while executing in DB2. The value is expressed in 1000ths of seconds. For parallel task activity, this value represents the sum of the parent and child tasks.

SQL
The total number of SQL requests issued by the program.

Sorts
The total number of sorts because of SQL activity issued by the program.

Locks
The total number of locks that were acquired by SQL statements issued by the program. For parallel task activity, this value represents the sum of the parent and child tasks.

Pages
The total number of pages that were referenced (scanned) by the program. For parallel task activity, this value represents the sum of the parent and child tasks.

Rows
The total number of rows that were examined (scanned) by the program. For parallel task activity, this value represents the sum of the parent and child tasks.

Application Trace Program Detail

This panel shows application trace detail information at the program level for a traced application thread unit of work.

Following the thread information, the display is logically broken down into four areas for easy evaluation of program efficiency and DB2 resource usage: SQL, sort, lock, and scan.

```
_________________ ZATVP    VTM     O2       V540.#P SE12 11/05/13 16:45:43   3
> Help PF1               Back PF3              Up PF7               Down PF8
>          Current Trace Status: INACTIVE
================================================================================

>                       APPLICATION TRACE PROGRAM DETAIL
 ATVP
+ Planname=DSNESPCS   Connid=TSO        Corrid=MIS            Authid=MIS
+
+                         Program Name = DSNESM68
+
+                         SQL Summary Information
+ ------------------------------------------------------------------------------
+ Sql Call         Stmt# Count   InDB2 Time   InDB2 CPU  Avg Time     Avg CPU
+ ---------------- ----- ------  ------------ ---------  ------------ ---------
+ PREPARE            189      1  00:00.00410     .00162  00:00.00410     .00162
+ OPEN CURSOR        263      1  00:00.00002     .00002  00:00.00002     .00002
+ FETCH              256      1  00:00.00002     .00002  00:00.00002     .00002
+ CLOSE CURSOR       270      1  00:00.00000     .00000  00:00.00000     .00000
+
+                         Sort Summary Information
+ ------------------------------------------------------------------------------
+ Sql Call         Stmt# Count   Sort Time    Recs     Reads   Inserts  Wfiles
+ ---------------- ----- ------  ------------ -------  ------- -------  -------
+               (No Sort Activity Located For This Program)
+
```

```
+                       Lock Summary Information
+ ------------------------------------------------------------------------
+          Type    Level   Resource                          Count
+          ----    -----   --------------------------------  -------
+          ROW      S      DB=DSNDB06   PS=SYSTSTAB                1
+                   S      DB=DSNDB06   PS=SYSTSTSP                1
+                   S      DB=DSNDB06   PS=SYSTSCOL                1
+                   S      DB=DSNDB06   PS=SYSTSTAU                1
+          PALK     IS     DB=DSNDB06   PS=SYSTSTAB PT=00001        1
+                   IS     DB=DSNDB06   PS=SYSTSTSP PT=00001        1
+                   IS     DB=DSNDB06   PS=SYSTSCOL PT=00001        1
+                   IS     DB=DSNDB06   PS=SYSTSTAU PT=00001        1
+                                                     -------
+                                      Total Locks Acquired =      8
+
+                       Scan Summary Information
+ ------------------------------------------------------------------------
+
+         Scan Type  = INDEX                      Database   = DSNDB06
+         Scan Count = 2                          Pageset    = DSNATX02
+
+ Data Rows   Rows   Rows    Rows    Rows   Rows   Rows   Rows   Pages  Pages
+ Type Proces Looked Qual/DM Qual/RD Update Insert Delete De/Ref Scand  Sc/Ref
+ ---- ------ ------ ------- ------- ------ ------ ------ ------ ------ ------
+ INDX      1      0       1       0      0      0      0      0      4      0
+
+         Scan Type  = INDEX                      Database   = DSNDB06
+         Scan Count = 1                          Pageset    = DSNQYX01
+
+ Data Rows   Rows   Rows    Rows    Rows   Rows   Rows   Rows   Pages  Pages
+ Type Proces Looked Qual/DM Qual/RD Update Insert Delete De/Ref Scand  Sc/Ref
+ ---- ------ ------ ------- ------- ------ ------ ------ ------ ------ ------
+ INDX      0      0       0       0      0      0      0      0      2      0
+
+         Scan Type  = INDEX                      Database   = DSNDB06
+         Scan Count = 1                          Pageset    = DSNDTX01
+
+ Data Rows   Rows   Rows    Rows    Rows   Rows   Rows   Rows   Pages  Pages
+ Type Proces Looked Qual/DM Qual/RD Update Insert Delete De/Ref Scand  Sc/Ref
+ ---- ------ ------ ------- ------- ------ ------ ------ ------ ------ ------
+ INDX      1      0       0       0      0      0      0      0      2      0
+
+         Scan Type  = INDEX                      Database   = DSNDB06
+         Scan Count = 1                          Pageset    = DSNDXX07
+
+ Data Rows   Rows   Rows    Rows    Rows   Rows   Rows   Rows   Pages  Pages
+ Type Proces Looked Qual/DM Qual/RD Update Insert Delete De/Ref Scand  Sc/Ref
+ ---- ------ ------ ------- ------- ------ ------ ------ ------ ------ ------
+ INDX      0      0       0       0      0      0      0      0      2      0
+
+         Scan Type  = INDEX                      Database   = DSNDB06
+         Scan Count = 1                          Pageset    = DSNDSX01
+
+ Data Rows   Rows   Rows    Rows    Rows   Rows   Rows   Rows   Pages  Pages
+ Type Proces Looked Qual/DM Qual/RD Update Insert Delete De/Ref Scand  Sc/Ref
+ ---- ------ ------ ------- ------- ------ ------ ------ ------ ------ ------
+ INDX      1      0       0       0      0      0      0      0      2      0
+
+         Scan Type  = INDEX                      Database   = DSNDB06
+         Scan Count = 1                          Pageset    = DSNDCX05
+
+ Data Rows   Rows   Rows    Rows    Rows   Rows   Rows   Rows   Pages  Pages
+ Type Proces Looked Qual/DM Qual/RD Update Insert Delete De/Ref Scand  Sc/Ref
+ ---- ------ ------ ------- ------- ------ ------ ------ ------ ------ ------
+ INDX      1      1       0       0      0      0      0      0      2      0
================================================================================
```

Navigation

For additional options, use the PF keys.

Fields

Thread information:

Planname
The DB2 plan name of the application.

Connid
The DB2 connection identifier of the application.

Corrid
The DB2 correlation identifier of the application.

Authid
The DB2 authorization identifier of the application.

Program Name
The application program name for which information is being displayed.

SQL summary information:

SQL Call
The SQL statement type.

Stmt#
The statement number of the SQL statement. This is the actual SQL statement number generated by the DB2 precompiler and is contained in the precompiler program output listing.

Count
The total number of executions of the SQL statement.

InDB2 Time
The elapsed time spent executing in DB2 to process the SQL statements.

InDB2 CPU
The elapsed CPU time used executing in DB2 to process the SQL statements. For parallel task activity, this value represents the sum of the parent and child tasks.

Avg Time
The average elapsed time spent executing in DB2 per SQL statement.

Avg CPU
The average CPU time used while executing in DB2 to process the SQL statement.

Sort summary information:

SQL Call
The SQL statement causing sort processing to be invoked.

Stmt#
The SQL statement number causing sort processing to be invoked.

Count
The number of times that the SQL statement invoked a sort.

Sort Time
The elapsed time spent in sort processing that is required to satisfy the call.

Recs
The total number of records sorted.

Reads
The number of records retrieved from a work file during sort processing.

Inserts
The number of records inserted into a work file during sort processing.

Wfiles
The number of logical workfiles used during sort processing.

Lock summary information: No data is displayed in this area if you set LOCKDATA equals N0 in the Specify Application Trace panel. For parallel task activity, these values include locks held by both parent and child tasks. For more information about lock types, lock levels, and lock resources, see "Lock Types and Lock Levels".

Type
The lock type owned. Every lock type owned by the thread is displayed.

Level
The lock levels of the various lock types owned. All lock levels owned within a lock type are listed. Lock levels can occur repetitively for a single lock type because of the different resources owned by the locks.

Resource
The resource that is the object of the lock. The content of the Resource field is dependent on lock type. For data page (DPAG) and index page (IPAG) locks, the resource does not contain the actual data page number that is locked; it lists the database and pageset that own the data or index page lock. The Count field displays how many data or index page locks exist within the resource (pageset) listed.

Count
The number of locks meeting the type, level, and resource description of the lock.

Scan summary information: No data is displayed in this area if you set SCANDATA equals N0 in the Specify Application Trace panel. For parallel task activity, these values represent the sum of the parent and child tasks.

Scan Type
The type of scan to which the following statistics are related.

Index
Idex scan

Sequential
Sequential data tablespace scan

Insert
San for a space to insert a new row

Hash
San used for directory DSNDB01 database access

DBID
The identifier of the database that was the object of the scan.

Scan Count
The number of scans of the corresponding scan type generated by program SQL activity.

PSID
The identifier of the pageset that was the object of the scan.

Data Type
The type of statistics displayed:

INDX
Index pageset

DATA
Data pageset

WORK
Data workfile (DSNDB07) pageset

Rows Proces
The number of rows processed by the Data Manager. This count can include some rows that belong to a table other than the referenced table (such rows are rejected before the Data Manager applies the qualifying stage 1 predicates).

Rows Looked
The number of rows examined by the Data Manager. This count includes only rows that belong to the referenced table, and to which the Data Manager applied the stage 1 predicates.

Rows Qual/DM
The number of rows qualified by the Data Manager (stage 1).

Rows Qual/RD
The number of rows qualified by the Relational Data Manager (stage 2).

Rows Update
The number of rows updated.

Rows Insert
The number of rows inserted.

Rows Delete
The number of rows deleted.

Rows De/REF
The number of rows deleted or set to null because of enforcement of defined referential integrity constraints.

Pages Scand
The total number of pages scanned by the Data Manager.

Pages Sc/REF
The total number of pages scanned because of enforcement of defined referential integrity constraints.

Sync Reads
The number of synchronous buffer reads (DB2 field name: QW0058SR).

Get Pages
The number of Getpage operations (DB2 field name: QW0058GP).

Buffer Writes
The number of buffer writes (DB2 field name: QW0058WT).

Parall Groups
The number of parallel groups created (DB2 field name: QW0058PG).

SyncWait
The accumulated wait for synchronous I/O (DB2 field name: QW0058SI).

LockWait
The accumulated wait for locks (DB2 field name: QW0058LK).

UnitWait
The accumulated wait time for synchronous execution unit switches (DB2 field name: QW0058EU).

ReadWait
The accumulated wait time for read activity done by another thread (DB2 field name: QW0058OR).

WriteWait
The accumulated wait time for write activity done by another thread (DB2 field name: QW0058OW).

RID Number
The number of times RID list was not used because the number of RIDs would have exceeded DB2 limits (DB2 field name: QW0058RL).

RID Store
The number of times a RID list was not used because there is not enough storage available to hold the list of RIDs (DB2 field name: QW0058RS).

Application Trace SQL Index

This panel shows one line of summary information about each SQL statement associated with the unit of work you are investigating.

The SQL calls are presented in the order of their execution.

You can select a particular call for detailed analysis by placing the cursor on that line and pressing the zoom key.

```
 _________________ ZATSI    VTM     O2       V540./C D931 02/27/14 20:23:57   3
> Help PF1          Back PF3          Up PF7          Down PF8          Zoom PF11
>
>         APPLICATION TRACE:  Enter a selection letter on the top line.
>         Current Trace Status: INACTIVE
> A-PROGRAM    *-SQL INDEX    C-SQL DETAIL    D-LOCK DETAIL    E-EVENT DETAIL
================================================================================
>                       APPLICATION TRACE SQL INDEX
 ATSI
+ Planname=DSNTEP91   Connid=BATCH      Corrid=HONGCBB3       Authid=HONG
+
+ Call Type        Stm#  Program  Count InDB2 Time  MRet   Rws Pc Rws DM Rws RD
+ ---------------- ----- -------- ----- ----------- ------ ------ ------ ------
+ PREPARE           1839 DSN@EP2L     1 00:00.02117      0      0      0      0
+ OPEN CURSOR       1939 DSN@EP2L     1 00:00.00054      0      0      0      0
+ FETCH             1969 DSN@EP2L     2 00:00.00793    100      4      1      1
+ CLOSE CURSOR      2243 DSN@EP2L     1 00:00.00000      0      0      0      0
+ PREPARE           1839 DSN@EP2L     1 00:00.01688      0      0      0      0
+ OPEN CURSOR       1939 DSN@EP2L     1 00:00.00000      0      0      0      0
+ FETCH             1969 DSN@EP2L     2 00:00.00589    100     39      1      1
+ CLOSE CURSOR      2243 DSN@EP2L     1 00:00.00000      0      0      0      0
================================================================================
```

Navigation

For additional information about

- a particular SQL statement, move the cursor to the statement line and press F11 (Zoom).
- other topics, use the PF keys.

Fields

Planname
The DB2 plan name of the active thread.

Connid
The DB2 connection identifier of the active thread.

Corrid
The DB2 correlation identifier of the active thread.

Authid
The DB2 authorization identifier of the active thread.

Call Type
The SQL statement type.

Stmt#
The SQL statement number. This is the actual statement number generated by the DB2 precompiler; it is contained in the precompiler program output listing.

Program
The program name in which the SQL statement was executed.

Count
The number of times this statement was executed consecutively.

InDB2 Time
The elapsed time spent executing the SQL statement (or group of statements if Count is greater than 1).

MRet
The maximum return code encountered when executing the SQL statement.

Rws Pc
The total number of index/data/work rows of all record types processed by the Data Manager. For parallel task activity, this value represents the sum of the parent and child tasks.

Rws DM
The total number of index/data/work rows qualified by the Data Manager. For parallel task activity, this value represents the sum of the parent and child tasks.

Rws RD
The total number of index/data/work rows qualified by the Relational Data Manager. For parallel task activity, this value represents the sum of the parent and child tasks.

Application Trace SQL Detail

This panel shows information about the traced application at the SQL statement level. It also shows the text of all dynamic SQL calls.

Depending on the SQL data, the information that is displayed in this panel varies.

```
 _________________ ZATD1    VTM     O2       V540./P SN13 12/16/11  1:41:03   3
> Help PF1               Back PF3               Up PF7                Down PF8
>
>         APPLICATION TRACE:  Enter a selection letter on the top line.
>         Current Trace Status: ACTIVE
> A-PROGRAM    B-SQL INDEX    *-SQL DETAIL    D-LOCK DETAIL    E-EVENT DETAIL
================================================================================
>                          APPLICATION TRACE SQL DETAIL
 ATD1
+ Planname=HV02SN13   Connid=BATCH      Corrid=HONGH213       Authid=HONG
+
:  Control= NEXT     Valid options are FIRST/LAST/NEXT/PREV/nnnnn/-nnnnn/Snnnnn
+ Current=000004 Total Number of SQL Calls=000005
+
+ Start Time   Progname  SQL Call         Stmt# Retcode  InDB2 Time   InDB2 CPU
+ ------------ --------  ---------------- ----- -------  ------------ ---------
+ 01:40:46.108 HV02SN13  SELECT           00085       0  00:00.00228     .00092
+
+ Data Rows   Rows   Rows    Rows    Rows   Rows   Rows   Rows   Pages  Pages
+ Type Proces Looked Qual/DM Qual/RD Update Insert Delete De/Ref Scand  Sc/Ref
+ ---- ------ ------ ------- ------- ------ ------ ------ ------ ------ ------
+ INDX      0      0       0       0      0      0      0      0      0      0
+ DATA   1478   1478       0       0      0      0      0      0    185      0
+
+
+ Static SQL Call Text :
+ ----------------------
+ SELECT COUNT ( * ) INTO : H FROM SYSIBM . SYSTABLESPACESTATS WHERE EXTEN
+ TS > : H AND NPAGES > : H AND DBNAME = : H AND COPYUPDATELRSN = : H AND
+ IBMREQD LIKE : H AND SPACE > : H
+
+ # of HOSTVARs collected =    6
+
+ Entry No :        1 Null_Ind:  NO       Name    : N/A
+ Precision: N/A      Scale   : N/A       SQL Type:      500
+ Data Len :        3 DataType: SMALL INTEGER
+ Data     :                  100
+
+ Entry No :        2 Null_Ind:  NO       Name    : N/A
+ Precision: N/A      Scale   : N/A       SQL Type:      496    + Data
           :                  200
+
+ Entry No :        3 Null_Ind:  NO       Name    : N/A
+ Precision: N/A      Scale   : N/A       SQL Type:      448
+ Data Len :       25 DataType: VARYING-LENGTH CHARACTER STRING
+ Data     : THIS IS A VCHAR24 FI
+
+ Entry No :        4 Null_Ind:  NO       Name    : N/A
+ Precision: N/A      Scale   : N/A       SQL Type:      452
+ Data Len :        7 DataType: FIXED-LENGTH CHARACTER STRING
+ Data     :*00C3C3C3C3C3C3
+
+ Entry No :        5 Null_Ind:  NO       Name    : N/A
+ Precision: N/A      Scale   : N/A       SQL Type:      452
+ Data Len :        3 DataType: FIXED-LENGTH CHARACTER STRING
+ Data     :*000159
+
+ Entry No :        6 Null_Ind:  NO       Name    : N/A
+ Precision: N/A      Scale   : N/A       SQL Type:      492
+ Data Len :        9 DataType: BIG INTEGER
+ Data     :           1234567890
================================================================================
```

The data is refreshed each time you press Enter, which shows details for another SQL call.

When the detail pertains to a dynamic SQL call (SQL Call is PREPARE), the panel also shows the text of the call and access path information. You can view both dynamic and static SQL call text in the panel described in “SQL Call Being Executed” on page 63.

Fields

Planname
The DB2 plan name of the active thread.

Connid
The DB2 connection identifier of the active thread.

Corrid
The DB2 correlation identifier of the active thread.

Authid
The DB2 authorization identifier of the active thread.

Control
The next SQL statement that OMEGAMON XE for DB2 PE displays. This panel initially displays the first SQL statement collected for the thread. Use these keywords to control the display:

FIRST
First SQL statement encountered for the thread.

LAST
Last SQL statement encountered for the thread.

NEXT
Next SQL statement encountered for the thread.

PREV
Previous SQL statement encountered for the thread.

nnnnn
The *nnnnn* (1-99999) entry after the currently displayed SQL statement.

-nnnnn
The *nnnnn* (1-99999) entry before the currently displayed SQL statement.

Snnnnn
Statement number *nnnnn*.

Current
The relative number of the SQL statement currently being displayed. This is relative to the total number of calls located for the DB2 unit of work.

Total Number of SQL Calls
The total number of SQL calls located for the DB2 unit of work.

Start Time
The time the SQL statement was issued.

Progname
The name of program that issued the SQL statement.

SQL Call
The SQL statement type.

Stmt#
The SQL statement precompiler statement number.

Retcode
The SQL statement return code returned to the application in the SQLCA.

InDB2 Time
The elapsed wall clock time spent executing the SQL call.

InDB2 CPU
The CPU time used executing the SQL statement. For parallel task activity, this value represents the sum of the parent and child tasks.

Data Type
The type of statistics displayed:

INDX
Index pageset

DATA
Data pageset

WORK
Data workfile (DSNDB07) pageset

Rows Proces
The number of rows processed by the Data Manager for the statement. For parallel task activity, this value represents the sum of the parent and child tasks.

Rows Looked
The number of rows looked at/examined by the Data Manager for the statement. For parallel task activity, this value represents the sum of the parent and child tasks.

Rows Qual/DM
The number of rows qualified by the Data Manager for the statement (stage 1). For parallel task activity, this value represents the sum of the parent and child tasks.

Rows Qual/RD
The number of rows qualified by the Relational Data Manager for the statement (stage 2). For parallel task activity, this value represents the sum of the parent and child tasks.

Rows Update
The number of rows updated by the statement. For parallel task activity, this value represents the sum of the parent and child tasks.

Rows Insert
The number of rows inserted by the statement. For parallel task activity, this value represents the sum of the parent and child tasks.

Rows Delete
The number of rows deleted by the statement. For parallel task activity, this value represents the sum of the parent and child tasks.

Rows De/Ref
The number of rows deleted or set to null because of enforcement of defined referential integrity constraints for the statement. For parallel task activity, this value represents the sum of the parent and child tasks.

Pages Scand
The total number of pages scanned by the Data Manager for the statement. For parallel task activity, this value represents the sum of the parent and child tasks.

Pages Sc/Ref
The total number of pages scanned because of enforcement of defined referential integrity constraints for the statement. For parallel task activity, this value represents the sum of the parent and child tasks.

Sync Reads
The number of synchronous buffer reads (DB2 field name: QW0058SR).

Get Pages
The number of Getpage operations (DB2 field name: QW0058GP).

Buffer Writes
The number of buffer writes (DB2 field name: QW0058WT).

Parall Groups
The number of parallel groups created (DB2 field name: QW0058PG).

RID Number
The number of times RID list was not used because the number of RIDs would have exceeded DB2 limits (DB2 field name: QW0058RL).

RID Store
The number of times a RID list was not used because there is not enough storage available to hold the list of RIDs (DB2 field name: QW0058RS).

Num sorts
The number of sorts (DB2 field name: QW0058ST).

Num IXScan
The number of index scans (DB2 field name: QW0058IS).

Num TSScan
The number of table space scans (DB2 field name: QW0058TB).

SyncWait
The accumulated wait for synchronous I/O (DB2 field name: QW0058SI).

LockWait
The accumulated wait for locks (DB2 field name: QW0058LK).

UnitWait
The accumulated wait time for synchronous execution unit switches (DB2 field name: QW0058EU).

ReadWait
The accumulated wait time for read activity done by another thread (DB2 field name: QW0058OR).

WriteWait
The accumulated wait time for write activity done by another thread (DB2 field name: QW0058OW).

GLockWait
The accumulated wait time for global locks (DB2 field name: QW0058GL).

LatchWait
The accumulated wait time for latches (DB2 field name: QW0058LH).

PgLatchWait
Accumulated wait time for page latches (DB2 field name: QW0058PA).

DrainLokWait
Accumulated wait time for drain locks (DB2 field name: QW0058DA).

ClaimWait
Accumulated wait time for claim counts (DB2 field name: QW0058CL).

LogWrtWait
Accumulated wait time for log writers (DB2 field name: QW0058LG).

Static SQL call text or **Dynamic SQL call text** The complete text of the SQL statement is displayed in this area if it is a static or dynamic call. You can view both dynamic and static SQL call text in the panel described in "SQL Call Being Executed" on page 63.

Miniplan Generated by DB2: Access path information is displayed in this area if the SQL statement is a PREPARE for a SELECT, UPDATE, INSERT, or DELETE statement. A plan for each select block within the prepared SQL statement is provided.

Estimated Cost
The cost factor generated by the DB2 Optimizer for this SQL statement.

Table
The name of the table being accessed.

Access Type
The method in which the table is accessed. Possible values:

INDEX
Index will be used to access table data.

INDEX (ONE-FETCH)
Index will be used to determine which data page is needed for processing. This type of access is used for processing MIN and MAX functions.

INDEX (IN KEYWORD)
Index will be used to access table data for processing the IN keyword in SQL statements.

INDEX (PAGE RANGE)
Index will be used to access table data in a particular page range.

SEQUENTIAL SCAN
All pages in the tablespace (or table, if the tablespace is segmented) will be accessed sequentially.

SEQUENTIAL SCAN (PAGE RANGE)
All pages within a particular page range of the partitioned tablespace will be accessed sequentially.

Index
The name of the index used. If more than one index is used, only the first index is displayed.

Matching Cols
The number of index keys used in the index scan.

Join Method
Type of join being performed. Possible values are NESTED LOOP, HYBRID, and MERGE SCAN.

Table Type
Indicates whether the table is the INNER or OUTER table for the join processing.

Sort Activity
The reason for the sort. If no sort is performed, this field will not be displayed. Possible values:

UNIQ
Sort to remove duplicate rows.

JOIN
Sort needed for join processing.

ORDER
Sort needed to satisfy Order By clause.

GROUP
Sort needed to satisfy Group By clause.

UNIQ(C)
Sort to remove duplicate rows (composite table).

JOIN(C)
Sort needed for join processing (composite table).

ORDER(C)
Sort needed to satisfy Order By clause (composite table).

GROUP(C)
Sort needed to satisfy Group By clause (composite table).

Prefetch Activity
The type of prefetch activity being performed. If no prefetch is performed, this field will not be displayed. Possible values:

SEQUENTIAL
Sequential prefetch.

LIST
List Prefetch for one or more indexes.

Access Degree
The degree of parallelism used by the query. This is the number of parallel I/O streams determined by the optimizer at PREPARE time. The actual number of I/O streams used at execution time can be different.

Access Group ID
The parallel group identifier used for accessing the new table. This is the identifier for a group of consecutive parallel operations. These parallel operations have the same number of I/O streams. The value is determined at PREPARE time and might be changed at execution time.

Parallel Mode
The type of parallel processing to be used. Possible values are CPU for CPU parallelism or I/O for I/O parallelism.

Join Degree
The degree of parallelism used in joining the composite table with the new table. This is the number of parallel I/O streams used for the join. The value is set at PREPARE time and might change at execution time.

Join Group ID
The value used to identify the parallel group when DB2 joins the composite table with the new table. This is determined at PREPARE time and could be different at execution time.

Data type conversion is done internally. For certain uncommon data types, internal SQLTYPE(integer) is displayed.

The following SQL data types of the host variable are supported:

DATE
TIME
TIMESTAMP
DATALINK
NUL-TERMINATED GRAPHIC STRING
BLOB
CLOB
DBCLOB
VARYING-LENGTH CHARACTER STRING
FIXED-LENGTH CHARACTER STRING
LONG VARYING-LENGTH CHARACTER STRING
NUL-TERMINATED CHARACTER STRING
VARYING-LENGTH GRAPHIC STRING
FIXED-LENGTH GRAPHIC STRING
LONG VARYING-LENGTH GRAPHIC STRING
FLOATING POINT
PACKED DECIMAL
BIG INTEGER
LARGE INTEGER
SMALL INTEGER
VARYING-LENGTH BINARY STRING
FIXED-LENGTH BINARY STRING
BLOB_FILE
CLOB_FILE
DBCLOB_FILE
BLOB LOCATOR
CLOB LOCATOR
DBCLOB LOCATOR
XML
DECFLOAT
UNKNOWN

Application Trace Lock Detail

This panel shows a summary of all locks that are acquired as a result of the SQL statement.

```
 _________________ ZATD2    VTM     O2       V540.#P SE12 11/05/13 17:47:29   3
> Help PF1              Back PF3               Up PF7                Down PF8
>
>         APPLICATION TRACE:  Enter a selection letter on the top line.
>         Current Trace Status: INACTIVE
> A-PROGRAM    B-SQL INDEX    C-SQL DETAIL    *-LOCK DETAIL    E-EVENT DETAIL
================================================================================
>                         APPLICATION TRACE LOCK DETAIL
 ATD2
+ Planname=DSNESPCS   Connid=TSO        Corrid=MIS            Authid=MIS
+
:  Control= FIRST    Valid options are FIRST/LAST/NEXT/PREV/nnnnn/-nnnnn/Snnnnn
+ Current=000001  Total Number of SQL Calls=000004
+
+ Start Time   Progname  SQL Call         Stmt#  PSET    DPAG    IPAG    OTHER
+ ------------ --------  ---------------- -----  ------  ------  ------  ------
+ 16:38:49.959 DSNESM68  PREPARE          00189       0       0       0       8
+
+                         Locks Acquired By Sql Call
+          ------------------------------------------------------------
+          Type    Level   Resource                          Count
+          ----    -----   --------------------------------  -------
+          ROW      S      DB=DSNDB06   PS=SYSTSTAB                1
+                   S      DB=DSNDB06   PS=SYSTSTSP                1
+                   S      DB=DSNDB06   PS=SYSTSCOL                1
+                   S      DB=DSNDB06   PS=SYSTSTAU                1
+          PALK     IS     DB=DSNDB06   PS=SYSTSTAB PT=00001        1
+                   IS     DB=DSNDB06   PS=SYSTSTSP PT=00001        1
+                   IS     DB=DSNDB06   PS=SYSTSCOL PT=00001        1
+                   IS     DB=DSNDB06   PS=SYSTSTAU PT=00001        1
+                                                    -------
+                                       Total Locks Acquired =      8
+
+                Locks Owned At Start Of SQL Call Execution
+          ------------------------------------------------------------
+          Type    Level   Resource                          Count
+          ----    -----   --------------------------------  -------
+          SKPT     S      TOKEN=0E4D2F9F02F2F0F0                   1
+          SKCT     S      PLAN=DSNESPCS                            1
+                                                           -------
+                                       Total Locks Owned =         2
================================================================================
```

The data is refreshed each time you press Enter, which shows details for another SQL call. For parallel task activity, these values include locks held by parent and child tasks.

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Note: No data is shown if you specified LOCKDATA=NO in the Specify Application Trace panel.

Planname
The DB2 plan name of the active thread.

Connid
The DB2 connection identifier of the active thread.

Corrid
The DB2 correlation identifier of the active thread.

Authid
The DB2 authorization identifier of the active thread.

Control
The next SQL statement that OMEGAMON XE for DB2 PE displays. This panel initially displays the first SQL statement collected for the thread. Use these keywords to control the display:

FIRST
First SQL statement encountered for the thread.

LAST
Last SQL statement encountered for the thread.

NEXT
Next SQL statement encountered for the thread.

PREV
Previous SQL statement encountered for the thread.

nnnnn
The *nnnnn* (1-99999) entry after the currently displayed SQL statement.

-nnnnn
The *nnnnn* (1-99999) entry before the currently displayed SQL statement.

Snnnnn
Statement number *nnnnn*.

Current
The relative number of the SQL statement currently being displayed. This is relative to the total number of calls located for the DB2 unit of work.

Total Number of SQL Calls
The total number of SQL calls located for the DB2 unit of work.

Start Time
The time the SQL statement was issued.

Progname
The name of program that issued the SQL statement.

SQL Call
The SQL statement type.

Stmt#
The SQL statement precompiler statement number.

PSET
The total number of pageset locks acquired by the SQL statement.

DPAG
The total number of datapage locks acquired by the SQL statement.

IPAG
The total number of index page locks acquired by the SQL statement.

OTHER
The total number of other types of locks acquired by the SQL statement.

Locks Acquired and Locks Owned information: For more information about lock types, lock levels, and lock resources, see "Lock Types and Lock Levels".

TYPE
The lock type owned. Every lock type owned by the thread will be displayed.

LEVEL
The lock levels of the various lock types owned. All lock levels owned within a lock type will be listed. Lock levels can be displayed repetitively for a single lock type because of the different resources owned by the locks.

RESOURCE
The resource that is the object of the lock. The content of the Resource field is dependent on lock type. For data page (DPAG) and index page (IPAG) locks, the resource does not contain the actual data page number that is locked; it lists the database and pageset that own the data or index page lock. The Count field will then display how many data or index page locks exist within the resource (pageset) listed.

Note: When you are using an ATF trace from VSAM, and the resource is a table or a datapage in a segmented tablespace, OMEGAMON XE for DB2 PE will not translate the PSID number (page set ID) to the table name. Instead, OMEGAMON XE for DB2 PE displays the OBID of the DB2 table. (This is because OMEGAMON XE for DB2 PE uses IFCIDs 105 and 107 to translate the object identifiers from lock records, and those IFCIDs do not contain OBID-TABLENAME pairs.)

You can execute the following SQL statement to determine the DB2 table name from the displayed PSID.

```
SELECT NAME, CREATOR
    FROM SYSIBM.SYSTABLES
    WHERE DBNAME= 'dbname' AND OBID= nn
```

COUNT
The number of locks meeting the type, level, and resource description of the lock.

Application Trace Event Detail

This panel shows detailed information about the flow of an application. The information is shown as a series of DB2 events. Each line describes a single event or action. You can control the order by using keywords.

```
_________________ ZATD3    VTM     O2       V540.#P SE12 11/05/13 17:48:01   3
> Help PF1              Back PF3               Up PF7                 Down PF8
>
>         APPLICATION TRACE:  Enter a selection letter on the top line.
>         Current Trace Status: INACTIVE
> A-PROGRAM    B-SQL INDEX    C-SQL DETAIL    D-LOCK DETAIL    *-EVENT DETAIL
================================================================================
>                         APPLICATION TRACE EVENT DETAIL
 ATD3
+ Planname=DSNESPCS   Connid=TSO        Corrid=MIS            Authid=MIS
+
:  Control= NEXT     (FIRST/LAST/NEXT/PREV/nnnn/-nnnn/Snnnn/TOP/BOTTOM/UP/DOWN)
+ Current=000001  Total Number of SQL Calls=000004
+
+ Event Time   TN Event Type            Event Resource Information
+ ------------ -- --------------------- ---------------------------------------
+ 16:38:49.959    START PREPARE         PGM=DSNESM68 STMT=00189
+ 16:38:49.960    START INDEX SCAN      DB=DSNDB06   PS=DSNQYX01
+ 16:38:49.960    END OF INDEX SCAN     DB=DSNDB06   PS=DSNQYX01
+                                       ROWS=0000000 PAGES=0000002
+ 16:38:49.960    START INDEX SCAN      DB=DSNDB06   PS=DSNDTX01
+ 16:38:49.960    LOCK ACQUIRE          DB=DSNDB06   PS=SYSTSTAB PALK IS  D=CMT
+ 16:38:49.960    LOCK ACQUIRE          DB=DSNDB06   PS=SYSTSTAB ROW  S   D=MNL
+                                       PAGE=000000  RECORD=24
+ 16:38:49.962    START INDEX SCAN      DB=DSNDB06   PS=DSNDSX01
+ 16:38:49.962    LOCK ACQUIRE          DB=DSNDB06   PS=SYSTSTSP PALK IS  D=CMT
+ 16:38:49.962    LOCK ACQUIRE          DB=DSNDB06   PS=SYSTSTSP ROW  S   D=MNL
+                                       PAGE=000000  RECORD=02
+ 16:38:49.962    START INDEX SCAN      DB=DSNDB06   PS=DSNDXX07
+ 16:38:49.962    END OF INDEX SCAN     DB=DSNDB06   PS=DSNDTX01
+                                       ROWS=0000001 PAGES=0000002
+ 16:38:49.962    END OF INDEX SCAN     DB=DSNDB06   PS=DSNDXX07
+                                       ROWS=0000000 PAGES=0000002
+ 16:38:49.962    END OF INDEX SCAN     DB=DSNDB06   PS=DSNDSX01
+                                       ROWS=0000001 PAGES=0000002
+ 16:38:49.962    START INDEX SCAN      DB=DSNDB06   PS=DSNDCX05
+ 16:38:49.962    LOCK ACQUIRE          DB=DSNDB06   PS=SYSTSCOL PALK IS  D=CMT
+ 16:38:49.962    LOCK ACQUIRE          DB=DSNDB06   PS=SYSTSCOL ROW  S   D=MNL
+                                       PAGE=000000  RECORD=0C
+ 16:38:49.962    END OF INDEX SCAN     DB=DSNDB06   PS=DSNDCX05
+                                       ROWS=0000001 PAGES=0000002
+ 16:38:49.962    START INDEX SCAN      DB=DSNDB06   PS=DSNATX02
+ 16:38:49.962    END OF INDEX SCAN     DB=DSNDB06   PS=DSNATX02
+                                       ROWS=0000000 PAGES=0000002
+ 16:38:49.962    START INDEX SCAN      DB=DSNDB06   PS=DSNATX02
+ 16:38:49.962    LOCK ACQUIRE          DB=DSNDB06   PS=SYSTSTAU PALK IS  D=CMT
+ 16:38:49.962    LOCK ACQUIRE          DB=DSNDB06   PS=SYSTSTAU ROW  S   D=MNL
+                                       PAGE=000000  RECORD=02
+ 16:38:49.962    END OF INDEX SCAN     DB=DSNDB06   PS=DSNATX02
+                                       ROWS=0000001 PAGES=0000002
+ 16:38:49.963    LOCK RELEASE (GROUP)  DURATION=MANUAL
+ 16:38:49.963    END PREPARE           ROWS=0000007 PAGES=0000017
================================================================================
```

The data is refreshed each time you press Enter, which shows details for another SQL call.

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Planname
The DB2 plan name of the active thread.

Connid
The DB2 connection identifier of the active thread.

Corrid
The DB2 correlation identifier of the active thread.

Authid
The DB2 authorization identifier of the active thread.

Control
The next SQL statement that OMEGAMON XE for DB2 PE displays. This panel initially displays the first SQL statement collected for the thread. Use these keywords to control the display:

FIRST
First SQL statement encountered for the thread.

LAST
Last SQL statement encountered for the thread.

NEXT
Next SQL statement encountered for the thread.

PREV
Previous SQL statement encountered for the thread.

+nnnnn
The *nnnnn* (1-99999) entry after the currently displayed SQL statement.

-nnnnn
The *nnnnn* (1-99999) entry before the currently displayed SQL statement.

Snnnnn
Statement number *nnnnn*.

TOP
Display the first LROWS (number of logical rows) records for the current SQL statement.

BOTTOM
Display the last LROWS records for the current SQL statement.

UP
Scroll up about LROWS records from the current display for the current SQL statement.

DOWN
Scroll down about LROWS records from the current display for the current SQL statement.

Current
The relative number of the SQL statement currently being displayed. This is relative to the total number of calls located for the DB2 unit of work.

Total Number of SQL Calls
The total number of SQL calls located for the DB2 unit of work.

Event Time
The time the event described started.

TN
For parallel processing, this field contains the task number of the child task to which this event applies. For a parent task, or where there is no parallel task activity, this field is blank. The task numbers are assigned arbitrarily at display time to help you distinguish the activity of particular child tasks. Task numbers are not provided by DB2. Events relating to each child task are grouped together following those of the parent task.

Event Type
The DB2 event description. The events displayed are as follows:

- Create Thread
- End Abort Request
- End Alter Database
- End Alter Function
- End Alter Index
- End Alter JAR
- End Alter Mask

- End Alter Permission
- End Alter Procedure
- End Alter Sequence
- End Alter Stogroup
- End Alter Table
- End Alter Tablespace
- End Alter Trust Ctx
- End Close Cursor
- End Comment ON
- End Commit
- End Commit PhaseI
- End Commit PhaseII
- End Create Alias
- End Create AUX Table
- End Create Database
- End Create Function
- End Create Global Tb
- End Create Index
- End Create JAR
- End Create Mask
- End Create Permission
- End Create Role
- End Create Sequence
- End Create Stogroup
- End Create Synonyn
- End Create Table
- End Create Tablespace
- End Create Trigger
- End Create Trust Ctx
- End Create Type
- End Create Variable
- End Create View
- End Dcl Glob Temp Tb
- End Delete
- End Drop Alias
- End Drop Database
- End Drop Function
- End Drop Index
- End Drop JAR
- End Drop Mask
- End Drop Package
- End Drop Permission
- End Drop Procedure

- End Drop Role
- End Drop Sequence
- End Drop Stogroup
- End Drop Synonym
- End Drop Table
- End Drop Tablespace
- End Drop Trigger
- End Drop Trust Ctx
- End Drop Type
- End Drop Variable
- End Drop View
- End Fetch
- End Free Locator
- End Grant
- End Hold Locator
- End Insert
- End Label ON
- End Lock Table
- End of Index Scan
- End of Insert Scan
- End of Scan
- End Open Cursor
- End Prepare
- End Rename Index
- End Rename Table
- End Revoke
- End Select
- End Sequential Scan
- End Signon
- End Sort
- End Stored Procedures
- End Terminate Create Thread
- End Update
- Input Hostvar
- Lock Acquire
- Lock Change
- Lock Release (Group)
- Lock Release (Single)
- Parallel Degree
- Parallel Group End
- Start Abort Request
- Start Alter Database
- Start Alter Function

- Start Alter Index
- Start Alter JAR
- Start Alter Mask
- Start Alter Permission
- Start Alter Procedure
- Start Alter Sequence
- Start Alter Stogroup
- Start Alter Table
- Start Alter Tablespace
- Start Alter Trust Ctx
- Start Close Cursor
- Start Comment ON
- Start Commit
- Start Commit PhaseI
- Start Commit PhaseII
- Start Create Alias
- Start Create AUX Table
- Start Create Database
- Start Create Function
- Start Create Global Tb
- Start Create Index
- Start Create JAR
- Start Create Mask
- Start Create Permission
- Start Create Role
- Start Create Sequence
- Start Create Stogroup
- Start Create Synonyn
- Start Create Table
- Start Create Tablespace
- Start Create Thread
- Start Create Trigger
- Start Create Trust Ctx
- Start Create Type
- Start Create Variable
- Start Create View
- Start Dcl Glob Temp Tb
- Start Delete
- Start Drop Alias
- Start Drop Database
- Start Drop Function
- Start Drop Index
- Start Drop JAR

- Start Drop Mask
- Start Drop Package
- Start Drop Permission
- Start Drop Procedure
- Start Drop Role
- Start Drop Sequence
- Start Drop Stogroup
- Start Drop Synonym
- Start Drop Table
- Start Drop Tablespace
- Start Drop Trigger
- Start Drop Trust Ctx
- Start Drop Type
- Start Drop Variable
- Start Drop View
- Start Fetch
- Start Free Locator
- Start Grant
- Start Hold Locator
- Start Index Scan
- Start Insert
- Start Insert Scan
- Start Label ON
- Start Lock Table
- Start of Sort
- Start Open Cursor
- Start Prepare
- Start Rename Index
- Start Rename Table
- Start Revoke
- Start Select
- Start Sequential Scan
- Start Signon
- Start Stored Procedures
- Start Update
- Terminate Thread

Event resource information: Additional information related to the event listed. The following table lists and briefly describes all possible event tokens that can occur in this field.

Event Token
Explanation

Actual=*nn*
Actual degree of parallelism used.

ALBP
Alter buffer pool lock.

BIND=*nn*
Degree of parallelism at bind time.

BMBA
Buffer manager SCA MBA L-lock.

BPPS
A buffer manager pageset P-lock.

CCAT
CATMAINT convert catalog lock.

CDIR
CATMAINT convert directory block.

CDRN
Cursor stability read drain lock.

CMIG
CATMAINT migration block.

COLL
Collection lock.

D=x
Lock duration. Possible values:

ALC
Lock is held until the thread is terminated or until the plan is deallocated.

CMT
Lock is held until Commit is processed.

CM+
Lock is held until Commit is processed, unless Lock is needed to maintain the position of the cursor that was opened with the Hold attribute.

FRE
Duration to free all locks.

INT
Lock is held as long as DB2 has interest in the resource. The lock is not dependent on thread Commit or deallocation. This duration is used only for P-locks.

MNL
A lock of short duration that DB2 acquires to do things like authorization checking.

MN+
A lock of short duration that DB2 acquires to temporarily change from CS to RR during bind or DDL.

PLN
Lock is held until plan is deallocated.

UND
Undetermined duration.

DB=x
Database name.

DBEX
Database exception LPL/GRECP lock.

DGTT
DGTT URID lock

DPAG
Data page lock. For more information, see "Lock Types and Lock Levels".

DSET
Partitioned lock. For more information, see "Lock Types and Lock Levels".

DTBS
Database lock. For more information, see "Lock Types and Lock Levels".

GRBP
Group buffer pool start/stop lock.

HASH
Hash anchor lock.

IEOF
Index end of file lock.

IPAG
Index page lock. For more information, see "Lock Types and Lock Levels".

IS
Intent share lock. For more information, see "Lock Types and Lock Levels".

IX
Intent exclusive lock. For more information, see "Lock Types and Lock Levels".

MDEL
Mass delete lock.

NAME=*Stored-Procedure-Name* SQLCODE=*SqlCode*
The name Stored Procedure and its return code.

PAGES=n
Number of pages scanned.

PCDB
DDF CDB P-lock.

PDBD
DBD P-lock.

PDSO
Pageset or partitioned pageset open lock. For more information, see "Lock Types and Lock Levels".

PGM=x
DBRM name.

PPAG
Page P-lock.

PPSC
Page set/Partition castout P-lock.

PPSP
Page set/Partition P-lock.

PRLF
RLF P-lock.

PS=x
For scan activity, the name of the indexspace or tablespace that caused the lock.

For lock activity, the name of the pageset that caused the lock.

PSET
Pageset lock. For more information, see "Lock Types and Lock Levels".

PSPI
Pageset piece lock. For more information, see "Lock Types and Lock Levels".

RDRN
Repeatable read drain lock.

RECS=n
Number of records sorted.

ROW
Row lock.

ROWS=n
Number of rows processed.

RSIZE=n
Sort record size (in bytes).

Run=*nn*
Degree of parallelism at runtime.

RSIZE=*n*
Sort record size (in bytes).

RSTR
SCA access for restart/redo lock.

S
Shared lock. For more information, see "Lock Types and Lock Levels".

SDBA
Start/stop lock. For more information, see "Lock Types and Lock Levels".

SIX
Share with intent exclusive lock. For more information, see "Lock Types and Lock Levels".

SKCT
Skeleton cursor table lock. For more information, see "Lock Types and Lock Levels".

SKPT
Skeleton package table lock. For more information, see "Lock Types and Lock Levels".

SPRC
System Level PIT Recovery lock

SQLCode |
SQL code from the CALL to the stored procedure.

SREC
Log range lock. For more information, see "Lock Types and Lock Levels".

STMT=n
DBRM statement number.

TABL
Table lock. For more information, see "Lock Types and Lock Levels".

U
Update. For more information, see "Lock Types and Lock Levels".

UNDT
Undetermined lock. For more information, see "Lock Types and Lock Levels".

UTSE
Utility serialization lock. For more information, see "Lock Types and Lock Levels".

WDRN
Write drain lock.

X
Exclusive lock. For more information, see "Lock Types and Lock Levels".

Chapter 10. Distributed Data Facility

Select this main menu option for information about distributed database activity.

Additional Distributed Data Facility (DDF) information can be accessed through the Thread Activity and the Resource Managers and Other DB2 Subsystem Information main menu options. For more information, see Chapter 6, “Thread Activity,” on page 39 and Chapter 8, “Resource Managers and Other DB2 Subsystem Information menu,” on page 215.

Distributed Data Facility Statistics

Use this panel to view statistics about DDF activity, formatted by remote Db2 location. Each remote Db2 that has acted as a requester or a server to the monitored (local) Db2 is displayed, together with such statistics as number of transactions sent and received. Miscellaneous information about the local Db2 subsystem, such as send rate and receive rate, is also provided.

```
_________________ ZDFST    VTM     O2       V540.#P SC12 07/11/16 10:23:38   2
>        Help PF1          Back PF3            Up PF7          Down PF8
> D.A
>    DISTRIBUTED DATA FACILITY:  Enter a selection letter on the top line.

>  *-DDF STATISTICS    B-DDF VTAM SUMMARY    C-DDF VTAM DETAIL    H-HISTORICAL
================================================================================
>                   DISTRIBUTED DATA FACILITY STATISTICS
 DFST
+ Collection Interval:  REALTIME                          Start:  07/11 10:23:29
+ Report Interval:       9 sec                              End:  07/11 10:23:38
+
+ Location Name          =  OMPDBC1        DDF Status              =   ACTIVE
+ DDF CPU Rate           =    00.0%        Dist Allied Threads     =        1
+ Active DBATs           =        1        Inactive DBATs          =        7
+ DDF Send Rate          =  290/sec        DDF Receive Rate        = 1196/sec
+ Resync Attempts        =        0        Resync Successes        =        0
+ Cold Start Connections =        0        Warm Start Connections  =        0
+ DBAT Queued            =        0        Conversations Dealloc   =        0
+ HWM Remote Connections =        9        HWM Active DBATs        =        5
+ Max DB Access (MAXDBAT)=      200        HWM Inactive DBATs      =       11
+
+ Remote Location Name  = DRDA REMOTE LOCS
+
+ Conversations Queued   =        0
+ Indoubts/Remote        =        0
+
+                   SQL     Row Message     Byte  Commit   Abort   Conv   Blocks
+              ------- ------- ------- -------- ------- ------- ------- -------
+ Sent              24  788458  238780 81238724       8       0      12   53662
+ Recv          137757      12  238781 99665357   54089   12052    5686      12
================================================================================
```

Fields

Collection Interval
Shows the REALTIME to indicate that you are looking at the realtime version of this panel and not at the corresponding near-term history panel. The collection interval and the report interval are the same in this panel.

Start
The start time of the first report interval in this display.

Report Interval
The time in the last cycle (for example, between two presses of the Enter key).

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End
The end time of the last report interval in this display.

Location Name
The DDF location name of the Db2 subsystem being monitored.

DDF Status
The status of the Distributed Database Facility: ACTIVE or NOT ACTIVE.

DDF CPU Rate
The CPU rate of the DDF address space. Includes both MVS TCB and SRB time.

Dist Allied Threads
The number of distributed allied threads that are currently active.

Active DBATs
The number of currently active database access threads.

Inactive DBATs
The number of currently inactive database access threads.

DDF Send Rate
The rate at which data is being sent by DDF, in bytes, KB, MB, GB per second.

DDF Receive Rate
The rate at which data is being received by DDF, in bytes, KB, MB, GB per second.

Resync Attempts
The number of resynchronization connects attempted with all remote locations. Used only for two-phase commit.

Resync Successes
The number of resynchronization connects that succeeded with all remote locations. Used only for two-phase commit.

Cold Start Connections
The number of Cold Start connections with all remote locations. Used only for two-phase commit.

Warm Start Connections
The number of Warm Start connections with all remote locations. Used only for two-phase commit.

DBATs Queued
Number of times a database access thread (DBAT) had to wait because the maximum number of concurrent DBATs (MAXDBAT) was reached.

Conversation Dealloc
The number of conversations deallocated because the ZPARM limit for maximum connected remote threads (both active and inactive) was reached.

HWM Remote Connections
The high-water mark (HWM) of inactive and active remote threads.

HWM Active DBATs
The high-water mark (HWM) of active database access threads (DBATs). If the INACTIVE option is specified, it is possible for this value and the current number of active DBATs to exceed MAXDBAT. This occurs because Db2 allows CONNECTs to be processed even if MAXDBAT has been exceeded. After connect processing is complete, if MAXDBAT is still exceeded, then the DBAT is made inactive.

Max DB Access (MAXDBAT)
The maximum number of database access threads allowed for the Db2 being monitored (determined by the setting of MAXDBAT in DSNZPARM).

HWM Inactive DBATs
The high-water mark (HWM) of inactive database access threads (DBATs).

Remote statistics: The following group of fields occurs for each remote Db2 location with which the local Db2 subsystem has communicated, either as a requester or a responder, since the local Db2 was started.

Remote Location Name
The name of a remote location with which the local Db2 has communicated. The statistics immediately below this field pertain to this location.

Conversations Queued
The number of conversations queued by DDF since the local Db2 was started.

Indoubts/Remote
The number of threads that became indoubt with the remote location as coordinator.

Each of the following sent/received fields generates two rows of output; the top row is the sent value, and the bottom row is the received value.

SQL Sent/Recv
The number of SQL calls sent to and from the remote location since the local Db2 was started.

Row Sent/Recv
The number of rows sent to and from the remote location since the local Db2 was started.

Message Sent/Recv
The number of VTAM messages sent to and from the remote location since the local Db2 was started.

Byte Sent/Recv
The number of bytes sent to and from the remote location since the local Db2 was started.

Commit Sent/Recv
The number of Commits sent to and from the remote location since the local Db2 was started.

Abort Sent/Recv
The number of aborts sent to and from the remote location since the local Db2 was started.

Conv Sent/Recv
The number of conversations sent to and from the remote location since the local Db2 was started.

Blocks Sent/Recv
The number of blocks sent to and from the remote location, if using block mode.

Distributed Data Facility VTAM Summary

This panel provides DDF VTAM-related information, including high-level analysis of active VTAM sessions, active VTAM APPC conversations, and the number of active threads.

Information is presented for each remote DB2 location that has a current connection to the local DB2 subsystem being monitored.

```
 _________________ ZDFVS    VTM     O2       V540./C DB11 12/04/14 13:58:00   2
>       Help PF1           Back PF3           Up PF7           Down PF8
> D.B
>    DISTRIBUTED DATA FACILITY:  Enter a selection letter on the top line.

>  A-DDF STATISTICS          *-DDF VTAM SUMMARY            C-DDF VTAM DETAIL
================================================================================
>                   DISTRIBUTED DATA FACILITY VTAM SUMMARY
 DFVS
+ VTAM Luname          = IPSAQB11           VTAM Acbname             = DEIBMIPS
+ VTAM Modetab         = N/A                VTAM Sessions            = 3
+ VTAM Version         = 621                VTAM Conversations       = 3
+
+ Remote            Remote    VTAM   VTAM      DIST     DIST    DBAC     DBAC
+ Location Name     Luname    Ver    Session   Thread   Conv    Thread   Conv
+ ----------------  --------  ----   -------   ------   -----   ------   -----
+ <IPSASE11>        IPSASE11  N/A          1         1       1        0       0
+ <IPSASB31>        IPSASB31  N/A          1         1       1        0       0
+ <IPSARA21>        IPSARA21  N/A          1         1       1        0       0
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.

- other topics, use the PF keys.

Fields

VTAM Luname
The VTAM logical unit name in use by DDF.

VTAM Acbname
The VTAM access control block name for the logical unit in use by DDF.

VTAM Modetab
The VTAM mode entry table name in use by DDF.

VTAM Sessions
The number of active VTAM sessions that are currently allocated.

VTAM Version
The version of VTAM that is in use.

VTAM Conversations
The number of active VTAM APPC conversations that are currently allocated.

Remote Location Name
The name of a remote location in which active VTAM sessions exist.

Remote Luname
The logical unit name for the remote location in this row.

VTAM Ver
The version of VTAM in use by this remote location.

VTAM Session
The number of active VTAM sessions between this remote DB2 location and the local DB2.

DIST Thread
The number of active distributed allied threads with conversations between this remote DB2 location and the local DB2 subsystem.

DIST Conv
The number of active conversations that are in use by the distributed allied threads connected to this remote DB2 and the local DB2.

DBAC Thread
The number of active database access threads with conversations between this remote DB2 and the local DB2.

DBAC Conv
The number of active conversations that are using the database access threads connected to this remote DB2 and the local DB2.

Distributed Data Facility VTAM Detail

This panel shows information about DDF activities from the perspective of active VTAM sessions.

DIST (distributed allied) and DBAC (database access) conversation types are always displayed at the top of the panel. Output is sorted by elapsed time of threads owning the conversations. If a thread owns multiple conversations, the plan name is displayed only for the first conversation. The Planname field is blank for all other conversations owned by the thread.

```
_________________ ZDFVD    VTM     O2       V540./I SN13 07/11/13  6:58:26   2
>  Help PF1        Back PF3         Up PF7         Down PF8         Zoom PF11
> D.C
>    DISTRIBUTED DATA FACILITY:  Enter a selection letter on the top line.

>  A-DDF STATISTICS          B-DDF VTAM SUMMARY            *-DDF VTAM DETAIL
================================================================================
>                   DISTRIBUTED DATA FACILITY VTAM DETAIL
 DFVD
+ VTAM              Conv  VTAM     VTAM      Time Since  Conv
+ Session ID        Type  Luname   Logmode   Last Req    Status       Planname
+ ----------------  ----  -------- --------  ----------  ------------ --------
+ C0CF1A6BA376C44A  DIST  IPSAQ911 IBMRDB    00:08:08.7  NOT-ACTIVE   DSNESPCS
+ C0CF1A6BA376C479  DIST  IPSAT941 IBMRDB    00:08:14.8  NOT-ACTIVE   DSNESPCS
================================================================================
```

Navigation

For additional information about

- the thread that owns a particular conversation, move the cursor to the required line and press F11 (Zoom).
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

VTAM Session ID
The VTAM session ID of the active VTAM session.

Conv Type
The conversation type.

DBAC
A conversation owned by a database access thread.

DIST
A conversation owned by a distributed allied thread.

SYST
A system conversation between two DB2 subsystems.

AVAL
No conversation on this active VTAM session.

VTAM Luname
The logical unit name of the remote DB2 location that is the partner logical unit for the active VTAM session.

VTAM Logmode
The VTAM logmode entry name in use by the session.

Time Since Last Req
The time that has elapsed since the last VTAM APPC request was issued on the active conversation (*hh:mm:ss*)

Conv Status
The status of the conversation:

WAIT-VTAM
The conversation is suspended and waiting for a VTAM response.

IN-VTAM
The conversation is active within VTAM.

NOT ACTIVE
The conversation is inactive (neither active nor waiting for a VTAM response).

Planname

The plan name of the thread that owns the conversation using this VTAM session. If this field is blank for a DIST or DBAC conversation type, the plan name is the same as the one immediately before.

If Conv Type is SYST, this field is blank because no plan is involved.

Chapter 11. Object Analysis

Select this main menu option for information about DB2 object allocations, object activities, volume activities, and data set extend activities.

Object analysis collection must be started, otherwise no information is provided. For more information, see the description of panel “Start Object Analysis Collection” on page 519 and panel “Stop Object Analysis Collection” on page 519.

Object analysis collection requires that the OMEGAMON XE for DB2 PE Event Collection Manager (EVENTMGR) is started. For more information, see *Configuration and Customization*.

Note: OMEGAMON XE for DB2 PE provides object analysis data only for active DB2 objects. Data is not available for objects that are not open.

Note: Object analysis can only be performed on a single DB2 subsystem, no matter whether the subsystem is a member of a data sharing group or not.

Object Allocation Summary

This panel shows allocation-related information at the database level.

It displays only databases that contain spaces that are currently allocated to the DB2 subsystem being monitored (if a database is stopped it will not be displayed in the panel).

You can use the default settings of the Object Allocation Summary, or you can limit the data that is displayed by modifying the Display options.

```
_________________ ZOJAS    VTM     O2       V540.#P SE12 11/05/13 17:50:21   2
> Help PF1      Back PF3      Up PF7      Down PF8     Sort PF10     Zoom PF11
> O.A
>       OBJECT ANALYSIS:  Enter a selection letter on the top line.
>
> *-OBJECT ALLOCATIONS         B-OBJECT ACTIVITY            C-VOLUME ACTIVITY
> D-EXTEND ACTIVITY            E-DISPLAY OPTIONS            F-COLLECTOR CONTROL
================================================================================
>                          OBJECT ALLOCATION SUMMARY
 OJAS
+ Total Databases = 13       Total Spaces = 310         Total Datasets = 271
+ *
+ Database   Spaces   Tblsp    Indxs    DSNs    Extents   Exts/DSN    Max Exts
+ --------   ------   ------   ------   ------  -------   --------    --------
+ DATBA8K         4        4        0        4        4        1.0           1
+ DSNDB01        16        7        9       16       63        3.9          21
+ DSNDB06       266       79      187      232      273        1.1           8
+ DSN00182        2        0        0        0        0         .0           0
+ DSN00183        1        0        0        0        0         .0           0
+ DSN00184        1        0        0        0        0         .0           0
+ DSN00185        1        0        0        0        0         .0           0
+ DSN00186        1        0        0        0        0         .0           0
+ DSN00187        2        0        0        0        0         .0           0
+ DSN8D11A        4        2        2        9        9        1.0           1
+ DSN8D11P        4        1        3        4        4        1.0           1
+ DSQDBCTL        7        4        3        5        5        1.0           1
+ WRKSE12         1        1        0        1        1        1.0           1
================================================================================
```

If you move the cursor to any entry in a column and press F10, OMEGAMON XE for DB2 PE will sort on that column.

Navigation

For additional information about

- a particular database, move the cursor to the database line and press F11 (Zoom). For more information, see the description of panel “Database Allocations” on page 488.

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- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Total Databases
The number of databases that are allocated to the monitored DB2.

Total Spaces
The number of spaces that are allocated to the monitored DB2.

Total Datasets
The number of data sets that are allocated to the monitored DB2.

Database
The name of a database.

Spaces
The number of spaces owned by the database and currently allocated to DB2.

Tblsp
The number of spaces that are tablespaces currently allocated to DB2.

Indxs
The number of spaces that are indexspaces currently allocated to DB2.

DSNs
The number of data sets that are allocated for the spaces owned by the database.

Extents
The number of data set extents allocated by the data sets.

Exts/DSN
The average number of extents per data set for the database.

Max Exts
The largest number of extents per data set for the database.

Database Allocations

This panel provides allocation information for all spacenames owned by a particular database.

OMEGAMON XE for DB2 PE will sort on that column.

```
_________________ ZOJA1    VTM     O2       V540.#P SE12 11/05/13 17:52:15   2
> Help PF1       Back PF3      Up PF7      Down PF8     Sort PF10     Zoom PF11
>
>       OBJECT ANALYSIS:  Enter a selection letter on the top line.
>
> *-DATABASE ALLOCS           B-DATABASE ACTIVITY             C-DISPLAY OPTIONS
================================================================================
>                             DATABASE ALLOCATIONS
 OJA1
+ Database = DSNDB01         Total Spaces = 16          Total Datasets = 16
+ *
+ Spacenam     Type     BP     Vols     DSNs     Exts     Exts/DSN     Max Exts
+ --------     ----    ----    ----     ----     ----     --------     --------
+ DBD01        TSPG       0       1        1        1          1.0            1
+ DSNDB01X     INDX       0       1        1        1          1.0            1
+ DSNDB1XA     INDX       0       1        1        1          1.0            1
+ DSNLLX01     INDX       0       1        1        1          1.0            1
+ DSNLLX02     INDX       0       1        1        1          1.0            1
+ DSNSCT02     INDX       0       1        1        1          1.0            1
+ DSNSPDXA     INDX       0       1        1        1          1.0            1
+ DSNSPEXA     INDX       0       1        1        2          2.0            2
+ DSNSPT01     INDX       0       1        1        2          2.0            2
+ DSNSPT02     INDX       0       1        1        2          2.0            2
+ SCT02        TBLS       0       1        1        1          1.0            1
+ SPT01        TSPG     32K       6        1       21         21.0           21
+ SYSDBDXA     LBTS       0       1        1        2          2.0            2
+ SYSLGRNX     TSPG       0       1        1        1          1.0            1
+ SYSSPUXA     LBTS       0       2        1        9          9.0            9
+ SYSSPUXB     LBTS       0       4        1       16         16.0           16
================================================================================
```

Navigation

For additional information about

- a particular space, move the cursor to the spacename line and press F11 (Zoom). For more information, see the description of panel “Spacename Allocations” on page 490.
- related display options, select option **C-Display Options**. For more information, see the description of panel “Display Options For Database Allocations And Database Activity Displays” on page 501.
- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Database
The name of the database that owns the spacenames in the display.

Total Spaces
The number of spaces in this database.

Total Datasets
The number of data sets in this database.

Spacename
The name of a space that is owned by the database and allocated to DB2.

Type
The spacename type. Possible values:

INDX
An index

IXCL
A clone of an index

LBTS
A LOB tablespace

PTIX
A partitioned index

PTTS
A partitioned tablespace

SEGM
A segmented tablespace

TBLS
A simple tablespace

TSCL
A clone of an universal tablespace

TSPG
A partition by growth universal tablespace

TSPR
A partition by range universal tablespace

XMTS
An XML tablespace

UNDT
Undetermined

This can occur if the database DBD is currently not loaded in the EDM pool.

BP
The identifier of the buffer pool in use by the spacename.

Vols
The number of volumes in use by the spacename.

DSNs
The number of data sets that are allocated for the spacename.

Exts
The number of data set extents allocated by the data sets.

Exts/DSN
The average number of extents per data set for the spacename.

Max Exts
The largest number of extents per data set for the spacename.

Spacename Allocations

This panel provides allocation-related information at the spacename level.

It displays only data sets that are currently allocated to DB2 and are owned by the spacename displayed.

```
_________________ ZOJA2    VTM     O2       V540.#P SE12 11/05/13 17:52:34   2
> Help PF1       Back PF3      Up PF7      Down PF8     Sort PF10     Zoom PF11
>
>       OBJECT ANALYSIS:  Enter a selection letter on the top line.
>
> *-SPACENAME ALLOCS                                        B-SPACENAME ACTIVITY
================================================================================
>                            SPACENAME ALLOCATIONS
 OJA2
+ Database = DSNDB01         Spacename = SPT01         Type = PART BY GROWTH TS
+ Datasets = 1               Volumes   = 6             Exts = 21
+ Space    = 5910 Trks
+ *
+                             High         High       %
+ DSN       Vols     Exts     Fmt Pg       Alloc Pg   In Use      Dataset Space
+ ----      ----     ----     --------     --------   ------      -------------
+  001         6       21       0021DB       0021DB   100.0%          5910 Trks
================================================================================
```

If you move the cursor to any entry in a column and press F10, OMEGAMON XE for DB2 PE will sort on that column.

Navigation

For additional information about

- a particular data set, move the cursor to the DSN line and press F11 (Zoom). For more information, see the description of panel "Dataset Allocations" on page 492.
- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Database
The name of the database that owns the spacename.

Spacename
The name of the space about which information is displayed.

Type
The spacename type. Possible values:

INDX
An index

IXCL
A clone of an index

LBTS
A LOB tablespace

PTIX
A partitioned index

PTTS
A partitioned tablespace

SEGM
A segmented tablespace

TBLS
A simple tablespace

TSCL
A clone of an universal tablespace

TSPG
A partition by growth universal tablespace

TSPR
A partition by range universal tablespace

XMTS
An XML tablespace

UNDT
Undetermined

This can occur if the database DBD is currently not loaded in the EDM pool.

Datasets
The number of data sets in use by the spacename.

Volumes
The number of volumes in use by the data set.

Exts
The number of data set extents allocated by all data sets in use by the spacename.

Space
The total amount of space allocated by the spacename.

DSN
The sequence number of the data set.

Vols
The number of volumes that the data set resides on.

Exts
The number of extents allocated by the data set.

High Fmt Pg
The highest page number formatted in the data set. This value is displayed in hexadecimal.

High Alloc Pg
The highest page number allocated in the data set. This value is displayed in hexadecimal.

% In Use
The percentage of pages in use for the data set. This value is computed by dividing High Fmt Pg by High Alloc Pg.

Dataset Space
The total amount of space allocated by the data set. This value is expressed in tracks.

Dataset Allocations

This panel provides allocation information for a single DB2 data set.

This display helps you evaluate data set size, data set extents, and data set placement.

```
_________________ ZOJA3    VTM     O2       V540.#P SE12 11/05/13 17:53:21   2
> Help PF1        Back PF3          Up PF7          Down PF8          Sort PF10
>
================================================================================
>                             DATASET ALLOCATIONS
 OJA3
+ Database = DSNDB01         Spacename = SPT01         Type = PART BY GROWTH TS
+ Dataset  = 001              Volumes   = 6             Exts = 21
+ Space    = 5910 Trks
+
+ *
+                    Low        High        Low       High
+ Extent   Volume    CCHH       CCHH        Page      Page     Extent Space
+ ------   ------    --------   --------    ------    ------   ---------------
+   001    PMOSD5    05A40000   0607000E    000000    000897         1500 Trks
+   002    PMOSD5    0EB00000   0ECA000E    000898    000AE9          405 Trks
+   003    PMOSD5    15A50000   15AD000E    000AEA    000BAF          135 Trks
+   004    PMOSD5    15AF0000   15FC000E    000BB0    001263         1170 Trks
+   005    PMOSD5    1C380000   1C49000E    001264    0013EF          270 Trks
+   006    PMOSD5    4A9D0000   4AB0000E    0013F0    0015A7          300 Trks
+   007    PMOSD5    1AC10000   1AD6000E    0015A8    00178B          330 Trks
+   008    PMOSD5    20370000   204E000E    00178C    00199B          360 Trks
+   009    PMOSD5    22C30000   22DC000E    00199C    001BD7          390 Trks
+   010    PMOSD4    0EFA0000   0F12000E    001BD8    001DFD          375 Trks
+   011    PMOSD4    0F9C0000   0F9E000E    001DFE    001E3F           45 Trks
+   012    PMOSD4    01D40000   01D4000E    001E40    001E55           15 Trks
+   013    PMOSD4    0E010000   0E01000E    001E56    001E6B           15 Trks
+   014    PMOSD9    0ABB0000   0ABB000E    001E6C    001E81           15 Trks
+   015    PMOSD9    0ABD0000   0ABD000E    001E82    001E97           15 Trks
+   016    PMOSD9    14640000   1464000E    001E98    001EAD           15 Trks
+   017    PMOSDA    476A0000   476B000E    001EAE    001ED9           30 Trks
+   018    PMOSD1    475B0000   475B000E    001EDA    001EEF           15 Trks
+   019    PMOSD1    4F320000   4F32000E    001EF0    001F05           15 Trks
+   020    PMOSD1    64AA0000   64AA000E    001F06    001F1B           15 Trks
+   021    PMOSD7    52B60000   52D5000E    001F1C    0021DB          480 Trks
================================================================================
```

If you move the cursor to any entry in a column and press F10, OMEGAMON XE for DB2 PE will sort on that column.

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Database
The name of the database that owns the space.

Spacename
The name of the space that owns the data set.

Type
The spacename type. Possible values:

INDX
An index

IXCL
A clone of an index

LBTS
A LOB tablespace

PTIX
A partitioned index

PTTS
A partitioned tablespace

SEGM
A segmented tablespace

TBLS
A simple tablespace

TSCL
A clone of an universal tablespace

TSPG
A partition by growth universal tablespace

TSPR
A partition by range universal tablespace

XMTS
An XML tablespace

UNDT
Undetermined

This can occur if the database DBD is currently not loaded in the EDM pool.

Dataset
The sequence number of the selected data set.

Volumes
The number of volumes in use by the data set.

Exts
The number of data set extents allocated by the data set.

Space
The total amount of space currently allocated by the data set.

Extent
The sequence number of the extent.

Volume
The volume in which the extent is allocated.

Low CCHH
The beginning cylinder and head address on the volume where the extent is located.

High CCHH
The ending cylinder and head address on the volume where the extent is located.

Low Page
The beginning page number contained in the extent. This value is displayed in hexadecimal.

High Page
The ending page number contained in the extent. This value is displayed in hexadecimal.

Extent Space
The amount of space allocated by the extent. This value is expressed in tracks.

Display Options For Object Activity Summary And Object Allocation Summary Displays

Use this panel to specify filtering criteria for the output that is displayed in the Object Activity Summary and Object Allocation Summary panels.

You can specify more than one filter option.

```
_________________ ZOJOO    VTM     O2       V540./C DA31 07/24/13 16:55:41   2
>  Help PF1                                                        Back PF3
>  O.E
================================================================================
>                             DISPLAY OPTIONS FOR
>        OBJECT ACTIVITY SUMMARY AND OBJECT ALLOCATION SUMMARY DISPLAYS
 OJOO
+  Following options applied to both displays ;
:  DATABASE=________      Filter display output by database name
+
+  Following options applied to OBJECT ALLOCATION SUMMARY display
:  EXTSDSN>_____          Filter display output by extents/dataset ratio
:  MAXEXTS>_____          "                    " by max extents/dataset
+
+  Following options applied to OBJECT ACTIVITY SUMMARY display
:  PERCGETP>___           Filter display output by % of getpage activity
:  PERCIO>___             "                    " by % of I/O activity
:  RATE=___               Display activity rates or counts (yes/no)
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

DATABASE=
Type a database name (maximum 8 characters) if you want to limit the displayed information to a particular database or group of databases.

You can specify a wildcard by typing a question mark (?), or you can use an asterisk (*) for generic filtering. For example, DSNDB* would select all databases that begin with DSNDB, and DSN??06 would select all databases that begin with DSN, end with 06, and have any two characters in between.

EXTSDSN>
If you want to display object allocation information that applies only to databases with more than *n* extents per data set, enter a number that is greater than 0.

MAXEXTS>
If you want to display object allocation information that applies only to databases with data sets containing more than *n* total extents, enter a number that is greater than 0.

PERCGETP>
If you want to display object activity information that applies only to databases with a percentage of total Getpages that is greater than *n*, enter a number from 0 to 100.

PERCIO>
If you want to display object activity information that applies only to databases with a percentage of total I/O that is greater than *n*, enter a number from 0 to 100.

RATE=
If you want to display object activity information as rates rather than counts, enter YES. The default is NO. Rates are calculated dividing each count field by the interval elapsed time.

Object Activity Summary

This panel shows a high-level analysis of Getpage and I/O activity from a DB2 database perspective.

```
_________________ ZOJOS    VTM     O2       V540.#P SE12 11/05/13 17:54:42   2
> Help PF1      Back PF3      Up PF7      Down PF8     Sort PF10     Zoom PF11
> O.B
>       OBJECT ANALYSIS:  Enter a selection letter on the top line.
>
> A-OBJECT ALLOCATIONS         *-OBJECT ACTIVITY            C-VOLUME ACTIVITY
> D-EXTEND ACTIVITY            E-DISPLAY OPTIONS            F-COLLECTOR CONTROL
================================================================================
>                           OBJECT ACTIVITY SUMMARY
 OJOS
+ Interval Time   = 00:15:00                      Interval Elapsed = 00:11:48
+ Total Getpage   =       18                      Total I/O        =        6
+ *
+           % of    % of   Getp               Sync     Pre      Async    Other
+ Database  Getp    I/O    per RIO   Getpage  Read     Fetch    Write    Write
+ --------  ------  ------ --------- -------  -------  -------  -------  -----
+ DSNDB01    33.3%  100.0%         1       6        6        0        0      0
+ DSNDB06    66.6%     .0%         0      12        0        0        0      0
================================================================================
```

If you move the cursor to any entry in a column and press F10, OMEGAMON XE for DB2 PE will sort on that column.

Navigation

For additional information about

- a particular database, move the cursor to the database line and press F11 (Zoom). For more information, see the description of panel “Database Activity” on page 496.
- related display options, select option **E-Display Options**. For more information, see the description of panel “Display Options For Object Activity Summary And Object Allocation Summary Displays” on page 494.
- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Interval Time
The collection interval currently in use by the object analysis collector. At the end of this time interval, the collector resets its collection statistics.

Interval Elapsed
The elapsed time within the current collection interval. It is the period of time for which the displayed information is applicable.

Total Getpage
The total number of Getpage requests since the beginning of the collection interval.

Total I/O
The total number of I/O requests since the beginning of the collection interval.

Database
The name of a database that has incurred Getpage or I/O activity.

% of Getp
The percentage of total Getpage activity that is applicable to the database.

% of I/O
The percentage of total I/O activity that is applicable to the database.

Getp per RIO
The Getpage to Read I/O ratio for the database. This ratio is computed by dividing Getpage by Sync Read + Pre Fetch.

Getpage
The number of Getpage requests for the database.

Sync Read
The number of synchronous reads for the database.

Pre Fetch
The number of prefetch Read I/Os for the database.

Async Write
The number of asynchronous writes for the database.

Other Write
The number of immediate and format writes for the database.

Database Activity

This panel shows activity information about spaces that have incurred Getpage or I/O activity during the current collection interval. This panel formats Getpage and I/O activity for spaces owned by a single database.

```
_________________ ZOJO1    VTM     O2       V540.#P SE12 11/05/13 17:55:13   2
> Help PF1      Back PF3      Up PF7      Down PF8     Sort PF10     Zoom PF11
>
>       OBJECT ANALYSIS:  Enter a selection letter on the top line.
>
> A-DATABASE ALLOCS  *-DATABASE ACTIVITY   C-THREAD ACTIVITY  D-DISPLAY OPTIONS
================================================================================
>                             DATABASE ACTIVITY
 OJO1
+ Interval Time   = 00:15:00                     Interval Elapsed = 00:12:20
+ Total Getpage   =        6                     Total I/O        =        6
+
+ Database = DSNDB01
+ *
+           % of    % of   Getp                Sync     Pre      Async    Other
+ Spacenam  Getp    I/O    per RIO    Getpage  Read     Fetch    Write    Write
+ --------  ------  ------ ---------  -------  -------  -------  -------  -----
+ DSNLLX01   66.6%   83.3%         0        4        5        0        0      0
+ SYSLGRNX   33.3%   16.6%         2        2        1        0        0      0
================================================================================
```

If you move the cursor to any entry in a column and press F10, OMEGAMON XE for DB2 PE will sort on that column.

Navigation

For additional information about

- a particular space, move the cursor to the spacename line and press F11 (Zoom). For more information, see the description of panel “Spacename Activity” on page 499.

- related thread activity, select option **C-Thread Activity**. For more information, see the description of panel "Thread Activity by Database" on page 497.
- related display options, select option **D-Display Options**. For more information, see the description of panel "Display Options For Database Allocations And Database Activity Displays" on page 501.
- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Interval Time
The collection interval currently in use by the object analysis collector. At the end of this time interval, the collector resets its collection statistics.

Interval Elapsed
The elapsed time within the current collection interval. It is the period of time for which the displayed information is applicable.

Total Getpage
The total number of Getpage requests since the beginning of the collection interval.

Total I/O
The total number of I/O requests since the beginning of the collection interval.

Database
The name of the database that owns the spacenames in the display.

Spacenam
The name of a space that has incurred Getpage/IO activity.

% of Getp
The percentage of total Getpage activity that is applicable to the spacename.

% of I/O
The percentage of total I/O activity that is applicable to the spacename.

Getp per RIO
The Getpage to Read I/O ratio for the spacename. This ratio is computed by dividing Getpage by Sync Read + Pre Fetch.

Getpage
The number of Getpage requests for the spacename.

Sync Read
The number of synchronous Reads for the spacename.

Pre Fetch
The number of prefetch Read I/Os for the spacename.

Async Write
The number of asynchronous Writes for the spacename.

Other Write
The number of immediate and format Writes for the spacename.

Thread Activity by Database

This panel shows activity information for each thread that generated I/O activity for a selected DB2 database during the collection interval.

```
_________________ ZOJT6    VTM     O2       V540.#P SE12 11/06/13 10:18:14   2
> Help PF1         Back PF3          Up PF7          Down PF8          Sort PF10
>
================================================================================
>                          THREAD ACTIVITY BY DATABASE
 OJT6
+ Interval Time   = 00:05:00                      Interval Elapsed = 00:03:30
+ Total Getpage   =   634319                      Total I/O        =        0
+
+ Database = DSNDB06
+ *
+                                                 Sync     ------ Prefetch I/O -----
+ Planname  Authid    Correlation   Getpage  Read       Seq      List   Dynamic
+ --------  --------  ------------  -------  -------  -------  -------  -------
+ DISTSERV  MIS       db2bp.exe      243299        0        0        0        0
+ DISTSERV  MIS       db2bp.exe      138328        0        0        0        0
+ DISTSERV  MIS       db2bp.exe      133471        0        0        0        0
+ DISTSERV  MIS       db2bp.exe      112856        0        0        0        0
+ DSNESPCS  MIS       MIS              6234        0        0        0        0
================================================================================
```

If you move the cursor to any entry in a column and press F10, OMEGAMON XE for DB2 PE will sort on that column.

Navigation

For additional information about other topics, use the PF keys.

Fields

Interval Time
The collection interval currently in use by the object analysis collector. At the end of this time interval, the collector resets its collection statistics.

Interval Elapsed
The elapsed time within the current collection interval. It is the period of time for which the displayed information is applicable.

Total Getpage
The total number of Getpage requests since the beginning of the collection interval.

Total I/O
The total number of I/O requests since the beginning of the collection interval.

Database
The name of the selected database for which thread activity has occurred.

Planname
The name of the plan associated with the thread.

Authid
The authid associated with the thread.

Correlation
The correlation ID associated with the thread.

Getpage
The number of Getpage requests made by the thread.

Sync Read
The number synchronous reads made by the thread.

Sequential Prefetch
The number of Sequential Prefetch Read I/Os made by the thread.

List Prefetch
The number of List Prefetch Read I/Os made by the thread.

Spacename Activity

This panel shows activity information about data sets that have incurred Getpage and I/O activity during the current collection interval. This panel formats Getpage and I/O activity for a single spacename.

```
_________________ ZOJO2    VTM     O2       V540.#P SE12 11/06/13 10:21:29   2
> Help PF1         Back PF3          Up PF7          Down PF8          Sort PF10
>
>       OBJECT ANALYSIS:  Enter a selection letter on the top line.
>
> A-SPACENAME ALLOCS          *-SPACENAME ACTIVITY           C-THREAD ACTIVITY
================================================================================
>                               SPACENAME ACTIVITY
 OJO2
+ Interval Time   = 00:05:00                       Interval Elapsed = 00:01:45
+ Total Getpage   =       66                       Total I/O        =        3
+
+ Database = DSNDB01         Spacename = DSNLLX01
+ *
+       % of     % of   Getp                 Sync      Pre       Async    Other
+ DSN   Getp     I/O    per RIO    Getpage   Read      Fetch     Write    Write
+ ---   ------   ------ ---------  -------   -------   -------   -------  -----
+ 001   100.0%   100.0%         22       66         3         0         0      0
================================================================================
```

If you move the cursor to any entry in a column and press F10, OMEGAMON XE for DB2 PE will sort on that column.

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Interval Time
The collection interval currently in use by the object analysis collector. At the end of this time interval, the collector resets its collection statistics.

Interval Elapsed
The elapsed time within the current collection interval. It is the period of time for which the displayed information is applicable.

Total Getpage
The total number of Getpage requests since the beginning of the collection interval.

Total I/O
The total number of I/O requests since the beginning of the collection interval.

Database
The name of the database that owns the spacename (and data sets) in the display.

Spacename
The name of the space that contains the data sets in the display.

DSN
The sequence number of a data set that incurred I/O activity.

% of Getp
The percentage of total Getpage activity that is applicable to the spacename.

% of I/O
The percentage of total I/O activity that is applicable to the spacename.

Getp per RIO
The Getpage to Read I/O ratio for the spacename. This ratio is computed by dividing Getpage by Sync Read + Pre Fetch.

Getpage
The number of Getpage requests for the spacename.

Sync Read
The number of synchronous reads for the spacename.

Pre Fetch
The number of prefetch Read I/Os for the spacename.

Async Write
The number of asynchronous writes for the spacename.

Other Write
The number of immediate and format writes for the spacename.

Thread Activity by Spacename

This panel shows thread activity information for each thread that generated I/O activity to the spacename during the collection interval. Use this information to analyze which threads are generating I/O activity for a selected spacename.

```
_________________ ZOJT7    VTM     O2       V540.#P SE12 11/06/13 10:23:09   2
> Help PF1         Back PF3          Up PF7          Down PF8          Sort PF10
>
================================================================================
>                            THREAD ACTIVITY BY SPACENAME
 OJT7
+ Interval Time   = 00:05:00                      Interval Elapsed = 00:03:25
+ Total Getpage   =       14                      Total I/O        =        0
+
+ Database = DSNDB06        Spacename = DSNACX01
+ *
+                                            Sync     ------ Prefetch I/O -----
+ Planname  Authid    Correlation   Getpage  Read       Seq      List   Dynamic
+ --------  --------  ------------  -------  -------  -------  -------  -------
+ DSNESPCS  MIS       MIS                14        0        0        0        0
================================================================================
```

If you move the cursor to any entry in a column and press F10, OMEGAMON XE for DB2 PE will sort on that column.

Navigation

For additional information about other topics, use the PF keys.

Fields

Interval Time
The collection interval currently in use by the object analysis collector. At the end of this time interval, the collector resets its collection statistics.

Interval Elapsed
The elapsed time within the current collection interval. It is the period of time for which the displayed information is applicable.

Total Getpage
The total number of Getpage requests since the beginning of the collection interval.

Total I/O
The total number of I/O requests since the beginning of the collection interval.

Database
The name of the selected database for which thread activity has occurred.

Spacename
The name of the selected spacename for which thread activity has occurred.

Planname
The name of the plan associated with the thread.

Authid
The authid associated with the thread.

Correlation
The correlation ID associated with the thread.

Getpage
The number of Getpage requests made by the thread.

Sync Read
The number synchronous reads made by the thread.

Sequential Prefetch
The number of Sequential Prefetch Read I/Os made by the thread.

List Prefetch
The number of List Prefetch Read I/Os made by the thread.

Display Options For Database Allocations And Database Activity Displays

Use this panel to specify filtering criteria for the output that is displayed in the Database Allocations and Database Activity panels.

```
 _________________ ZOJDO    VTM     O2       V540./C DA31 07/24/13 16:58:49   2
>    Help PF1                                                      Back PF3
>
>       OBJECT ANALYSIS:  Enter a selection letter on the top line.
>
> A-DATABASE ALLOCS           B-DATABASE ACTIVITY             *-DISPLAY OPTIONS
================================================================================
>                             DISPLAY OPTIONS FOR
>             DATABASE ALLOCATIONS AND DATABASE ACTIVITY DISPLAYS
 OJDO
+  Following options applied to both displays ;
:  SPACENAM=________      Filter display output by spacename
:  BPID=____              "                    " by buffer pool id
+
+  Following options applied to DATABASE ALLOCATION display
:  EXTSDSN>_____          Filter display output by extents/dataset ratio
:  MAXEXTS>_____          "                    " by max extents/dataset
:  TYPE=____              "                    " by object type
+
+  Following options applied to DATABASE ACTIVITY display
:  PERCGETP>___           Filter display output by % of getpage activity
:  PERCIO>___             "                    " by % of I/O activity
:  RATE=___               Display activity rates or counts (yes/no)
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

SPACENAM=
Enter a spacename (maximum 8 characters) if you want to limit the displayed information to a particular space or group of spaces.

You can specify a wildcard by entering a question mark (?), or you can use an asterisk (*) for generic filtering. For example, DSN* would select all databases that begin with DSN, and DSN??010 would select all databases that begin with DSN, end with 010, and have any two characters in between.

BPID=
If you want to display database allocation and activity information that applies only to a particular buffer pool, enter the buffer pool ID.

Note: Omit the 'BP' prefix when you specify the buffer pool ID.

```
4KB 0, 1, 2, ..., 49
8KB 8K0, 8K1, 8K2, ..., 8K9
16KB 16K0, 16K1, 16K2, ..., 16K9
32KB 32K, 32K1, 32K2, ..., 32K9
```

EXTSDSN>
If you want to display database allocation information that applies only to spaces with more than *n* extents per data set, enter a number that is greater than 0.

MAXEXTS>
If you want to display object allocation information that applies only to spaces with more than *n* total extents per data set, enter a number that is greater than 0.

TYPE=
If you want to limit the displayed information to a particular object type, enter one of the following values:

INDX
An index

IXCL
A clone of an index

LBTS
A LOB tablespace

PTIX
A partitioned index

PTTS
A partitioned tablespace

SEGM
A segmented tablespace

TBLS
A simple tablespace

TSCL
A clone of an universal tablespace

TSPG
A partition by growth universal tablespace

TSPR
A partition by range universal tablespace

XMTS
An XML tablespace

UNDT
Undetermined

This can occur if the database DBD is currently not loaded in the EDM pool.

PERCGETP>
If you want to display database activity information that applies only to spaces with a percentage of total Getpage that is greater than *n*, enter a number from 0 - 100.

PERCIO>
If you want to display database activity information that applies only to spaces with a percentage of total I/O that is greater than *n*, enter a number from 0 - 100.

RATE=
If you want to display database activity information as rates rather than counts, enter YES. The default is NO. Rates are calculated dividing each count field by the interval elapsed time.

Volume Activity Summary

This panel shows activity information of volumes that contain DB2 objects that are currently allocated and available for use by the DB2 being monitored. Use this information to evaluate the DASD performance by volume.

```
_________________ ZOJVS    VTM     O2       V540.#P SE12 11/06/13 10:24:33   2
> Help PF1      Back PF3      Up PF7      Down PF8     Sort PF10     Zoom PF11
> O.C
>       OBJECT ANALYSIS:  Enter a selection letter on the top line.
>
> A-OBJECT ALLOCATIONS         B-OBJECT ACTIVITY            *-VOLUME ACTIVITY
> D-EXTEND ACTIVITY            E-DISPLAY OPTIONS            F-COLLECTOR CONTROL
================================================================================
>                           VOLUME ACTIVITY SUMMARY
 OJVS
+ Interval Time   = 00:05:00                      Interval Elapsed   = 00:04:48
+ *
+             Vol     Vol     Total    DB2       % DB2   Alloc   Alloc   Exts/
+ Volume Unit Util%   Serv    I/O      I/O       I/O     DSNs    Exts    DSN
+ ------ ---- ------  ------  -------  -------   ------  ------  ------  ------
+ PMOSDA 4C2E    .0%      .5        0        0      .0%       1       1     1.0
+ PMOSDB 4C2F    .0%      .4       13       13    22.4%      35      49     1.4
+ PMOSD1 4C09    .0%      .3       14       14    24.1%      51      60     1.1
+ PMOSD2 4C0A    .0%      .0        1        1     1.7%       0       0      .0
+ PMOSD3 4C0B    .0%      .3        3        3     5.1%       1       2     2.0
+ PMOSD4 4C0C    .0%      .3        2        2     3.4%       2       6     3.0
+ PMOSD5 4C0D    .0%      .3       10       10    17.2%      39      60     1.5
+ PMOSD6 4C0E    .0%      .4        5        5     8.6%      44      49     1.1
+ PMOSD7 4C0F    .0%      .5        0        0      .0%      31      38     1.2
+ PMOSD8 4C28    .0%      .3        8        8    13.7%      46      72     1.5
+ PMOSD9 4C29    .0%      .3        2        2     3.4%       1       3     3.0
================================================================================
```

If you move the cursor to any entry in a column and press F10, OMEGAMON XE for DB2 PE will sort on that column.

Navigation

For additional information about

- a particular volume, move the cursor to the volume line and press F11 (Zoom). For more information, see the description of panel “Volume Database Activity” on page 504.
- related display options, select option **E-Display Options**. For more information, see the description of panel “Display Options For Volume Activity Summary Display” on page 517.
- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Interval Time
The collection interval currently in use by the object analysis collector. At the end of this time interval, the collector resets its collection statistics.

Interval Elapsed
The elapsed time within the current collection interval. It is the period of time for which the displayed information is applicable.

Volume
The name of a volume that contains DB2 objects.

Unit
The address of the volume.

Vol Util%
The volume utilization percentage. This value represents the percentage of time the volume is actually in use.

Vol Serv
The average service time for the volume since the beginning of the collection interval. This field is the sum of the average IOS pending time, the average IOS connect time, and the average IOS disconnect time for the volume. It does not include IOS queue time.

Total I/O
The total number of I/Os for this volume. This value is from an MVS perspective. If the volume is shared by multiple MVS systems, this value might not reflect all I/O activity to the volume.

DB2 I/O
The total number of I/Os (for this volume) originating from the DB2 subsystem being monitored. This is a subset of total I/Os per second if I/O to the volume is also occurring from address spaces other than the DB2 subsystem being monitored.

% DB2 I/O
The percentage of total DB2 I/O that is attributable to the volume. This value is derived by dividing the volume DB2 I/O count by the total DB2 I/O count.

Alloc DSNs
The number of physical DB2 data sets currently allocated as a result of the DB2 spaces residing on the volume.

Alloc Exts
The number of data set extents currently allocated as a result of the DB2 data sets residing on the volume.

Exts/DSN
The average number of allocated extents per allocated data set on the volume.

Volume Database Activity

This panel shows activity information of each database that has incurred I/O to a single volume Use this information to analyze I/O activity from a DB2 database perspective.

```
_________________ ZOJV1    VTM     O2       V540.#P SE12 11/06/13 10:25:35   2
> Help PF1       Back PF3      Up PF7      Down PF8     Sort PF10     Zoom PF11
>
>         OBJECT ANALYSIS:  Enter a selection letter on the top line.
>
> *-VOLUME DB ACTIVITY           B-VOLUME SERVICE            C-THREAD ACTIVITY
================================================================================
>                            VOLUME DATABASE ACTIVITY
 OJV1
+ Interval Time   = 00:05:00                      Interval Elapsed   = 00:00:51
+ Volume/Unit     = PMOSDB/4C2F                   Total I/O Rate/sec =       .0
+ Device Type     = 3390                          DB2   I/O Rate/sec =       .0
+ *
+                        Vol      ------I/O Rates-----   -------I/O Counts------
+ Database  DSNs  Exts  Use %    Total  Read   Write    Total   Read    Write
+ --------  ----  ----  ------   ------ ------ ------   ------- ------- -------
+ DSN00212     1     1   50.0%       .0     .0     .0         2       1       1
+ DSN00217     1     1   50.0%       .0     .0     .0         2       1       1
================================================================================
```

If you move the cursor to any entry in a column and press F10, OMEGAMON XE for DB2 PE will sort on that column.

Navigation

For additional information about

- a particular database, move the cursor to the database line and press F11 (Zoom). For more information, see the description of panel “Volume Spacename Activity” on page 508.
- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Interval Time
The collection interval currently in use by the object analysis collector. At the end of this time interval, the collector resets its collection statistics.

Interval Elapsed
The elapsed time within the current collection interval. It is the period of time for which the displayed information is applicable.

Volume/Unit
The name and address of the volume.

Total I/O Rate/sec
The total number of I/Os per second for the volume. This value is from an MVS perspective. If the volume is shared by multiple MVS systems, this value might not reflect all I/O activity to the volume.

Device Type
The device type of the volume displayed.

DB2 I/O Rate/sec
The total number of I/Os per second (for the volume) originating from the DB2 subsystem being monitored. This is a subset of total I/Os per second if I/O to the volume is also occurring from address spaces other than the DB2 subsystem being monitored.

Database
The name of a database that contains one or more objects residing on the volume.

DSNs
The number of data sets that have incurred I/O to the volume since the beginning of the collection interval.

Exts
The number of allocated extents that have incurred I/O to the volume since the beginning of the collection interval.

Vol Use%
The percentage of DB2 I/O activity to the volume that is attributable to the database. This ratio is computed by dividing the total I/O rate for the database by the total DB2 I/O rate to the volume.

Total I/O Rate
The total I/O rate (per second) that is attributable to the database for the time elapsed.

Read I/O Rate
The Read I/O rate (per second) that is attributable to the database for the time elapsed.

Write I/O Rate
The Write I/O rate (per second) that is attributable to the database for the time elapsed.

Total I/O Count
The total I/O count that is attributable to the database for the time elapsed.

Read I/O Count
The number of reads that are attributable to the database for the time elapsed.

Write I/O Count
The number of writes that are attributable to the database for the time elapsed.

Volume Service

This panel shows a breakdown of volume service time by the various IOS service-time components. Use this information to analyze service times for a single DASD volume.

```
_____________ ZOJVR    VTM     O2       V540.#P SE12 11/06/13 10:29:02   2
>   Help PF1                                                    Back PF3
>
>         OBJECT ANALYSIS:  Enter a selection letter on the top line.
>
> A-VOLUME DB ACTIVITY                                      *-VOLUME SERVICE
================================================================================
>                              VOLUME SERVICE
 OJVR
+ Interval Time   = 00:05:00                     Interval Elapsed   = 00:04:18
+ Volume/Unit     = PMOSDB/4C2F                  Total I/O Rate/sec =       .0
+ Device Type     = 3390                         DB2   I/O Rate/sec =       .0
+
+         Vol Serv =  Pending  +  Connect  +  Disconnect
+         --------    -------     -------     ----------
+               .3         .1          .2             .0
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

Interval Time
The collection interval currently in use by the object analysis collector. At the end of this time interval, the collector resets its collection statistics.

Interval Elapsed
The elapsed time within the current collection interval. It is the period of time for which the displayed information is applicable.

Volume/Unit
The name and address of the volume.

Total I/O Rate/sec
The total number of I/Os per second for the volume. This value is from an MVS perspective. If the volume is shared by multiple MVS systems, this value might not reflect all I/O activity to the volume.

Device Type
The device type of the volume displayed.

DB2 I/O Rate/sec
The total number of I/Os per second (for the volume) originating from the DB2 subsystem being monitored. This is a subset of total I/Os per second if I/O to the volume is also occurring from address spaces other than the DB2 subsystem being monitored.

Vol Serv
The average service time for the volume since the beginning of the collection interval. This field is the sum of the average IOS pending time, the average IOS connect time, and the average IOS disconnect time for the volume. It does not include IOS queue time.

Pending
The average IOS pending time for the volume. This is a subset of total volume service time.

Connect
The average IOS connect time for the volume. This is a subset of total volume service time.

Disconnect
The average IOS disconnect time for the volume. This is a subset of total volume service time.

Thread Activity by Volume

This panel shows activity information for each thread that generated I/O activity to the selected volume during the collection interval. Use this information to determine which DB2 threads are generating I/O on the selected volume.

```
_________________ ZOJT1    VTM     O2       V540.#P SE12 11/06/13 10:29:21   2
> Help PF1        Back PF3          Up PF7          Down PF8          Sort PF10
>
================================================================================
>                           THREAD ACTIVITY BY VOLUME
 OJT1
+ Interval Time   = 00:05:00                     Interval Elapsed   = 00:04:37
+ Volume/Unit     = PMOSDB/4C2F                  Total I/O Rate/sec =       .0
+ Device Type     = 3390                         DB2   I/O Rate/sec =       .0
+ *
+                                  ------I/O Rates----- -------I/O Counts------
+ Planname  Authid    Correlation  Total  Read   Write  Total   Read    Write
+ --------  --------  ------------ ------ ------ ------ ------- ------- -------
+           SYSOPR                    .0     .0     .0       2       0       2
+ DSNESPCS  MIS       MIS          .0     .0     .0       2       2       0
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

Interval Time
The collection interval currently in use by the object analysis collector. At the end of this time interval, the collector resets its collection statistics.

Interval Elapsed
The elapsed time within the current collection interval. It is the period of time for which the displayed information is applicable.

Volume/Unit
The name and address of the volume.

Total I/O Rate/sec
The total number of I/Os per second for the volume. This value is from an MVS perspective. If the volume is shared by multiple MVS systems, this value might not reflect all I/O activity to the volume.

Device Type
The device type of the volume displayed.

DB2 I/O Rate/Sec
The total number of I/Os per second (for the volume) that originated from the DB2 subsystem being monitored. This is a subset of total I/Os per second if I/O to the volume is also occurring from address spaces other than the DB2 subsystem being monitored.

Planname
The name of the plan associated with the thread.

Authid
The authid associated with the thread.

Correlation
The correlation ID associated with the thread.

Total I/O Rate
The total I/O rate (per second) that is attributable to the volume for the time elapsed.

Read I/O Rate
The Read I/O rate (per second) that is attributable to the volume for the time elapsed.

Write I/O Rate
The Write I/O rate (per second) that is attributable to the volume for the time elapsed.

Total I/O Count
The total I/O count that is attributable to the volume for the time elapsed.

Read I/O Count
The Read I/O count that is attributable to the volume for the time elapsed.

Write I/O Count
The Write I/O count that is attributable to the volume for the time elapsed.

Volume Spacename Activity

This panel shows activity information for each spacename owned by the database that incurred I/O activity to the volume during the collection interval. Use this information to analyze I/O activity for a single volume from a DB2 database/spacename perspective.

```
_________________ ZOJV2    VTM     O2       V540.#P SE12 11/06/13 10:25:44   2
> Help PF1       Back PF3      Up PF7      Down PF8     Sort PF10     Zoom PF11
>
>         OBJECT ANALYSIS:  Enter a selection letter on the top line.
>
> *-VOLUME SP ACTIVITY                                          C-THREAD ACTIVITY
================================================================================
>                           VOLUME SPACENAME ACTIVITY
 OJV2
+ Interval Time   = 00:05:00                     Interval Elapsed   = 00:01:00
+ Volume/Unit     = PMOSDB/4C2F                  Total I/O Rate/sec =       .0
+ Device Type     = 3390                         DB2   I/O Rate/sec =       .0
+
+ Database = DSN00212
+ *
+                        Vol      ------I/O Rates-----   -------I/O Counts------
+ Spacenam  DSNs  Exts  Use %    Total  Read   Write    Total   Read    Write
+ --------  ----  ----  ------   ------ ------ ------   ------- ------- -------
+ FOO          1     1  100.0%       .0     .0     .0         2       1       1
================================================================================
```

If you move the cursor to any entry in a column and press F10, OMEGAMON XE for DB2 PE will sort on that column.

Navigation

For additional information about

- a particular spacename, move the cursor to the spacename line and press F11 (Zoom). For more information, see the description of panel “Volume Dataset Activity” on page 511.
- related topics, select one of the options at the top of the panel.

Fields

Interval Time
The collection interval currently in use by the object analysis collector. At the end of this time interval, the collector resets its collection statistics.

Interval Elapsed
The elapsed time within the current collection interval. It is the period of time for which the displayed information is applicable.

Volume/Unit
The name and address of the volume.

Total I/O Rate/sec
The total number of I/Os per second for the volume. This value is from an MVS perspective. If the volume is shared by multiple MVS systems, this value might not reflect all I/O activity to the volume.

Device Type
The device type of the volume displayed.

DB2 I/O Rate/sec
The total number of I/Os per second (for the volume) originating from the DB2 subsystem being monitored. This is a subset of total I/Os per second if I/O to the volume is also occurring from address spaces other than the DB2 subsystem being monitored.

Database
The name of the selected database.

Spacename
The name of a space that has incurred I/O activity since the beginning of the collection interval.

DSNs
The number of data sets that have incurred I/O to the volume since the beginning of the collection interval.

Exts
The number of allocated extents that have incurred I/O activity since the beginning of the collection interval.

Vol Use %
The percentage of DB2 I/O activity to the volume that is attributable to the spacename. This ratio is computed by dividing the total I/O rate for the database/spacename by the total database I/O rate to the volume.

Total I/O Rate
The total I/O rate (per second) that is attributable to the space for the time elapsed.

Read I/O Rate
The Read I/O rate (per second) that is attributable to the space for the time elapsed.

Write I/O Rate
The Write I/O rate (per second) that is attributable to the space for the time elapsed.

Total I/O Count
The total I/O count that is attributable to the space for the time elapsed.

Read I/O Count
The number of reads that are attributable to the space for the time elapsed.

Write I/O Count
The number of writes that are attributable to the space for the time elapsed.

Volume Thread Activity by Database

This panel shows volume activity information for each thread that generated I/O activity to the database during the collection interval. Use this information to analyze which threads are generating I/O activity for a single volume from a DB2 database perspective.

```
_____________ ZOJT2    VTM     O2       V540.#P SE12 11/06/13 10:27:13   2
> Help PF1        Back PF3          Up PF7          Down PF8          Sort PF10
>
================================================================================
>                       VOLUME THREAD ACTIVITY BY DATABASE
 OJT2
+ Interval Time   = 00:05:00                     Interval Elapsed   = 00:02:29
+ Volume/Unit     = PMOSDB/4C2F                  Total I/O Rate/sec =       .0
+ Device Type     = 3390                         DB2   I/O Rate/sec =       .0
+
+ Database = DSN00212
+ *
+                                  ------I/O Rates----- -------I/O Counts------
+ Planname  Authid    Correlation  Total  Read   Write  Total   Read    Write
+ --------  --------  ------------ ------ ------ ------ ------- ------- -------
+           SYSOPR                    .0     .0     .0       1       0       1
+ DSNESPCS  MIS       MIS          .0     .0     .0       1       1       0
================================================================================
```

If you move the cursor to any entry in a column and press F10, OMEGAMON XE for DB2 PE will sort on that column.

Navigation

For additional information about other topics, use the PF keys.

Fields

Interval Time
The collection interval currently in use by the object analysis collector. At the end of this time interval, the collector resets its collection statistics.

Interval Elapsed
The elapsed time within the current collection interval. It is the period of time for which the displayed information is applicable.

Volume/Unit
The name and address of the volume.

Total I/O Rate/sec
The total number of I/Os per second for the volume. This value is from an MVS perspective. If the volume is shared by multiple MVS systems, this value might not reflect all I/O activity to the volume.

Device Type
The device type of the volume displayed.

DB2 I/O Rate/sec
The total number of I/Os per second (for the volume) originating from the DB2 subsystem being monitored. This is a subset of total I/Os per second if I/O to the volume is also occurring from address spaces other than the DB2 subsystem being monitored.

Database
The name of the database for which thread activity has occurred.

Planname
The name of the plan associated with the thread.

Authid
The authid associated with the thread.

Correlation
The correlation ID associated with the thread.

Total I/O Rate
The total I/O rate (per second) that is attributable to the database for the time elapsed.

Read I/O Rate
The Read I/O rate (per second) that is attributable to the database for the time elapsed.

Write I/O Rate
The Write I/O rate (per second) that is attributable to the database for the time elapsed.

Total I/O Count
The total I/O count that is attributable to the database for the time elapsed.

Read I/O Count
The Read I/O count that is attributable to the database for the time elapsed.

Write I/O Count
The Write I/O count that is attributable to the database for the time elapsed.

Volume Dataset Activity

This panel shows activity information for all data sets that have incurred I/O activities to a single volume. Use this information to analyze I/O activity for a single volume from a DB2 database/spacename perspective.

```
_________________ ZOJV3    VTM     O2       V540.#P SE12 11/06/13 10:27:33   2
> Help PF1       Back PF3      Up PF7      Down PF8     Sort PF10     Zoom PF11
>
>         OBJECT ANALYSIS:  Enter a selection letter on the top line.
>
> *-VOLUME DS ACTIVITY                                        C-THREAD ACTIVITY
================================================================================
>                          VOLUME DATASET ACTIVITY
 OJV3
+ Interval Time   = 00:05:00                     Interval Elapsed   = 00:02:49
+ Volume/Unit     = PMOSDB/4C2F                  Total I/O Rate/sec =       .0
+ Device Type     = 3390                         DB2   I/O Rate/sec =       .0
+
+ Database = DSN00212       Spacename = FOO
+ *
+                Vol       -------I/O Rates------     --------I/O Counts-------
+ DSN    Exts    Use %     Total   Read    Write      Total    Read     Write
+ ---    ----    ------    ------  ------  ------     -------  -------  -------
+ 001       1    100.0%        .0      .0      .0           2        1        1
================================================================================
```

If you move the cursor to any entry in a column and press F10, OMEGAMON XE for DB2 PE will sort on that column.

Navigation

For additional information about

- a particular data set, move the cursor to the DSN line and press F11 (Zoom). For more information, see the description of panel “Volume Dataset/Extent Activity” on page 514.
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Interval Time
The collection interval currently in use by the object analysis collector. At the end of this time interval, the collector resets its collection statistics.

Interval Elapsed
The elapsed time within the current collection interval. It is the period of time for which the displayed information is applicable.

Volume/Unit
The name and address of the volume.

Total I/O Rate/sec
The total number of I/Os per second for the volume. This value is from an MVS perspective. If the volume is shared by multiple MVS systems, this value might not reflect all I/O activity to the volume.

Device Type
The device type of the volume displayed.

DB2 I/O Rate/sec
The total number of I/Os per second (for the volume) originating from the DB2 subsystem being monitored. This is a subset of total I/Os per second if I/O to the volume is also occurring from address spaces other than the DB2 subsystem being monitored.

Database
The name of the selected database.

Spacename
The name of the selected space.

DSN
The number of a data set that incurred I/O activity.

Exts
The number of allocated extents that have incurred I/O activity since the beginning of the collection interval.

Vol Use %
The percentage of DB2 I/O activity to the volume that is attributable to the spacename. This ratio is computed by dividing the total I/O rate for the database/spacename by the total spacename I/O rate to the volume.

Total I/O Rate
The total I/O rate (per second) that is attributable to the space for the time elapsed.

Read I/O Rate
The Read I/O rate (per second) that is attributable to the space for the time elapsed.

Write I/O Rate
The Write I/O rate (per second) that is attributable to the space for the time elapsed.

Total I/O Count
The total I/O count that is attributable to the space for the time elapsed.

Read I/O Count
The number of reads that are attributable to the space for the time elapsed.

Write I/O Count
The number of writes that are attributable to the space for the time elapsed.

Volume Thread Activity by Spacename

This panel shows volume activity information for each thread that generated I/O activity to the spacename during the collection interval. use this information to analyze which threads are generating I/O activity for a single volume from a DB2 spacename perspective.

If you move the cursor to any entry in a column and press F10, OMEGAMON XE for DB2 PE will sort on that column.

```
_________________ ZOJT3    VTM     O2       V540.#P SE12 11/06/13 10:28:13   2
> Help PF1         Back PF3          Up PF7          Down PF8          Sort PF10
>
================================================================================
>                      VOLUME THREAD ACTIVITY BY SPACENAME
 OJT3
+ Interval Time   = 00:05:00                      Interval Elapsed   = 00:03:29
+ Volume/Unit     = PMOSDB/4C2F                   Total I/O Rate/sec =       .0
+ Device Type     = 3390                          DB2   I/O Rate/sec =       .0
+
+ Database = DSN00212       Spacename = FOO
+ *
+                                  ------I/O Rates----- -------I/O Counts------
+ Planname  Authid    Correlation  Total  Read   Write  Total   Read    Write
+ --------  --------  ------------ ------ ------ ------ ------- ------- -------
+           SYSOPR                    .0     .0     .0       1       0       1
+ DSNESPCS  MIS       MIS          .0     .0     .0       1       1       0
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

Interval Time
The collection interval currently in use by the object analysis collector. At the end of this time interval, the collector resets its collection statistics.

Interval Elapsed
The elapsed time within the current collection interval. It is the period of time for which the displayed information is applicable.

Volume/Unit
The name and address of the volume.

Total I/O Rate/sec
The total number of I/Os per second for the volume. This value is from an MVS perspective. If the volume is shared by multiple MVS systems, this value might not reflect all I/O activity to the volume.

Device Type
The device type of the volume displayed.

DB2 I/O Rate/sec
The total number of I/Os per second (for the volume) originating from the DB2 subsystem being monitored. This is a subset of total I/Os per second if I/O to the volume is also occurring from address spaces other than the DB2 subsystem being monitored.

Database
The name of the database for which thread activity has occurred.

Spacename
The name of the space for which thread activity has occurred.

Planname
The name of the plan associated with the thread.

Authid
The authid associated with the thread.

Correlation
The correlation ID associated with the thread.

Total I/O Rate
The total I/O rate (per second) that is attributable to the spacename for the time elapsed.

Read I/O Rate
The Read I/O rate (per second) that is attributable to the spacename for the time elapsed.

Write I/O Rate
The Write I/O rate (per second) that is attributable to the spacename for the time elapsed.

Total I/O Count
The total I/O count that is attributable to the spacename for the time elapsed.

Read I/O Count
The Read I/O count that is attributable to the spacename for the time elapsed.

Write I/O Count
The Write I/O count that is attributable to the spacename for the time elapsed.

Volume Dataset/Extent Activity

This panel shows activity information for each extend that incurred I/O activity to a single volume during the collection interval. Use this information to analyze I/O activity for a single volume from a DB2 database/spacename/data set perspective.

```
_________________ ZOJV4    VTM     O2       V540.#P SE12 11/06/13 10:27:43   2
> Help PF1       Back PF3      Up PF7      Down PF8     Sort PF10
>
>         OBJECT ANALYSIS:  Enter a selection letter on the top line.
>
> *-VOLUME EX ACTIVITY                                        C-THREAD ACTIVITY
================================================================================
>                       VOLUME DATASET/EXTENT ACTIVITY
 OJV4
+ Interval Time   = 00:05:00                      Interval Elapsed   = 00:02:59
+ Volume/Unit     = PMOSDB/4C2F                   Total I/O Rate/sec =       .0
+ Device Type     = 3390                          DB2   I/O Rate/sec =       .0
+
+ Database = DSN00212       Spacename = FOO                DSN = 001
+ *
+              Low             High             --------I/O Rates/Counts-------
+ Extent       Page/CCHH       Page/CCHH        Total       Read        Write
+ ------       ---------       ---------        -------     -------     -------
+   001        000000          000000                .0          .0          .0
+              06B70000        06B7000E               2           1           1
================================================================================
```

If you move the cursor to any entry in a column and press F10, OMEGAMON XE for DB2 PE will sort on that column.

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Interval Time
The collection interval currently in use by the object analysis collector. At the end of this time interval, the collector resets its collection statistics.

Interval Elapsed
The elapsed time within the current collection interval. It is the period of time for which the displayed information is applicable.

Volume/Unit
The name and address of the volume.

Total I/O Rate/sec
The total number of I/Os per second for the volume. This value is from an MVS perspective. If the volume is shared by multiple MVS systems, this value might not reflect all I/O activity to the volume.

Device Type
The device type of the volume displayed.

DB2 I/O Rate/sec
The total number of I/Os per second (for the volume) originating from the DB2 subsystem being monitored. This is a subset of total I/Os per second if I/O to the volume is also occurring from address spaces other than the DB2 subsystem being monitored.

Database
The name of the selected database.

Spacename
The name of the selected space.

DSN
The sequence number of the selected data set.

Extent
The number of an extent that incurred I/O activity.

Each of the following fields includes two values for each extent. The values are displayed one above the other; for example, the Read I/O rate is displayed above the Read I/O count.

Low Page/CCHH
The starting page number (top line) and cylinder/head address (bottom line) of the extent.

High Page/CCHH
The ending page number (top line) and cylinder/head address (bottom line) of the extent.

Total I/O Rates/Counts
The total I/O rate per second (top line) and count (bottom line) that is attributable to the extent for the time elapsed.

Read I/O Rates/Counts
The Read I/O rate per second (top line) and count (bottom line) that is attributable to the extent for the time elapsed.

Write I/O Rates/Counts
The Write I/O rate per second (top line) and count (bottom line) that is attributable to the extent for the time elapsed.

Volume Thread Activity by Dataset

This panel shows volume activity information for each thread that generated I/O activity to the data set during the collection interval. Use this information to analyze which threads are generating I/O activity for a single volume from a DB2 data set perspective.

If you move the cursor to any entry in a column and press F10, OMEGAMON XE for DB2 PE will sort on that column.

```
_________________ ZOJT4    VTM     O2       V540.#P SE12 11/06/13 10:27:53   2
> Help PF1         Back PF3          Up PF7          Down PF8          Sort PF10
>
================================================================================
>                      VOLUME THREAD ACTIVITY BY DATASET
 OJT4
+ Interval Time   = 00:05:00                      Interval Elapsed   = 00:03:09
+ Volume/Unit     = PMOSDB/4C2F                   Total I/O Rate/sec =       .0
+ Device Type     = 3390                          DB2   I/O Rate/sec =       .0
+
+ Database = DSN00212       Spacename = FOO                 DSN = 001
+ *
+                                  ------I/O Rates----- -------I/O Counts------
+ Planname  Authid    Correlation  Total  Read   Write  Total   Read    Write
+ --------  --------  ------------ ------ ------ ------ ------- ------- -------
+           SYSOPR                    .0     .0     .0       1       0       1
+ DSNESPCS  MIS       MIS          .0     .0     .0       1       1       0
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

Interval Time
The collection interval currently in use by the object analysis collector. At the end of this time interval, the collector resets its collection statistics.

Interval Elapsed
The elapsed time within the current collection interval. It is the period of time for which the displayed information is applicable.

Volume/Unit
The name and address of the volume.

Total I/O Rate/sec
The total number of I/Os per second for the volume. This value is from an MVS perspective. If the volume is shared by multiple MVS systems, this value might not reflect all I/O activity to the volume.

Device Type
The device type of the volume displayed.

DB2 I/O Rate/sec
The total number of I/Os per second (for the volume) originating from the DB2 subsystem being monitored. This is a subset of total I/Os per second if I/O to the volume is also occurring from address spaces other than the DB2 subsystem being monitored.

Database
The name of the database for which thread activity has occurred.

Spacename
The name of the space for which thread activity has occurred.

DSN
The name of the data set for which thread activity has occurred.

Planname
The name of the plan associated with the thread.

Authid
The authid associated with the thread.

Correlation
The correlation ID associated with the thread.

Total I/O Rate
The total I/O rate (per second) that is attributable to the data set for the time elapsed.

Read I/O Rate
The Read I/O rate (per second) that is attributable to the data set for the time elapsed.

Write I/O Rate
The Write I/O rate (per second) that is attributable to the data set for the time elapsed.

Total I/O Count
The total I/O count that is attributable to the data set for the time elapsed.

Read I/O Count
The Read I/O count that is attributable to the data set for the time elapsed.

Write I/O Count
The Write I/O count that is attributable to the data set for the time elapsed.

Display Options For Volume Activity Summary Display

Use this panel to specify filtering criteria for the output that is displayed in the Volume Activity Summary panel.

```
_________________ ZOJVO    VTM     02       V540.#P SE12 11/06/13 10:32:27   2
>    Help PF1                                                        Back PF3
================================================================================
>            DISPLAY OPTIONS FOR VOLUME ACTIVITY SUMMARY DISPLAY
 OJVO
:  VOLUME=______          Filter display output by volume name
:  UNIT=____              "                    " by volume unit address
:  VOLUTIL>___            "                    " by volume utilization
:  VOLSERV>____           "                    " by volume service
:  TOTALIO>____           "                    " by volume total I/O rate
:  DB2IO>____             "                    " by volume DB2 I/O rate
:  DB2PERC>___            "                    " by volume total DB2 I/O %
:  RATE=___               Display Volume rates or counts (yes/no)
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

VOLUME=
Enter a volume name (maximum 6 characters) if you want to limit the displayed information to a particular volume or group of volumes.

You can specify a wildcard by entering a question mark (?), or you can use an asterisk (*) for generic filtering. For example, VOL* would select all volumes that begin with VOL, and VOL??2 would select all volumes that begin with VOL, end with 2, and have any two characters in between.

UNIT=
If you want to display only volume activity information that applies to a particular volume address or group of addresses, enter a value (maximum 4 characters).

You can specify a wildcard by entering a question mark (?), or you can use an asterisk (*) for generic filtering.

VOLUTIL>
If you want to display only volume activity information where the volume utilization is greater than *n* percent, enter a number from 0 to 100.

VOLSERV>
If you want to display only volume activity information where the average volume service time is greater than *n*, enter a number from 0 to 1000.

TOTALIO>
If you want to display only volume activity information where the volume's total I/O rate per second is greater than *n*, enter a number from 0 to 999.

DB2IO>
If you want to display only volume activity information where the volume's DB2 I/O rate per second is greater than *n*, enter a number from 0 to 999.

DB2PERC>
If you want to display only volume activity information where the percentage of total DB2 I/O attributable to the volume is greater than *n* percent, enter a number from 0 to 100.

RATE=
If you want to display volume activity information as rates rather than counts, enter YES. The default is NO. Rates are calculated dividing each count field by the interval elapsed time.

Dataset Extend Activity

This panel shows activity information for each database/spacename/data set that has acquired additional extents since object analysis collection was started. Use this information to analyze data set extent activity.

```
_________________ ZOJES    VTM     O2       V540.#P SE12 11/06/13 11:06:44   2
> Help PF1      Back PF3      Up PF7      Down PF8     Sort PF10     Zoom PF11
> O.D
>       OBJECT ANALYSIS:  Enter a selection letter on the top line.
>
> A-OBJECT ALLOCATIONS         B-OBJECT ACTIVITY            C-VOLUME ACTIVITY
> *-EXTEND ACTIVITY            E-DISPLAY OPTIONS            F-COLLECTOR CONTROL
================================================================================
>                            DATASET EXTEND ACTIVITY
 OJES
+                     *
+                     Database   Spacenam   DSN   Accumulated Extents
+                     --------   --------   ----  -------
+                     TESTDB01   TESTSP01    005        5
================================================================================
```

If you move the cursor to any entry in a column and press F10, OMEGAMON XE for DB2 PE will sort on that column.

Navigation

For additional information about

- related topics, select one of the options on the top of the panel.
- other topics, use the PF keys.

Fields

Database
The name of a database that owns the space that incurred extend activity.

Spacenam
The name of a space that incurred extend activity.

DSN
The relative number of a data set that incurred extend activity.

Accumulated Extents
The number of data set extents allocated since object analysis collection was started.

Start Object Analysis Collection

Use this panel to start the object analysis collector for the monitored DB2. This collector gathers data that is displayed on the object analysis panels.

```
_______________ ZOJIN    VTM     O2       V540.#P SE12 11/06/13 11:10:08   2
>  Help PF1                                                        Back PF3
>  O.F
>       OBJECT ANALYSIS:  Enter a selection letter on the top line.
>
>  *-START                                                          B-STOP
================================================================================
>                    START OBJECT ANALYSIS COLLECTORS
>
> To START Object Analysis and Volume Analysis Collectors, remove the '>'
> preceeding the following command and press the ENTER key.
>
> To modify the collection interval time used by Object Analysis and Volume
> Analysis collectors change the default collection interval of 5 minutes to
> the value you want.  The interval selected must be from 1 to 1440.
>
>OJIN INTERVAL=5
================================================================================
```

Navigation

For additional options, use the PF keys.

Stop Object Analysis Collection

Use this panel to stop the object analysis collector for the monitored DB2.

```
_______________ ZOJTM    VTM     O2       V540.#P SE12 11/06/13 11:10:26   2
> Help PF1                                                        Back PF3
>
>       OBJECT ANALYSIS:  Enter a selection letter on the top line.
>
>  A-START                                                          *-STOP
================================================================================
>                    STOP OBJECT ANALYSIS COLLECTORS
>
> To STOP Object Analysis and Volume Analysis collectors remove the '>'
> preceding the following command and press the ENTER key
>
>OJTM
================================================================================
```

Navigation

For additional options, use the PF keys.

Chapter 12. DB2 Connect Server

Select this main menu option for information about DB2 Connect Servers that serve as DB2 Connect gateways and are connected to the selected DB2 subsystem.

Other DB2 Connect Server information is displayed in panels that are documented in Chapter 6, "Thread Activity," on page 39 and Chapter 8, "Resource Managers and Other DB2 Subsystem Information menu," on page 215.

The DB2 Connect Server panel lists all DB2 Connect Servers that serve as DB2 Connect gateways and are connected to the selected DB2 subsystem. If no DB2 Connect Server is connected to the selected DB2 subsystem, message `No DB2 Connect Server connections` is displayed.

```
_____________ ZDB2C    VTM     O2       V540./C SZ91 07/31/13 17:06:16   2
>       Help PF1      Back PF3      Up PF7      Down PF8       Zoom PF11
> G.
================================================================================
>                           DB2 CONNECT SERVER

 DB2C                                                      DB2C Master: SZ91
+
+ Name             IP Address      Node Name  Status          Server Name
+ --------------- --------------- ---------- --------------- ---------------
+ IBM-590C1A11DE1 9.76.24.33      N/P        ACTIVE          DB2
+ IBM-590C1A11... 9.65.68.52      N/P        INACTIVE        N/P
+ IBM-3B8F56F0... 9.76.6.137      N/P        INACTIVE        N/P
================================================================================
```

Navigation

You can scroll through the list using F7 and F8, or select a particular list item and press F11 (Zoom). For more information, see the description of panel "DB2 Connect/Gateway Statistics" on page 522.

Fields

DB2C Master
Shows the name of the member of the data sharing group that controls DB2 Connect monitoring for the group. If N/A is shown, the DB2C Master is currently being changed. For more information, see the description of panel "Redirect Monitoring to Another DB2" on page 20.

Name
Shows the name in the database manager configuration file at the client node. It identifies the client node that is running the application.

IP Address
Shows the current IP address.

Node Name
Shows the name of the node being monitored by the database system monitor. It identifies the database server node being monitored.

Status
Shows whether the server is active or inactive.

Server Name
Shows the name of the database manager instance for which the snapshot was taken.

If the system contains more than one instance of the database manager, this name is used to uniquely identify the instance for which the snapshot call was issued. Along with configuration NNAME at monitoring (server) node, this information can be useful if you are saving your monitor output in a file or database for later analysis, and you need to differentiate the data from different instances of the database manager.

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DB2 Connect/Gateway Statistics

This panel shows statistics details about a selected DB2 Connect gateway.

```
  _________________ ZDBCD    VTM     O2       V540./C SZ91 07/31/13 17:06:43   2
>       Help PF1      Back PF3      Up PF7      Down PF8
>
> DB2 Connect/Gateway: Enter a selection letter on the top line.
>
> *-DB2 Connect/Gateway Statistics  B-Tasks List   C-Performance
> D-Package Statistics
================================================================================
>                       DB2 Connect/Gateway Statistics
 DBCS
+ Name: IBM-590C1A11DE1 IP Addr: 9.76.24.33      Srv Inst Name:DB2
+ Gateway Snapshot Time:2013-07-31-17.03.26.974000
>
 dbcd
+
+ DB2 Connect Information                    DB2 Connect Agents
+ ----------------------------------------  ----------------------------
+ Name                   =IBM-590C1A11DE1    Registered          =      20
+ IP Address             =9.76.24.33         Max Registered      =      20
+ Node Name              =N/P                Wait For Token      =       0
+ Node Number            =       0           Max Wait Token      =       0
+ Srv Product/Version ID =SQL09010           From Pool           =   16160
+ Srv Instance Name      =DB2                Create Empty Pool   =      21
+ Srv Version            =       7           Stolen              =       0
+ Time Zone Displacement =- 7h 0mn           Idle                =       3
+ Server Status          =ACTIVE             Max Coordinating    =      20
+                                            Max Overflow        =       0
+                                            Inactive DRDA       =     N/P
+                                            Connection Switch   =       0
+                                            Private Memory      =25231360
+
+ Connections                                Sorts
+ ----------------------------------------   ----------------------------
+ Current                        =       2   Sort Heap Allocated =       0
+ Attempted                      =      35
+ Wait for Host Reply            =       0
+ Wait Client Send Request       =       2
+ Remote Connection              =       2
+ Remote Conn Executing in DBM   =       0
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Name
Shows the name in the database manager configuration file at the client node. It identifies the client node that is running the application.

IP Addr
Shows the current IP address.

Srv Inst Name
Shows the name of the database manager instance for which the snapshot was taken.

Gateway Snapshot Time
Shows the date and time when the snapshot of displayed data was taken.

DB2 Connect information:

Name
Shows the name in the database manager configuration file at the client node. It identifies the client node that is running the application.

IP Address
Shows the current IP address.

Node Name
Shows the name of the node being monitored by the database system monitor. It identifies the database server node being monitored.

Node Number
Shows the number assigned to the node in the `db2nodes.cfg` file.

Srv Product/Version ID
Shows the product and version that is running on the DB2 data server in the form *pppvvrrm*, where:

- *ppp* stands for SQL
- *vv* identifies a 2-digit version number (with high-order 0 in the case of a 1-digit version)
- *rr* identifies a 2-digit release number (with high-order 0 in the case of a 1-digit release)
- *m* identifies a 1-digit modification level

Srv Instance Name
Shows the name of the database manager instance for which the snapshot was taken.

Srv Version
Shows the version of the DB2 data server returning the information.

Time Zone Displacement
Shows the number of hours and minutes that the local time zone is displaced from Greenwich Mean Time (GMT).

Server Status
Shows whether the DB2 data server is active or inactive.

Connections:

Current
Shows the number of applications that are currently connected to the database.

Attempted
Shows the total number of current connections initiated from remote clients to the instance of the database manager that is being monitored.

Wait for Host Reply
Shows the current number of connections to the host databases that are handled by the DB2 Connect gateway and are waiting for a reply from the host.

Wait for Client Send Request
Shows the current number of connections to the host databases that are handled by the DB2 Connect gateway and are waiting for the client to send a request.

Remote Connection
Shows the current number of connections initiated from remote clients to the instance of the database manager that is being monitored.

Remote Conn Executing In DBM
Shows the number of remote applications that are currently connected to a database and are processing a unit of work within the database manager instance being monitored.

DB2 Connect Agents:

Registered
Shows the number of agents that are registered in the database manager instance that is being monitored.

Max Registered
Shows the maximum number of agents that the database manager has registered at the same time since it was started.

Wait for Token
Shows the number of agents waiting for a token so they can perform a transaction in the database manager.

Max Wait for Token
Shows the maximum number of agents that have been waiting for a token at the same time since the database manager was started.

From Pool
Shows the maximum number of agents that have been waiting for a token at the same time since the database manager was started.

Create Empty Pool
Shows the number of agents created because the agent pool was empty.

Stolen
Shows the number of times that agents are stolen from an application.

Idle
Shows the number of agents in the agent pool that are currently unassigned to an application.

Max Coordinating
Shows the maximum number of coordinating agents working at one time.

Max Overflow
Shows the number of times a request to create a new agent was received when the MAXAGENTS configuration parameter had already been reached.

Inactive DRDA
Shows the number of connections made by a subagent to the database at the node.

Connection Switch
Shows the number of times that an agent from the agent pool was primed with a connection and was stolen for use with a different DRDA database.

Private Memory
Shows the amount of private memory that the instance of the database manager has committed at the time of the snapshot.

Sorts:

Sort Heap Allocated
Shows the total number of allocated pages of sort heap space for all sorts at the level chosen and at the time of the snapshot was taken.

DB2 Connect/Gateway Tasks List

This panel shows DB2 Connect/Gateway task list information about a selected DB2 Connect gateway. Use this panel to display further details for a selected task.

```
 _________________ ZDBCT    VTM     O2       V540./C SZ91 07/31/13 17:07:11   2
>  Help PF1      Back PF3      Up PF7      Down PF8     Zoom PF11
>
> DB2 Connect/Gateway: Enter a selection letter on the top line.
>
> A-DB2 Connect/Gateway Statistics  *-Tasks List   C-Performance
> D-Package Statistics
================================================================================
>                        DB2 Connect/Gateway Task List
 DBCS
+ Name: IBM-590C1A11DE1 IP Addr: 9.76.24.33      Srv Inst Name:DB2
+ Gateway Snapshot Time:2013-07-31-17.05.27.252000
 dbct
+
+             Process         Gway User            System
+ Process     Owner           Proc Process         Process         CPU%  Memory
+ Name        Name            ID   Time            Time            Usage Usage
+ ----------- --------------- ---- --------------- --------------- ----- ------
+ NetClient.e N/P             5212 00:00:17.000000 00:00:43.000000    13    N/P
+ svchost.exe N/P             2044 00:34:35.967296 00:21:51.967296     3    N/P
+ db2bp.exe   N/P             1480 00:00:00.000000 00:00:00.000000     0    N/P
+ db2.exe     N/P              10K 00:00:00.000000 00:00:00.000000     0    N/P
+ cmd.exe     N/P             6300 00:00:00.000000 00:00:00.000000     0    N/P
+ DB2PEAgent. N/P             9060 00:00:08.000000 00:00:12.000000     0    N/P
+ cmd.exe     N/P             8676 00:00:00.000000 00:00:00.000000     0    N/P
+ winvnc.exe  N/P             6708 00:00:02.000000 00:00:15.000000     0    N/P
+ wmiprvse.ex N/P             9940 00:00:51.000000 00:01:13.000000     0    N/P
+ ntaskldr.ex N/P             8064 00:00:33.000000 00:00:15.000000     0    N/P
+ nlnotes.exe N/P              10K 00:00:47.000000 00:00:29.000000     0    N/P
+ rotatelogs. N/P             7768 00:00:00.000000 00:00:01.000000     0    N/P
+ rotatelogs. N/P             6364 00:00:00.000000 00:00:01.000000     0    N/P
+ httpd.exe   N/P             5160 00:00:09.000000 00:01:11.000000     0    N/P
+ rotatelogs. N/P             7952 00:00:00.000000 00:00:01.000000     0    N/P
+ rotatelogs. N/P             7504 00:00:00.000000 00:00:01.000000     0    N/P
+ httpd.exe   N/P             6404 00:00:01.000000 00:00:03.000000     0    N/P
+ java.exe    N/P             6780 00:02:42.000000 00:04:39.000000     0    N/P
+ KfwServices N/P             5772 00:02:22.000000 00:02:11.000000     0    N/P
+ kdsmain.exe N/P             5476 00:00:27.000000 00:02:10.000000     0    N/P
================================================================================
```

Navigation

You can scroll through the list using F7 and F8, or select a particular list item and press F11 (Zoom) for additional information. See “DB2 Connect/Gateway Task Detail fields” on page 526.

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Name
Shows the name in the database manager configuration file at the client node. It identifies the client node that is running the application.

IP Addr
Shows the current IP address.

Srv Inst Name
Shows the name of the database manager instance for which the snapshot was taken.

Gateway Snapshot Time
Shows the date and time when the snapshot of displayed data was taken.

Task list column headers:

Process Name
Shows the name of the process (truncated to 15 characters, if it is longer).

Process Owner Name
Shows the session ID that owns the process.

Gateway Process ID
Shows the numerical identifier that uniquely distinguishes a running process.

User Process Time
Shows the total user CPU time, in seconds and microseconds, used by the database manager agent process, the unit of work, or the statement.

System Process Time
Shows the total system CPU time, in seconds and microseconds, used by the database manager agent process, the unit of work, or the statement.

CPU% Usage
Shows the percentage of time that a process used the CPU since the last update.

Memory Usage
Shows the current working set of a process, in KB.

DB2 Connect/Gateway Task Detail fields

The DB2 Connect/Gateway Task Detail panel shows further details about a selected task.

```
 _________________ ZDBTD    VTM     O2       V540.#P DA41 11/06/13 11:14:22   2
> Help PF1      Back PF3
>
================================================================================
>               DB2 Connect/Gateway Task Detail
 DBCS
+ Name: MINCHENKOV-S    IP Addr: 9.157.132.217   Srv Inst Name:DB2
+ Gateway Snapshot Time:2013-11-06-11.09.49.887000
 dbtd
+
+ Process Name :
+      DB2PEAgent.exe
+
+ Owner Name           = N/P
+
+ Gateway Process ID   =           10596
+
+ CPU% Usage           =               0
+
+ Memory Usage         =             N/P
+
+ Process Time
+ --------------------------------------
+ User                 = 00:00:07.000000
+ System               = 00:00:20.000000
+ Total                = 00:00:27.000000
================================================================================
```

Process Time (User)
Shows the user process time.

Process Time (System)
Shows the system process time.

Process Time (Total)
Shows the total process time (sum of user and system process time).

DB2 Connect/Gateway Performance

This panel shows performance information about a selected DB2 Connect gateway.

```
 _________________ ZDBCP    VTM     O2       V540./C SZ91 07/31/13 17:07:40   2
>       Help PF1      Back PF3      Up PF7      Down PF8
>
> DB2 Connect/Gateway: Enter a selection letter on the top line.
>
> A-DB2 Connect/Gateway Statistics  B-Tasks List   *-Performance
> D-Package Statistics
================================================================================
>                      DB2 Connect/Gateway Performance
 DBCS
+ Name: IBM-590C1A11DE1 IP Addr: 9.76.24.33      Srv Inst Name:DB2
+ Gateway Snapshot Time:2013-07-31-17.05.27.252000
 dbcp
+
+ Times for Sample SQL Statement
+ ----------------------------------------
+ Total Statement Time        =00:00:00.197515
+ Time in DB2 Connect         =00:00:00.000326
+ Time on DB2 Host            =00:00:00.001858
+ Time in Network Connection  =00:00:00.195331
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Name
Shows the name in the database manager configuration file at the client node. It identifies the client node that is running the application.

IP Addr
Shows the current IP address.

Srv Inst Name
Shows the name of the database manager instance for which the snapshot was taken.

Gateway Snapshot Time
Shows the date and time when the snapshot of displayed data was taken.

Total Statement Time
For a DCS statement, this field shows the elapsed time between the time the statement was sent from the DB2 Connect gateway to the host for processing and the time at which the result was received from the host.

Time in DB2 Connect
For a DCS statement, this field shows the elapsed time for processing an SQL request at a host database server.

Time on DB2 Host
Shows the total time, in seconds and microseconds, that was spent executing a particular statement in the SQL cache.

Time in Network Connection
Shows the total time, in seconds and microseconds, at the DB2 Connect gateway to process an application request (since the connection was established), or to process a single statement.

DB2 Connect/Gateway Package Statistics

This panel shows package statistics information about a selected DB2 Connect gateway.

```
_________________ ZDCPK    VTM     O2       V540./C SZ91 07/31/13 17:08:04   2
>       Help PF1      Back PF3      Up PF7      Down PF8
>
> DB2 Connect/Gateway: Enter a selection letter on the top line.
>
> A-DB2 Connect/Gateway Statistics  B-Tasks List   C-Performance
> *-Package Statistics
================================================================================
>               DB2 Connect/Gateway Package Statistics
 DBCS
+ Name: IBM-590C1A11DE1 IP Addr: 9.76.24.33      Srv Inst Name:DB2
+ Gateway Snapshot Time:2013-07-31-17.05.27.252000
 dcpk
+ Parent             Stmt  Network     Avg Network      Avg Resp   Avg Req
+ DB Name            Grp   Time        Time             Size Outbd Size Outbd
+ ------------------ ----- ----------- ---------------  ---------- ----------
+ PMODBZ9            2     00:00:00.95 00:00:00.237794        1364         79
+ PMODBZ9            2     00:00:00.95 00:00:00.237794        1364         79
+ PMODBZ9            2     00:00:00.65 00:00:00.242909         695        246
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Name
Shows the name in the database manager configuration file at the client node. It identifies the client node that is running the application.

IP Addr
Shows the current IP address.

Srv Inst Name
Shows the name of the database manager instance for which the snapshot was taken.

Gateway Snapshot Time
Shows the date and time when the snapshot of displayed data was taken.

Parent DB Name
Shows the name of the remote database to which the remote application is connected.

Statement Group
Shows the number of statements with outbound bytes.

Network Time
Shows the difference between the value for the `TIMES FOR SAMPLE SQL STATEMENT - TOTAL STATEMENT TIME` field and the value of the `TIMES FOR SAMPLE SQL STATEMENT - TIME ON DB2 HOST` field.

Average Network Time
Shows the result of the value for the `NETWORK TIME` field, divided by the number of SQL chains being transferred.

Average Response Size Outbound
Shows the number of bytes per SQL statement received by the DB2 Connect gateway from the host, excluding communication protocol overhead, divided by the number of SQL chains being transferred.

Average Request Size Outbound
Shows the number of bytes per SQL statement sent by the DB2 Connect gateway to the host, excluding communication protocol overhead, divided by the number of SQL chains being transferred.

Chapter 13. Address Space Information

Select this main menu option for information about DB2 address spaces.

Address Space Information and OMEGAMON Commands menu

This menu shows actual address space information. Use this menu to navigate to detailed information about address spaces or to issue OMEGAMON XE for DB2 PE commands.

```
_________________ ZDISP    VTM     02       V540.#P DA41 11/06/13 11:15:30   2
>       Help PF1                                                 Back PF3
> M.
>                  Enter a selection letter on the top line.

================================================================================
>             ADDRESS SPACE INFORMATION AND OMEGAMON COMMANDS MENU

_ A  DA41MSTR .......... DB2 system services address space
_ B  DA41DBM1 .......... DB2 database services address space
_ C  DA41IRLM .......... DB2 IRLM address space
_ D  DA41DIST .......... DB2 Distributed Data Facility address space

_ F  COMMANDS .......... Execute OMEGAMON commands

================================================================================
```

The address space names shown in the above figure are samples. Your actual address space names are shown in the panel.

If the Distributed Data Facility is not active, N/A is displayed next to the letter D.

Navigation

For additional information about

- related topics, select one of the options from the menu.
- other topics, use the PF keys.

Virtual Storage Map

This panel shows the amount of virtual storage currently in use and the amount available for use in the specified address space.

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```
_________________ ZPEEKAA  VTM     O2       V540.#P DA41 11/06/13 11:16:41   2
>       Help PF1           Back PF3           Up PF7           Down PF8
> M.A.A
>  SYSTEM SERVICES ADDRESS SPACE:  Enter a selection letter on the top line.

> *-VIRTUAL   B-ALLOCS   C-JOB INFO   D-MODULES   E-REGION   F-SUBPOOL   G-TCBS
> H-LSQA
================================================================================
>                             VIRTUAL STORAGE MAP

 PEEK  DA41MSTR ASID=225, collected at 11:16:36
 amap
+      ===== 2 Gig Line ====== <== 7FFFFFFF Highest 31-bit address
+      |                     |
+      |---------------------| <== 7FFFFFFF Top of Extended Private
+      | ////////////////// |
+      | /// System Area /// | >-----------    384K ELSQA/SWA unallocated
+      | ////////////////// |                 148K Fragmented free space
+      |---------------------| <== 7E9DD000 Current bottom of ELSQA/SWA
+      |                     |
+      |      Available      | >-----------      0K Avail. for ELSQA/SWA only
+      |                     |
+      |---------------------| <== 7E9DCFFF Extended User Area Limit
+      |                     |
+      |      Available      | >-----------   1498M Avail. for ELSQA/SWA/USER
+      |                     |
+      |---------------------| <== 20F46FFF Current top of Ext. User Area
+      | ////////////////// |                   24K Largest free block
+      | //// User Area //// | >-----------     28K Extended User unallocated
+      | ////////////////// |                   22K Fragmented free space
+      |---------------------| <== 20D00000 Bottom of Extended Private
+      |                     |
+      ===== 16 Meg Line ===== <== 00FFFFFF Highest 24-bit address
+      |                     |
+      |---------------------| <== 008FFFFF Top of Private
+      | ////////////////// |
+      | /// System Area /// | >-----------      4K LSQA/SWA unallocated
+      | ////////////////// |                  78K Fragmented free space
+      |---------------------| <== 008AE000 Current bottom of LSQA/SWA
+      |                     |             (Below User Area Limit)
+      |      Available      | >-----------      0K Avail. for LSQA/SWA only
+      |                     |
+      |---------------------| <== 008ADFFF User Area Limit(Was 008FFFFF)
+      |                     |
+      |      Available      | >-----------   8780K Avail. for LSQA/SWA/USER
+      |                     |
+      |---------------------| <== 0001AFFF Current top of User Area
+      | ////////////////// |                   24K Largest free block
+      | //// User Area //// | >-----------     24K User unallocated
+      | ////////////////// |                    7K Fragmented free space
+      |---------------------| <== 00006000 Bottom of Private
+      |                     |
+      === Absolute Bottom === <== 00000000 Prefixed Storage Area
================================================================================
```

This panel requires special authorization because its use causes additional system overhead to collect the necessary data. Type /PWD on the top line of the panel, enter a valid password when requested, then press Enter. Thereafter, OMEGAMON XE for DB2 PE displays the requested information.

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

DA41MSTR
The name of the job running in this address space. (In this case, DA41MSTR.)

ASID
The address space identification number.

collected at
The time at which OMEGAMON XE for DB2 PE collected the information for this virtual storage map.

System Area (extended)
The size of the system area in the extended private area.

Available (extended)
The amount of extended private area available for use. The boundary between the extended private area available for the user and the extended private area for the system is labeled `Extended User Area Limit` on the map.

User area (extended)
The size of the user area in the extended private area.

System Area (private)
The size of the system area in the private area.

Available (private)
The amount of private area available for use. The boundary between the private area available for the user and the private area for the system is labeled `User Area Limit` on the map.

User area (private)
The size of the user area in the private area.

DB2 Address Space Allocated DDnames and Datasets

This panel shows all ddnames allocated to a jobstep and their corresponding device addresses, data set names, and volume serial numbers (including dynamically allocated ddnames) for the specified address space.

This panel requires special authorization because its use causes additional system overhead to collect the necessary data. Type `/PWD` on the top line of the panel, enter a valid password when requested, then press Enter. Thereafter, OMEGAMON XE for DB2 PE displays the requested information.

```
_________________ ZPEEKAB  VTM     O2       V540.#P DA41 11/06/13 11:17:15   2
>        Help PF1           Back PF3           Up PF7           Down PF8
> M.A.B
>  SYSTEM SERVICES ADDRESS SPACE:  Enter a selection letter on the top line.

> A-VIRTUAL   *-ALLOCS   C-JOB INFO   D-MODULES   E-REGION   F-SUBPOOL   G-TCBS
> H-LSQA
================================================================================
>                        ALLOCATED DDNAMES AND DATASETS

 PEEK  DA41MSTR ASID=225, collected at 11:17:13
 ddns
+     DDname   Addr VolSer Sta,Dsp DSN
+     STEPLIB  4C29 PMOSD9 SHR,KEE SYS1.DSN.DA41.SDSNEXIT
+              4169 DB2100 SHR,KEE SYS1.DSN.V100.SDSNLOAD
+     BSDS1    4C29 PMOSD9 SHR,KEE DSNA41.BSDS01
+              FFFF ...... SHR,KEE DSNA41.BSDS01
+     BSDS2    4C29 PMOSD9 SHR,KEE DSNA41.BSDS02
+              FFFF ...... SHR,KEE DSNA41.BSDS02
+     DB2ENQ   4A10 PMOLIB SHR,KEE SYS1.DB2.ENQ
+     SYS00001 4C29 PMOSD9 SHR,KEE DSNA41.LOGCOPY1.DS01
+     SYS00002 4C29 PMOSD9 SHR,KEE DSNA41.LOGCOPY1.DS02
+     SYS00003 4C29 PMOSD9 SHR,KEE DSNA41.LOGCOPY1.DS03
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

DA41MSTR
The name of the job running in this address space. (In this case, DA41MSTR.)

ASID
The address space identification number.

collected at
The time at which OMEGAMON XE for DB2 PE collected the information for this address space.

DDname
The ddnames allocated to this job. If the **DDname** field is blank, the data set is part of a concatenation with preceding data sets.

Adr
The addresses of the devices allocated to this job.

VolSer
The volume serial numbers of the devices allocated to this job.

Sta,Dsp
The status and disposition of the devices allocated to this job.

DSname
The names of the data sets allocated to this job.

You can type a 2- or 3-digit number after DDNS (DDNSnn or DDNnnn) to suppress the display of the first *nn* or *nnn* lines of output. This ability is useful if all of the ddnames do not fit on one panel.

If you type an X before DDNS (XDDNS), OMEGAMON XE for DB2 PE displays the following additional information about the ddname:

- LRECL
- BLKSZ
- RECFM
- ORG
- Password protection
- Number of EXCPs for each data set
- TIOT address for each TCB group

No additional SRBs are scheduled to display this information. OMEGAMON XE for DB2 PE collected all of the data when you selected this panel but only displays it when you type the X.

Job Information and Start Time

This panel displays miscellaneous information about the specified address space.

This panel requires special authorization because its use causes additional system overhead to collect the necessary data. Type `/PWD` on the top line of the panel, enter a valid password when requested, then press Enter. Thereafter, OMEGAMON XE for DB2 PE displays the requested information.

```
_________________ ZPEEKAC  VTM     O2       V540.#P DA41 11/06/13 11:17:37   2
>       Help PF1           Back PF3           Up PF7           Down PF8
> M.A.C
>  SYSTEM SERVICES ADDRESS SPACE:  Enter a selection letter on the top line.

> A-VIRTUAL   B-ALLOCS   *-JOB INFO   D-MODULES   E-REGION   F-SUBPOOL   G-TCBS
> H-LSQA
================================================================================
>                        JOB INFORMATION AND START TIME

 PEEK  DA41MSTR ASID=225, collected at 11:17:35
 jobs  Job started at 14:43:32 on 10/30/13  MSGCLASS=0
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

DA41MSTR
The name of the job running in this address space. (In this case, DA41MSTR.)

ASID
The address space identification number.

collected at
The time at which OMEGAMON XE for DB2 PE collected the information for this address space.

Job started at
The time and date on which this job started executing.

MSGCLASS
The system message class associated with the job.

Jobpack Area Modules

This panel displays information about the modules currently loaded into the user's jobpack area for the specified address space.

This panel requires special authorization because its use causes additional system overhead to collect the necessary data. Type /PWD on the top line of the panel, enter a valid password when requested, then press Enter. Thereafter, OMEGAMON XE for DB2 PE displays the requested information.

```
_________________ ZPEEKAD  VTM     O2       V540.#P DA41 11/06/13 11:17:45   2
>       Help PF1           Back PF3           Up PF7           Down PF8
> M.A.D
>  SYSTEM SERVICES ADDRESS SPACE:  Enter a selection letter on the top line.

> A-VIRTUAL   B-ALLOCS   C-JOB INFO   *-MODULES   E-REGION   F-SUBPOOL   G-TCBS
> H-LSQA
================================================================================
>                             JOBPACK AREA MODULES

 PEEK  DA41MSTR ASID=225, collected at 11:18:49
 mods
+      Module    Entry     Length    Users  Attributes
+      DSN3RSRB  9A4B3C10  00001270      1  RENT,REUS,AUTH
+      DSNLFR    99FD7BB0  00001038      1  RENT,REUS,AUTH
+      ERB3XDRS  A0F0D6F8  00039908      1  RENT,REUS,AUTH
+      DSN3@SGN  9F0E64D8  00000448      1  RENT,REUS,AUTH
+      DSN3@ATH  9F1D64F8  000002B0      1  RENT,REUS,AUTH
+      DSNJL004  A0D95380  00000178      1  RENT,REUS,AUTH
+      DSNJL003  80012F6C  00000CC0      1  RENT,REUS,AUTH
+      DSNLDTMD  A0F07AB8  00019000      1  RENT,REUS,AUTH
+      DSNLDTMF  9E86CD30  00003FF0      1  RENT,REUS,AUTH
+      DSNWVZPM  A0EEF0B8  00004000      1  RENT,REUS,AUTH
+      DSNWVZPS  9D89B174  00015C20      1  RENT,REUS,AUTH
+      DSNWZDG0  9A3B2FC4  00002608      1  RENT,REUS,AUTH
+      DSNWVZSA  9EE60F54  00003F70      1  RENT,REUS,AUTH
+      DSNWVZXT  80009F90  00000F60      1  RENT,REUS,AUTH
+      DSNWVZCK  A0EEBFC0  00000E88      1  RENT,REUS,AUTH
+      DSNWVZSS  A0EEAF58  00000D98      1  RENT,REUS,AUTH
+      DSNWVZIT  A0EE9DA8  000018C0      1  RENT,REUS,AUTH
+      DSN3RRSA  A0EE7500  00017000      1  RENT,REUS,AUTH
+      DSN3AMGP  9A6AEF90  0002FA10      1  RENT,REUS,AUTH
+      DSN3AMLP  A0ECF820  00005000      1  RENT,REUS,AUTH
+      DSNJL002  A0ECB1B0  00067000      1  RENT,REUS,AUTH
+      DSNTLCLE  80C42990  000003F8      1  RENT,REUS,AUTH
+      DSNVRCT   A0D96748  000005B8      2  RENT,REUS,AUTH
+      DSNVRCTI  A0D96BB8  000005B8      0  RENT,REUS,AUTH,ALIAS(DSNVRCT )
+      DSNVEUS4  A0E63100  00002000      2  RENT,REUS,AUTH
+      DSNVEU4I  A0E64F38  00002000      0  RENT,REUS,AUTH,ALIAS(DSNVEUS4)
+      DSNVEUS3  A0E60100  00003000     64  RENT,REUS,AUTH
+      DSNVEU3I  A0E626C0  00003000      0  RENT,REUS,AUTH,ALIAS(DSNVEUS3)
+      DSN9SCN5  9EFC9F70  00000948      1  RENT,REUS,AUTH
+      DSN9SCN9  9EFDFF58  00000B90      1  RENT,REUS,AUTH
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

DA41MSTR
The name of the job running in this address space. (In this case, DA41MSTR.)

ASID
The address space identification number.

collected at
The time at which OMEGAMON XE for DB2 PE collected the information about these modules.

Module
The module names allocated to this address space.

Entry
The entry points of the modules allocated to this user.

Length
The length of the modules allocated to this user.

Users
The number of users currently using this module.

Attributes
The attributes associated with this module.

You can type a 2- or 3-digit number after MODS (MODS*nn* or MOD*nnn*) to suppress the display of the first *nn* or *nnn* lines of output. This is useful if all of the module names do not fit on one panel.

Region and Program Information

This panel displays information available from the private area.

```
_________________ ZPEEKAE  VTM     O2       V540.#P DA41 11/06/13 11:18:35   2
>       Help PF1            Back PF3           Up PF7           Down PF8
> M.A.E
>  SYSTEM SERVICES ADDRESS SPACE:  Enter a selection letter on the top line.

> A-VIRTUAL   B-ALLOCS   C-JOB INFO   D-MODULES   *-REGION   F-SUBPOOL   G-TCBS
> H-LSQA
================================================================================
>                        REGION AND PROGRAM INFORMATION

 PEEK  DA41MSTR ASID=225, collected at 11:18:28
 step  Job Step Pgm: DSNYASCP; 69 TCBs, 10 Datasets, and 94 Modules
+      Step started at 14:43:32 , now in step # 1 of 1
+
+ For the region below the 16M line:
+
+   Total private region = 9192K   Unused = 8808K
+   Region requested = 0K   Region limit = 9192K
+   Low PVT in use = 60K   Unallocated = 24K   Free = 7K
+   High PVT in use = 324K   Unallocated = 4K   Free = 78K
+   Start of SYSREG:   00002000  End of SYSREG:   00005FFF
+   Start of low PVT:  00006000  End of low PVT:  0001AFFF
+   Current top:       0001AFFF  Limit of region: 008FFFFF
+   Start of high PVT: 008AE000  End of high PVT: 008FFFFF
+
+ For the extended region above the 16M line:
+
+   Total private region = 1559552K   Unused = 1534964K
+   Region limit = 1559552K
+   Low PVT in use = 2304K   Unallocated = 28K   Free = 22K
+   High PVT in use = 22284K*   Unallocated = 384K   Free = 148K
+   *includes non-freemainable system area of 7480K starting at 7F800000
+   Start of low PVT:  20D00000  End of low PVT:  20F46FFF
+   Current top:       20F46FFF  Limit of region: 7FFFFFFF
+   Start of high PVT: 7E9DD000  End of high PVT: 7FFFFFFF
================================================================================
```

This panel requires special authorization because its use causes additional system overhead to collect the necessary data. Type /PWD on the top line of the panel, enter a valid password when requested, then press Enter. Thereafter, OMEGAMON XE for DB2 PE displays the requested information.

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

DA41MSTR
The name of the job running in this address space. (In this case, DA41MSTR.)

ASID
The address space identification number.

collected at
The time at which OMEGAMON XE for DB2 PE collected the information for this address space.

Job Step Pgm
The name of the job step program currently executing.

TCBs
The number of TCBs currently attached.

Datasets
The number of data sets currently in use.

Modules
The number of modules currently in use.

Step started at
The time the current step started executing.

now in step # n of m
The number of the current step and the total number of steps in the job.

Each of the following fields is displayed twice: once to describe the region below the 16 MB line and once to describe the region above that line.

Total private region
The total size of the private area, including areas that cannot be allocated.

Unused
The amount of the total private area not currently in use.

Region requested
The amount specified on the REGION JCL parameter.

Region limit
The region limit that the IEALIMIT exit imposes.

Low PVT in use
The storage that the REGION parameter limits. This includes all of the user subpools.

Unallocated
The storage not allocated to subpools.

Free
The storage allocated to subpools but not currently GETMAINed.

High PVT in use
Includes LSQA, SWA, and subpools 229 and 230. This value is allocated from the top of the user's region downward and is not limited by the REGION JCL parameter.

Start of SYSREG
The beginning address of the area of storage reserved for use by the region control task.

End of SYSREG
The ending address of the area of storage reserved for use by the region control task.

Start of low PVT
The beginning address of the storage that the REGION parameter limits.

End of low PVT
The ending address of the storage that the REGION parameter limits.

Current top
The highest allocated address in the low PVT area at the current time.

Limit of region
The ending address of the low PVT area.

Start of high PVT
The beginning address of the high PVT area.

End of high PVT
The ending address of the high PVT area.

DB2 Storage Allocated by Subpool

This panel shows information about current virtual storage allocations for each storage subpool for the specified address space.

This panel requires special authorization because its use causes additional system overhead to collect the necessary data. Type /PWD on the top line of the panel, enter a valid password when requested, then press Enter. Thereafter, OMEGAMON XE for DB2 PE displays the requested information.

```
_________________ ZPEEKAF  VTM     O2       V540.#P DA41 11/06/13 11:19:31   2
>       Help PF1           Back PF3           Up PF7           Down PF8
> M.A.F
>  SYSTEM SERVICES ADDRESS SPACE:  Enter a selection letter on the top line.

> A-VIRTUAL   B-ALLOCS   C-JOB INFO   D-MODULES   E-REGION   *-SUBPOOL   G-TCBS
> H-LSQA
================================================================================
>                         STORAGE ALLOCATED BY SUBPOOL

 PEEK  DA41MSTR ASID=225, collected at 11:19:08
 subp
+ Sbp-K   Alloc  Real #Blks      Addr    Free  #Blks  Mxfree  Program
+   0-7     36K   20K     7  00006000    3208      6    1968  DSNYASCP  Shr
+             4K    0K     1  20F0B000    2192      1    2192      >16M
+ 229-0      0K    0K     0  00000000       0      0       0           Own
+             4K    4K     1  7F6AD000       0      0       0      >16M
+ 229-5      0K    0K     0  00000000       0      0       0           Own
+             8K    8K     1  7F6B3000    3968      1    3968      >16M
+ 229-7     12K    8K     1  008C0000       0      0       0           Own
+          9360K 5764K   102  7E9DD000   23624     15    4016      >16M
+ 230-5      0K    0K     0  00000000       0      0       0           Own
+             8K    4K     1  7EEFC000    3272      1    3272      >16M
+ 230-7      0K    0K     0  00000000       0      0       0           Own
+             8K    8K     2  7EF01000    3832      1    3832      >16M
+ 236-1     84K   20K     3  008D0000   10456      3    3992           Shr
+           108K   28K     3  7EEF6000       0      0       0      >16M
+ 252-0     24K   20K     5  00007000    4184      5    2360           Own
+          2300K  884K    35  20D00000   21152     15    3304      >16M
+ ------------------------------------------------------------------------------
+ PVT-Lo: 2324K  904K    40             25336     20
+ PVT-Hi: 9400K 5796K   108             34696     18
+ SubTot:11724K 6700K   148             60032     38
+
================================================================================
+   0-7     36K   20K     7  00006000    3208      6    1968  DSNVRCT   Shr
+             4K    0K     1  20F0B000    2192      1    2192      >16M
+ 236-1     84K   20K     3  008D0000   10456      3    3992           Shr
+           108K   28K     3  7EEF6000       0      0       0      >16M
+ ------------------------------------------------------------------------------
+ PVT-Lo:    0K    0K     0                 0      0
+ PVT-Hi:    0K    0K     0                 0      0
+ SubTot:    0K    0K     0                 0      0
+
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Subpool Information

DA41MSTR
The name of the job running in this address space.

ASID
The address space identification number.

collected at
The time at which OMEGAMON XE for DB2 PE collected the information for these modules.

Sbp-K
Subpool number and protect key (decimal). Subpools are displayed for the jobstep TCB and below.

Alloc
Amount of virtual storage currently allocated to the subpool (in 4K increments).

Real
Amount of real storage supporting the virtual allocation.

#Blks
Number of allocated blocks.

Addr
The address of the first block allocated.

Free
Number of free bytes (hex) within the allocation.

#Blks
Number of free blocks.

Mxfreee
Size (hex) of the largest free block within the subpool.

Program
Program name of the TCB associated with these subpools.

Own|Shr
Status of the subpool, owned or shared.

Task Private Area Summary

PVT-Lo
Task private storage below the 16M line.

PVT-Hi
Task private storage above the line.

Subtot
Summary of private storage above and below the line.

Address Space Private Area Summary

Tot-Lo
Total private area allocated below the line for all tasks in the address space.

Tot-Hi
Total private area allocated above the line for all tasks in the address space.

Totals
Total private area allocated for all tasks in the address space, both above and below the line.

You can type a 2-digit number after SUBP (SUBPnn) to suppress the display of the first *nn* lines of output. This ability is useful if all of the subpool names do not fit on one panel.

If you want to display subpools for all TCBs within the address space type an X before SUBP (XSUBP).

Task Control Block Structure

This panel displays the current TCB structure for the target user (the DB2 system services address space, DB2 database services address space, DB2 Internal Resource Lock Manager (IRLM) address space, or the DDF address space).

This panel requires special authorization because its use causes additional system overhead to collect the necessary data. Type /PWD on the top line of the panel, enter a valid password when requested, then press Enter. Thereafter, OMEGAMON XE for DB2 PE displays the requested information.

```
_________________ ZPEEKAG  VTM     O2       V540.#P DA41 11/06/13 11:19:53   2
>       Help PF1           Back PF3           Up PF7           Down PF8
> M.A.G
>  SYSTEM SERVICES ADDRESS SPACE:  Enter a selection letter on the top line.

> A-VIRTUAL   B-ALLOCS   C-JOB INFO   D-MODULES   E-REGION   F-SUBPOOL   *-TCBS
> H-LSQA
================================================================================
>                         TASK CONTROL BLOCK STRUCTURE

 PEEK  DA41MSTR ASID=225, collected at 11:19:51
 tcbs  Program  Mother   Daughter Sister   Jobstep
+      IEAVAR00           IEESB605           (Self)   (Region Control Task)
+      IEESB605 IEAVAR00 DSNYASCP IEAVTSDT  (Self)   (Started Task Control)
+      DSNYASCP IEESB605 DSNVRCT            (Self)
+      DSNVRCT  DSNYASCP          DSNVEUS4 DSNYASCP
+      DSNVEUS4 DSNYASCP DSNVEUS3          DSNYASCP
+      DSNVEUS3 DSNVEUS4          DSNVEUS3 DSNYASCP
+      DSNVEUS3 DSNVEUS4          DSNVEUS3 DSNYASCP
+      DSNVEUS3 DSNVEUS4          DSNVEUS3 DSNYASCP
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

DA41MSTR
The name of the job running in this address space. (In this case, DA41MSTR.)

ASID
The address space identification number.

collected at
The time at which OMEGAMON XE for DB2 PE collected the information for this TCB structure.

Program
Load module name of the most recently created request block (RB) for each TCB.

Mother
The program name of the mother TCB of the program TCB.

Daughter
The program name of the daughter TCB of the program TCB.

Sister
The program name of the oldest sister TCB of the program TCB.

Jobstep
The name of the current job step.

Figure 4 on page 540 shows a graphic representation of the information about a typical TCB structure shown on the DB2 Address Space TCB Structure panel.

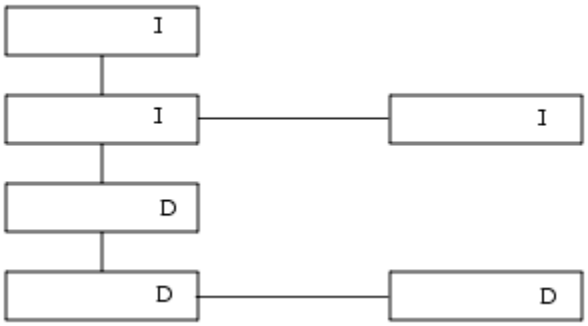


Figure 4. Typical TCB Structure

If you type an A before TCBS (ATCBS), OMEGAMON XE for DB2 PE displays the actual TCB address under each TCB program name. This information can be useful if several TCBs in the same step invoke the same program. If you type an X before TCBS (XTCBS), OMEGAMON XE for DB2 PE displays two extra lines for each TCB. The first line shows the storage protect key for the TCB and indicates whether the address space is APF authorized.

The second line indicates that the TCB is either **DISPATCHABLE** or **NON-DISPATCHABLE**. For those TCBs that cannot be dispatched, a short explanation is displayed to indicate which non-dispatchability bit was set.

You can type a 2-digit number after TCBS (TCBSnn) to suppress the display of the first *nn* lines of output. This ability is useful if all of the TCB names do not fit on one panel.

Local System Queue Area

This panel shows the amount of local system queue area (LSQA) storage that is currently allocated and the amount of storage that is available to be used above and below the 16M line in the specified address space.

This panel requires special authorization because its use causes additional system overhead to collect the necessary data. Type /PWD on the top line of the panel, enter a valid password when requested, then press Enter. Thereafter, OMEGAMON XE for DB2 PE displays the requested information.

```
_________________ ZPEEKAH  VTM     O2       V540.#P DA41 11/06/13 11:20:12   2
>       Help PF1           Back PF3           Up PF7           Down PF8
> M.A.H
>  SYSTEM SERVICES ADDRESS SPACE:  Enter a selection letter on the top line.

> A-VIRTUAL   B-ALLOCS   C-JOB INFO   D-MODULES   E-REGION   F-SUBPOOL   G-TCBS
> *-LSQA
================================================================================
>                           LOCAL SYSTEM QUEUE AREA

 PEEK  DA41MSTR ASID=225, collected at 11:20:11
 lsqa
+                  Allocated   Percent   Available  Largest     Available
+                              Allocated             Available  For User Pvt
+                  ---------  ---------  ---------  ---------  ------------
+ Below 16M line:      245K       2.7%       9108K      8780K        8780K
+ Above 16M line:    22135K       1.4%       1520M      1498M        1498M
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

DA41MSTR
The name of the job that is running in this address space. (In this case, DA41MSTR.)

ASID
The address space identification number.

collected at
The time at which OMEGAMON XE for DB2 PE collected the information for this TCB structure.

Allocated
The size of the storage which is currently in use.

Percent Allocated
The percentage of allocated memory versus the whole amount of memory (Allocated / Available * 100).

Available
The overall available LSQA storage, this includes the allocated LSQA/SWA that is available plus the available user private.

Largest available
The largest available contiguous storage area.

Available For User Pvt
The LSQA eligible storage that is available for the private usage of the user.

Chapter 14. OMEGAMON Commands

Use this panel to issue session and maintenance commands that are not on the OMEGAMON XE for DB2 PE product panels.

```
_________________ ZCOMM    VTM     O2       V540.#P DA41 11/06/13 11:20:45   2
>       Help PF1                                          Back PF3
> M.F
================================================================================
>                         OMEGAMON COMMANDS

> Enter OMEGAMON commands below
```

For information about security levels of authorized commands, see *Configuration and Customization*.

Navigation

For additional information about other topics, use the PF keys.

Commands

The fields in this panel vary according to the command issued. To issue a command that begins with a forward slash (/), type the command on the top line of the panel and press Enter. To issue a command that begins with a period (.) or any letter, type the command on any line of the general display area (any line below the prompt) and press Enter. The commands you can issue are described below in alphabetical order.

...bb
Clears the panel from the command down to the end of the logical panel (b indicates a blank).

====
Draws a separator line across the panel.

The format is:

```
c====aa
```

This command repeats the characters aa across the panel. You can use any two characters as a separator line.

On the 3279 color terminal with extended color on, the optional label c specifies the color of the separator line with the first letter of the color name. It can be: (R)ed, (B)lue, (G)reen, (W)hite, (T)urquoise, (Y)ellow, or (P)ink.

For example, the following command creates a line of red pluses across the panel preceded by 4 equal signs.

```
R=====++
```

The line looks like this:

```
====++++++++++++++++++++++++++++++++++++++++++++++++
```

/ATTN
Emulates the PA1 (program attention) key. **/ATTN** clears the panel, resets your password to zero, returns to default basic color settings, and turns off extended color.

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/AUP
Enables (**/AUP ON**) or disables (**/AUP OFF**) automatic update mode. **/AUP** applies in VTAM mode only. Automatic update mode is similar to running OMEGAMON XE for DB2 PE in dedicated mode, because the panel updates at regular intervals without pressing Enter. **.AUP** performs the same functions.

Important: Some network programs do not support automatic update mode (for example, a program that emulates a terminal for your OMEGAMON XE for DB2 PE VTAM mode session).

.AUP
Enables (**.AUPON**) or disables (**.AUPOFF**) automatic update mode. If you type **.AUP** (without ON or OFF), OMEGAMON XE for DB2 PE displays the current automatic update mode status. **.AUP** applies in VTAM mode only. Automatic update mode is similar to running OMEGAMON XE for DB2 PE in dedicated mode, because the panel updates at regular intervals without pressing Enter. **/AUP** performs the same functions.

Important: Some network programs do not support automatic update mode (for example, a program that emulates a terminal for your OMEGAMON XE for DB2 PE for VTAM mode session).

/BOTTOM
Scrolls to the bottom of the logical panel.

CN
Allocate/open (**.CN OP**) a secondary console, deallocate/close (**.CN CL**) a secondary console, swap master/secondary consoles (**.CN SW**), or set the address of the secondary console (.CNxxx).

In dedicated mode, you can set up a secondary OMEGAMON XE for DB2 PE console to be used for output only. The secondary console echos everything that is displayed on the primary console, but accepts no commands or input of any kind.

The secondary console must be the same terminal type as the primary console.

/D
Scrolls down the amount specified by its argument (**/D** *cccc*)

/D is an alias for **/DOWN**. See the description of the **/DOWN** command for information about the command arguments.

.D
Deletes *nn* lines (**.Dbb** *nn*) on the physical panel.

This command deletes lines beginning with the current line.

/DCL
Deletes all comment lines in the panel.

If you want to delete only those comment lines below a certain point in the panel, use the equivalent immediate command instead.

.DCL
Deletes all comment lines below its entry line.

If you want to delete all comment lines in the panel, use the equivalent INFO-line command instead. Unlike most other immediate commands, **.DCL** disappears after it executes.

.DDb
Deletes a block of data.

To delete a block of data from the physical panel, enter **.DD** on the first line of the block and **.DD** on the last line.

For example, the following command deletes 4 lines. The first blank line and the succeeding 3 lines are deleted and removed from the panel.

```
.DDb
 DISK   SYSB24   TSO021   SYSB21   MVSA21
```

```
 DSKB   MVSA21   PROD05   SYSA24
 .DDb 150      334      D8B
```

DDEV

Displays DASD device statistics for all or specified volumes.

Note: RMF must be active to use this command because the data displayed is from RMF.

You must use the **DDEV** minor commands to specify the criteria under which the device statistics are displayed.

PDSK

Displays statistics for devices whose names meet a specified pattern. Type **PDSK** on a separate line after **DDEV**. You can use **PDSK** to display statistics for the following:

- All devices using **PDSK** and an asterisk (*).

```
Example:
DDEV
PDSK*
```

- A specific device using **PDSK** and a volume name. (volser).

```
Example:
DDEV
PDSK OMON22
```

- A group of devices using **PDSK** and part of a volume name followed by the asterisk wildcard character (*).

```
Example:
DDEV
PDSK OMON*
```

XDSK

Displays statistics for devices that exceed a specified threshold. To specify thresholds, enter one or more of the following XDSK minor commands, either before you type **DDEV**, or between **DDEV** and **XDSK**:

AVQ*nnn*
Specifies the average IOS queue depth. Average length > *nn.n*.

RSP*nnn*
Specifies the average total response time> *nnn* milliseconds.

IOS*nnn*
Specifies the average device queue time > *nnn* milliseconds.

CON*nnn*
Specifies the average device connect time > *nnn* milliseconds.

DSC*nnn*
Specifies the average device disconnect time > *nnn* milliseconds.

DUT*nnn*
Specifies the average device utilization >*nnn* %.

PND*nnn*
Specifies average device request pending time > *nnn* milliseconds.

```
Example:
```

The following command displays statistics for devices whose utilization is greater than 30%.

```
DDEV
```

```
DUT 30
XDSK
```

Sample Output: The following example shows the fields displayed by the DDEV command (with either PDSK or XDSK). If you enter **DDEV** without a minor command, only the first line of output is displayed.

```
  DDEV  Interval Start Time: 10:44:02     Elapsed:  3:30 MN   Length: 14
pdsk  OMON*     <-- Volser Pattern
+       Volser  I/O per second  Util% Avg.Q   Resp = IOSQ + Pend + Conn
+      ______  ______________  _____ _____ _______ ______ ______ ______
+    14B OMON27              .1               1.0
+    151 OMON28              .2    .6        12.5            .3    6.2
+    153 OMON29                              23.0            .2    2.0
```

Interval Start Time
The start time of the RMF interval during which these statistics are being collected.

Elapsed
The number of minutes and seconds elapsed since the beginning of this RMF interval.

Length
The length of this RMF interval in minutes and seconds.

The first column contains the device address in hexadecimal notation (for example, 14B).

Volser
Volume name.

I/O per second
I/O rate for this device.

Util %
Device utilization percentage.

Avg Q
Average I/O queue depth.

Resp
Average total device response time in milliseconds.

IOSQ
Average I/O queue time in milliseconds.

Pend
Average pending time in milliseconds.

Conn
Average connect time in milliseconds.

Disc
Average disconnect time in milliseconds.

/DEF
Sets definition mode (**/DEF** *cccc*).

ON
Defines a panel space, which includes commands that comment themselves out or otherwise change form after execution. **/DEF ON** inhibits automatic updating of a dedicated or VTAM mode session. After you set definition mode with **/DEF ON**, it remains in effect until you issue **/DEF OFF**, or save or replace the panel space.

HOLD
Same as ON argument, but definition mode remains in effect after you save a panel space. It is only canceled when you issue **/DEF OFF**. Use this option when you want to save two or more panels in a row without reactivating definition mode each time.

OFF
Restores normal panel updating (cancels the effect of **/DEF ON** or **/DEF HOLD**).

DELT

Deletes a panel space from main storage or the user's panel space library (RKO2PCSV). It does not delete from the IBM-supplied panel space library (RKO2PROC).

The format is:

```
DELTc aaaaaaaaa
```

c

One of the following arguments that specifies the location of the panel space. Enter it in column 6:

I

Deletes from main storage (in-storage) only.

D

Deletes from RKO2PCSV only.

B or b

Deletes from both main storage and RKO2PCSV (default).

aaaaaaaa

The panel space name you want to delete. Specify the name starting in column 8.

Note: OMEGAMON XE for DB2 PE does not substitute special characters for the **DELT** command. You must enter the real member name.

For example, the following command deletes panel space SAMPLE from main storage.

```
DELTI SAMPLE
```

/DOWN

Scrolls down the amount of lines specified by argument *cccc*.

/DOWN works only if the number of logical rows (LROWS) is defined to a number greater than the number of physical rows on this terminal. This definition can be changed with the LROWS startup parameter.

The format is:

```
/DOWN cccc
```

where *cccc* is one of the following:

nnn

Scrolls *nnn* lines (from 1 - 999).

BOT

Scrolls to the last logical row.

CSR

Scrolls according to the current location of the cursor. If the cursor is on the INFO-line, the scroll amount is a page.

MAX

Scrolls down the number of LROWS defined for your terminal.

PAGE

Scrolls down so that the current cursor position is at the bottom of the physical panel. This is the default.

For example, the following command scrolls the display 24 lines (one panel and one line on a 3278 model 2 terminal).

```
/DOWN 24
```

If you assign the **/DOWN** command to a PF key (the default is F20), you can type any of the optional arguments on the INFO-line before you press the PF key. OMEGAMON XE for DB2 PE interprets the entry as if you type the command plus the argument.

/D is an alias for **/DOWN**.

.DSA
Sets and displays authorization to list or zap non-shareable data-only spaces. The **.DSA** command provides a mechanism to limit the scope of the listing and zapping commands to data-only spaces that have been defined by the owner as shareable by other address spaces.

Command operands:

ON
Turns on data-only space authorization. Access is allowed to all data-only spaces.

OFF
Turns off data-only space authorization. Access is restricted to shareable spaces only.

Entering **.DSA** with no operand displays the current status of data-only space authorization.

.EXP
Displays the expiration date after which OMEGAMON XE for DB2 PE will not function.

Product updates contain new features, support for new IBM releases, enhanced operations, and maintenance. It is in your best interest to reinstall the product each time it is updated to keep current with enhancements and updates. For more information, see *Configuration and Customization*.

.FGO
Provides fast access to panel space *cccccccc*.

The **.FGO** (Fast GO) command is used when creating panel spaces to fetch the next panel space of a series. Panel spaces can be chained together and executed very quickly, bypassing the panel display and the OMEGAMON XE for DB2 PE cyclical wait.

.FGO has a conditional panel fetch feature that fetches a panel space only if a condition is true.

Command operands:

cccccccc
Specifies the name of a panel space.

CPSER
Compares the CPU serial number.

MODE
Compares the 3-character OMEGAMON XE for DB2 PE mode ID as displayed on the INFO-line (for example, DED, VTS, VTM).

OPSYS
Compares the 3-character ID for the operating system level (NSE, SE2, SP3, XA1).

SMFID
Compares the 4-character SMF ID.

UNIT
Compares the terminal address of the primary OMEGAMON XE for DB2 PE console (only in dedicated mode).

USER
Compares the suffix of the user profile.

&VAR
Sets any comparison. The keyword and argument can be any variable name set with the **.VAR** command or any OMEGAMON XE for DB2 PE-defined variable.

=
Keyword equals argument. The equal sign can be entered without blanks on either side of it.

EQ
Keyword equals argument. Same as equal sign (=).

GE
Keyword is greater than or equal to argument.

GT
Keyword is greater than argument.

LE
Keyword is less than or equal to argument.

LT
Keyword is less than argument.

NE
Keyword is not equal to argument.

argument
The argument is a 1- to 8-character value to which OMEGAMON XE for DB2 PE compares the keyword.

Example:

To fetch panel space SAMPLE only if the terminal address 05E1, enter:

```
.FGO SAMPLE UNIT=05E1
```

or

```
.FGO SAMPLE UNIT EQ 05E1
```

To protect against the possibility of a looping condition caused by the **.FGO** command, OMEGAMON XE for DB2 PE limits the number of consecutive fetches allowed (64 by default). After the limit is reached, **.FGO** acts like **.SGO** (Screen Go) so that executing panel spaces will display on each cycle. Therefore, if there was a loop caused by **.FGO** panel spaces, correct the condition and re-enable **.FGO** with the **FGOLOOP** keyword of the **.SET** command.

Because **FGOLOOP=ON** causes **.FGO** *not* to bypass the OMEGAMON XE for DB2 PE cycle and the terminal display, you can turn it on to test your panel space fetch routines.

If multiple **.FGO** commands are displayed on one panel, the *last* one that is executable takes precedence.

See also the **.SGO** command.

GDFN
Defines an exception group for exception analysis.

You can use **GDFN** to define a group to which exceptions can be assigned, to add exceptions to an existing group, to delete exceptions from a specific group, and to delete an entire group.

Note: An exception can be associated with only one group at a time. You can delete an exception from one group and reassign it to another group.

The format is:

```
GDFN GROUP=cc, NAME='cc..cc', LIST=cc,aa,
DELETE=EXCEPTION, DELETE=GROUP,POSITION=nn
```

GROUP=cc
The 2-character exception group ID. For an existing group, use this keyword to display only the entries for that group.

NAME='cc..cc'
A 25-character user-defined description of the exception group. Enclose in single quotes (') if there are blanks, special characters, or single quotes (') in the name.

LIST=cc,aa
Identifies the exceptions to be added to or deleted from the specified exception group.

DELETE=EXCEPTION
Causes the deletion of the exceptions specified with **LIST=** from the group specified by **GROUP=**.

POSITION=nn
Specifies the order of the display.

/H
Describes the HELP facilities.

/H is an alias for **/HELP**

/HELP
Describes the HELP facilities.

The help panel space informs you how to find out more about the functions, features, and operation of OMEGAMON XE for DB2 PE.

Note: This command works with or without a forward slash (/).

/HOLD
Controls the execution of OMEGAMON XE for DB2 PE commands.

/HOLD ON suspends command execution until you enter **/HOLD OFF**. /HOLD OFF returns to normal OMEGAMON XE for DB2 PE command execution.

The **/HOLD** command is designed for users of VM/PASSTHRU. If you are not a user of VM/PASSTHRU, **/HOLD** functions the same as placing the cursor in column 1, row 1.

.I
Inserts *nn* blank lines (.Ibbnn) in the panel.

.ILC
Displays INFO-line commands or their help text.

The format is:

```
.ILC /cccccc
```

The variable */cccccc* is an INFO-line command name. (The forward slash (/) is optional.) To display all of the INFO-line commands and their aliases, enter the .ILC command without a command name.

To display help text for a specific INFO-line command, enter .ILC followed by the command.

.LOG
Controls the OMEGAMON XE for DB2 PE REPORT log:

.LOGOUT
Prints the current log and leaves it open. The command comments itself out to prevent the log from automatically resetting again on the next cycle.

.LOGPUSH
Saves the status of the log (ON or OFF), so that this status can be restored when you execute **.LOGPOP**. This capability can be used to manipulate the log's status in panel spaces invoked by **.FGO** or **.SGO**, then return it to its original state after these panel routines are complete. One of the following messages is displayed on the same line as the command:

```
>> Log inactive.  Status saved. <<
```

or

```
>> Log active.  Status saved. <<
```

.LOGPOP
Restores the log to the status in effect when you executed the last **.LOGPUSH**. One of the following messages is displayed on the same line as the command.

```
>> Log status restored to inactive. <<
```

or

```
>> Log status restored to active. <<
```

If you enter .LOG without an argument, OMEGAMON XE for DB2 PE displays the current status of the log.

/LOG is the equivalent INFO-line command; however, it does not accept the PUSH and POP arguments.

/LOGOUT
Sends the current OMEGAMON XE for DB2 PE REPORT log to the printer.

/O is an alias for **/LOG** with the OUT argument.

OMEGAMON XE for DB2 PE dynamically allocates REPORT to a SYSOUT equals A file with FREE equals CLOSE. This means that every time you enter the **/LOGOUT** command, the REPORT log is automatically spun off.

.LOG performs the same functions as **/LOG**, and additionally accepts the PUSH and POP arguments.

LSCR
Loads panel space members from the panel space library to main storage.

You can make panel spaces more available and more easily fetched by loading them into main storage with **LSCR**. For example, if a disk is not available, you can continue to invoke the panel spaces that you loaded into main storage with **LSCR**.

The format is:

```
LSCR  cccccccc  cccccccc  . . .  cccccccc
```

The variables *cccccccc* are panel space names. Specify panel space member names starting in column 8. You can load as many members as can fit on the input line.

For example, in the next command,OMEGAMON XE for DB2 PE attempts to load panel spaces ZZ1, ZZ2, and ZZ3 from the O2PROC data set to main storage.

```
LSCR  ZZ1 ZZ2 ZZ3
```

If OMEGAMON XE for DB2 PE cannot find panel space ZZ1, it displays the following messages:

```
+      OB1507 Member not found - ZZ1
+      OB1508 2 members loaded
```

MCHN
Scans common storage.

This command requires special authorization because its use causes additional system overhead to collect the necessary data. Before OMEGAMON XE for DB2 PE displays this data, you must enter a valid password using the **/PWD** command.

MCHN scans the elements of a table for a string of hex or character values. If the scan is successful, OMEGAMON XE for DB2 PE displays the table element that contains the string.

MCHN searches the address space in which OMEGAMON XE for DB2 PE resides. Use this command primarily to examine the MVS common area. Use **XMCH** to search other address spaces.

The format is:

```
MCHNc addr,string,olen,chain,dlen
```

c
The format of the output:

B or b
hex and character (default)

C
character only

X
hex only

addr
The address of the first table element that OMEGAMON XE for DB2 PE scans.

string
The hex string that OMEGAMON XE for DB2 PE uses for the scan. If you enclose it in single quotes ('), OMEGAMON XE for DB2 PE assumes it is a character string.

Note: OMEGAMON XE for DB2 PE interprets two single quotes (' '), within a character string as a single quote (').

olen
The offset (in hex bytes) to the string in the table element; the comparison starts at this point. You can precede *olen* by a plus sign (+) or a minus sign (-).

chain
The offset (in hex bytes) to the chain pointer (the location in the table element that contains the address of the next table element). You can precede *chain* by a plus sign (+) or minus sign (-).

dlen
The number of bytes (1 to 8 hex digits) that OMEGAMON XE for DB2 PE displays if the scan is successful. The display starts at the beginning of the string. The default is 16 (X ` 10 `) bytes.

Ensure that *addr* is the starting point of a table element. The address at *addr + chain* points to the next table element. The scan ends when the value at *addr + chain* is one of the following:

- 0
- -1
- addr (the table is a ring)

You can specify, modify, or pre-define an address (*addr*) for a storage display or modification command. An address consists of an anchor, optional modifiers, and an optional pre-defined name.

An anchor is the base address of an address specification. It can be:

absolute
A hexadecimal number:

370
1 to 6 digits

XA/ESA
1 to 8 digits

symbolic
1- to 8-alphanumeric characters, including @, #, and $.

You can supply one or more modifiers to change the location that the anchor points to. A modifier can be:

offset
A plus sign (+) or minus sign (-), followed by a hexadecimal number:

370
1 to 6 digits

XA/ESA
1 to 8 digits

This modifier specifies a location at a known offset (positive or negative) from the anchor address.

indirect
One of the following symbols:

%
for 24-bit (370) addressing

?
for 31-bit (XA/ESA) addressing

This modifier indicates that the location pointed to is itself an address.

You can use these modifiers to create powerful and versatile address expressions. For example, the following address expression locates the TIOT of the currently executing MVS task:

```
10%%+4%+C%
```

10%
Treats the data at location X`10' as a 24-bit address. This is the address of the MVS CVT.

%
This second % treats the data at the start of the CVT as a 24-bit address. The first word of the CVT contains the address of a doubleword (8 bytes). The doubleword contains:

- the address of the next TCB to dispatch (bytes 0 to 3)
- the address of the currently dispatched TCB (bytes 4 to 7)

+4%
Adds X'04' to the address of the doubleword, and then treats the data at the displacement as a 24-bit address. This is the address of the currently dispatched TCB.

+c%
Adds X'0C' to the address of the TCB, and then treats the data at the displacement as a 24-bit address. This is the address of the TIOT.

You can specify or reference an address by a name consisting of 1- to 8-alphanumeric characters, including @, #, and $. The following command specifies address names.

The example below shows a typical **MCHN** command. In this example, **MCHN** scans a table that starts at location AAB6C8 and looks for the string D6C30199 that begins at the eighth byte of the table element; the address of the next table element is in the fourth word. By default, this command displays 16 bytes of the table element in hex and character notation.

```
MCHN AAB6C8,D6C30199,8,4
```

The following output is displayed if the scan is successful:

```
Addr=007DA000
MCHN AAB6C8,D6C30199,8,4
+ 0000  E2E2C3E3 00000000 D6C30199 00000000  *SSCT    OC r
*
```

MLST

Displays bytes of memory from commonly addressable storage.

This command requires special authorization because its use causes additional system overhead to collect the necessary data. Before OMEGAMON XE for DB2 PE displays this data, you must enter a valid password using the **/PWD** command.

MLST displays the contents of commonly addressable storage such as the

- common storage area (CSA)
- system queue area (SQA)
- nucleus

The format is:

```
MLSTc addr,dlen
```

c
The format of the output:

B or b
hex and character (default)

C
character only

X
hex only

addr
The first address of storage that OMEGAMON XE for DB2 PE displays. For more information about how to specify an address, see the **MCHN** command.

dlen
The number (1 to 8 hex digits) of bytes that OMEGAMON XE for DB2 PE displays. The default is 16 (X'10') bytes.

The following examples show uses of the MLST command.

MLST lists 32 (X'20') bytes starting at address 1EB0 in character format:

```
MLSTC 1EB0,20
```

Typical output is:

```
MLSTC 1EB0,20                                  Addr= 00001EB0
+000   *.........h.... .....167........*
```

MLST lists 16 (X'10') bytes starting at address FF32D6 in both hex and character formats:

```
MLST  FF32C1+15,10
```

Typical output is:

```
MLST  FF32C1+15,10                               Addr= 00FF32D6
+000  20280010 A18800F9 82F000FF 20400000   *....*h.9b0... ..*
```

.MOD
Shows OMEGAMON XE for DB2 PE module names and addresses.

The optional suffix A (.**MODA**) lists the module names in alphabetical order.

This command provides debugging information, including module names and start addresses. If OMEGAMON XE for DB2 PE encounters a program check, this information is useful to IBM Customer Support.

MSCN

Displays the location in storage of a specific string.

This command requires special authorization because its use causes additional system overhead to collect the necessary data. Before OMEGAMON XE for DB2 PE displays this data, you must enter a valid password using the **/PWD** command.

MSCN scans the common area and the address space in which OMEGAMON XE for DB2 PE resides for a string of hex or character values. If the scan is successful, OMEGAMON XE for DB2 PE displays the string. To scan the DB2 private area, use the **XMSC** command.

The format is:

```
MSCNc addr,string,slen dlen
```

c
The format of the output:

B or b
Hex and character (default)

C
Character only

X
Hex only

addr

The first address of storage that OMEGAMON XE for DB2 PE scans.

For more information about how to specify an address, see the **MCHN** command.

string
The hex string OMEGAMON XE for DB2 PE uses for the scan. If you enclose it in single quotes ('), OMEGAMON XE for DB2 PE assumes it is a character string.

Note: OMEGAMON XE for DB2 PE interprets two single quotes (' ') within a character string as a single quote (').

slen
The number (1 to 8 hex digits) of bytes that OMEGAMON XE for DB2 PE scans. The default is 256 (X'100') bytes.

dlen
The number (1 to 8 hex digits) of bytes that OMEGAMON XE for DB2 PE displays if the scan is successful. The display starts at the beginning of string. The default is 16 (X'10') bytes.

In the next example, **MSCN** scans the first 1000 bytes of the TIOT entry for the character string O2HELP and displays 14 hex bytes starting at that point. The display is in both hex and character formats.

```
MSCN 10%%+4%+C%,'O2HELP',1000,14
```

Typical output is:

```
MSCN 10%%+4%+C%,'O2HELP',1000,14          Addr=0061701C
+ 0000  D6C3C8C5 D3D74040 60BCA000 80001B00  *O2HELP
-.......*
+ 0010  14010100                             *....           *
```

MZAP

Modifies the contents of the common area or the OMEGAMON XE for DB2 PE private area.

This command requires special authorization because it can perform potentially dangerous functions. Before OMEGAMON XE for DB2 PE executes this command, you must enter a valid password using the **/PWD** command.

Important: MZAP is powerful. Use it with care.

MZAP modifies the contents of commonly addressable storage such as the

- common storage area (CSA)
- system queue area (SQA)
- nucleus

Note the following:

- Some commonly addressable storage requires no authorization or special key to modify; however, some areas are store-protected. To modify these areas you must supply the action character in the label field of the **MZAP** command. You can also use **MZAP** to zap storage in the OMEGAMON XE for DB2 PE address space for debugging purposes. You can zap as many bytes as fit on a line at one time, but the verify and replace code lengths must be the same.
- If you use **MZAP** to modify storage in the Pageable Link Pack Area (PLPA), **MZAP** automatically does a long-term page-fix to ensure that the storage remains modified. If the pagefix is necessary, OMEGAMON XE for DB2 PE displays the message:

```
PAGE(S) FIXED
```

- With 370, **MZAP** cannot zap the PLPA of a processor that has PLPA protection.

The format is:

```
aMZAP  addr,ver,rep
```

a

If required, an action character in column 1:

-

Changes to a comment character (>) after the command executes.

<

Does not change to a comment character after the command executes. Use this action character to repeat the command.

addr

The address of the string OMEGAMON XE for DB2 PE might modify.

For more information about how to specify an address, see the **MCHN** command.

ver

The verify string; OMEGAMON XE for DB2 PE modifies storage only if it finds this string at *addr*.

rep

The replacement string. If OMEGAMON XE for DB2 PE finds *ver* at *addr*, *rep* replaces *ver*.

The strings *ver* and *rep* must be the same length.

In the first example, **MZAP** changes a fullword at location 6764 from X'0A' to X'64'.

```
MZAP  6744+20,0000000A,00000064
```

In the next example, MZAP changes an X'FF to X'00 at location EA65C0.

```
MZAP  EA65C0,FF,00
```

/O

Prints the existing OMEGAMON XE for DB2 PE REPORT log without closing the log.

The /0 command is an alias for **/LOG** with the OUT argument. See the description of the **/LOG** command for complete information about the **/O** command.

OSPC

Lists the attributes of the owner of a data-only space.

The format is:

```
OSPC spacename
```

where *spacename* is the name of the data-only space you want to list. If you do not enter a name, **OSPC** lists all data spaces and hiperspaces. You can also enter 1 to 7 characters, and OSPC displays any space names that begin with the specified character string.

OSPC displays the following information about the specified space: type of space, ASID of the owning TCB, jobname of the owning TCB, address of the owning TCB.

/P

Prints the current logical panel.

The **/P** command is an alias for **/PRINT**. See the description of the **/PRINT** command for complete information about this command.

.PCS

Displays OMEGAMON XE for DB2 PE program check statistics.

These statistics are used for debugging information. If OMEGAMON XE for DB2 PE takes a program check, this information is useful to IBM Customer Support.

.PFK

Displays/resets PF key definitions.

The format is:

```
c.PFK nn=aaaaaaaa/*bbb...bbb
```

(blank)
Without operands, **.PFK** displays all current PF key settings. PF keys without assignments are not shown in the panel.

c
Label E for redefining several PF keys at once.

nn
PF key number.

aaaaaaaa
Screen space name (1 to 8 characters) or INFO-line command (/*cccccc*).

/*bbb...
Comment of up to 32 characters (bbb...), following the forward slash (/) and asterisk (/*).

You can define up to 99 physical and logical PF keys.

The PF keys that you define with .PFK are in effect only for that OMEGAMON XE for DB2 PE session. At startup, OMEGAMON XE for DB2 PE executes the panel space @ZPFKDEF, which contains default PF key assignments. To make these assignments permanent, change them in the @ZPFKDEF panel space.

For example, the following command sets PF15 to issue the **/STOP INFO**-line command for this session.

```
.PFK 15=/STOP         /* Stops OMEGAMON XE for DB2 PE
```

Type comment text following a forward slash (/) and asterisk (/*): Use the same format to assign panel space names to PF keys. For example, the following command sets PF26 to call the panel space DISKS for this session.

```
.PFK 26=DISKS         /* DASD information
```

To delete a definition, enter a single underscore (_) for the definition. For example, the following command deletes the definition for PF18.

```
.PFK 18=_
```

You can redefine several PF keys at once without having to type the **.PFK** command for each one. To do so, use the following procedure.

1. Type **E.PFK**. OMEGAMON XE for DB2 PE provides an extended display of all current PF key assignments, and inserts .PFK before each key number, as shown below.

```
+ PFK07=/UP                 /* SCROLL UP
 + PFK08=/DOWN               /* SCROLL DOWN
   .
   .
 + PFK11=/ZOOM               /* ZOOMING FEATURE
```

2. For each new assignment, blank out the plus sign (+) in front of each .PFK and type the new assignment following the equal sign.
3. Press Enter.

The assignments remain in effect for the duration of the session.

If you want to call panel spaces with PF keys, allocate an O2PROC library. To call a panel space assigned to a PF key, press the associated PF key or type its number on the INFO-line.

/PRINT
Prints the current logical panel.

When the panel prints, a **>LOGGED<** message is displayed on the INFO-line.

/P is an alias for **/PRINT**.

.PRM
Displays current values of the OMEGAMON XE for DB2 PE startup command parameters.

This command displays applicable OMEGAMON XE for DB2 PE startup parameters in the following order.

IOMODE=cc
The current OMEGAMON XE for DB2 PE I/O mode. This is the 2-character code entered as the mode in the startup parameters.

SYS=cccc
The current OMEGAMON XE for DB2 PE system ID. This is the same system ID that is displayed on the INFO-line.

USER=cc
The user profile identifier. This is the same identifier that is displayed on the INFO-line.

ROWS=nn
The number of rows on the physical terminal.

LROWS=nnn
The number of logical rows for the output area.

COLS=nnn
The number of columns on the physical terminal.

UNIT=ccc
The terminal address of a dedicated OMEGAMON XE for DB2 PE session.

.PRT
Prints the specified portion of the panel to the report file.

The format is:

```
.PRTc
```

Without an argument, **.PRT** prints a panel image from the INFO-line to the line that contains the **.PRT** command. After the partial panel prints, .PRT changes to a comment.

The optional argument H (.PRTH) prevents the .PRT command from commenting itself out so that it logs these lines continually.

/PWD
Specifies an OMEGAMON XE for DB2 PE password or reauthorizes a session.

The format is:

```
/PWD userid
```

You can use the **/PWD** command in three ways. They are:

1. To authorize your session for internal security. Enter the **/PWD** command on the INFO-line. The system prompts you for a password.

```
/PWD____________                < You enter >
_________________ Enter Password  < Result >
```

The password is not displayed in the panel as you type it. It remains in effect until you reset it.

1. To reset the security level to 0 after your authorized session. Type **/PWD** on the INFO-line as in the example, but instead of entering a password, just press Enter. Authorization is cleared.
2. The **/PWD** command can be entered with your user ID to do the following:
   - Log onto an existing OMEGAMON XE for DB2 PE session and reauthorize external security to your level for the session.
   - In dedicated mode, gain access to external security.

When you use the /PWD command with your user ID to log onto an existing session, you cannot update your password.

See *Configuration and Customization* for details about the security features.

RENM
Renames a panel in RKO2PCSV or main storage.

RENM renames panel spaces only in main storage (in-storage) and RKO2PCSV. It does not rename IBM-supplied panel spaces in the library pointed to by the ddname O2PROC.

The new format is:

```
RENMc aaaaaaaa bbbbbbbb
```

c
Specifies the location of the renamed panel space.

B or b
Rename in both main storage and RKO2PCSV. This is the default.

D
Rename in RKO2PCSV only.

I
Rename in main storage (in-storage) only.

aaaaaaaa
The old name of the panel space.

bbbbbbbb
The new name of the panel space.

Note: OMEGAMON XE for DB2 PE does not substitute special characters for the **RENM** command. You must enter the actual member name.

/REP
Replaces the existing saved panel space of the same name.

Use **/REP** in place of **/SAVE** if you want to replace an existing saved panel space in the user-defined panel space library pointed to by ddname RKO2PCSV.

The format is:

```
/REP cccccccc,a
```

cccccccc
Specifies the panel space name (1 to 8 characters).

a
One of three arguments that might follow the panel space name. The argument is separated from the panel space name with a comma (,).

B
Replaces in both main storage and RKO2PCSV.

D
Replaces in RKO2PCSV only.

I
Replaces in main storage (in-storage) only.

The default is wherever OMEGAMON XE for DB2 PE finds the panel space.

OMEGAMON XE for DB2 PE substitutes a D for a dot (.) in panel names.

The size of the panel space is the number of lines to the last non-blank line in the panel space.

The following example replaces the current panel space SAMPLE with the currently-entered panel space in both main storage and RKO2PCSV.

```
/REP SAMPLE,B
```

The default cursor position is the first position of the INFO-line. However, if you want to save the cursor in any position in the panel, type **/REP** on the INFO-line but do not press Enter. Move the cursor to the position you want and then press Enter to execute /REP. The cursor displays in that position whenever OMEGAMON XE for DB2 PE invokes the panel.

If you want to look at or edit a panel using a text editor, be aware of the following:

- CURS=(*n*,*m*) is displayed at the top-left corner of the INFO-line to indicate the cursor position in the saved panel.

- The variable *n* specifies the cursor row position, and m specifies the column position.
- You can add or change the cursor position in a saved panel using a text editor by adding or changing CURS=(*n*,*m*)

Note: /R is not an alias for **/REP**. It is an alias for **/RETURN**. **/REP** does not have an alias.

/RESHOW
Displays a new copy of the current panel.

.RTN
Terminates an ASF or TSF sequence and returns to the calling panel space.

The **.RTN** command is required at the bottom of the last panel space in an automatic panel facility (ASF) or timed panel facility (TSF) sequence. It returns to the calling panel space and re-enables exception analysis for further automatic calls. You can turn on ASF from the Exception Logging panel (page Exception Logging Menu) or the panel that sets analysis options for individual exceptions (page Set Exception Analysis Options).

The format is:

```
n.RTNcc aaaaaaaa
```

n
The optional label *n* specifies the number of cycles to delay the return to the calling panel space. The value of *n* can be the numbers 1 to 9 or the letters A to Z (representing 10 to 35). Each time the panel updates, *n* decrements by 1. When *n*=0, the current panel executes and OMEGAMON XE for DB2 PE fetches the next panel space.

For example, the following command returns to the calling panel space after 7 cycles.

```
6.RTN
```

cc
The variable *cc* is the NR (no reset) argument. It prevents the **.RTN** command from automatically resetting the automatic update interval and the log status.

aaaaaaaa
This optional argument specifies a panel space for ASF or TSF to return to other than the calling panel space.

The .RTN command automatically resets the automatic update interval and the log status to that in effect when the ASF or TSF sequence began, unless NR is specified (see *cc* above).

/S
Saves the specified new panel.

The format is:

```
/S cccccccc,a
```

/S is an alias for **/SAVE**. See the description of the **/SAVE** command for complete information.

/SAVE
Saves the specified new panel.

The **/SAVE** command works only if you have an RKO2PCSV data set and *cccccccc* does not already exist. If *cccccccc* already exists, use **/REP**.

The format is:

```
/SAVE cccccccc,a
```

cccccccc
Specifies the panel name (1 to 8 characters).

a
One of three arguments that might follow the panel space name. The argument is separated from the panel space with a comma (,).

B
Saves the panel space to both RKO2PCSV and main storage (in-storage panel facility).

D or b
Saves the panel space to RKO2PCSV only (default).

I
Saves the panel space to main storage only.

OMEGAMON XE for DB2 PE substitutes a D for a dot (.) in panel space names.

This next example saves the current panel SAMPLE in both main storage and RKO2PCSV.

```
/SAVE SAMPLE,B
```

The default cursor position is the first position of the INFO-line. However, if you want to save the cursor in any position in the panel, type **/SAVE** on the INFO-line but do not press Enter. Move the cursor to the position you want and then press Enter to execute **/SAVE**. The cursor displays in that position whenever OMEGAMON XE for DB2 PE invokes the panel.

If you want to look at or edit a panel space using a text editor, be aware of the following

- CURS=(*n*,*m*) is displayed at the top left corner of the INFO-line to indicate the cursor position in the saved panel.
- The variable *n* specifies the cursor row position, and *m* specifies the column position.
- You can add or change the cursor position in a saved panel using a text editor by adding or changing CURS=(*n*,*m*).

/S is an alias for **/SAVE**.

SCHN
Scans data-only space control blocks for a string of data and displays the location.

Use **SCHN** to search chained control blocks located in a data-only space for the occurrence of a specific string of data. **SCHN** scans data-only space storage until either a match to the string is found, the chain loops, or the address of the next control block is zero.

The format is:

```
aSCHNc jobname,spacename,addr,string,off1,off2,plen
```

a
A required action character in column 1:

-
Changes to a comment character (>) after the command executes.

<
Does not change to a comment character after the command executes. Use this action character to repeat the command.

c
The format of the output:

B or b
hex and character (default)

C
character only

X
hex only

jobname
The jobname or ASID in decimal of the owner of the data-only space.

spacename
The name of the data-only space.

addr

The starting address of the scan. For more information about how to specify an address, see the **MCHN** command.

string
The comparison string for the scan, which can be either a hexadecimal string or a character string surrounded by single quotes (').

off1
The offset from the beginning of the control block to the location of the comparison string. This value might be preceded by a plus (+) or a minus (-) sign.

off2
The offset from the beginning of the control block to the fullword address of the next control block. This value might be preceded by a plus (+) or a minus (-) sign.

plen
The length of print display. The default is 1 line or 16 bytes.

SCRN
Lists panel member names.

The format is:

```
SCRNc aa bb
```

c
Enter one of the following arguments in column 6 to specify the source of the member list.

B or b
Lists all panels in both disk data sets (RKO2PCSV) and main storage (default).

C
Lists all panels in disk data sets only.

X
Lists all panels in main storage (in-storage) only.

aa bb
Lists all panels beginning with characters *aa* to *bb* (start *aa* in column 8).

a*
Lists all panels beginning with character(s) *a* (start *a* in column 8).

The following example lists all panels stored in both disk data sets and main storage that have names starting with C or D.

```
SCRNB C D
```

The next example lists all panels in main storage from PA to PA999999.

```
SCRNI PA*
```

or

```
SCRNI PA  PA
```

.SGO

Goes to panel *cccccccc* on next update.

The format is:

```
n.SGO cccccccc  keyword{=| aa }argument
```

With the **.SGO** command panels can branch to other panels.

For example, the following command fetches panel SAMPLE on the next cycle.

```
SGO SAMPLE
```

With the optional value *n* you can delay the fetch of panel *cccccccc* for *n* cycles. The value of *n* can be between 1 and 35. Use the numbers 1 to 9 or the letters A to Z (to represent 10 to 35 cycles). Each time the panel updates, *n* decrements by one. When *n* equals 0, panel *cccccccc* is fetched on the next cycle.

The next example delays fetch of panel SAMPLE for 11 cycles, and fetches it on the next cycle after *n* equals 0.

```
B.SGO SAMPLE
```

Conditional Parameters

The **.SGO** command also has a conditional panel fetch feature that fetches a panel only if a condition is true. The condition is expressed as follows:

```
.SGO cccccccc  keyword{=| aa }argument
```

The *keyword* can be one of the following:

CPSER=
Compares the CPU serial number.

MODE=
Compares the 3-character OMEGAMON XE for DB2 PE mode ID (displayed on the INFO-line). For example, DED, VTS, VTT, VTM.

OPSYS=
Compares the 3-character ID for the operating system level (XA1).

SMFID=
Compares the 4-character SMF ID.

UNIT=
Compares the terminal address of the primary OMEGAMON XE for DB2 PE console (only in dedicated mode).

USER=
Compares the 2-character suffix of the user profile.

The relational operator is either an equal sign (=) or a 2-character operator *aa* separated by blanks. The operator *aa* can be:

EQ
Keyword equals argument. Same as equal sign (=).

GE
Keyword is greater than or equal to argument.

GT
Keyword is greater than argument.

LE
Keyword is less than or equal to argument.

LT
Keyword is less than argument.

NE
Keyword is not equal to argument.

The *argument* is a 1- to 8-character value to which OMEGAMON XE for DB2 PE compares the keyword.

For example, to fetch panel SAMPLE only if you are running in an XA environment, enter:

```
.SGO SAMPLE OPSYS=XA1
```

or

```
.SGO SAMPLE OPSYS EQ XA1
```

Note: A blank is not a valid keyword, relation, or argument. Additionally, if you use a variable as the keyword or argument, the variable cannot begin with a blank.

When you use the 2-character operator *aa* instead of the equal sign =, there must be at least one blank separating the keyword, operator, and argument. The equal sign requires no separation.

If multiple **.SGO** commands are displayed on one panel, the *last* one that is executable takes precedence.

See the **.FGO** command for other methods to fetch panels.

SLST
Displays bytes of memory from data-only space storage.

The format is:

```
aSLSTc jobname,spacename,addr,plen
```

a
A required action character in column 1:

-
Changes to a comment character (>) after the command executes.

<
Does not change to a comment character after the command executes. Use this action character to repeat the command.

c
Specifies the format of the output:

B or b
dump format (default)

C
character only

X
hex only

jobname
The jobname or ASID in decimal of the owner of the data-only space.

spacename
The name of the data-only space.

addr

The starting address of the data. For more information about how to specify an address, see the **MCHN** command.

plen
The number (1 to 8 hex digits) of bytes to print. The default is 16 (X'10') bytes or 1 line.

SLST listsmemory from data-only spaces. When necessary, an SRB will be scheduled into the address space of the TCB owning the data-only space to be listed.

Here is an example of using **SLST**.

```
<SLST MYJOB,MYSPACE,1000,20
+Storage at 00001000 in dataspace MYSPACE, job MYJOB ASID=12
+ 0000  E3C5E2E3 40C4C1E3 C140E2D7 C1C3C540  *TEST DATA SPACE *
+ 0010  F0F1F2F3 F4F5F6F7 F8F9C1C2 C3C4C5C6  *0123456789ABCDEF*
```

SSCN
Scans data-only space storage for the occurrence of a specific string of data.

Command format:

```
aSSCNc jobname,spacename,addr,string,len1,len2
```

a
A required action character in column 1:

-
Changes to a comment character (>) after the command executes.

<
Does not change to a comment character after the command executes. Use this action character to repeat the command.

c
Specifies the format of the output:

B or b
dump format (default)

C
character only

X
hex only

jobname
The jobname or ASID in decimal of the owner of the data-only space.

spacename
The name of the data-only space.

addr

The starting address of the scan. For more information about how to specify an address, see the **MCHN** command.

string
The comparison string for the scan. Either a hexadecimal string or a character string surrounded by single quotes (').

len1
The length to scan in hex. Default is 256 (x'100') bytes.

len2
The length of print display. Default is 1 line or 16 (x'10') bytes.

SSCN scans data-only space storage until a match to the string is found or the length of storage specified is exhausted. When necessary, an SRB is scheduled into the address space of the TCB owning the data-only space to be scanned.

Following is a sample SSCN display.

```
<SLST MYJOB,MYSPACE,1000,20
+Storage at 00001000 in dataspace MYSPACE, job MYJOB ASID=12
+ 0000  E3C5E2E3 40C4C1E3 C140E2D7 C1C3C540  *TEST DATA SPACE *
+ 0010  F0F1F2F3 F4F5F6F7 F8F9C1C2 C3C4C5C6  *0123456789ABCDEF*
```

/STOP
Stops OMEGAMON XE for DB2 PE.

STOP performs the same function.

STOP
Stops OMEGAMON XE for DB2 PE.

/STOP performs the same function.

SZAP
Modifies the contents of data-only space storage.

Caution: There is a potential integrity exposure with the use of **SZAP** on hiperspaces. **SZAP** uses HSPSERV to read in a page of data from the target hiperspace, check the data, alter the data, and finally use HSPSERV to write the page back to the hiperspace. If someone else is writing to the same page of the hiperspace during this process, the newly entered data could get lost. There is no available enqueue mechanism to guard against this exposure.

The format is:

```
-SZAP  jobname,spacename,addr,vercode,repcode
```

-
Action character required for execution.

jobname
Jobname or ASID in decimal of the owner of the data-only space.

spacename
The name of the data-only space.

addr
The starting address of the data. For more information about how to specify an address, see the **MCHN** command.

vercode
The current code to be verified in hexadecimal.

repcode
The replacement code in hexadecimal.

The lengths of *vercode* and *repcode* must match.

When necessary, an SRB is scheduled into the address space of the TCB owning the data-only space to be zapped. Here is an example of using **SZAP**.

```
>SZAP MYJOB,MYSPACE,1000,00000005,00000008
>      >> OB7110: Memory Zap Successful <<
```

/TOP
Scrolls to the top of the logical panel.

.TSF
The times panel facility (TSF) schedules certain panel spaces not on an exception basis, but rather at specified times of day or at specified intervals. For example, you might want to issue a DB2 trace command automatically at 2:00 p.m. every weekday, and then turn it off again at 2:15. You can also invoke a panel space and have its commands executed and logged at regular intervals, such as every hour.

To use TSF, follow this procedure.

1. Create any panel spaces you want TSF to invoke. You can use the **.SGO** or **.FGO** command to chain panels together, and .RTN to end the cycle. Special considerations for creating panel spaces in TSF are discussed later in this topic.
2. Turn on TSF with the TSF keyword of the **OPTN** command.
3. The **.TSF00** command lists all entries in the TSF table. The TSF table is delivered with 99 blank entries. For example:

```
.TSF00
+        1  Time=0000  SS=*NONE*  DAY=DAILY
+        2  Time=0000  SS=*NONE*  DAY=DAILY
+        3  Time=0000  SS=*NONE*  DAY=DAILY
+        4  Time=0000  SS=*NONE*  DAY=DAILY
```

Enter **.TSF***nn*to display entry *nn* in the TSF table. To define an entry, type **.TSF** followed by the number of the entry. For example, type **.TSF01** to produce:

```
.TSF01  Time=0000  SS=*NONE*  DAY=DAILY
```

You can type the new entry over the current entry, press Enter, and the value is reset.

If you want to change an entry that is not displayed on the physical panel, you can specify an argument to skip *nn* entries. Type **.TSF00 20** to display entries 21 through 99 in the TSF table, skipping the first 20.

Following are the keywords and valid entries.

Time
Specifies the time of day (from 0000 to 2400) to invoke the panel. **TIME=+***nn* invokes the panel every *nn* minutes.

Note: The panel space does not execute while the **TIME=+***nn* entry remains on your current panel.

SL or SS
Specifies the panel space to invoke if TSF is in effect. SS specifies the panel space to invoke, but does not turn on the log. SL automatically turns on the REPORT log when the panel is fetched, and panel space logging starts. You must specify either SS or SL for TSF to function.

DAY
Valid entries for day of week are MONDAY, TUESDAY, WEDNESDAY, THURSDAY, FRIDAY, SATURDAY, SUNDAY, WEEKDAY, WEEKEND, and DAILY. The days of the month are also valid entries (numerals 1 through 31). The default value is DAILY. You can abbreviate the input as long as it is unique and the day of the week is recognized.

You can specify day combinations by enclosing the names of the days within parentheses, and by separating each day with either a comma or a blank.

Here is an example of five **TSF** entries.

```
.TSF01   1   TIME=1800 SL=WENDSHFT  DAY=DAILY
.TSF02   2   TIME=0600 SS=WEEKSTRT  DAY=MONDAY
.TSF03   3   TIME=1200 SL=NOONTIME  DAY=(TH,F)
```

```
.TSF04   4   TIME=0800 SS=MONTHEND  DAY=30
.TSF05   5   TIME=+30  SL=STATUS    DAY=DAILY
```

TSF01
Executes and logs panel space WENDSHFT at 6:00 p.m. daily.

TSF02
Executes panel space WEEKSTRT at 6:00 a.m. every MONDAY.

TSF03
Executes and logs panel space NOONTIME at 12:00 p.m. every Thursday and Friday.

TSF04
Executes panel space MONTHEND on the 30th of each month at 8:00 a.m.

TSF05
Executes and logs panel space STATUS every 30 minutes every day.

/U
Scrolls up the amount of lines specified by argument *cccc*.

/U is an alias for **/UP**. See the description of the **/UP** command for complete information.

/UP
Scrolls up the amount of lines specified by argument *cccc*.

The **/UP** command works only if you set the number of logical rows (LROWS) to a number greater than the number of physical rows on this terminal when you initialize OMEGAMON XE for DB2 PE.

The format is:

```
/UP cccc
```

nnn
Scrolls *nnn* lines (from 1 to 999).

CSR
Scrolls according to the current location of the cursor. If the cursor is on the INFO-line, the scroll amount is a page.

MAX
Scrolls to the top of the panel.

PAGE
Scrolls so that the current cursor position is at the top of the panel (default).

TOP
Scrolls to the top of the panel.

The following example scrolls up 20 lines.

```
/UP 20
```

If you have assigned the **/UP** command to a PF key (the default is PF19), you can type any of the optional arguments on the INFO-line before you press the PF key, and OMEGAMON XE for DB2 PE interprets the entry as if you had typed the command plus the arguments.

/U is an alias for **/UP**.

.VTM
Displays terminal ID and session information for all users logged onto OMEGAMON XE for DB2 PE in VTAM mode.

A user running in a multi-session environment moderated by O2VTAM can use this command to display information about other O2VTAM users. Operations personnel can use this command to monitor and manage access to the VTAM environment.

The **.VTM** command displays the following information: user ID, terminal ID, mode, session start date and time, date and time of last update. (User ID is displayed only if external security is being used to control logon access.)

.WAT
Waits *nn* seconds (.WAT*nn*) before executing all commands below.

The **.WAT** command provides a delay mechanism for the execution of commands that require information from a currently executing command. This command is useful when you want a delay between operator commands.

XGRP
Invokes exception analysis for exception group *cc*.

The format is:

```
XGRPcc
```

The XGRP command only invokes exceptions of a certain group. In this sense, it is merely a subset of the **EXSY** command.

The variable *cc* indicates the exception group type. These types are:

CI
CICS exceptions

IM
IMS exceptions

SY
system exceptions

TH
thread exceptions

XGSW
Set exception group switch settings.In addition to the control available over each individual exception, you can override certain options for an entire exception group.

The format is:

```
XGSW GROUP=cc STATE=cccc
```

GROUP
Any two unique alphanumeric characters to specify the group. Use this keyword to display only entries for a particular group.

STATE
Controls whether the exception is in any of these five states:

ON
Invokes this exception during the current session.

OFF
Does NOT invoke this group of exceptions during the current session.

TEST
Forces a sample warning message, even if the exception condition is not presently occurring, for purposes of training or demonstration. (When a message has been displayed because of TEST mode, a T is displayed in column 2 of the message lines.)

NULL
Specifies the individual exception is to maintain control rather than the group switch. This is the default.

XMCH

Scans DB2 storage.

This command requires special authorization because its use causes additional system overhead to collect the necessary data. Before OMEGAMON XE for DB2 PE displays this data, you must enter a valid password using the **/PWD** command.

XMCH scans the elements of a table for a string of hex or character values. If the scan is successful, OMEGAMON XE for DB2 PE displays the table element that contains the string.

Use XMCH to search DB2 address spaces. Use **MCHN** to search the address space in which OMEGAMON XE for DB2 PE resides.

The format is:

```
aXMCHc targ,addr,string,olen,chain,dlen
```

a
An action character in column 1:

-
Changes to a comment character (>) after the command executes.

<
Does not change to a comment character after the command executes. Use this action character to repeat the command.

c
The format of the output:

C
character only

X
hex only

targ
The target DB2 address space. It can be:

nnnn
decimal ASID number

cccccccc
jobname

If you do not specify a DB2 address space, an error message is displayed.

addr

The address of the first table element OMEGAMON XE for DB2 PE scans. For more information about how to specify an address, see the **MCHN** command.

string
The hex string that OMEGAMON XE for DB2 PE uses for the scan. If you enclose it in single quotes ('), OMEGAMON XE for DB2 PE assumes it is a character string.

Note: OMEGAMON XE for DB2 PE interprets two single quotes (' ') within a character string as a single quote (').

olen
The offset (in hex bytes) to the string in the table element; the comparison starts at this point. You can precede *olen* by a plus sign (+) or minus sign (-).

chain
The offset (in hex bytes) to the chain pointer (the location in the table element that contains the address of the next table element). You can precede *chain* by a plus sign (+) or minus sign (-).

dlen
The number of bytes (1 to 8 hex digits) that OMEGAMON XE for DB2 PE displays if the scan is successful. The display starts at the beginning of the table element. The default is 16 (X'10') bytes.

Ensure that *addr* is the starting point of a table element. The address at *+* chain points to the next table element. The scan ends when the value at *addr* + *chain* is one of the following:

- 0
- -1
- addr (the table is a ring)

The example below shows a typical XMCH command. In this example, **XMCH** scans a table in the target DB2 address space that starts at location AAB6C8 and looks for the string D6C30199 that begins at the eighth byte of the table element. The address of the next table element is in the fourth word. By default, this command displays 16 bytes of the table element in hex and character format.

```
-XMCH USER14,AAB6C8,D6C30199,8,4
```

The following output is displayed if the scan is successful:

```
>XMCH USER14,AAB6C8,D6C30199,8,4
>Storage at 007DA000 in USER14 ASID=21:
> 0000  E2E2C3E3 00000000 D6C30199 00000000  *SSCT    OC r    *
```

XMLS

Displays DB2 storage.

This command requires special authorization because its use causes additional system overhead to collect the necessary data. Before OMEGAMON XE for DB2 PE displays this data, you must enter a valid password using the **/PWD** command.

XMLS displays bytes of storage from a DB2 address space.

The format is:

```
aXMLSc targ,addr,len
```

a
An action character in column 1:

-
Changes to a comment character (>) after the command executes.

<
Does not change to a comment character after the command executes. Use this action character to repeat the command.

c
The format of the output:

B or b
hex and character (default)

C
character only

X
hex only

targ
The target DB2 address space. It can be:

nnnn
decimal ASID number

cccccccc
jobname

If you do not specify a DB2 address space, an error message is displayed.

addr

The first address of storage that OMEGAMON XE for DB2 PE displays. For more information about how to specify an address, see the **MCHN** command.

len
The number (1 to 8 hex digits) of bytes that OMEGAMON XE for DB2 PE displays. The default is 16 (X'10') bytes.

The following examples show uses of the XMLS command.

In the first example, **XMLS** displays 32 (X'20') bytes from address space 21, starting at address 1EB0, in character format.

```
-XMLSC  21,1EB0,20
```

Typical output is:

```
>XMLSC  21,1EB0,20
 >storage at 00001EB0 ASID=21:
 >0000 *ABCDEFGH IJKLMNOP QRSTUVWX Z0123456                    *
```

In the second example, **XMLS** displays 16 (X'10') bytes from the target DB2 address space specified by the jobname USER14, starting at 1EB0 in both hex and character formats.

```
-XMLS  USER14,1EB0,10
```

Typical output is:

```
>XMLS  USER14,1EB0,10
 >storage at 00001EB0 in USER14 ASID=21:
 >0000  C1C2C3C4 C5C6C7C8 C9D1D2D3 D4D5D6D7    *ABCDEFGHIJKLMNOP*
```

In the third example, **XMLS** displays 16 (X'10') bytes from address space 21, starting at FF32D6 in hex and character format. The less than symbol (<) prevents OMEGAMON XE for DB2 PE from commenting out the command.

```
<XMLSB  21,FF32C1+15,10
```

Typical output is:

```
<XMLSB  21,FF32C1+15,10
 +storage at 00FF32D6 in DB2 ASID=21:
 +0000  4AA800F7 D3700000 00000000 000000F8      *y..7L.........8*
```

XMSC

Scans DB2 storage.

This command requires special authorization because its use causes additional system overhead to collect the necessary data. Before OMEGAMON XE for DB2 PE displays this data, you must enter a valid password using the **/PWD** command.

XMSC scans a DB2 address space for a string of hex or character values. If the scan is successful,OMEGAMON XE for DB2 PE displays the string.

The format is:

```
aXMSCc targ,addr,string,slen,dlen
```

a
An action character in column 1:

-
Changes to a comment character (>) after the command executes.

<
Does not change to a comment character after the command executes. Use this action character to repeat the command.

c
The format of the output:

B or b
hex and character (default)

C
character only

X
hex only

targ
The target DB2 address space. It can be:

nnnn
decimal ASID number

cccccccc
jobname

If you do not specify a DB2 address space, an error message is displayed.

addr

The start address of the scan. For more information about how to specify an address, see the **MCHN** command.

string
The hex string that OMEGAMON XE for DB2 PE uses for the scan. If you enclose it in single quotes ('), OMEGAMON XE for DB2 PE assumes it is a character string.

Note: OMEGAMON XE for DB2 PE interprets two single quotes (' ') within a character string as a single quote (').

slen
The number (1 to 8 hex digits) of bytes that OMEGAMON XE for DB2 PE scans. The default is 256 (X'100') bytes.

dlen
The number of bytes (1 to 8 hex digits) that OMEGAMON XE for DB2 PE displays if the scan is successful. The display starts at the beginning of the table element. The default is 16 (X'10') bytes.

In the next example, **XMSC** scans 1000 bytes in the target DB2 address space specified by the jobname USER14, starting at location 515988 for the character string WORKAREA. If the scan is successful, OMEGAMON XE for DB2 PE displays 14 hex bytes in hex and character format starting at WORKAREA.

```
-XMSC  USER14,515988,'WORKAREA',1000,14
```

The following output is displayed if the scan is successful:

```
>XMSC  USER14,515988,'WORKAREA',1000,14
>storage at 00515988 in USER14 ASID=21:
> 1B8  E6D6D9D2 C1D9C5C1 00000000 000C0000  *WORKAREA........*
> 1C8  000C002C                             *....*
```

XMZP

Modifies another user's private storage area.

This command requires special authorization because it can perform potentially dangerous functions. Before OMEGAMON XE for DB2 PE executes this command, you must enter a valid password using the **/PWD** command.

Important: XMZP is powerful. Use it with care.

XMZP modifies the contents of the indicated private storage area.

The format is:

```
aXMZP targ,addr,ver,rep
```

a
An action character in column 1:

-
Changes to a comment character (>) after the command executes.

<
Does not change to a comment character after the command executes. Use this action character to repeat the command.

targ
The target DB2 address space. It can be:

nnnn
decimal ASID number

cccccccc
jobname

If you do not specify a DB2 address space, an error message is displayed.

addr

The address of the string OMEGAMON XE for DB2 PE might modify. For more information about how to specify an address, see the **MCHN** command.

ver
The verify string; OMEGAMON XE for DB2 PE modifies storage only if OMEGAMON XE for DB2 PE finds this string at *addr*. If OMEGAMON XE for DB2 PE does not find the string, it displays what is actually at *addr*.

rep
The replacement string. If OMEGAMON XE for DB2 PE finds *ver* at *addr*, *rep* replaces *ver*.

Note: The strings *ver* and *rep* must be the same length.

In this example, XMZP changes a byte at location A0160 in the master scheduler address space.

```
-XMZP  *MASTER*,A0160,0A,64
```

In the next example, XMZP changes a halfword at C4834 in the PRODJOB address space from X'1854' to X'0700'.

```
-XMZP  PRODJOB,C4834,1854,0700
```

.ZAP
Displays the maintenance level of the OMEGAMON XE for DB2 PE realtime modules.

/ZOOM
Invokes the navigational zoom feature using the cursor as a pointer.

The zooming feature is designed to simplify the investigation of system conditions by supplying a detailed level of information at the touch of the zoom key. **/ZOOM** substitutes whatever value the cursor is on for a variable contained in a predefined panel space. The variable substitution allows the zooming panel space to have multiple uses.

To illustrate the use of the zooming feature, the following discusses three types of applications. First, you should be aware of the following points:

- By default, OMEGAMON XE for DB2 PE is delivered with the `/ZOOM INFO`-line command assigned to PF key F11 so you can use the zooming panel spaces with a single key. For this discussion, F11 is referred to as the zoom key.
- Zooming panel spaces must be set up before using **/ZOOM**. These panel spaces can contain one or more of the following variables.

&ZOOM
Data found at the cursor location.

&ZOOMA
Command argument field (columns 6 and 7).

&ZOOMC
Command or exception name field (columns 2 to 5).

&ZOOML
Command label field (column 1).

&ZOOMS
Originating panel space.

OMEGAMON XE for DB2 PE provides sample zooming panel spaces that you can use to become familiar with both the setup of a zooming panel space and the types of commands for which **/ZOOM** is most appropriate. To see the names of those panel spaces, use the **SCRN** command and look for panel spaces beginning with @Z.

Following are three illustrations of using the zooming feature:

1. This first example uses a panel space that is supplied on your OMEGAMON XE for DB2 PE tape. The example is easier to understand if you actually execute the commands on your system while you follow the discussion.

   a. Type the command **THDA**. **THDA** produces a list of active threads.

```
_________________  ZALLT    VTAM  O2        V500./C $DB2 mm/dd/yy     12:06:26
 THDA
+ Elapsed      Planname    CPU   Status         GetPg   Update  Commit  CORRID
  -----------  --------   -----  ------------  ------  ------  ------  -------
+ 00:53:59.05  PLAN0090   12.2%  In-DB2          6231     381     123  CICSPROD
+ 00:12:37.16  PLAN0100   11.1%  In-SQL-Call     1943       0     189  TSOUSER1
+ 00:09:29.27  PLAN0001    2.0%  In-DB2          1111      21      14  IMSA
```

   b. To examine one of the threads more closely, place your cursor under the planname you want to query, PLAN0001 in this case, and press F11. OMEGAMON XE for DB2 PE looks for a panel space starting with @ZSM and ending with the command name that precedes the cursor. OMEGAMON XE for DB2 PE finds the panel space @ZSMTHDA:

```
_________________  ZALLT    VTAM  O2        V500./C $DB2 mm/dd/yy     12:06:26
 THDA
+ Elapsed      Planname    CPU   Status        GetPg   Update  Commit  CORRID
  -----------  --------   -----  ------------  ------  ------  ------  -------
+ 00:53:59.05  PLAN0090   12.2%  In-DB2          6231     381     123  CICSPROD
+ 00:12:37.16  PLAN0100   11.1%  In-SQL-Call     1943       0     189  TSOUSER1
+ 00:09:29.27  PLAN0001    2.0%  In-DB2          1111      21      14  IMSA

 PLAN  &ZOOM
 ACT
```

/ZOOM replaces the variable *&ZOOM* with the planname over the cursor. The result might look like this:

```
_________________  ZALLT    VTAM  O2        V500./C $DB2 mm/dd/yy     12:06:26
 THDA
+ Elapsed      Planname    CPU   Status        GetPg   Update  Commit  CORRID
  -----------  --------   -----  ------------  ------  ------  ------  -------
+ 00:53:59.05  PLAN0090   12.2%  In-DB2          6231     381     123  CICSPROD
+ 00:12:37.16  PLAN0100   11.1%  In-SQL-Call     1943       0     189  TSOUSER1
+ 00:09:29.27  PLAN0001    2.0%  In-DB2          1111      21      14  IMSA

 PLAN
 PLAN
+ Thread: Planid=PLANABCD Connid=IMSA     Corrid=0014PSBNAME1 Authid=IMSUSER1
+ Attach: IMS Region number = 11          IMS Tran = TRANDB2A
 ACT
+                           Thread Status
+ DB2 Status          =  In-SQL-Call      MVS Status              =   Wait-Misc
+ Elapsed Time        = 00:00:00.0        CPU Utilization         =        11.0
+ In-DB2 Time Total   = 00:03:01.1        In-DB2 CPU Time Total   =        1.30
+ In-DB2 Time Current = 00:02:02.2        In-DB2 CPU Time Current =        1.23
+
+                  Thread Buffer Manager Activity
+
+ Getpage Requests =            99        Getpages/Read I/O =              7.07
+ Synchronous Reads =           14        Page Updates =                      3
+ Sequential Prefetch Reqs =    48        Buffer Pool Expansions =            0
```

c. You can now place your cursor on a different planname and press F11 again to receive the same detail on another thread. A zooming panel space can display more detailed analyses of any thread.

2. Suppose that the **THDA** command in example 1 was originally executed as part of a different panel space (not a zooming panel space) that you had been using. We will call that panel space THREADS. If the @ZSMTHDA panel space ended with the command, **.SGO** &ZOOMS, the *&ZOOMS* variable would pick up the value of the originating panel space (THREADS) and OMEGAMON XE for DB2 PE would return to THREADS after the @ZSMTHDA panel space executed.
3. Suppose that you have issued the exception analysis command, **LEXSY**, and an exception condition is displayed (**LEXSY**) that you want to investigate further. Assuming that you have a predefined panel space named @ZSM*cccc* where *cccc* is the name of the exception, place your cursor under the exception name on the LEXSY panel and press F11. OMEGAMON XE for DB2 PE will execute the commands on your @ZSM*cccc* panel space to give you a detailed analysis of the condition.

Chapter 15. Profile Maintenance Facility

Select this main menu option for information about the Profile Maintenance Facility.

Customizing and storing session characteristics in profiles

Use the Profile Maintenance Facility to customize characteristics of your active OMEGAMON XE for DB2 PE session and to store these characteristics in a profile. You can also change and delete existing profiles.

Profiles are identified by 2-character profile suffixes. The profile to be used for an OMEGAMON XE for DB2 PE session can be specified in the panel described in "Logging on to the Classic Interface" on page 8 or as parameter of the Logon command (see "Directly logging on to the Classic Interface from native VTAM" on page 8).

The profile being in use in an active OMEGAMON XE for DB2 PE session is displayed on the top line of most panels after the version number (for example, V540.AZ indicates that the user profile AZ is in use).

The default IBM profile

OMEGAMON XE for DB2 PE contains a default profile, identified by the 2-character profile suffix #P. This profile contains session configuration options needed to initialize an OMEGAMON XE for DB2 PE session and default exception analysis thresholds.

The default IBM profile ensures that you can always initiate an OMEGAMON XE for DB2 PE session, even if no other profiles are defined. This profile is always available and cannot be changed.

The installation profile

A so called *installation profile*, identified by the 2-character profile suffix /I, can be set up during the installation of OMEGAMON XE for DB2 PE. This profile can contain a set of session and exception analysis options that the installer specifies for all OMEGAMON XE for DB2 PE sessions at your installation. The installation profile can contain overrides of IBM profile options and additional options that are installation-specific or that are not contained in the IBM profile.

If an *installation profile* exists, your OMEGAMON XE for DB2 PE session is started with a concatenation of the default IBM profile and the installation profile.

User profiles

OMEGAMON XE for DB2 PE users can create one or more user profiles, identified by two alphanumeric characters, to customize their individual OMEGAMON XE for DB2 PE sessions. A user profile can contain profile options that override options specified in the default IBM profile and the installation profile, as well as additional options.

Panels for profile management

You can customize and maintain profiles through the following panels:

- "Profile Maintenance menu" on page 580
- "Set Display Options" on page 581
- "Set Control Function Options" on page 584
- "Set Printer and Routing Options" on page 586

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- “Set Exception Analysis Message Option” on page 587
- “Set Performance Options” on page 588
- “Set Background Exception Processing” on page 589
- “Exception Analysis Options menu” on page 590
- “Set Exception Analysis Options” on page 590
- “List Profiles” on page 597
- “Describe a Profile” on page 598
- “Save New/Altered User Profile” on page 599
- “Delete User Profile” on page 599
- “Save New/Altered Installation Profile” on page 600
- “Delete Installation Profile” on page 601
- “Change Profile” on page 601
- “Exception Logging menu” on page 602
- “Set XLF Printer and Routing Options” on page 603
- “Set DB2/IRLM Messages that MSGE Exception Monitors” on page 604
- “Filter Options For Thread Activity Displays” on page 605

Profile Maintenance menu

This menu is the first menu for the Profile Maintenance Facility. From this menu you can access panels to change the characteristics of exceptions, change options for the current OMEGAMON XE for DB2 PE session, save, delete, change, and list profiles, or add descriptions to profiles.

```
_________________ ZPROF    VTM     02       V540.#P DA41 11/06/13 11:22:02   2
> Help PF1                                                          Back PF3
> P.
>          Type a selection letter on the top line and press ENTER.
================================================================================
>                        PROFILE MAINTENANCE MENU

_ A  SESSION OPTIONS ..... Set session options

_ B  EXCEPTION ANALYSIS... Exception analysis options

_ C  LIST PROFILES ....... List profiles
_ D  DESCRIBE PROFILE .... Describe a profile

_ E  SAVE USER ........... Save new/altered user profile
_ F  DELETE USER ......... Delete user profile
_ G  SAVE INSTALL ........ Save new/altered installation profile
_ H  DELETE INSTALL ...... Delete installation profile
_ K  CHANGE PROFILE ...... Change the profile being used for this session

_ I  LOGGING ............. Exception and automatic screen logging
_ J  MESSAGES ............ Set DB2/IRLM messages that MSGE exception monitors

_ L  Filtering ........... Set Thread Filtering
================================================================================
```

Navigation

For additional options

- select one of the options from the menu.
- use the PF keys.

Set Display Options

Use this panel to set options that control how OMEGAMON XE for DB2 PE operates on your terminal, such as colors, audible alarms, exception message logging (XLF), automatic panel logging (ASF), and the timed panel facility (TSF).

```
_________________ ZOPTN    VTM     02       V540.#P DA41 11/06/13 11:22:24   2
>       Help PF1                                              Back PF3
> P.A.A
>         SESSION OPTIONS:  Enter a selection letter on the top line.

> *-DISPLAY   B-CONTROL   C-ROUTING   D-MESSAGE   E-PERFORMANCE   F-BACKGROUND
================================================================================
>                            SET DISPLAY OPTIONS

> To change the value of an option, type the new value over the current one.
> Press ENTER to record the change.

 OPTN
:       ASF          = OFF          BELL         = OFF
:       BELLINT      =    60.00     DATEFORMAT   = USA
:       FIRSTSCREEN  = ZMENU        LOG          = OFF
:       MINORCASE    = LOWER        SCREENCASE   = MIX
:       SCROLL       = CSR          TSF          = OFF
:       XLF          = OFF          ZEROS        = OFF

 .SCC
: Display=COLOR                              ProfileDefinitionMode=OFF
: ExtendedHighlighting=ON                    DBCS=OFF
+
: Major=WHITE      Minor=WHITE      Immed=WHITE      Default=WHITE
+
+ XACB Display Options:
: Clr1=RED         Clr2=YELLOW      Clr3=BLUE        Clr4=GREEN
: Clr5=TURQUOISE   Clr6=PINK        Clr7=WHITE
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

You can change the values on the Set Display Options panel. To modify a setting, move the cursor to the value you want to change, type the new value over the current value, and press Enter to record the change.

ASF
The current status of the automatic panel facility (ASF). Permitted values are ON and OFF. The default is OFF.

BELL
The current status of the audible alarm (ON or OFF). The default is OFF.

BELLINT
The minimum interval for audible alarm. The default is 5.00 seconds. The maximum interval is 99.00 seconds.

DATEFORMAT
The display format of the date. Specify the format as USA (*mm/dd/yy*) or EUROPEAN (*dd/mm/yy*). The default is USA.

FIRSTSCREEN
The first panel that OMEGAMON XE for DB2 PE displays after the copyright panel. You cannot change this value. The panels are arranged for easy access to product information.

LOG
The current status of the log function (ON or OFF). The default is OFF. When the log function is ON, the current logical panel is logged each time you press Enter (or at regular intervals, if you are in automatic update mode). See field PAGELIMIT in "Set Control Function Options" on page 584 about the size of the REPORT file.

MINORCASE
The type of letters OMEGAMON XE for DB2 PE uses to display minor commands (upper or lower case). The default is LOWER.

SCREENCASE
The type of letters OMEGAMON XE for DB2 PE uses to display its output in the panel (upper or mixed case). The default is MIX.

SCROLL
The amount to scroll the page. The default is a full page (PAGE). It can also be the position of the cursor (CSR).

TSF
The current status of the timed panel facility (TSF). Permitted values are ON and OFF. The default is OFF.

XLF
The current status of the Exception Logging Facility (XLF). Permitted values are ON and OFF. The default is OFF.

ZEROS
The type of zero display. When this parameter is ON, OMEGAMON XE for DB2 PE displays the number 0 in fields that have a value of 0. When this parameter is OFF, OMEGAMON XE for DB2 PE displays a blank in these fields. OMEGAMON XE for DB2 PE does not save the value of this field in a profile. This value will return to the default each session.

Display
Determines the type of entries that are acceptable in several other fields in this panel. If you want to change the display settings and save the changes in a profile, Profile Definition Mode must be turned ON before you make the changes.

BASIC
Sets the intensity of field types (for example, major and minor commands) on monochrome terminals and non-EDS (extended data stream) color terminals. Permitted values are High and Low.

Note: When the BASIC display option is used on color devices that can support EDS, OMEGAMON XE for DB2 PE will treat that device as a 4-base color terminal (non-EDS).

HIGH
All fields are displayed in high intensity.

LOW
All fields are displayed in low intensity.

COLOR
For color EDS terminals only: Sets the color of each field. Color names are red, green, white, blue, pink, yellow, and turquoise.

Note: If you do not have a color terminal, setting Display to COLOR can cause your OMEGAMON XE for DB2 PE session to terminate.

If OMEGAMON XE for DB2 PE is provided a color value instead of an intensity value, or vice versa, it makes the following internal conversion:

- On a non-EDS terminal, values of green and blue translate to low intensity. All other color values translate to high intensity.

- On an EDS terminal, a value of HI translates to the color red; a value of LO translates to the color green.

ProfileDefinitionMode
Controls the definition of color and highlighting within a user profile.

OFF
Changes affect only the current OMEGAMON XE for DB2 PE session.

ON
Intended when creating or changing a user profile. After defining the settings, issue a profile save command for these definitions to be saved and reused. Setting this keyword to ON permits to configure options for different types of terminals on the same panel. If you want to save color setting changes in a profile, Profile Definition Mode must be turned ON before you make the changes.

ExtendedHighlighting
Used only with devices that support the extended data stream.

OFF
Extended highlighting features are not available. Use with non-EDS devices.

ON
Extended highlighting features are available. When Display=COLOR, this value is automatically set to ON. (Extended attributes are not supported in ISPF mode.)



CAUTION: Do not set ExtendedHighlighting to ON unless you have a terminal that supports an extended data stream (or unless you have ProfileDefinitionMode is ON). If you do this accidentally, you can get a PROG*nnn* or a panel erasure error. You can press the ATTN or PA1 key to resume the session, but be aware that this action also clears the current security authorization and the current panel.

Major
Controls color (LOW) or highlighting (HIGH) for major commands and their output.

Minor
Controls color (LOW) or highlighting (HIGH) for minor commands and their output.

Immed
Controls color (LOW) or highlighting (HIGH) for immediate commands and their output.

Default
Controls color (LOW) or highlighting (HIGH) for other unprotected fields (for example, error message text, help text).

XACB Display Options
Controls exception analysis message text. The fields **Clr1** through **Clr7** can be used as substitutes for the color names (Red, Blue, and so on) or highlighting (High and Low) when customizing exception messages with the XACB command.

The following table shows the possible variations of settings according to the type of terminal you are supporting.

Table 30. Set Display Options Color/Highlighting Settings

If you have...	**and you want...**	**keywords and possible settings are...**
A non-EDS terminal	some fields in high intensity and some fields in low intensity	Display=BASIC ExtendedHighlighting=OFF Major, Minor, Immed, XACB options=HI|LO|DEF Default=HI|LO

Table 30. Set Display Options Color/Highlighting Settings (continued)		
If you have...	**and you want...**	**keywords and possible settings are...**
	all fields in high intensity	Display=HI ExtendedHighlighting=OFF (All other settings default to HI)
	all fields in low intensity	Display=LO ExtendedHighlighting=OFF (All other settings default to LO)
A monochrome EDS terminal	some fields in high intensity and some fields in low intensity, plus blinking, underscoring, or reverse video	Display=BASIC ExtendedHighlighting=ON Major, Minor, Immed, XACB options=HI|LO|DEF Default=HI|LO
	all fields in high intensity, plus blinking, underscoring, or reverse video	Display=HI ExtendedHighlighting=ON (All other settings default to HI)
	all fields in low intensity plus blinking, underscoring, or reverse video	Display=LO ExtendedHighlighting=ON (All other settings default to LO)
A color EDS terminal	to specify the color of each field, plus blinking, underscoring, or reverse video	Display=COLOR ExtendedHighlighting=ON Major, Minor, Immed, XACB options=color|DEF Default=color

Set Control Function Options

Use this panel to set options that control the way OMEGAMON XE for DB2 PE operates on your terminal, such as the size of the OMEGAMON XE for DB2 PE log file and how often OMEGAMON XE for DB2 PE updates the panel.

```
_________________ ZSET     VTM     O2       V540.#P DA41 11/06/13 11:23:05   2
>       Help PF1                                              Back PF3
> P.A.B
>         SESSION OPTIONS:  Enter a selection letter on the top line.

> A-DISPLAY   *-CONTROL   C-ROUTING   D-MESSAGE   E-PERFORMANCE   F-BACKGROUND
================================================================================
>                      SET CONTROL FUNCTION OPTIONS

> To change the value of an option, type the new value over the current one.
> Press ENTER to record the change.

 .SET
:       FGOLIMIT     =       64     FGOLOOP      = OFF
:       GDEVUCBS     =      200     INTERVAL     =     5.00
:       IODELAY      =        5     LOOPCOUNT    =    50000
:       LOOPTIME     =   150.00     PAGELIMIT    =      400
:       PEEKSIZE     =    32768     STATUSMODE   = OFF
:       OCMDMASTER   = ON           LOGREC       = OFF
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

You can change the values in the Set Control Function Options panel. To modify a setting, move the cursor to the value you want to change, type the new value over the current value, and press Enter to record the change.

FGOLIMIT
The maximum number of consecutive .FGO panels that can execute when OMEGAMON XE for DB2 PE detects a loop and FGOLOOP is ON. The default is 64. The maximum number is 1000.

FGOLOOP
.FGO loop detection (**ON**/**OFF**). If OMEGAMON XE for DB2 PE detects an .FGO loop, it causes .FGO to work like .SGO so that the user can eliminate the loop.

GDEVUCBS
This setting does not apply to OMEGAMON XE for DB2 PE for DB2.

INTERVAL
The interval (in seconds) between automatic updates. The default is 5.00. The maximum is 99.00.

IODELAY
The number of cycles to hold the panel when the cursor moves. The default is 1. The maximum is 100.

LOOPCOUNT
The maximum number of control blocks that can be tested when executing the Examine Address Space panels before OMEGAMON XE for DB2 PE detects a loop. The default is 15000. The maximum is 60000.

LOOPTIME
The threshold (in seconds and hundredths of seconds) for the OMEGAMON XE for DB2 PE built in loop detection when executing the Examine Address Space panels. The default is 25.00. The maximum is 99.

PAGELIMIT
The size (in pages) of the REPORT file used to log OMEGAMON XE for DB2 PE panels. The default is 400. The maximum is 99999. This number decreases dynamically as the log prints to reflect the number of pages remaining in the log before this limit is reached. Consequently, be sure to check this parameter (and reset it, if necessary) before saving a profile.

PEEKSIZE
The size (in bytes) of the buffer for the Examine Address Space panels. The default is 32768. The maximum is 204800.

STATUSMODE
This setting does not apply to OMEGAMON XE for DB2 PE.

OCMDMASTER
Sets the default console ID if none was specified with the OCMD command. Default is ON.

ON
Master console.

OFF
Console 00.

Set Printer and Routing Options

Use this panel to set options that control the way OMEGAMON XE for DB2 PE logs output.

```
_________________ ZOUTP    VTM     02       V540.#P DA41 11/06/13 11:23:22   2
>       Help PF1                                              Back PF3
> P.A.C
>         SESSION OPTIONS:  Enter a selection letter on the top line.

> A-DISPLAY   B-CONTROL   *-ROUTING   D-MESSAGE   E-PERFORMANCE   F-BACKGROUND
================================================================================
>                      SET PRINTER AND ROUTING OPTIONS

> To change the value of an option, type the new value to the right of the
> option name (not in the Pending or Current columns) and press ENTER.  Then,
> to activate the new setting, space over the > in front of .LOGOUT and
> press ENTER again.

>.LOGOUT
 OUTP  REPORT
+                          |----- Pending ------|----- Current ------|
 copy                      | 1                  | 1                  |
 ddnm                      | (*DYNAMIC)         | (*DYNAMIC)         |
 dest                      | *NONE*             | *NONE*             |
 dstu                      | *None*             | *None*             |
 fold                      | YES                | YES                |
 form                      | *None*             | *None*             |
 hold                      | NO                 | NO                 |
 id1                       | 'USER    '         | 'USER    '         |
 id2                       | '                ' | '                ' |
 id3                       | '                ' | '                ' |
 id4                       | '                ' | '                ' |
 lnct                      | 60                 | 60                 |
 sout                      | A                  | A                  |
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

To modify an option, move the cursor between the name of the setting you want to change and the **Pending** column, type the new value, and press Enter. To save your changes, delete the comment character (>) next to **.LOGOUT** and press Enter. This releases the current log, moves the **Pending** values to the **Current** column, and reallocates the log using the new values.

Note: When a value is displayed within parentheses, it means that the field is inactive.

.LOGOUT
Prints the current log and leaves it open. OMEGAMON XE for DB2 PE places a comment character in front of **.LOGOUT** so that the log is reset only on cycles when you remove the comment character (>).

copy
The number of copies to print.

ddnm
Overrides the standard OMEGAMON XE for DB2 PE ddname. When DDNM is active, *sout* and its related parameters (copy, dest, dstu, form, and hold) are inactive. The ddname must be allocated within the O2CI started task JCL.

dest
The destination to receive the report. The default is NONE, which sends the output to the local printer. The device can be a terminal, a node, a remote workstation, a local device or group of devices, or a user ID.

dstu
The destination user ID to receive the report.

fold
Changes lowercase characters to uppercase. The default is YES.

form
The name of the form on which to print. The default is NONE. This means that OMEGAMON XE for DB2 PE uses the form defined as your installation's default. If you change NONE to some other value (such as HOLE), you can type an asterisk (*) to return to NONE.

hold
Specifies that the output be placed in the hold queue. The default is NO.

id1
Requests separator pages and page headers that identify output from different OMEGAMON XE for DB2 PE sessions.

id2
Defines up to 16 characters to be shown on the left of the separator page, justified below the ID1 heading. ID1 must be set to use ID2.

id3
Defines up to 16 characters to be shown centered on the separator page, below the ID1 heading. ID1 must be set to use ID3.

id4
Defines up to 16 characters to be on the right of the separator page, justified below the ID1 heading. ID1 must be set to use ID4.

lnct
Sets the REPORT file line count. The default is 60 lines.

sout
Specifies the SYSOUT class for the output.

Set Exception Analysis Message Option

Use this panel to set a message that OMEGAMON XE for DB2 PE displays on the Exception Messages panels when no OMEGAMON XE for DB2 PE exceptions are tripping.

```
_________________ ZXTXT    VTM     O2       V540.#P DA41 11/06/13 11:23:55   2
>       Help PF1                                              Back PF3
> P.A.D
>         SESSION OPTIONS:  Enter a selection letter on the top line.

> A-DISPLAY   B-CONTROL   C-ROUTING   *-MESSAGE   E-PERFORMANCE   F-BACKGROUND
================================================================================
>                  SET EXCEPTION ANALYSIS MESSAGE OPTION

> To change the message that OMEGAMON displays when no exceptions have
> exceeded their threshold value, type the new message within single quotes
> after XTXT.  Press ENTER to record the change.

 XTXT
+      '==> *** NO EXCEPTIONS TRIPPED ON THIS CYCLE ***<==          '
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

XTXT
Sets the message text.

You can change the message that OMEGAMON XE for DB2 PE displays when no exceptions have exceeded their threshold values. To change the message, type the new message next to **XTXT** within single quotes (') and press Enter to record the change.

Set Performance Options

Use this panel to set certain performance options, such as how OMEGAMON XE for DB2 PE uses storage.

```
_________________ ZIOPT    VTM     O2       V540.#P DA41 11/06/13 11:24:26   2
>       Help PF1                                              Back PF3
> P.A.E
>         SESSION OPTIONS:  Enter a selection letter on the top line.

> A-DISPLAY   B-CONTROL   C-ROUTING   D-MESSAGE   *-PERFORMANCE   F-BACKGROUND
================================================================================
>                          SET PERFORMANCE OPTIONS

> To change the value of an option, type the new value over the current one.
> Press ENTER to record the change.

 IOPT
:       NONSWAP      = OFF          PAGEFIX      = OFF
:       RESERVE      = OFF          TSOPFIX      = OFF
================================================================================
```

Because this panel contains options that can have a great effect on the system, this panel might require special authorization. If OMEGAMON XE for DB2 PE prompts you for authorization, first type /PWD on the top line of the panel. Then type your password and press Enter.

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

NONSWAP
This field does not apply to OMEGAMON XE for DB2 PE because OMEGAMON XE for DB2 PE always sets its storage to nonswappable.

PAGEFIX
Makes OMEGAMON XE for DB2 PE storage page-fixed (ON or OFF). The default is OFF.

RESERVE
Controls whether a DASD RESERVE is issued when OMEGAMON XE for DB2 PE saves a panel into its panel data set, RKO2PCSV, or a profile into its profile data set, RKO2PFSV (ON or OFF). The default is OFF.

If you change the setting of this option, the new setting takes effect immediately.

TSOPFIX
This field does not apply to OMEGAMON XE for DB2 PE. Use the PAGEFIX option.

Note: RESERVE is the only option that takes effect immediately if you change it. All other option settings take effect only after they are saved in a profile that is used in a subsequent session.

Set Background Exception Processing

Use this panel to turn background exception processing on and off.

When you set this option to OFF, CPU use will be reduced, assuming the XLF and ASF options are OFF and that foreground exception processing (EXSY/LEXSY) is OFF.

```
_________________ ZXOPT    VTM     O2       V540.#P DA41 11/06/13 11:24:38   2
>       Help PF1                                              Back PF3
> P.A.F
>         SESSION OPTIONS:  Enter a selection letter on the top line.

> A-DISPLAY   B-CONTROL   C-ROUTING   D-MESSAGE   E-PERFORMANCE   *-BACKGROUND
================================================================================
>                     SET BACKGROUND EXCEPTION PROCESSING

> Current background exception processing status displays below.  To modify the
> setting, enter a space followed by ON or OFF after XOPT.

 XOPT
+ Current Option is OFF

================================================================================
```

Important: When the command E. is used to fastpath to the exceptions panel, ZEXSY, an incorrect exception analysis can occur if XOPT is set to OFF. Hit Enter to refresh the panel and display the correct exception status.

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

OMEGAMON XE for DB2 PE does not display any fields in this panel.

Exception Analysis Options menu

Use this menu to select the type of exception for which you want to set or change the exception analysis options.

```
_________________ ZEXCEP   VTM     02       V540.#P DA41 11/06/13 11:24:57   2
> Help PF1                                                          Back PF3
> P.B
>          Type a selection letter on the top line and press ENTER.
================================================================================
>                       EXCEPTION ANALYSIS OPTIONS MENU

_ A  SYSTEM ............. Set exception analysis options for System exceptions
_ B  THREAD ............. Set exception analysis options for Thread exceptions
_ C  CICS ............... Set exception analysis options for CICS exceptions
_ D  IMS ................ Set exception analysis options for IMS exceptions
_ E  SINGLE ............. Set options for individual exception
================================================================================
```

Navigation

For additional options, choose one of the options from the menu.

Fields

When you choose an exception type (for example, Thread) from the Exception Analysis Options Menu, OMEGAMON XE for DB2 PE displays a list of the exceptions in that group. You can then select a specific exception to set or view its characteristics.

If you select the Single option, OMEGAMON XE for DB2 PE displays a panel on which you can enter the name of the exception you want to view or change.

Set Exception Analysis Options

Use this panel to view and change the current characteristics of an exception and to add, delete, or display filtering rules for THREAD exception processing.

The following example shows the exception analysis options for an ARCM exception:

```
_________________ ZXTARCM  VTM     O2       V540.#P DA41 11/06/13 11:26:04   2
> Help PF1               Up PF7                Down PF8                Back PF3
================================================================================
>              SET EXCEPTION ANALYSIS OPTIONS FOR ARCM EXCEPTION

> Warns when thread backout processing is waiting for an archive tape mount.

> To change the value of an exception option, type the new value over the
> current one.  Press ENTER to record the change.

 XACB LIST=ARCM
: ARCM
+      DISPLAY Parameters:   THRESHOLD Parameters:   XLF Parameters:
:        State=ON             Threshold=N/A           Auto=OFF
:        Group=TH             Display=CLR3            Log=OFF
:        Bell=OFF             Attribute=NONE          Limit=5 (5)
:      BOX Parameters:       CYCLE Parameters:        Repeat=YES
:        Boxchar=NO BOX       ExNcyc=0                Persist=1
:        Boxclr=NONE          Stop=0 (0)              SL=ZTHLOG
:        Boxattr=NONE         Cumulative=0
================================================================================
 XTHD ARCM
: FUNCTION=ADD(01)             | (DIS/ADD/DEL)
+-------------------------------------------------------------------------------
+ RULE=01 | Thread Exception Rule Parameters:
:          |  PLAN=________     AUTHID=________     CONNTYPE=_______
:          |  CICS Parameters:  CICSTRAN=____       CICSCONN=________
:          |  IMS Parameters:   PSBNAME=________    IMSID=________
:          |  PACKDBRM=________
:          |  PAKCOLID=__________________
:          |  CORRID=____________
:          |  REQLOC=________________
:          |  THRDTYPE=_
:          |  EXCLUDE=YES
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

cccc
Exception name.

DISPLAY Parameters

State
One of the following:

ON
Checks for this exception condition during the current OMEGAMON XE for DB2 PE session.

OFF
Does not check this exception condition during the current OMEGAMON XE for DB2 PE session.

TEST
Sets exception analysis into a test mode for this exception condition.

If you set the exception state to TEST and you type the word FORCE after the exception name, OMEGAMON XE for DB2 PE displays the exception message text below the parameters with T in column 2 of the exception text and also on the Exception Messages panel.

Note: Because OMEGAMON XE for DB2 PE cannot provide a current value for the exception, the message text substitutes the value with an *n* variable.

Group
Displays the 2-character exception group identifier.

CI
for CICS

SY
for system

TH
for thread

Bell
Specifies whether the audible alarm on the terminal sounds when this exception occurs.

ON
The bell sounds. This works only if the system bell is set to ON on the Set Display Options panel.

OFF
The bell does not sound.

BOX Parameters

Boxchar
Specifies a box character enclosed in single quotes, or the string NO BOX (without quotes), which is the default. If Boxchar is NO BOX, OMEGAMON XE for DB2 PE does not place any box around the exception. Also, Boxclr and Boxattr is set to NONE.

Do not use a single quote (') as a box character, because it is the delimiter. To use an ampersand as a box character, type two ampersands (Boxchar is '&&').

Boxclr
Sets the color or intensity of the exception box. (If you set Boxchar=NO BOX, OMEGAMON XE for DB2 PE sets Boxclr=NONE.)

On 4-color or noncolor terminals the value can be:

HI
Highlights the message.

LO
Does not highlight the message.

DEFAULT
Uses the value of the default field on the Set Display Options panel.

On 7-color terminals the value can be:

RE
Sets the box red.

BL
Sets the box blue.

YE
Sets the box yellow.

PI
Sets the box pink.

GR
Sets the box green.

TU
Sets the box turquoise.

WH
Sets the box white.

DEFAULT
Uses the value of the default field on the Set Display Options panel.

Boxclr can also be set to the variables *Clr1* through *Clr7*. They are associated with the colors listed before and follow the same order. To set these values, see the Set Display Options panel.

Boxattr
For 7-color terminals, sets one of the following additional highlight attributes (with extended color support) for the box. (If you set Boxchar at NO BOX, OMEGAMON XE for DB2 PE sets Boxattr at NONE.)

BLINK
Turns on blinking for the exception.

RVRS
Displays message in reverse video.

UNDR
Underscores message.

NONE
Uses the default extended highlight attributes.

Note: If you do not set color and highlighting attributes for the box, OMEGAMON XE for DB2 PE uses those that you set for the exception.

THRESHOLD Parameters

Threshold
Exception threshold. For exceptions that monitor an action, not a value, this setting is N/A.

Display
Sets the exception message display color or intensity.

The variables *Clr1* through *Clr7* specify the exception display color. Set the associated values with the Set Display Options panel.

On terminals that use extended color support (set with the **XACB Display Options** field on the Set Display Options panel), the color codes are:

RE
Sets message red.

BL
Sets message blue.

YE
Sets message yellow.

PI
Sets message pink.

GR
Sets message green.

TU
Sets message turquoise.

WH
Sets message white.

NONE
Specifies the hardware default colors.

On terminals that do not use extended color support, the intensity can be:

HI
Highlights the message.

LO
Does not highlight the message.

Attribute
For 7-color terminals, sets one of the following extended highlight attribute (with extended color support) for the exception.

BLINK
Turns on blinking for the exception.

RVRS
Displays message in reverse video.

UNDR
Underscores message.

NONE
Uses the default extended highlight attributes.

CYCLE Parameters

ExNcyc
Sets the frequency for checking the exception at every *n* OMEGAMON cycles. If this parameter is set to 0 or 1, exception checking will occur during every OMEGAMON cycle. If this field is set to a higher number, exception checking will only occur each time the specified number of cycles elapses. The default setting for ExNcyc is 0.

Stop
Sets a monitoring limit for an exception to *n* trips. After the exception trips *n* times, the exception will not monitor or display it during the current OMEGAMON XE for DB2 PE session, unless you reset this parameter. The (*m*) value indicates the number of times the exception has already tripped since you last reset the STOP parameter. The default value for STOP is 0, which means that there is no limit to the number of times the exception can be tested and displayed.

Cumulative
Indicates how many times the exception has tripped during the current OMEGAMON XE for DB2 PE session.

XLF Parameters

Auto
Controls the status of ASF (automated panel facility) for this exception. Can be ON or OFF.

Log
Controls the status of XLF (Exception Logging Facility) for this exception. Can be ON or OFF.

Limit
Limits the number of times XLF or ASF is invoked if the exception occurs. If you enter 0, no events are logged. If you enter NONE, the exception invokes XLF and/or ASF each time the exception occurs.

The number that is displayed in parentheses is the number of invocations remaining before the limit is reached. If Limit is NONE, the parenthetical value is not displayed, because there is no limit to the number of invocations.

Repeat
Specifies that the exception is to be logged each time the PERSIST threshold is reached (YES), or that it is to be logged only the first time the PERSIST threshold is reached (NO).

Persist
Specifies the number of OMEGAMON XE for DB2 PE cycles during which the exception must trip before XLF or ASF logs the exception and/or detail panel.

SS/SL
This parameter might first be displayed on your panel as SS. Change the parameter to SL for proper logging.

- SS specifies the screen space to invoke if ASF is in effect.
- SL logs the screen space execution on the REPORT LOG.

The following panels have been predefined for this purpose:

ZCILOG
Details about the CICS exceptions.

ZIMLOG
Details about IMS exceptions.

ZSYLOG
Details about system exceptions.

ZTHLOG
Details about thread exceptions.

You can customize and create your own panels for this purpose. You can also chain panels together. For panel customization commands, see "OMEGAMON Commands", particularly .FGO, .SGO, and .RTN.

Exception Rules

Note that, before OMEGAMON XE for DB2 PE processes exception rules, it applies global exclude rules to exclude threads from all thread exception processing. You can specify your own exclude rules.

For the non-excluded threads OMEGAMON XE for DB2 PE processes rules for an exception in the order in which the rules are numbered on the Rules for an Exception panel. Once a thread meets the criteria of a rule, exception rule processing stops. Therefore, specific rules must precede the more general and inclusive rules. See the online help F1 (Help) for an example.

The following fields are displayed at the bottom of the panel when you select a THREAD type exception:

FUNCTION
Use this field to specify what you want to accomplish. Enter one of the following commands, followed by a rule number in parentheses:

Dis
Displays the rules. You can specify a rule number, for example `DIS(12)`, to access a particular rule without using the scroll key. You can specify an asterisk (*), for example `DIS(*)`, to display all rules for an exception.

After rules are displayed, you can change the contents of any field.

Add
Adds a new rule or changes the order of existing rules. For example, if you enter `Add(03)`, a new rule is created after rule 2 and all following rules are renumbered.

Del
Deletes a rule. For example, if you enter `Del(05)`, rule 5 is deleted and all following rules are renumbered.

To change the order of existing rules, use **Add** to place the rule where you want it and **Del** to remove the rule from its previous position.

RULE
The rule number.

Use the following thread exception rule parameters to specify the conditions under which you want each exception to trip or to be excluded.

PLAN
The plan names for which this exception will trip.

AUTHID
The authorization ID for which this exception will trip.

CONNTYPE
The connection type for which this exception will trip. Possible values:

- Batch

- CICS
- Dist(ributed)
- IMS
- TSO
- Utility

CICSTRAN
The CICS transaction ID for which this exception will trip.

If you specify this parameter, you must also specify CONNTYPE=CICS.

CICSCONN
The CICS task name (job name) for which this exception will trip.

If you specify this parameter, you must also specify CONNTYPE=CICS.

PSBNAME
The IMS PSB name for which this exception will trip.

If you specify this parameter, you must also specify CONNTYPE=IMS.

IMSID
The IMS subsystem name for which this exception will trip.

If you specify this parameter, you must also specify CONNTYPE=IMS.

PACKDBRM
The name of the package or DBRM for which this exception will trip.

PAKCOLID
The name of the collection for which this exception will trip.

CORRID
The name of the correlation ID for which this exception will trip.

REQLOC
The name of the requesting location for which this exception will trip.

THRDTYPE
The number from the following list for which this exception will trip:

- 1 - normal threads
- 2 - allied distributed threads
- 3 - command threads
- 4 - distributed database access threads
- 5 - INDOUBT threads
- 6 - parallel task threads
- 8 - system threads

THRSHOLD
The threshold that the exception is to use. This value will override the value set with the XACB command.

EXCLUDE
Specifies whether to exclude thread exceptions with specified criteria from exception analysis reporting.

YES
Excludes all thread exceptions with the specified parameters.

NO
Includes all thread exceptions with the specified parameters.

Using Masking Characters

Masking is possible on the following fields:

- PLAN
- AUTHID
- CICSTRAN
- CICSCONN
- PSBNAME
- IMSID

Two types of masking are possible:

- A generic mask is defined by using an asterisk (*). This type of mask is used if you want to mask the first character or more of the field. For example, ABC* allows any value for that field that begins with the characters ABC.
- A single-character replacement mask is defined by using one or more question marks (?). This type of mask is used if specific positions within a field are to be masked. For example, MY???PLN allows for any characters in the places of the question marks. A possible value would be MY_ACT_PLN.

Detailed Exception Rules Example

This example explains the rules that you can define for ETIM exceptions. The ETIM exception critical threshold is 600 seconds. You notice that KO2PLAN threads are frequently tripping this threshold. Because it is normal for these threads to stay active for long periods of time, you are not concerned about their elapsed time.

To qualify the threads that cause this exception to trip, you can set up the following rules:

```
Rule Plannme   Authid     Conn  Threshold  Excl

---- --------  ---------  ----  ---------  ----
01   KO2PLAN   OMPEUSER   BATCH  300         NO
02                        BATCH  1200        NO
03   KO2PLAN                                YES
```

- Rule 1 identifies the group of threads for plan KO2PLAN. Because these jobs run fast, you specify the critical threshold as 300 seconds.
- Rule 2 specifies that the threshold for all other batch threads should have a much higher threshold of 1200 seconds.
- Rule 3 specifies that all remaining KO2PLAN threads are to be excluded from this exception.

The default critical ETIM threshold for all threads not affected by these rules is still 600 seconds.

If you would reverse the order of rules 1 and 3, rule 1 would nullify the criteria in rule 3 and would exclude all KO2PLAN threads from this exception.

If you would reverse the order of rules 1 and 2, the threshold of 1200 seconds for all batch threads would nullify the threshold of 300 seconds for the KO2PLAN batch threads.

List Profiles

This panel shows a list of all panel profiles available for use.

```
_________________ ZLIST    VTM     O2       V540.#P DA41 11/06/13 11:27:15   2
>       Help PF1                                              Back PF3
> P.C
================================================================================
>                             LIST PROFILES

>PPRF LIST
>   RKO2PFSV            DSN=SYS1PMO.O310.V540.SE12.RKO2PFSV
>      ___________________________________________________
>      Dataset empty
>
>   RKO2PROF     (Dup.) DSN=SYS1PMO.O310.V540.SE12.RKO2PFSV
>      ___________________________________________________
>
>   RKO2PROF +01        DSN=SYS1PMO.O310.V540.SE12.RKO2PROF
>      ___________________________________________________
>      Profile ID     Description             Date Modified
>
>      O2USER#P    USER PROFILE                 10/04/10
>
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

PPRF LIST
Lists the installation profile and all user profiles available for use.

Describe a Profile

This panel allows you to add a one-line description to a profile.

```
_________________ ZDESC    VTM     O2       V540.#P DA41 11/06/13 11:27:58   2
>       Help PF1                                              Back PF3
> P.D
================================================================================
>                           DESCRIBE A PROFILE

> To add a description to this profile, type the description between the single
> quotes that follow the colon on the last line.  Press ENTER to record the
> change.  To save the description with this profile, select SAVE USER or SAVE
> INSTALL from the Profile Maintenance Menu.

 PPRF COMMENT
:      'USER PROFILE            '
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

PPRF COMMENT
Adds a 1-line description to the current profile.

You must save the description in a profile for it will be displayed on the List Profiles panel. To save a description in a user profile, use the Save New/Altered User Profile panel. To save a description with the installation profile, use the Save New/Altered Installation panel.

Save New/Altered User Profile

Use this panel to save a new or altered user profile. A saved user profile can be used in subsequent OMEGAMON XE for DB2 PE sessions.

You can change the setting of any user profile at any time during an OMEGAMON XE for DB2 PE session. OMEGAMON XE for DB2 PE only uses the changed setting during the current session.

If you want to use the changed settings during another OMEGAMON XE for DB2 PE session, save the profile by using the Save New/Altered User Profile panel.

```
_________________ ZSAVEU   VTM     O2       V540.#P DA41 11/06/13 11:28:23   2
>       Help PF1                                                 Back PF3
> P.E
================================================================================
>                        SAVE NEW/ALTERED USER PROFILE

> To save or replace a user profile, space over the comment character (>) that
> precedes PPRF SAVE.  Then, type a space followed by the profile's 2-character
> suffix after PPRF SAVE.  Press ENTER to record the change.

>PPRF SAVE
================================================================================
```

Navigation

For additional options, use the PF keys.

Fields

PPRF SAVE

Saves the specified user profile. To specify a user profile, type a space followed by the profile's 2-character suffix after PPRF SAVE and press Enter. You can specify this suffix in the USER= startup parameter to start subsequent sessions.

When you press Enter, OMEGAMON XE for DB2 PE examines whether a profile with the specified name exists.. If the profile does not exist, OMEGAMON XE for DB2 PE saves the profile with the specified name. If such a profile already exists, OMEGAMON XE for DB2 PE displays a confirmation panel, whether you want to replace the existing profile.

OMEGAMON XE for DB2 PE saves the profile in the *rhilev*.RKO2PFSV data set. However, OMEGAMON XE for DB2 PE does not permit to change the /C profile.

Delete User Profile

Use this panel to delete a user profile.

```
_________________ ZDELTU   VTM     O2       V540.#P DA41 11/06/13 11:28:49   2
>       Help PF1                                              Back PF3
> P.F
================================================================================
>                            DELETE USER PROFILE

> To delete the user profile, space over the comment character (>) that
> precedes PPRF DELETE.  Then, type a space followed by the profile's
> 2-character suffix after PPRF DELETE.  Press ENTER to record the change.

>PPRF DELETE
================================================================================
```

Navigation

For additional options, use the PF keys.

Fields

PPRF DELETE

Deletes the specified user profile.

To delete a user profile, type a space followed by the profile's 2-character suffix after PPRF DELETE and press Enter.

When you press Enter, OMEGAMON XE for DB2 PE examines whether a profile with the specified name exists. If the profile exists, you are asked to confirm the delete request. If the profile does not exist, OMEGAMON XE for DB2 PE displays a message. However, OMEGAMON XE for DB2 PE does not permit to delete the /C profile.

You can delete a profile at any time. An active session is not affected if the corresponding profile is deleted.

Save New/Altered Installation Profile

Use this panel to save a new or altered installation profile. A saved installation profile can be used in subsequent OMEGAMON XE for DB2 PE sessions.

You can change the setting of the installation profile at any time during an OMEGAMON XE for DB2 PE session. OMEGAMON XE for DB2 PE only uses the changed setting during the current session.

If you want to use the changed settings again during another OMEGAMON XE for DB2 PE session, save the profile by using the Save New/Altered Installation Profile panel.

```
_________________ ZSAVEI   VTM     O2       V540.#P DA41 11/06/13 11:29:01   2
>       Help PF1                                              Back PF3
> P.G
================================================================================
>                   SAVE NEW/ALTERED INSTALLATION PROFILE

> To save or replace the installation profile, space over the comment
> character (>) on the following line.  Press ENTER to record the change.

>IPRF SAVE
================================================================================
```

Because this panel contains options that can have a great effect on the system, this panel might require special authorization. If OMEGAMON XE for DB2 PE prompts you for authorization, first type /PWD on the top line of the panel. Then type your password and press Enter.

Navigation

For additional options, use the PF keys.

Fields

IPRF SAVE
Saves the installation profile.

When you space over the comment character (replace it by a space character) and press Enter, OMEGAMON XE for DB2 PE displays a confirmation panel, whether you want to save the installation profile. Profiles that are saved with this panel automatically get the profile prefix /I).

Delete Installation Profile

Use this panel to delete the installation profile.

```
 _________________ ZDELTI   VTM     O2       V540.#P DA41 11/06/13 11:29:24   2
>       Help PF1                                                 Back PF3
> P.H
================================================================================
>                        DELETE INSTALLATION PROFILE

> To delete the installation profile, space over the comment character (>) on
> the following line.  Press ENTER to record the change.

>IPRF DELETE
================================================================================
```

Because this panel contains options that can have a great effect on the system, this panel might require special authorization. If OMEGAMON XE for DB2 PE prompts you for authorization, first type /PWD on the top line of the panel. Then type your password and press Enter.

Navigation

For additional information about other topics, use the PF keys.

Fields

IPRF DELETE
Deletes the installation profile.

When you space over the comment character (replace it by a space character) and press Enter, OMEGAMON XE for DB2 PE asks you to confirm that you want to delete the installation profile. However, OMEGAMON XE for DB2 PE does not permit to delete the /C profile.

You can delete a profile at any time. An active session is not affected if the corresponding profile is deleted.

Change Profile

Use this panel to change the currently used profile to a different one.

```
_________________ ZCHANGE  VTM     O2       V540.#P DA41 11/06/13 11:29:39   2
>       Help PF1                                              Back PF3
> P.K
================================================================================
>                        CHANGE PROFILE

> To change the profile currently being used for this session. space over
> the comment character (>) on the following line. Enter the 2 character
> profile name after the command. Press ENTER to record the change.
> Use command CPFI to change to the installation profile

>CPRF xx

>CPFI
================================================================================
```

Because this panel contains options that can have a great effect on the system, this panel might require special authorization. If OMEGAMON XE for DB2 PE prompts you for authorization, first type /PWD on the top line of the panel. Then type your password and press Enter.

Navigation

For additional information about other topics, use the PF keys.

Fields

CPRF xx
Changes the profile.

When you space over the comment character (replace it by a space character) and press Enter, OMEGAMON XE for DB2 PE asks you to confirm that you want to change the currently used profile.

Exception Logging menu

This menu provides navigation options to panels on which you can set printer and routing options for XLF and ASF.

In addition, this menu includes selections that turn logging on and off and cause the logs to be printed. (These selections do not navigate to other panels, but a message will be displayed on the menu to inform you that the action you requested has been performed, for example, EXCEPTION LOGGING FACILITY IS ON.)

```
_________________ ZEXLOG   VTM     O2       V540.#P DA41 11/06/13 11:29:58   1
>       Help PF1                                              Back PF3
> P.I
>                  Enter a selection letter on the top line.
================================================================================
>                             EXCEPTION LOGGING

> To log specific exceptions, first select the exception options from the
> Profile menu. For the exceptions you want to log, set LOG=ON for XLF and
> AUTO=ON for ASF.  The screen named in the SL field will be logged when ASF is
> activated below and the specified exceptions are tripped.

_ A  XLF OPTIONS ...... Set Exception Logging Facility printer/routing options
_ B  XLF ON ........... Turn on Exception Logging Facility
_ C  XLF OFF .......... Turn off Exception Logging Facility
_ D  XLF PRINT ........ Print Exception Logging Facility log (XLFLOG)

_ E  ASF OPTIONS ...... Set Automatic Screen Facility printer/routing options
_ F  ASF ON ........... Turn on Automatic Screen Facility
_ G  ASF OFF .......... Turn off Automatic Screen Facility
_ H  ASF PRINT ........ Print Automatic Screen Facility log (REPORT)

>
================================================================================
```

Navigation

For additional options

- select one of the options from the menu.
- use the PF keys.

Set XLF Printer and Routing Options

Use this panel to set options that control how the Exception Logging Facility logs exception messages.

Note: If you selected option **E** (ASF Options) from the Exception Logging Menu, a panel very similar to this one is displayed. The option settings on the Set ASF Printer and Routing Options panel reflect the settings on the Set Printer and Routing Options panel (see "Set Printer and Routing Options" on page 586). That is, there are two sets of options: one for exception logging (XLF) and one for all other output logging (including ASF).

```
_________________ ZXLFOPT  VTM     02       V540.#P DA41 11/06/13 11:34:07   2
>       Help PF1           Back PF3           Up PF7           Down PF8
> P.I.A
================================================================================
>                   SET XLF PRINTER AND ROUTING OPTIONS

> To change an option, type the new value to the right of the option name and
> press ENTER.  The new value appears in the Pending column.  To make the value
> the Current value, remove the > preceding .XLFOUT and press ENTER.

>.XLFOUT
 OUTP  XLFLOG
+                          |----- Pending ------|----- Current ------|
 copy                      | 1                  | 1                  |
 ddnm                      | (*DYNAMIC)         | (*DYNAMIC)         |
 dest                      | *NONE*             | *NONE*             |
 dstu                      | *None*             | *None*             |
 fold                      | YES                | YES                |
 form                      | *None*             | *None*             |
 hold                      | NO                 | NO                 |
 id1                       | 'USER    '         | 'USER    '         |
 id2                       | '                ' | '                ' |
 id3                       | '                ' | '                ' |
 id4                       | '                ' | '                ' |
 lnct                      | 60                 | 60                 |
 sout                      | A                  | A                  |
================================================================================
```

Navigation

For additional options, use the PF keys.

Fields

To modify an option, move the cursor between the name of the setting you want to change and the **Pending** column, type the new value, and press Enter. To save your changes, delete the comment character (>) next to .XLFOUT and press Enter. This releases the current log, moves the **Pending** values to the **Current** column, and reallocates the log using the new values.

Note: When a value is displayed within parentheses, it means that the field is inactive.

.XLFOUT
Prints the current log and leaves it open. OMEGAMON XE for DB2 PE places a comment character in front of .XLFOUT so that the log is reset only on cycles when you remove the comment character (>).

copy
The number of copies to print.

ddnm
Overrides the standard OMEGAMON XE for DB2 PE ddname. When ddnm is active, `sout` and its related parameters (`copy`, `dest`, `dstu`, `form`, and `hold`) are inactive. The ddname must be allocated within the O2CI started task JCL.

dest
The destination to receive the report. The default is NONE, which sends the output to the local printer. The device can be a terminal, a node, a remote workstation, a local device or group of devices, or a user ID.

dstu
The destination user ID to receive the report.

fold
Changes lowercase characters to uppercase. The default is YES.

form
The name of the form on which to print. The default is NONE. This means that OMEGAMON XE for DB2 PE uses the form defined as your installation's default. If you change NONE to some other value (such as HOLE), you can type an asterisk (*) to return to NONE.

hold
Specifies that the output be placed in the hold queue. The default is NO.

id1
Requests separator pages and page headers that identify output from different OMEGAMON XE for DB2 PE sessions.

id2
Defines up to 16 characters to be shown on the left of the separator page, justified below the ID1 heading. ID1 must be set to use ID2.

id3
Defines up to 16 characters to be shown centered on the separator page, below the ID1 heading. ID1 must be set to use ID3.

id4
Defines up to 16 characters to be shown on the right of the separator page, justified below the ID1 heading. ID1 must be set to use ID4.

lnct
Sets the XLFLOG file line count. The default is 60 lines.

sout
Specifies the SYSOUT class for the output.

Set DB2/IRLM Messages that MSGE Exception Monitors

Use this panel to add or delete the DB2 and IRLM messages that you want the MSGE exception to monitor.

```
_________________ ZXMSG    VTM     O2       V540.#P DA41 11/06/13 11:36:53   2
>       Help PF1                                          Back PF3
> P.J
================================================================================
>              SET DB2/IRLM MESSAGES THAT MSGE EXCEPTION MONITORS

> To add a DB2 or IRLM message to the list shown below, type its message
> identifier, which can be up to 8 characters, on the broken line next
> to Add =.  To delete a message, type its identifier next to Delete=.  Press
> ENTER to record the change.

 XMSG
+   DSN000I    DSN010E    DSN011E    DSN025W    DSX030W    DSX050N    DSX051N
+   DSX052N    DSX053N
:  Add = ________
:  Delete = ________
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

XMSG
The lines below XMSG define the IDs of the DB2 and Internal Resource Lock Manager (IRLM) messages that OMEGAMON XE for DB2 PE exception analysis is tracking.

Add
Type the ID of an additional DB2 or IRLM message that you want OMEGAMON XE for DB2 PE exception analysis to track, and press Enter. You can add more than one ID at a time by typing the IDs on the Add line with a space between them.

Note: If you want to add a group of messages that have the same initial characters, you can save time by entering only those characters. For example, if you enter DSN, XMSG will monitor all messages that begin with DSN.

Delete
Type the ID of a DB2 or IRLM message that you no longer want OMEGAMON XE for DB2 PE exception analysis to track and press Enter. You can delete more than one ID at a time by typing the IDs on the Delete line with a space between them.

Note: If you want to delete a group of messages that have the same initial characters, you can save time by entering only those characters. For example, if you enter DSN, XMSG will no longer monitor messages that begin with DSN.

Filter Options For Thread Activity Displays

Use this panel to save filter criteria to a specified profile, to activate a different profile, or to specify filter criteria that you want to use in the thread activity panels for the remainder of the session. You can use these filtering options together with the thread commands. If more than one parameter is specified, the requests are connected using a logical AND operator. To specify a reset, type character R in column 1 in front of THFL.

To view this panel select option L on panel “Profile Maintenance menu” on page 580. The content of this panel is identical to panel “Filter Options For Thread Activity Displays” on page 176.

```
_________________ ZPFLT    VTM     O2       V540.#P DA41 11/06/13 11:37:11   1
> Help PF1     Back PF3
> P.L
>         Thread Filtering Specification

================================================================================
>             Filter Options For Threads
> To save filters in the user profile remove the > from the PPRF commmand and
> optionally add a 2 character profile suffix. Use IPRF for install profile
>PPRF SAVE
> To change profiles remove the > from the CPRF command and enter the 2
> character suffix. Use CPFI to switch to installation profile
>CPRF xx
 THFL
+
+ Specify the values to be used as filtering criteria for Thread
+ Activity displays. Wildcard values * (multiple characters) or
+ ? (single character) may be specified for character values.
+
+ Specify the following filters to be applied within DB2
+
: PLAN             =  ________             (plan name)
: AUTHID           =  ________             (authorization id)
: CONNID           =  ________             (connection id)
: LOCATION         =  ________________     (location)
: PARENTACE        =  ________             (parent ace for parallel tasks)
: CORRID           =  ____________         (correlation id)
: ENDUSERID        =  ________________                 (end user id)
: WORKSTATION      =  ________________                 (workstation)
: TRANSACTIONID    =  ________________________________ (transaction id)
+ Specify the following filters to be applied within OMEGAMON
+
: PACKAGE/DBRM     =  ________             (name      )
: COLLECTION       =  ________________     (collect id)
: DB2STAT          =  ____________         (db2 status)
: GETPAGES         >  _________            (number of getpages)
: UPDATES          >  _________            (number of page updates)
: COMMITS          >  _________            (number of commits)
: ELAPTIME         >  _________            (elapsed time - in seconds)
: ELAPTIME/COMMIT  >  _________            (elapsed time per commit)
: DB2TIME          >  _________            (In DB2 time - in seconds)
: DB2TIME/COMMIT   >  _________            (In DB2 time per commit)
: PROCESSINGINDB2  =  ___                  (Status Active in DB2)
: THREADLIM        =  _________            (Limit on number of threads returned)
================================================================================
```

Fields

Note: For details about operators and wildcard characters use online help F1 (Help). Most fields are only applicable for active threads.

The following fields enable OMEGAMON XE for DB2 PE to send filters to DB2 as well as to apply "post-filtering" of data returned from DB2. These filters can improve the performance in your environment.

The following fields provide filtering within DB2:

PLAN
The DB2 plan name of the active thread. You can specify up to 8 characters.

AUTHID
The DB2 thread authorization identifier of the active thread. You can specify up to 8 characters.

CONNID
The DB2 connection identifier of the active thread. You can specify up to 8 characters.

LOCATION
The name of the location requesting information. You can specify up to 16 characters. The field will either filter on the requesting location (QW01488L, for example, for distributed database access threads), or the DB2 location (QW0148LN) if the requesting location field is not filled by DB2.

PARENTACE
The agent control element (ACE) token. Specify the parent ACE for the parallel task. You can specify up to 8 digits. A value of 0 filters out child parallel tasks from the Thread Activity displays.

CORRID
The correlation identifier. You can specify up to 12 characters. If the application requestor is a DB2 system, this is the same correlation ID assigned at the requestor. If the application requestor is not DB2, this is the name of the job, task, or process that is being serviced.

Note: This field is case sensitive. It is not converted to uppercase.

ENDUSERID
The end user's work station user ID. You can specify up to 16 characters. This can be different from the authorization ID used to connect to DB2. It contains blanks if the client does not supply this information.

Note: This field is case sensitive. It is not converted to uppercase.

WORKSTATION
The workstation identifier. You can specify up to 18 characters. It contains blanks if the client does not supply this information.

Note: This field is case sensitive. It is not converted to uppercase.

TRANSACTIONID
The name of the transaction or application that the end user is running. It identifies the application that is currently running, not the product that is used to run the application. You can specify up to 32 characters. This field contains blanks if the client does not supply this information.

Note: This field is case sensitive. It is not converted to uppercase.

The following fields enable filtering of the data returned from DB2 and are applied by OMEGAMON XE for DB2 PE:

PACKAGE/DBRM
The DB2 package name or DBRM name of the active thread. You can specify up to 8 characters.

COLLECTION
The package collection identifier of the active thread. You can specify up to 18 characters.

DB2STAT
The DB2 status. You can specify up to 12 characters. For definitions of all possible status values, see "DB2 Thread Status".

GETPAGES
The number of Getpage requests issued by the active thread since thread creation. You can specify up to 9 digits.

UPDATES
The number of DB2 page updates made by the thread since thread creation. This value is incremented each time a row in a page is updated, not just once for each page updated. DB2 might update pages when it creates intermediate result tables because of a qualified SELECT statement, even though SELECT statements are generally thought of as read only operations. Pages that have been updated are written asynchronously by DB2, according to DB2's internal Deferred Write algorithm, not immediately after update or commit. DB2 resets the page update count at Create Thread and Signon. If Signon is not driven, the page update count is cumulative. This file is applicable for active threads only. You can specify up to 9 digits.

COMMITS
The number of times the thread successfully completed commit processing. DB2 resets the commit count at thread create and signon. If signon is not driven, the count is cumulative. You can specify up to 9 digits.

ELAPTIME
The elapsed time since thread creation. You can specify up to 9 digits.

ELAPTIME/COMMIT
Average elapsed time between commits. If the number of commits is zero this field is the same as **ELAPTIME**. You can specify up to 9 digits.

DB2TIME
The total In-DB2 elapsed time in seconds for an active thread. You can specify up to 9 digits.

DB2TIME/COMMIT
Average In-DB2 elapsed time between commits. If the number of commits is zero this field is the same as **DB2TIME**. You can specify up to 9 digits.

PROCESSING-IN-DB2
Values YES, NO or blank.

YES
Only threads that are in a status that is active in DB2 are shown. If a thread is executing in the application it is not shown. The following thread statuses are processing in DB2:

- IN-DB2
- IN-TRIGGER
- IN-COMMAND
- IN-STOR-PROC
- IN-USER-FUNC
- IN-TERM-THRD
- WAIT-LOCK
- WAIT-GLBLOCK
- WAIT-MSGSEND
- WAIT-ARCHIVE
- WAIT-REMSQL
- WAIT-CONVLIM
- WAIT-TERM-TH
- WAIT-SP-STOP
- WAIT-SP-SCHD
- SP/UDF-INACT
- WAIT-SYNC-IO
- WAIT-SERVICE
- WAIT-ASYNCRD
- WAIT-ASYNCWR
- WAIT-LOGQSCE
- WAIT-PGLATCH
- WAIT-DRNLOCK
- WAIT-CLAIMER
- WAIT-ARCREAD
- WAIT-LOCKPIP
- WAIT-LOCKPQS
- WAIT-SWITCH
- WAIT-ACCEL
- WAIT-LOB
- WAIT-COMMIT
- WAIT-CL3LOCK
- IN-SQL-SORT
- IN-SQL-CALL
- WAIT-REMREQ

- IN-BIND-DYNM
- IN-ACCEL
- IN-AUTO-PROC

NO
Only threads that are not in an active status in DB2 are shown.

Blank
This filter is not used.

Threads accelerated by the IBM Db2 Analytics Accelerator for z/OS are considered as being processed in DB2.

THREADLIM
A numeric value causing OMEGAMON XE for DB2 PE to stop retrieving instrumentation records from DB2. This field can have a positive impact on realtime and system performance, but can also result in an incomplete thread list if it is less than the number of threads actually running in DB2 at the time the list is retrieved. The default setting (blank or 0) allows all records retrieved by DB2 to flow to OMEGAMON XE for DB2 PE. You can specify up to 9 digits.

Chapter 16. Near-term history information

OMEGAMON XE for DB2 PE shows near-term history information about statistics and thread activities that were completed in the near past (opposed to snapshot information, which is periodically gathered and might even report information about currently active tasks).

Near-term history information is gathered and stored by the Near-Term History Data Collector of OMEGAMON XE for DB2 PE. Up to 96 intervals of recent DB2 activities can be stored. OMEGAMON XE for DB2 PE continuously deletes the oldest data to maintain the most recent intervals. The Configuration Tool is used to specify the intervals per hour and the maximum number of hours that data should be gathered and stored.

Note: To view near-term history information online, the Near-Term History Data Collector must be running. For instructions on starting the Near-Term History Data Collector, see *Configuration and Customization*.

There are two panels for each type (for example, buffer pool) of near-term history data. One panel provides information for all the report intervals in storage. The other panel can be used to zoom in on one interval at a time for detailed information.

Near-term history data is stored in main memory, so it is available to all OMEGAMON XE for DB2 PE sessions as long as the Near-Term History Data Collector is running. If the collector is stopped and restarted, the near-term history data buckets will be empty and ready to begin saving data again.

Besides near-term history information, select this menu path for information about the Near-Term History Data Collector. One panel shows the current collection options (for example, collection interval and data storage selections). The other panel provides information about the data that has been collected since the Near-Term History Data Collector was started.

Near-Term History Information menu

This menu provides access to panels that display information about near-term history statistics, near-term thread history, and the Near-Term History Data Collector.

```
_________________ ZHIST    VTM     O2       V540.#P DA41 11/06/13 11:38:53   2
>       Help PF1                                              Back PF3
> H.

>                 Enter a selection letter on the top line.
================================================================================
>                     NEAR-TERM HISTORY INFORMATION MENU


_ A  STATISTICS ............. Near-Term History Statistics Information

_ B  THREAD HISTORY.......... Near-Term Thread History Information

_ C  COLLECTOR INFORMATION .. Near-Term History Data Collector Information









================================================================================
```

Navigation

The Near-Term History Information menu displays navigation options to other panels.

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Statistics

Provides access to the following near-term history statistics information:

- “Subsystem Support Manager Statistics Summary by Report Interval” on page 613
- “Subsystem Support Manager Statistics Detail” on page 614
- “Bind Statistics Summary by Report Interval” on page 616
- “Bind Statistics Detail” on page 618
- “Buffer Pool Statistics Summary by Report Interval” on page 621
- “Buffer Pool Statistics Detail” on page 623
- “Group Buffer Pool Statistics Summary by Report Interval” on page 630
- “Group Buffer Pool Statistics Detail” on page 631
- “Distributed Data Facility Statistics Summary by Report Interval” on page 634
- “Distributed Data Facility Statistics Detail” on page 636
- “EDM Pool Statistics Summary by Report Interval” on page 638
- “EDM Pool Statistics Detail” on page 640
- “Log Manager Statistics Summary by Report Interval” on page 647
- “Log Manager Statistics Detail” on page 648
- “Open/Close Statistics Summary by Report Interval” on page 652
- “Open/Close Statistics Detail” on page 653
- “SQL Statistics Summary by Report Interval” on page 655
- “SQL/RID Pool/I/O Parallelism Statistics Detail” on page 656
- “Lock Manager Statistics Summary by Report Interval” on page 673
- “Lock Manager Statistics Detail” on page 675
- “Global Lock Statistics Summary by Report Interval” on page 681
- “Global Lock Statistics Detail” on page 682
- “DB2 Command Statistics By Report Interval” on page 686
- “DB2 Command Statistics Detail” on page 687
- “Near-Term History Report Option” on page 692

Thread History

Provides access to the following near-term thread history information:

- “Near-Term Thread History Filter Options” on page 693
- “Near-Term Thread History Filter Options - Confirmation” on page 696
- “Thread History By Report Interval” on page 698
- “Thread History By Plan” on page 700
- “Thread History By Authid” on page 702
- “Thread History By Plan, Authid” on page 703
- “Thread History By Authid, Plan” on page 705
- “Thread History Summary” on page 708
- “Thread History By Subinterval” on page 710
- “Thread History By Correlation ID” on page 713
- “Thread History Buffer Pool Summary” on page 714
- “Thread History DB2 Time Summary” on page 716
- “Thread History DB2 Lock/Scan/Sort Summary” on page 718
- “Thread History Times Summary” on page 719

- “Thread History Detail” on page 721
- “Thread History Lock Waits” on page 727
- “Thread History Lock/Claim/Drain Activity” on page 737
- “Thread History Global Lock Activity” on page 740
- “Thread History SQL Counts” on page 746
- “Thread History Dynamic SQL Calls” on page 742
- “Thread History Buffer Pool Activity” on page 757
- “Thread History Resource Limit Statistics” on page 760
- “Thread History Distributed Activity” on page 762
- “Thread History Package Summary” on page 766
- “Thread History Package Detail” on page 769
- “Thread History Sort and Scan Activity” on page 773
- “Thread History Group Buffer Pool Activity” on page 776
- “Thread History Package Detail” on page 769
- “Thread History Parallel Task Summary” on page 780

Collector Information

Provides access to information about the activity of the current Near-Term History Data Collector and about the records that have been collected.

- “Near-Term History Data Collection Options” on page 782
- “Near-Term History Data Record Information” on page 785
- “Near-Term History Data Collector Dataset Status” on page 786

Subsystem Support Manager Statistics Summary by Report Interval

This panel provides an overview of the DB2 activity that was recorded during a series of report intervals.

```
_________________ ZHSMS    VTM     O2       V540.#P DA41 11/06/13 11:39:08   2
>       Help PF1      Back PF3      Up PF7      Down PF8       Zoom PF11
> H.A.A
>                   Enter a selection letter on the top line.
>
> *-SUBSYSTEM SUPPORT      B-BIND              C-BUFFER POOL    D-GROUP BP
> E-DISTRIBUTED DATABASE   F-EDM POOL          G-LOG MANAGER    H-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    L-DB2 COMMANDS
> O-OPTIONS
================================================================================
>        SUBSYSTEM SUPPORT MANAGER STATISTICS SUMMARY BY REPORT INTERVAL
 HSMS
+ Collection Interval:   1 min                            Start:  11/06 09:39
+ Report Interval:       1 min   Combine Level:  NONE       End:  11/06 11:39
+
+                 Create      Total                       Queued
+                Thread/    Commit/    Total   Abort        at  Indoubt  EOT+EOM
+ Interval        Minute     Minute  Commits    Reqs  Cthread  Threads   Abends
+ -----------  ---------  ---------  -------  ------  -------  -------  -------
+ 11/06 11:39        .00      43.00       86       0        0        0        0
+ 11/06 11:37        .00      74.00       74       0        0        0        0
+ 11/06 11:36        .00      72.00       72       0        0        0        0
+ 11/06 11:35        .00      74.00       74       0        0        0        0
+ 11/06 11:34        .00      72.00       72       0        0        0        0
+ 11/06 11:33        .00      74.00       74       0        0        0        0
+ 11/06 11:32        .00      72.00       72       0        0        0        0
+ 11/06 11:31        .00      74.00       74       0        0        0        0
+ 11/06 11:30        .00      72.00       72       0        0        0        0
```

Navigation

For additional information about

- a report interval, move the cursor to the line you want and press F11 (Zoom). (Each date/time displayed reflects the end of an interval.)
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the first interval in this display.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the last interval in this display.

Interval
Provides the date and time that mark the end of the report interval.

Create Thread/Minute
The number of successful Create Thread requests per minute.

Total Commit/Minute
The number of commit requests per minute.

Total Commits
Includes read-only, single-phase, and phase 2 commit requests.

Abort Reqs
The number of events that resulted in successfully backing out a unit of recovery.

Queued at Cthread
The number of Create Thread requests that had to wait because no thread was available.

Indoubt Threads
The number of indoubt threads. A unit of recovery (thread) goes indoubt when a failure occurs between commit phase 1 and commit phase 2.

EOT+EOM Abends
The total number of end-of-task and end-of-memory abends.

Subsystem Support Manager Statistics Detail

This panel shows detailed information about DB2 activity during a selected report interval, including statistics related to Create Thread, Signon, Commit, and abnormal termination activity.

```
_________________ ZHSMD    VTM     O2       V540.#P DA41 11/06/13 11:40:01   2
>       Help PF1      Back PF3      Up PF7      Down PF8
>
>                   Enter a selection letter on the top line.
>
> *-SUBSYSTEM SUPPORT      B-BIND              C-BUFFER POOL    D-GROUP BP
> E-DISTRIBUTED DATABASE   F-EDM POOL          G-LOG MANAGER    H-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    L-DB2 COMMANDS
> M-THREAD HISTORY
================================================================================
>                  SUBSYSTEM SUPPORT MANAGER STATISTICS DETAIL
 HSMD
+ Collection Interval:   1 min                            Start:  11/06 11:36
+ Report Interval:       1 min   Combine Level:  NONE      End:  11/06 11:37
+
+ High Water Mark for IDFORE  =        5
+ High Water Mark for IDBACK  =       20
+ High Water Mark for CTHREAD =       17
+
+                                        INTERVAL  /MINUTE
+                                        QUANTITY  (    1)
+                                        --------  -------
+ Identify Requests                             0      .00
+ Signon Requests                               0      .00
+ Create Thread Requests                        0      .00
+ Create Thread Waits                           0      .00
+ Terminate Thread Requests                     0      .00
+
+ Single Phase Commit Requests                  0      .00
+ Read Only Commit Requests                    53    53.00
+ Commit Phase 1 Requests                       0      .00
+ Commit Phase 2 Requests                      21    21.00
+ Abort Requests                               0      .00
+ Total Commit Requests                        74    74.00
+
+ Indoubt Threads                              0      .00
+ Indoubts Resolved                            0      .00
+ Abends Detected - End of Task                0      .00
+ Abends Detected - End of Memory              0      .00
+
+ High Water Mark for IDFORE                   0      .00
+ High Water Mark for IDBACK                   0      .00
+ High Water Mark for CTHREAD                  0      .00
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the interval currently displayed.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the interval currently displayed.

Identify Requests
Successful connections to DB2 from an allied address space.

Signon Requests
Successful requests to identify a new user for IMS or CICS. Thread Signon processing is applicable only in CICS-DB2 and IMS-DB2 attachment environments.

Create Thread Requests
Successful Create Thread requests.

Create Thread Waits
Create thread requests that had to wait because no thread was available.

Terminate Thread Requests
Successful thread terminations.

Single Phase Commit Requests
Successful commit requests that took place in a single-phase commit environment, for example, TSO.

Read Only Commit Requests
A read-only commit occurs if no DB2 resources have been changed since the last commit for IMS or CICS applications. DB2 performs both phases of the commit process during phase 1.

Commit Phase 1 Requests
Commit phase 1 requests in a two-phase-commit environment, for example, CICS and IMS.

Commit Phase 2 Requests
Commit phase 2 requests in a two-phase-commit environment, for example, CICS and IMS.

Abort Requests
Events that resulted in successfully backing out a unit of recovery.

Total Commit Requests
Includes single-phase, read-only, and phase 2 commit requests.

Indoubt Threads
The number of indoubt threads. A thread goes indoubt when a failure occurs between commit phase 1 and commit phase 2.

Indoubts Resolved
Successful resolutions, either automatic or manual, of indoubt threads.

Abends Detected - End of Task
Tasks that abended while connected to DB2.

Abends Detected - End of Memory
The number of times a non-DB2 address space was deleted by MVS while connected to DB2.

High Water Mark for IDFORE
The maximum number of users that are identified to DB2 from TSO foreground at the same time.

High Water Mark for IDBACK
The maximum number of concurrent connections identified to DB2 from batch.

High Water Mark for CTHREAD
The maximum number of allied threads that are allocated concurrently.

Bind Statistics Summary by Report Interval

This panel provides an overview of the bind activity that was recorded during a series of report intervals.

```
_________________ ZHBNS    VTM     O2       V540.#P DA41 11/06/13 11:40:45
>       Help PF1      Back PF3      Up PF7      Down PF8       Zoom PF11
> H.A.B
>                   Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      *-BIND              C-BUFFER POOL    D-GROUP BP
> E-DISTRIBUTED DATABASE   F-EDM POOL          G-LOG MANAGER    H-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    L-DB2 COMMAND
> O-OPTIONS
================================================================================
>                   BIND STATISTICS SUMMARY BY REPORT INTERVAL
 HBNS
+ Collection Interval:   1 min                            Start:  11/06 09:39
+ Report Interval:       1 min   Combine Level:  NONE      End:  11/06 11:40
+
+                Auto Bind      Static Bind       Rebind           Free
+ Interval    Attempt Success Attempt Success Attempt Success Attempt Success
+ ----------- ------- ------- ------- ------- ------- ------- ------- -------
+ 11/06 11:40       0       0       0       0       0       0       0       0
+ 11/06 11:39       0       0       0       0       0       0       0       0
+ 11/06 11:38       0       0       0       0       0       0       0       0
+ 11/06 11:37       0       0       0       0       0       0       0       0
+ 11/06 11:36       0       0       0       0       0       0       0       0
+ 11/06 11:35       0       0       0       0       0       0       0       0
+ 11/06 11:34       0       0       0       0       0       0       0       0
+ 11/06 11:33       0       0       0       0       0       0       0       0
+ 11/06 11:32       0       0       0       0       0       0       0       0
+ 11/06 11:31       0       0       0       0       0       0       0       0
+ 11/06 11:30       0       0       0       0       0       0       0       0
+ 11/06 11:29       0       0       0       0       0       0       0       0
```

Navigation

For additional information about

- a report interval, move the cursor to the required line and press F11 (Zoom). (Each date/time displayed reflects the end of an interval.)
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the first interval in this display.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the last interval in this display.

Interval
Provides the date and time that mark the end of the report interval.

Auto Bind Attempt
The number of times an automatic bind was attempted.

Auto Bind Success
The number of times an automatic bind attempt succeeded.

Static Bind Attempt
The number of bind subcommands issued, including the Bind Add and Bind Replace subcommands for plans or packages.

Static Bind Success
The number of bind subcommands that succeeded.

Rebind Attempt
The number of attempts to rebind a plan or package.

Rebind Success
The number of successful attempts to rebind a plan or package.

Free Attempt
The number of attempts to free a plan or package.

Free Success
The number of successful attempts to free a plan or package.

Bind Statistics Detail

This panel shows detailed information about bind activity during a selected report interval.

```
_________________ ZHBND    VTM     O2       V540./I SN13 07/11/13 17:11:02   2
>       Help PF1             Back PF3             Up PF7            Down PF8
>
>                   Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      *-BIND              C-BUFFER POOL    D-GROUP BP
> E-DISTRIBUTED DATABASE   F-EDM POOL          G-LOG MANAGER    H-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    L-DB2 COMMANDS
> M-THREAD HISTORY
================================================================================
>                            BIND STATISTICS DETAIL
 HBND
+ Collection Interval:   2 min                            Start:  07/11 17:04
+ Report Interval:       2 min   Combine Level:  NONE      End:  07/11 17:06
+
+                                          INTERVAL  /MINUTE  /THREAD  /COMMIT
+                                          QUANTITY  (    2)  (    1)  (    0)
+                                          --------  -------  -------  -------
+ Automatic Bind Plan Attempts                    0      .00      .00      .00
+ Automatic Bind Plan Successes                   0      .00      .00      .00
+ Automatic Bind Pkg Attempts                     0      .00      .00      .00
+ Automatic Bind Pkg Successes                    0      .00      .00      .00
+
+ Static Bind Plan Attempts                       0      .00      .00      .00
+ Static Bind Plan Successes                      0      .00      .00      .00
+ Static Bind Pkg Attempts                        0      .00      .00      .00
+ Static Bind Pkg Successes                       0      .00      .00      .00
+
+ Rebind Plan Attempts                            0      .00      .00      .00
+ Rebind Plan Successes                           0      .00      .00      .00
+ Rebind Pkg Attempts                             0      .00      .00      .00
+ Rebind Pkg Successes                            0      .00      .00      .00
+
+ Free Plan Attempts                              0      .00      .00      .00
+ Free Plan Successes                             0      .00      .00      .00
+ Free Pkg Attempts                               0      .00      .00      .00
+ Free Pkg Successes                              0      .00      .00      .00
+
+ Plan Allocation Attempts                        1      .50     1.00      .00
+ Plan Allocation Successes                       1      .50     1.00      .00
+ Package Allocation Attempts                     0      .00      .00      .00
+ Package Allocation Successes                    0      .00      .00      .00
+ Auth Check Attempts                             2     1.00     2.00      .00
+ Auth Check Successes                            2     1.00     2.00      .00
+ Auth Check Using Cache                          1      .50     1.00      .00
+ Auth Check Public Authority                     1      .50     1.00      .00
+ Test Binds (No Plan ID)                         0      .00      .00      .00
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the interval currently displayed.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the interval currently displayed.

For each of the following fields, the following statistics are provided:

INTERVAL QUANTITY
The amount of activities that occur during the interval.

/MINUTE
Rate per minute. The number under /MINUTE (in parentheses) is the number of minutes in the interval.

/THREAD
Rate per thread. The number under /THREAD (in parentheses) is the number of Create Threads during the interval.

/COMMIT
Rate per Commit. The number under /COMMIT (in parentheses) is the number of Commit requests (including abort requests) during the interval.

Automatic Bind Plan Attempts
The attempts of DB2 to perform an automatic bind of a plan.

Automatic Bind Plan Successes
The successful attempts of DB2 to perform an automatic bind of a plan.

Automatic Bind Pkg Attempts
The attempts of DB2 to perform an automatic bind of a package.

Automatic Bind Pkg Successes
The successful attempts of DB2 to perform an automatic bind of a package.

Static Bind Plan Attempts
Represents the bind plan subcommands issued, including the Bind Plan Add and Bind Plan Replace subcommands.

Static Bind Plan Successes
Represents the bind plan subcommands that succeeded.

Static Bind Pkg Attempts
Represents the bind package subcommands issued, including the Bind Package Add and Bind Package Replace subcommands.

Static Bind Pkg Successes
Represents the bind package subcommands that succeeded.

Rebind Plan Attempts
Attempts to rebind a plan.

Rebind Plan Successes
Successful attempts to rebind a plan.

Rebind Pkg Attempts
Attempts to rebind a package.

Rebind Pkg Successes
Successful attempts to rebind a package.

Free Plan Attempts
Attempts to free a plan.

Free Plan Successes
Successful attempts to free a plan.

Free Pkg Attempts
Attempts to free a package.

Free Pkg Successes
Successful attempts to free a package.

Plan Allocation Attempts
The requests from the attachment facility to DB2 to allocate a bound plan for a user.

Plan Allocation Successes
Successful plan allocation attempts.

Package Allocation Attempts
The requests from the attachment facility to DB2 to allocate a bound package for a user.

Package Allocation Successes
Successful package allocation attempts.

Auth Check Attempts
Authorization checks for all plans.

Auth Check Successes
Successful authorization checks.

Auth Check Using Cache
Successful authorization checks that were performed using cache.

Auth Check Public Authority
Successful authorization checks that were performed based upon execute authority granted to public.

Test binds (No Plan ID)
Bind subcommands that were issued without a plan ID.

Buffer Pool Statistics Summary by Report Interval

This panel provides an overview of the buffer pool activity that was recorded during a series of report intervals.

```
_________________ ZHBPS    VTM     O2       V540.#P DA41 11/06/13 11:41:41   2
> Help PF1     Back PF3     Up PF7     Down PF8     Sort PF10     Zoom PF11
> H.A.C
>                   Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      B-BIND              *-BUFFER POOL    D-GROUP BP
> E-DISTRIBUTED DATABASE   F-EDM POOL          G-LOG MANAGER    H-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    L-DB2 COMMANDS
> O-OPTIONS
================================================================================
>               BUFFER POOL STATISTICS SUMMARY BY REPORT INTERVAL
 HBPS  0
+ Collection Interval:   1 min                            Start:  11/06 09:39
+ Report Interval:       1 min   Combine Level:  NONE       End:  11/06 11:41
+
+ *
+                Pages   Prefetch   Prefetch   Getpages/      Pages/
+ Interval      in Use   Requests   Failures    Sync I/O   Write I/O      DMTH
+ -----------   -------   --------   --------   ---------   ---------   -------
+ 11/06 11:41       222          0          0         .00         .00         0
+ 11/06 11:40       222          0          0         .00         .00         0
+ 11/06 11:39       222          0          0         .00         .00         0
+ 11/06 11:38       222          0          0         .00         .00         0
+ 11/06 11:37       222          0          0         .00         .00         0
+ 11/06 11:36       222          0          0         .00        1.00         0
+ 11/06 11:35       223          0          0         .00         .00         0
+ 11/06 11:34       223          0          0         .00         .00         0
+ 11/06 11:33       223          0          0         .00         .00         0
+ 11/06 11:32       223          0          0         .00         .00         0
+ 11/06 11:31       223          0          0         .00         .00         0
+ 11/06 11:30       223          0          0         .00         .00         0
+ 11/06 11:29       223          0          0         .00         .00         0
+ 11/06 11:28       223          0          0         .00         .00         0
+ 11/06 11:27       223          0          0         .00         .00         0
+ 11/06 11:26       223          0          0        6.00        1.50         0
+ 11/06 11:25       227          0          0         .00        1.63         0
```

Highlighting

OMEGAMON XE for DB2 PE highlights some fields in this panel to draw your attention to their current status:

Table 31. Highlighted fields in Buffer Pool Statistics Summary by Report Interval panel

Field	Exception	Reason
Pages in Use	BMTH	The percentage of pages in use has reached the predetermined threshold.

Navigation

For additional information about

- another buffer pool, enter the buffer pool ID next to **HBPS**.
- a report interval, move the cursor to the required line and press F11 (Zoom). (Each date/time displayed reflects the end of an interval.)
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the first interval in this display.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the last interval in this display.

Interval
Provides the date and time that mark the end of the report interval.

Pages in Use
A snapshot value of the current number of nonstealable buffers. A nonstealable buffer is either one which has an outstanding Getpage (that is, someone is currently looking at this page), or one which has been updated and not yet written out to DASD.

Prefetch Requests
The total number of Prefetch requests. This is the sum of Sequential, List, and Dynamic Prefetch requests.

Prefetch Failures
The number of Sequential Prefetch failures for the buffer pool during the interval. This includes failures that occurred because the SPTH threshold was reached and because the maximum number of concurrent prefetches was reached.

Getpages/Sync I/O
The ratio of Getpage requests to synchronized Read I/Os.

Pages/Write I/O
The ratio of page writes to physical I/Os.

DMTH
The number of times the Data Manager threshold was reached.

Buffer Pool Statistics Detail

This panel provides detailed near-term history information about activity in a specified DB2 buffer pool during a selected report interval.

You can view information about a different buffer pool by entering a buffer pool ID (for example, 1 or 32K) next to HBPD.

```
_________________ ZHBPD    VTM     O2       V540./C SE11 01/04/16 21:21:08   2
>       Help PF1      Back PF3      Up PF7      Down PF8
>
>                   Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      B-BIND              *-BUFFER POOL    D-GROUP BP
> E-DISTRIBUTED DATABASE   F-EDM POOL          G-LOG MANAGER    H-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    L-DB2 COMMANDS
> M-THREAD HISTORY
================================================================================
>                         BUFFER POOL STATISTICS DETAIL
 HBPD  0
+ Collection Interval:   1 min                            Start:  07/31 21:20
+ Report Interval:       1 min   Combine Level:  NONE      End:  07/31 21:21
+
+ Virtual Buffer Pool Size=      5000    VPOOL Frame Size            =      4K
+ VPOOL Buffers Allocated =      5000    Minimum VPOOL Size          =       0
+ VPOOL Buffers in Use    =        29    Maximum VPOOL Size          =       0
+
+ VPOOL Buffers to be Del =         0    Auto Size                   =       N
+ Use Count               =        65    Page Fix                    =       N
+ VP Sequential Thresh    =       80%
+ Deferred Write Thresh   =       30%    Vert Deferred Write Thresh  =      5%
+ VP Parallel Seq Thresh  =       50%    Sysplex Parallel Thresh     =      0%
+
+ Getpages per Sync I/O   =       .00    Pages Written per Write I/O =     .00
+ Prefetch per I/O        =       .00    Pages Read per Prefetch     =     .00
+ Seq Prefetch per I/O    =       .00    Pages Read per Seq Prefetch =     .00
+ List Prefetch per I/O   =       .00    Pages Read per List Prefetch=     .00
+ Dyn Prefetch per I/O    =       .00    Pages Read per Dyn Prefetch =     .00
+ Max Concur Prefetch     =         0    Workfile Maximum            =       0
+ BP Hit % - Random       =       .0%    Virtual Page Steal Method   =     LRU
+ BP Hit % - Sequential   =     99.9%    Random Getpage Buffer Hit   =
337
+ LWM Buffers on SLRU     =       316    HWM Buffers on SLRU         =     316
```

```
+
+                                      INTERVAL  /MINUTE  /THREAD  /COMMIT
+                                      QUANTITY  (    1)  (    0)  (    0)
+                                      --------  -------  -------  -------
+ Getpage Requests                            0      .00      .00      .00
+  Getpage Requests - Sequential              0      .00      .00      .00
+   Getpage Req - Seq Ovfl                    0      .00      .00      .00 *DB2 12
+  Getpage Requests - Random                  0      .00      .00      .00
+   Getpage Req - Random Ovfl                 0      .00      .00      .00 *DB2 12
+ Getpage Failed - VPOOL Full                 0      .00      .00      .00
+ Getpage Failed - Cond Request               0      .00      .00      .00
+ Getpage Failed - Cond SeqReq                0      .00      .00      .00
+
+ Sync Read I/O Operations                   00      .00      .00      .00
+  Sync Read I/O - Sequential                 0      .00      .00      .00
+   Sync Read I/O - Seq Ovfl                  0      .00      .00      .00 *DB2 12
+  Sync Read I/O - Random                    00      .00      .00      .00
+   Sync Read I/O - Random Ovfl               0      .00      .00      .00 *DB2 12
+ Pages Read via Seq Prefetch                 0      .00      .00      .00
+ Seq Prefetch I/O Operations                 0      .00      .00      .00
+ Sequential Prefetch Requests                0      .00      .00      .00
+ Pages Read via List Prefetch                0      .00      .00      .00
+ List Prefetch I/O Operations                0      .00      .00      .00
+ List Prefetch Requests                      0      .00      .00      .00
+ Pages Read via Dyn Prefetch                 0      .00      .00      .00
+ Dyn Prefetch I/O Operations                 0      .00      .00      .00
+ Dyn Prefetch Requests                       0      .00      .00      .00
+ Prefetch Failed - No Buffer                 0      .00      .00      .00
+ Prefetch Failed - No Engine                 0      .00      .00      .00
```

```
+
+ Parallel Group Requests                    0      .00      .00      .00
+ Prefetch I/O Streams Reduced               0      .00      .00      .00
+ Parallelism Downgraded                     0      .00      .00      .00
+ Prefetch Quan Reduced to 1/2               0      .00      .00      .00
+ Prefetch Quan Reduced to 1/4               0      .00      .00      .00
+ Pages Added to LPL                         0      .00      .00      .00
+ Length of SLRU=VPSEQT                      0      .00      .00      .00
+ Pages Updated                              0      .00      .00      .00
+ Pages Written                              0      .00      .00      .00
+ Page-in Required for Write I/O             0      .00      .00      .00
+ Write I/O Operations                       0      .00      .00      .00
+ Immediate (Sync) Writes                    0      .00      .00      .00
+
+ Vert Defer Wrt Thresh Reached              0      .00      .00      .00
+ Deferred Write Thresh Reached              0      .00      .00      .00
+ Data Manager Thresh Reached                0      .00      .00      .00
+
+ Successful VPOOL Expand/Contr              0      .00      .00      .00
+ VPOOL or HPOOL Expand Failed               0      .00      .00      .00
+
+ Successful Dataset Opens                   0      .00      .00      .00
+ DFHSM Recall                               0      .00      .00      .00
+ DFHSM Recall Timeouts                      0      .00      .00      .00
+
+ Sort Merge Passes                          0      .00      .00      .00
+ Sort/Merge Workfile Requests               0      .00      .00      .00
+ Sort/Merge Workfile Req Denied             0      .00      .00      .00
+ Sort Merge Pass - Buff Short               0      .00      .00      .00
+ Workfile Prefetch Disabled                 0      .00      .00      .00
+ Workfile Create Failed-No Buff             0      .00      .00      .00
+ Destructive Read Requests                  0      .00      .00      .00
+ Destructive Read Page Dequeue              0      .00      .00      .00
================================================================================
```

Highlighting

OMEGAMON XE for DB2 PE highlights some fields in this panel to draw your attention to their current status:

Table 32. Highlighted fields on Buffer Pool Statistics Detail panel		
Field	**Exception**	**Reason**
Number of Pages in Use	BXPN	The pages in use exceeded the minimum defined.
	BMAX	The pages in use reached the maximum defined.
	BMTH	The percentage of pages in use has reached the predetermined threshold.

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the interval currently displayed.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the interval currently displayed.

Virtual Buffer Pool Size
The number of buffers allocated for an active virtual buffer pool.

VPOOL Frame Size (QDBPFRAM)
For the Frame Size attribute, you can specify the values 4K, 1M, or 2G.

This applies to DB2 11 and higher.

VPOOL Buffers Allocated
The number of virtual buffer pool pages that were allocated at the end of the interval.

Minimum VPOOL Size (QDBPVPMI)
The VPSIZEMIN attribute.

This applies to DB2 11 and higher.

VPOOL Buffers in Use
The number of virtual buffer pool pages that were in use (nonstealable) at the end of the interval.

Maximum VPOOL Size (QDBPVPMA)
The VPSIZEMAX attribute.

This applies to DB2 11 and higher.

VPOOL Buffers to be Del
The number of pages to be deleted from an active virtual buffer pool as a result of pool contraction.

Auto Size
Determines whether Auto Size is used. You can specify Y (YES) or N (NO).

Use Count
The number of open tablespaces or indexspaces in this buffer pool.

Page Fix
Determines whether a page is fixed in real storage when it is first used. You can specify Y (YES) or N (NO).

VP Sequential Thresh
Sequential Steal threshold for the virtual buffer pool VPSSEQT. The percentage of the virtual buffer pool that might be occupied by sequentially accessed pages. If set to zero, prefetch is disabled.

Vert Deferred Write Thresh
Vertical Deferred Write threshold for the virtual buffer pool VDWQT. The percentage of the buffer pool that might be occupied by updated pages from a single data set.

VP Parallel Seq Thresh
Parallel I/O sequential threshold VPPSEQT. This threshold determines how much of the virtual buffer pool might be used for parallel I/O operations. It is expressed as a percentage of VPSEQT. If set to zero, I/O parallelism is disabled.

Sysplex Parallel Thresh
Virtual buffer pool assisting parallel sequential threshold. This threshold determines how much of the virtual buffer pool might support parallel I/O operations from another DB2 in a data sharing group.

Getpages per Sync I/O
The ratio of Getpage requests to Read I/Os.

Pages Written per Write I/O
The ratio of page writes to physical I/Os.

Prefetch per I/O
The ratio of Prefetch requests to physical I/Os.

Pages Read per Prefetch
The ratio of pages read by Prefetch processing to total Prefetch requests. This includes both Sequential Prefetch and List Prefetch.

Seq Prefetch per I/O
The ratio of pages read by Sequential Prefetch to Sequential Prefetch I/O.

Pages Read per Seq Prefetch
The ratio of pages read by Sequential Prefetch requests to Sequential Prefetch requests.

List Prefetch per I/O
The ratio of List Prefetch requests to List Prefetch I/Os.

Pages Read per List Prefetch
The ratio of pages read by List Prefetch to List Prefetch requests.

Dyn Prefetch per I/O
The ratio of Dynamic Prefetch request to Dynamic Prefetch I/Os.

Pages Read per Dyn Prefetch
The ratio of pages read by Dynamic Prefetch to Dynamic Prefetch request.

Max Concur Prefetch I/O
The highest number of concurrent prefetch I/O streams that were allocated to support I/O parallelism.

Workfile Maximum
The maximum number of workfiles that have been allocated during sort/merge processing.

BP Hit % - Random
The percentage of times that DB2 performed a Getpage operation with a random request and the page was already in the buffer pool. A DASD read was not required.

Virtual Page Steal Method
Determines when and whether performance-critical objects in buffer pools are removed from buffer pools when the space is needed by other objects. Valid values:

LRU
"Least Recently Used" objects are removed first.

FIFO
Oldest objects are removed first (First-In-First-Out).

NONE
Objects are not removed from buffer pool (no page stealing). This setting provides the highest availability for business-critical objects.

BP Hit % - Sequential
The percentage of times that DB2 performed a Getpage operation with a sequential request and the page was already in the buffer pool. A DASD read was not required.

Random Getpage Buffer Hit
The number of times that the random Getpage request has a buffer hit and the buffer is on the least-recently-used (SLRU) chain. DB2 11 and later. (Field name: QBSTRHS)

LWM Buffers on SLRU
The minimum number of buffers on the sequential least-recently-used (SLRU) chain in the last statistical period. This is the low-water mark (LWM) within an interval. DB2 11 and later. (Field name: QBSTSMIN)

HWM Buffers on SLRU
The maximum number of buffers on the sequential least-recently-used (SLRU) chain in the last statistical period,. This is the low water mark (LWM) within an interval. DB2 11 and later. (Field name: QBSTSMAX)

For each of the following fields, the following statistics are provided:

INTERVAL QUANTITY
The amount of activities that occur during the interval.

/MINUTE
Rate per minute. The number under /MINUTE (in parentheses) is the number of minutes in the interval.

/THREAD
Rate per thread. The number under /THREAD (in parentheses) is the number of Create Threads during the interval.

/COMMIT
Rate per Commit. The number under /COMMIT (in parentheses) is the number of Commit requests (including abort requests) during the interval.

Getpage Requests
Getpage request operations for the buffer pool during the interval.

Getpage Requests - Sequential
Number of Getpage requests issued by sequential access requestors.

Getpage Requests - Random
Number of Getpage requests issued by random access requestors.

Getpage Requests - Seq Ovfl
The number of sequential GETPAGE requests using overflowed buffers. DB2 12 and later.

Getpage Requests - Random Ovfl
The number of non-sequential GETPAGE requests using overflowed buffers. DB2 12 and later.

Getpage Failed - VPOOL Full
Number of Getpage failures due to unavailable buffers because the virtual buffer pool was full.

Getpage Failed - Cond Request
Number of conditional Getpage requests that could not be satisfied for this buffer pool. A conditional Getpage is used with parallel I/O processing only.

Getpage Failed - Cond SeqReq
The number of conditional sequential getpage requests that failed because the page is not in the buffer pool.

Sync Read I/O Operations
Synchronous read operations done by DB2 during the interval.

Sync Read I/Os - Sequential
Number of synchronous Read I/O operations performed by sequential requests.

Sync Read I/Os - Random
Number of synchronous Read I/O operations performed by random requests.

Sync Read I/Os - Seq Ovfl
The number of synchronous Read I/O operations performed for sequential GETPAGE requests using overflowed buffers. DB2 12 and above. (QBSTASSE)

Sync Read I/Os - Random Ovfl
The number of synchronous Read I/O operations performed for non-sequential GETPAGE requests using overflowed buffers. DB12 and above. (QBSTASYN)

Page-in Required for Read I/O
Number of page-ins required for Read I/O.

Pages Read via Seq Prefetch
Pages read as a result of Sequential Prefetch requests.

Seq Prefetch I/O Operations
Number of asynchronous Read I/Os caused by Sequential Prefetch.

Sequential Prefetch Requests
Sequential Prefetch requests for the buffer pool during the interval.

Pages Read via List Prefetch
Number of pages read because of List Prefetch.

List Prefetch I/O Operations
Number of asynchronous Read I/Os caused by List Prefetch.

List Prefetch Requests
List Prefetch requests for the buffer pool during the interval.

Pages Read via Dyn Prefetch
Number of pages read because of Dynamic Prefetch. Dynamic prefetch is triggered because of sequential detection.

Dyn Prefetch I/O Operations
Number of asynchronous Read I/Os caused by Dynamic Prefetch.

Dyn Prefetch Requests
Dynamic Prefetch requests for the buffer pool.

Prefetch Failed - No Buffer
Failures of Sequential Prefetch because the Sequential Prefetch threshold (SPTH) was reached.

Prefetch Failed - No Engine
Failures of Sequential Prefetch because the maximum number of concurrent Sequential Prefetches was reached. (You cannot change this maximum value.)

Parallel Group Requests
Number of requests made for processing queries in parallel.

Prefetch I/O Streams Reduced
Number of requested prefetch I/O streams that were denied because of a buffer pool shortage. This applies only for nonworkfile pagesets for queries that are processed in parallel.

I/O Parallelism Downgraded
Number of times the requested number of buffers to allow a parallel group to run to the planned degree could not be allocated because of a buffer pool shortage.

Prefetch Quan Reduced to 1/2
Number of times the Sequential Prefetch quantity was reduced from normal to one-half of normal. This is done to continue to allow execution concurrently with parallel I/O.

Prefetch Quan Reduced to 1/4
Number of times the Sequential Prefetch quantity was reduced from one-half to one-quarter normal.

Pages Added to LPL
The number of times one or more pages are added to logical page lists (LPL). (Field name: QBSTLPL)

Length of SLRU=VPSEQT
The number of times when the length of the sequential least-recently-used (SLRU) chain equals the sequential steal threshold VPSEQT. DB11 and later. (Field name: QBSTHST)

Pages Updated
Updates to pages in the buffer pool during the interval.

Pages Written
Buffer pool pages written to DASD during the interval.

Page-in Required for Write I/O
Number of page-ins required for Write I/O operations.

Write I/O Operations
Writes performed by media manager for both synchronous and asynchronous I/O.

Immediate (Sync) Writes
immediate Writes to DASD during the interval. This value is incremented when 97.5% of the buffer pool pages are in use. In addition, DB2 might flag buffer pool pages for immediate Write during checkpoint processing and when a database is stopped.

Note: Consider the value of DMTH (Data Manager threshold) when interpreting this value. If DMTH is zero, this value is probably insignificant.

Write Engine Not Available
Writes that were deferred because DB2 reached its maximum number of concurrent Writes.

Vert Defer Wrt Thresh Reached
The number of times the Vertical Deferred Write threshold was reached.

Deferred Write Thresh Reached
Deferred Write threshold (DWTH) was reached. This occurs when DB2 uses 50% of the buffer pool minimum value, or if a data set has updated 10% of the pages or 64 pages, whichever is greater. At this threshold, DB2 forces writes in an effort to free pool space.

Data Manager Thresh Reached
Data Manager threshold (DMTH) was reached. This occurs when DB2 uses 95% of the buffer pool minimum value and begins to operate at the row level rather than the page level. When this occurs, CPU usage rises significantly.

Successful VPOOL Expand/Contr
Number of successful virtual buffer pool expansions or contractions because of the ALTER BUFFERPOOL command.

VPOOL Expand Failed
Number of virtual buffer pool expansion failures.

Successful Dataset Opens
The number of successful data set Open operations during the interval.

DFHSM Recall
Attempts to access data sets that were migrated by DFHSM.

DFHSM Recall Timeouts
Unsuccessful attempts to recall data sets because the timeout threshold (DSNZPARM RECALLD) was exceeded.

Sort/Merge Passes
Number of merge passes for DB2 sort/merge processing.

Sort/Merge Workfile Requests
Number of workfiles requested during sort/merge processing.

Sort/Merge Workfile Req Denied
Number of requests for workfiles denied during sort/merge processing due to insufficient buffer resources.

Sort/Merge Pass - Buff Short
Number of times that sort/merge could not efficiently perform due to insufficient buffer resources. This field is incremented when the number of workfiles allowed is less than the number of workfiles requested.

Workfile Prefetch Disabled
Number of times workfile prefetch was not scheduled because the prefetch quantity was zero.

Workfile Create Failed-No Buff
Number of times a workfile was not created due to insufficient buffers (MVS/XA) only.

Destructive Read Requests
Number of pages requested for destructive read processing.

Destructive Read Page Dequeue
Number of pages dequeued for destructive read processing.

Group Buffer Pool Statistics Summary by Report Interval

This panel provides an overview of the group buffer pool activity that was recorded during a series of report intervals.

This panel is only available in a data sharing environment.

```
_________________ ZHGBS    VTM     O2       V540.#P SN12 11/06/13 11:49:28   2
> Help PF1     Back PF3     Up PF7     Down PF8     Sort PF10     Zoom PF11
> H.A.D
>                  Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      B-BIND              C-BUFFER POOL    *-GROUP BP
> E-DISTRIBUTED DATABASE   F-EDM POOL          G-LOG MANAGER    H-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    L-DB2 COMMANDS
> O-OPTIONS
================================================================================
>             GROUP BUFFER POOL STATISTICS SUMMARY BY REPORT INTERVAL
 HGBS  0
+ Collection Interval:   1 min                            Start:  11/06 11:44
+ Report Interval:       1 min   Combine Level:  NONE       End:  11/06 11:49
+
+ *
+                                 Pages Not       Read/
+                Total    Read    Returned-       Write      Total      Pages
+ Interval       Reads   Hit %    R/W Int %      Failed     Writes    Castout
+ -----------  --------   -----    ---------    --------   --------   --------
+ 11/06 11:49         0      .0           .0           0          0          0
+ 11/06 11:48         0      .0           .0           0          0          0
+ 11/06 11:47         0      .0           .0           0          0          0
+ 11/06 11:46         0      .0           .0           0          0          0
+ 11/06 11:45         5    20.0         80.0           0          5          4
================================================================================
```

Navigation

For additional information about

- detailed statistics about a report interval, move the cursor to the line you want and press F11 (Zoom). Each date/time displayed reflects the end of an interval.

- a different buffer pool, enter a buffer pool ID next to **HGBS**.
- related topics, select one of the options from the menu.
- other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the first interval in this display.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the last interval in this display.

Interval
Provides the date and time that mark the end of the report interval.

Total Reads
The total number of reads to the group buffer pool.

Read Hit %
The percentage of all Reads to the group buffer pool for which the needed data was found and returned to the member.

Pages Not Returned - R/W Int %
The percentage of all Reads to the group buffer pool where

- the data was not found in the group buffer pool and the member had to go to DASD to read the page, and
- other members had read/write interest in the pageset, so DB2 created a directory entry for this page if it did not already exist.

Read/Write Failed
The number of Read or Write requests to the group buffer pool that failed because of a lack of storage resources.

Total Writes
The total number of writes to the group buffer pool.

Pages Castout
The number of pages that this member has castout to DASD from the group buffer pool.

Group Buffer Pool Statistics Detail

This panel shows detailed near-term history information about activities in a specified DB2 group buffer pool during a specified report interval.

This panel is only available in a data sharing environment.

You can view information about a different group buffer pool by entering a buffer pool ID next to HGBD.

```
_________________ ZHGBD    VTM     O2       V540.#P SN12 11/06/13 11:50:05   2
>       Help PF1      Back PF3      Up PF7      Down PF8
>
>                   Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      B-BIND              C-BUFFER POOL    *-GROUP BP
> E-DISTRIBUTED DATABASE   F-EDM POOL          G-LOG MANAGER    H-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    L-DB2 COMMANDS
> M-THREAD HISTORY
================================================================================
>                       GROUP BUFFER POOL STATISTICS DETAIL
 HGBD  0
+ Collection Interval:   1 min                            Start:  11/06 11:44
+ Report Interval:       1 min   Combine Level:  NONE      End:  11/06 11:45
+
+ Allocated Size          =       1024  Current Directory/Data Ratio =        5
+ Checkpoint Interval     =          4  Pending Directory/Data Ratio =        5
+ GBP Castout Threshold   =        30%  Number Directory Entries     =     1357
+ Castout Class Threshold =         0%  Number of Data Pages         =      271
+ Read Hit %              =      20.0%
+
+                                          INTERVAL  /MINUTE  /THREAD  /COMMIT
+                                          QUANTITY  (    1)  (    1)  (   74)
+                                          --------  -------  -------  -------
+ Reads - Cross-Invalidation:
+  Data Returned                                  1     1.00     1.00      .01
+  Data not in GBP-R/W Interest                   4     4.00     4.00      .05
+ Reads - Page Not Found:
+  Data Returned                                  0      .00      .00      .00
+  Data not in GBP-R/W Interest                   0      .00      .00      .00
+
+ Writes - Synchronous:
+  Changed Pages                                  5     5.00     5.00      .06
+  Clean Pages                                    0      .00      .00      .00
+ Writes - Asynchronous:
+  Changed Pages                                  0      .00      .00      .00
+  Clean Pages                                    0      .00      .00      .00
+ Write Failed - No Storage                       0      .00      .00      .00
+
+ Pages Castout to DASD                          4     4.00     4.00      .05
+ GBP Castout Threshold Reached                  0      .00      .00      .00
+ Castout Class Threshold Reached                0      .00      .00      .00
+ Other Requests                                 4     4.00     4.00      .05
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options from the menu.
- other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the first interval in this display.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the last interval in this display.

Allocated Size
The allocated size of the group buffer pool in 4KB blocks.

Current Directory/Data Ratio
The current ratio of directory entries to data pages.

Checkpoint Interval
The checkpoint interval for the group buffer pool, in minutes.

Pending Directory/Data Ratio
The pending ratio of directory entries to data pages. This value will be different from the current ratio if an **ALTER GROUPBUFFERPOOL** command has been issued with a new value for the RATIO parameter. The change will not take effect until the next time the group buffer pool is allocated.

GBP Castout Threshold
Group buffer pool castout threshold. When the number of changed pages in the group buffer pool exceeds this threshold, castout will be initiated. You can change this value with the GBPOOLT parameter on the **ALTER GROUPBUFFERPOOL** command.

Number Directory Entries
The actual number of allocated directory entries.

Castout Class Threshold
Group buffer pool castout class threshold. When the number of changed pages for a particular castout class exceeds this threshold, castout will be initiated. You can change this value with the CLASST parameter on the **ALTER GROUPBUFFERPOOL** command.

Number of Data Pages
The actual number of allocated data pages.

Read Hit %
The percentage of all Reads to the group buffer pool for which the needed data was found and returned to the member.

For each of the following fields, the following statistics are provided:

INTERVAL QUANTITY
The amount of activities that occur during the interval.

/MINUTE
Rate per minute. The number under /MINUTE (in parentheses) is the number of minutes in the interval.

/THREAD
Rate per thread. The number under /THREAD (in parentheses) is the number of Create Threads during the interval.

/COMMIT
Rate per Commit. The number under /COMMIT (in parentheses) is the number of Commit requests (including abort requests) during the interval.

Reads - Cross Invalidation: Data Returned
The number of reads to the group buffer pool required because the page in the member's buffer pool was invalidated, where the data was found and returned to the member.

Reads - Cross Invalidation: Data not in GBP-R/W Interest
The number of reads to the group buffer pool required because the page in the member's buffer pool was invalidated, where:

- The data was not found in the group buffer pool and the member had to go to DASD to read the page
- Other members had read/write interest in the pageset, so DB2 created a directory entry for this page if it did not already exist.

Reads - Page Not Found: Data Returned
The number of reads to the group buffer pool required because the page was not in the member's buffer pool where the data was found and returned to the member.

Reads - Page Not Found: Data not in GBP-R/W Interest
The number of reads to the group buffer pool required because the page was not in the member's buffer pool, where:

- The data was not found in the group buffer pool and the member had to go to DASD to read the page
- Other members had read/write interest in the pageset, so DB2 created a directory entry for this page if it did not already exist.

Writes - Synchronous: Changed Pages
The number of changed pages that are synchronously written to the group buffer pool. Pages can be forced out before the application commits if a buffer pool threshold is reached, or when P-lock negotiation forces the pages on the Vertical Deferred Write queue to be written to the group buffer pool.

Writes - Synchronous: Clean Pages
The number of clean pages that are synchronously written to the group buffer pool. DB2 writes clean pages for pagesets and partitions defined with GBPCACHE ALL.

Writes - Asynchronous: Changed Pages
The number of changed pages asynchronously written to the group buffer pool. Pages can be forced out before the application commits if a buffer pool threshold is reached, or when P-lock negotiation forces the pages on the Vertical Deferred Write queue to be written to the group buffer pool.

Writes - Asynchronous: Clean Pages
The number of clean pages asynchronously written to the group buffer pool. DB2 writes clean pages for pagesets and partitions defined with GBPCACHE ALL.

Write Failed - No Storage
The number of group buffer pool write requests that failed because of a shortage of coupling facility resources.

Pages Castout to DASD
The number of pages that this member has castout to DASD from the group buffer pool.

GBP Castout Threshold Reached
The number of times that castout was initiated because the group buffer pool castout threshold was reached.

Castout Class Threshold Reached
The number of times that castout was initiated because the castout class threshold was reached.

Other Requests
The number of other requests.

Distributed Data Facility Statistics Summary by Report Interval

This panel provides an overview of the DDF activity that was recorded during a series of report intervals.

```
 _________________ ZHDFS    VTM     O2       V540.#P SC11 07/11/16 13:31:41   2
>       Help PF1      Back PF3      Up PF7      Down PF8       Zoom PF11
> H.A.E
>                  Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      B-BIND              C-BUFFER POOL    D-GROUP BP
> *-DISTRIBUTED DATABASE   F-EDM POOL          G-LOG MANAGER    H-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    L-DB2 COMMANDS
> O-OPTIONS
================================================================================
>       DISTRIBUTED DATA FACILITY STATISTICS SUMMARY BY REPORT INTERVAL
 HDFS
+ Collection Interval:  15 min                            Start:  07/08 18:45
+ Report Interval:      15 min   Combine Level:  NONE      End:  07/11 13:31
+
+             # of         Total  Total  Total  Total  Total Total  Total Total
+ Interval    Rmts           SQL   Rows   Msgs  Bytes Commit Abort   Conv Convq
+ ----------- ----        ------ ------ ------ ------ ------ ----- ------ -----
+ 07/11 13:31    1            0      0      0      0      0     0      0     0
+ 07/11 13:15    1            0      0      0      0      0     0      0     0
+ 07/11 13:00    1        17145   2148  55726  6990K   2148     0   2140     0
+ 07/11 12:45    1        20866   2593  68134  8542K   2609    31   2643     0
+ 07/11 12:30    1            0      0      0      0      0     0      0     0
+ 07/11 12:15    1            0      0      0      0      0     0      0     0
+ 07/11 12:00    1            0      0      0      0      0     0      0     0
+ 07/11 11:45    1            0      0      0      0      0     0      0     0
+ 07/11 11:30    1            0      0      0      0      0     0      0     0
+ 07/11 11:15    1            0      0      0      0      0     0      0     0
+ 07/11 11:00    1            0      0      0      0      0     0      0     0
+ 07/11 10:45    1         8501   1064  27628  3459K   1066     1   1061     0
+ 07/11 10:30    1         7569    937  24930  3106K    943    39    979     0
+ 07/11 10:15    1            0      0      0      0      0     0      0     0
================================================================================
```

Navigation

For additional information about

- a report interval, move the cursor to the required line and press F11 (Zoom). (Each date/time displayed reflects the end of an interval.)
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the first interval in this display.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the last interval in this display.

Interval
Provides the date and time that mark the end of the report interval.

of Rmts
The number of remote DB2s with which the local DB2 communicated during a given interval.

Total SQL
The total SQL calls sent and received by the local DB2.

Total Rows
The total rows of data sent and received by the local DB2.

Total Msgs
The total VTAM messages sent and received by the local DB2.

Total Bytes
The total bytes sent and received by the local DB2.

Total Commit
The total number of Commit operations performed. This is the sum of the single-phase and two-phase commits performed.

Total Abort
The total number of rollback operations performed. This is the sum of the single-phase rollback operations and two-phase backouts performed.

Total Conv
The total conversations sent and received by the local DB2.

Total ConvQ
The total number of conversations queued by DDF.

Distributed Data Facility Statistics Detail

This panel provides detailed near-term history statistics about DDF activity for a selected report interval, formatted by remote DB2 location.

```
_________________ ZHDFD    VTM     O2       V540.#P SC11 07/11/16 19:13:47   2
>       Help PF1      Back PF3      Up PF7      Down PF8
>
>                   Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      B-BIND              C-BUFFER POOL    D-GROUP BP
> *-DISTRIBUTED DATABASE   F-EDM POOL          G-LOG MANAGER    H-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    L-DB2 COMMANDS
> M-THREAD HISTORY
================================================================================
>                DISTRIBUTED DATA FACILITY STATISTICS DETAIL
 HDFD
+ Collection Interval:  15 min                            Start:  07/11 12:45
+ Report Interval:      15 min   Combine Level:  NONE      End:  07/11 13:00
+
+ DDF Send Rate          = 232K/min        DDF Receive Rate        = 234K/min
+ Resync Attempts        =        0        Resync Successes        =        0
+ Cold Start Connections =        0        Warm Start Connections  =        0
+ DBAT Queued            =        0        Conversations Dealloc   =        0
+ HWM Remote Connections =       28        HWM Active DBATs        =       28
+ Max DB Access (MAXDBAT)=      200        HWM Inactive DBATs      =       14
+
+ Remote Location Name  = DRDA REMOTE LOCS
+
+ Conversations Queued   =        0
+ Indoubts/Remote        =        0
+
+                  SQL     Row Message     Byte  Commit   Abort   Conv   Blocks
+              ------- ------- ------- -------- ------- ------- ------- -------
+ Sent               0    2148   27873  3565972       0       0       0    2148
+ Recv           17145       0   27853  3591798    2148       0    2140       0
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the interval currently displayed.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the interval currently displayed.

DDF Send Rate
The rate at which data was sent by DDF, in bytes, KB, MB, GB per minute.

DDF Receive Rate
mighThe rate at which data was received by DDF, in bytes, KB, MB, GB per minute.

Resync Attempts
The number of resynchronization connects attempted with all remote locations. Used only for two-phase commit.

Resync Successes
The number of resynchronization connects that succeeded with all remote locations. Used only for two-phase commit.

Cold Start Connections
The number of Cold Start connections with all remote locations. Used only for two-phase commit.

Warm Start Connections
The number of Warm Start connections with all remote locations. Used only for two-phase commit.

DBAT Queued
Number of times a database access thread (DBAT) had to wait because the maximum number of concurrent DBATs (MAXDBAT) was reached.

Conversation Dealloc
The number of conversations deallocated because the ZPARM limit for the maximum connected remote threads (both active and inactive) was reached.

HWM Remote Connections
The high-water mark (HWM) of inactive and active remote threads.

HWM Active DBATs
The high-water mark (HWM) of active database access threads (DBATs). If the INACTIVE option is specified, it is possible for this value and the current number of active DBATs to exceed MAXDBAT. This occurs because DB2 allows CONNECTs to be processed even if MAXDBAT has been exceeded. After connect processing is complete, if MAXDBAT is still exceeded, then the DBAT is made inactive.

HWM Inactive DBATs
The high-water mark (HWM) of inactive database access threads.

Max DB Access (MAXDBAT)
The maximum number of database access threads allowed for the Db2 being monitored (determined by the setting of MAXDBAT in DSNZPARM).

Remote statistics: The following group of fields occurs for each remote DB2 location with which the local DB2 subsystem communicated, either as a requester or a responder, during the report interval. Each sent/received field generates two rows of output; the top row is the sent value, and the bottom row is the received value.

Remote Location Name
The name of a remote location with which the local DB2 communicated. The statistics immediately below this field pertain to this location.

Conversations Queued
The number of conversations queued by DDF.

Indoubts/Remote
The number of threads that became indoubt with the remote location as coordinator.

SQL Sent/Recv
The number of SQL calls sent to and from the remote location.

Row Sent/Recv
The number of rows sent to and from the remote location.

Message Sent/Recv
The number of VTAM messages sent to and from the remote location.

Byte Sent/Recv
The number of bytes sent to and from the remote location.

Commit Sent/Recv
The number of Commits sent to and from the remote location.

Abort Sent/Recv
The number of aborts sent to and from the remote location.

Conv Sent/Recv
The number of conversations send to and from the remote location.

Blocks Sent/Recv
Number of blocks sent to and from the remote location, if using block fetch mode.

EDM Pool Statistics Summary by Report Interval

This panel provides an overview of the Environmental Descriptor Manager (EDM) pool activity that was recorded during a series of report intervals.

```
_________________ ZHEDS    VTM     O2       V540.#P SC11 07/11/16 19:18:55   2
>       Help PF1      Back PF3      Up PF7      Down PF8       Zoom PF11
> H.A.F
>                   Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      B-BIND              C-BUFFER POOL    D-GROUP BP
> E-DISTRIBUTED DATABASE   *-EDM POOL          G-LOG MANAGER    H-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    L-DB2 COMMANDS
> O-OPTIONS
================================================================================
>                  EDM POOL STATISTICS SUMMARY BY REPORT INTERVAL
 HEDS
+ Collection Interval:  15 min                            Start:  07/08 19:00
+ Report Interval:      15 min   Combine Level:  NONE       End:  07/11 19:18
+
+                       DBD    DBD     CT     CT     PT     PT     DSC    DSC
+ Interval              Pages  Load%  Pages  Load%  Pages  Load%  Pages  Load%
+ -----------           -----  -----  -----  -----  -----  -----  -----  -----
+ 07/11 19:18            8572   .00%      0   .00%      0   .00%    191   .00%
+ 07/11 19:00            8572   .00%      0   .00%      0   .00%    191   .00%
+ 07/11 18:45            8572   .00%      0   .00%      0   .00%    191   .00%
+ 07/11 18:30            8572   .00%      0   .00%      0   .00%    191   .00%
+ 07/11 18:15            8572   .00%      0   .00%      0   .00%    191   .00%
+ 07/11 18:00            8572   .00%      0   .00%      0  1.30%    191   .50%
+ 07/11 17:45            8572   .00%      0   .00%      0   .00%    177   .00%
+ 07/11 17:30            8572   .00%      0   .00%      0   .00%    177   .00%
+ 07/11 17:15            8572   .00%      0   .00%      0   .00%    177   .00%
+ 07/11 17:00            8572   .00%      0   .00%      0   .00%    177   .00%
+ 07/11 16:45            8572   .00%      0   .00%      0   .00%    177   .00%
+ 07/11 16:30            8572   .66%      0  8.33%      0  1.11%    177   .99%
+ 07/11 16:15            8571   .00%      0   .00%      0   .00%    169   .00%
+ 07/11 16:00            8571   .00%      0   .00%      0   .00%    169   .00%
================================================================================
```

Highlighting

The following table shows the field that might be highlighted in the panel above to indicate the current status:

Table 33. Highlighted fields in EDM Pool Statistics Summary by Report Interval panel

Field	Exception	Reason
Pages in Use %	EDMU	The utilization of the EDM pool has reached or exceeded the specified threshold.

Navigation

For additional information about

- a report interval, move the cursor to the required line and press F11 (Zoom). (Each date/time displayed reflects the end of an interval.)
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the first interval in this display.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the last interval in this display.

Interval
Provides the date and time that mark the end of the report interval.

DBD Pages
The number of pages used for database descriptors (DBDs).

DBD Load %
The percentage of DBD requests that resulted in DBD loads from DASD.

CT Pages
The number of pages used for cursor tables (CTs).

CT Load%
The percentage of CT requests that resulted in CT loads from DASD.

PT Pages
The number of pages used for package tables (PTs).

PT Load%
The percentage of PT requests that resulted in PT loads from DASD.

DSC Loads
Dynamic SQL caches (DSCs) that had to be loaded from DASD.

DSC Load%
The percentage of dynamic SQL cache requests that resulted in DSC loads into pool. This value should be kept low.

EDM Pool Statistics Detail

This panel provides detailed information about the activity in and the performance of the Environmental Descriptor Manager (EDM) pool during a specified report interval.

Dependent on the DB2 version you are using, the content of the EDM POOL STATISTICS DETAIL panel is different.

The following examples of this panel show the fields that are specific to a particular DB2 version.

If DB2 11 is used, the EDM POOL STATISTICS DETAIL panel additionally displays the following fields:

Shareable Static SQL Requests (QISEKSPG)
The number of shareable static SQL statement requests.

This applies to DB2 11 or higher.

Total Allocation Shareable Static SQL (QISEKSPA8)
The total storage that is allocated to shareable static SQL statements.

This applies to DB2 11 or higher.

For DB2 11 and later:

```
 _________________ ZHEDD    VTM     O2       V540./C SE11 07/30/13  1:57:18   2
>       Help PF1      Back PF3      Up PF7      Down PF8
>
>                   Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      B-BIND              C-BUFFER POOL    D-GROUP BP
> E-DISTRIBUTED DATABASE   *-EDM POOL          G-LOG MANAGER    H-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    L-DB2 COMMANDS
> M-THREAD HISTORY
================================================================================
>                           EDM POOL STATISTICS DETAIL
 HEDD
+ Collection Interval:   1 min                            Start:  07/30 01:48
+ Report Interval:       1 min   Combine Level:  NONE      End:  07/30 01:49
+
+ Pool Usage    Pages  Pct               Percent of Total EDM Pool
+ ----------- ------- ---- |---10---20---30---40---50---60---70---80---90--100|
+ DBD Pool:              |                                                     |
+ Total         25600 100% |                                                     |
+  DBD Held       108   0% |    .    .    .    .    .    .    .    .    .    .|
+   Stealable      13   0% |    .    .    .    .    .    .    .    .    .    .|
+  Free          25492 100% |-------------------------------------------------->|
+ In Use            95   0% |    .    .    .    .    .    .    .    .    .    .|
+
+ SKEL Pool:              |                                                     |
+ Total         25600 100% |                                                     |
+  SKCT Held        8   0% |    .    .    .    .    .    .    .    .    .    .|
+  SKPT Held      124   0% |    .    .    .    .    .    .    .    .    .    .|
+   Stealable     132   1% |>   .    .    .    .    .    .    .    .    .    .|
+  Free          25468  99% |-------------------------------------------------->|
+ In Use             0   0% |    .    .    .    .    .    .    .    .    .    .|
+
+ STMT Pool:              |                                                     |
+ Total         28346 100% |                                                     |
+  STMT Held    28338 100% |-------------------------------------------------->|
+  Free             8   0% |    .    .    .    .    .    .    .    .    .    .|
+                          |---10---20---30---40---50---60---70---80---90--100|
+
+
+ Shareable Static SQL Requests                                            11
+ Total Allocation for Shareable Static SQL                                 0
+ Plan Below the Bar Allocation                                             0
+ Package Below the Bar Allocation                                          0
+ Plan Above the Bar Allocation                                         21120
+ Package Above the Bar Allocation                                     106624
+
```

```
+
+                                        INTERVAL  /MINUTE  /THREAD  /COMMIT
+                                        QUANTITY  (    1)  (   10)  (   10)
+                                        --------  -------  -------  -------
+ Failures due to DBD Pool Full                 0      .00      .00      .00 *DB2 11
+ Failures due to STMT Pool Full                0      .00      .00      .00 *DB2 11
+ Failures due to SKEL Pool Full                0      .00      .00      .00 *DB2 11
+
+ Database Descriptor (DBD) Reqs               11    11.00     1.10     1.10
+ DBD Loads                                     1     1.00      .10      .10
+ % of DBD Loads from DASD                   9.09%     n/c      n/c      n/c
+
+ Cursor Table (CT) Reqs                        0      .00      .00      .00
+ CT Loads                                      0      .00      .00      .00
+ % of CT Loads from DASD                    .00%     n/c      n/c      n/c
+
+ Package Table (PT) Reqs                       0      .00      .00      .00
+ PT Loads                                      0      .00      .00      .00
+ % of PT Loads from DASD                    .00%     n/c      n/c      n/c
+
+ Dynamic Sql (DSC) Reqs                        0      .00      .00      .00
+ DSC Loads                                     0      .00      .00      .00
+ qisedspl-reqs                        75       0      .00      .00      .00
+ qisedspc-rows                         1       0      .00      .00      .00
+ qisedspm-text                         1       0      .00      .00      .00
+ CATALOG Loads                         0       0      .00      .00      .00 *DB2 12
+ % of DSC Loads into Pool                   .00%     n/c      n/c      n/c
+ % of CATALOG Loads into Pool       .00%    .00%     n/c      n/c      n/c *DB2 12
+
+ PKG Search Not Found                          0      .00      .00      .00
+ PKG Search Not Found Insert                   0      .00      .00      .00
+ PKG Search Not Found Delete                   0      .00      .00      .00
+ Number of Statements                          0      .00      .00      .00
================================================================================
```

If DB2 10 is used, the EDM POOL STATISTICS DETAIL panel additionally displays the following fields:

xProc Request
The total number of xProc requests.

xProc Total Allocation
The total number of pages that are allocated for xProcs.

For DB2 10:

```
 _________________ ZHEDD    VTM     O2       V540./C SZ91 07/30/13  2:13:34   2
>       Help PF1      Back PF3      Up PF7      Down PF8
>
>                   Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      B-BIND              C-BUFFER POOL    D-GROUP BP
> E-DISTRIBUTED DATABASE   *-EDM POOL          G-LOG MANAGER    H-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    L-DB2 COMMANDS
> M-THREAD HISTORY
================================================================================
>                           EDM POOL STATISTICS DETAIL
 HEDD
+ Collection Interval:   2 min                            Start:  07/30 02:10
+ Report Interval:       4 min   Combine Level:  NONE      End:  07/30 02:13
+
+ Pool Usage    Pages  Pct               Percent of Total EDM Pool
+ ----------- ------- ---- |---10---20---30---40---50---60---70---80---90--100|
+ DBD Pool:              |                                                     |
+ Total         25600 100% |                                                     |
+  DBD Held       169   1% |>   .    .    .    .    .    .    .    .    .    .|
+   Stealable      83   0% |    .    .    .    .    .    .    .    .    .    .|
+  Free         25431  99% |-------------------------------------------------->|
+ In Use           86   0% |    .    .    .    .    .    .    .    .    .    .|
+
+ SKEL Pool:              |                                                     |
+ Total         25600 100% |                                                     |
+  SKCT Held        1   0% |    .    .    .    .    .    .    .    .    .    .|
+  SKPT Held       22   0% |    .    .    .    .    .    .    .    .    .    .|
+   Stealable      23   0% |    .    .    .    .    .    .    .    .    .    .|
+  Free         25577 100% |-------------------------------------------------->|
+ In Use            0   0% |    .    .    .    .    .    .    .    .    .    .|
+
+ STMT Pool:              |                                                     |
+ Total         28346 100% |                                                     |
+  STMT Held        4   0% |    .    .    .    .    .    .    .    .    .    .|
+  Free         28342 100% |-------------------------------------------------->|
+                          |---10---20---30---40---50---60---70---80---90--100|
+
+
+ xProc Request                                                              0
+ xProc Total Allocation                                                     0
+ Plan Below the Bar Allocation                                              0
+ Package Below the Bar Allocation                                           0
+ Plan Above the Bar Allocation                                          21120
+ Package Above the Bar Allocation                                           0
+
```

```
+
+                                      INTERVAL  /MINUTE  /THREAD  /COMMIT
+                                      QUANTITY  (   23)  (    5)  (   42)
+                                      --------  -------  -------  -------
+
+ Database Descriptor (DBD) Reqs            165     7.17    33.00     3.93
+ DBD Loads                                   2      .09      .40      .05
+ % of DBD Loads from DASD                 1.21%     n/c      n/c      n/c
+
+ Cursor Table (CT) Reqs                      5      .22     1.00      .12
+ CT Loads                                    0      .00      .00      .00
+ % of CT Loads from DASD                   .00%     n/c      n/c      n/c
+
+ Package Table (PT) Reqs                    42     1.83     8.40     1.00
+ PT Loads                                    0      .00      .00      .00
+ % of PT Loads from DASD                   .00%     n/c      n/c      n/c
+
+ Dynamic Sql (DSC) Reqs                    106     4.61    21.20     2.52
+ DSC Loads                                   0      .00      .00      .00
+ CATALOG Loads                               0      .00      .00      .00
+ % of CATALOG Loads into Pool              .00%     n/c      n/c      n/c
+ % of DSC Loads into Pool                  .00%     n/c      n/c      n/c
+
+ PKG Search Not Found                        0      .00      .00      .00
+ PKG Search Not Found Insert                 0      .00      .00      .00
+ PKG Search Not Found Delete                 0      .00      .00      .00
+ Number of Statements                        0      .00      .00      .00
================================================================================
```

Highlighting

OMEGAMON XE for DB2 PE highlights some fields in this panel to draw your attention to their current status:

Table 34. Highlighted fields in EDM Pool Statistics Detail panel

Field	Exception	Reason
Pages In Use	EDMU	The utilization of the EDM pool has reached or exceeded the specified threshold.
Pct In Use	EDMU	The utilization of the EDM pool has reached or exceeded the specified threshold.

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

The following fields are common to all DB2 versions:

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the interval currently displayed.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the interval currently displayed.

Pool Usage
The following types of EDM pools are available:

- EDM Database Descriptor (DBD) Pool
- EDM Statement (STMT) Pool
- EDM Skeleton (SKEL) Pool

For the above pool types, the following information is displayed. It is based on a snapshot of the data that is taken at the end of the report interval.

Pages
The number of pages that is dedicated to a particular type of pool usage.

PCT
The percentage of the EDM pool dedicated to that type of usage.

Total
The total number of pages in this type of type of EDM pool. For DB2 12 the Total Pages is based on DSNZPARM configured Maximum.

Held
The number of pages held in this type of type of EDM pool.

CT Held
Pages held in RDS pool for the cursor tables.

This applies only to DB2 9, below and above the bar usage.

PT Held
Pages held in RDS pool for the package tables.

This applies only to DB2 9, below and above the bar usage.

SKCT Held
Pages held in SKEL pool for skeleton cursor tables.

DBD Held
Pages held in DBD pool.

STMT Held
Pages held in STMT pool.

Stealable
The total number of pages that can be reused.

Free
The number of pages currently not used by any object in this type of EDM pool.

In Use
The number of pages that are used in this type of EDM pool.

This applies only to DBD and SKEL pools.

The percentage of DBD In Use is calculated like this:

```
((In Use - Stealable/Reusable)/Total)*100
```

The percentage of SKEL in Use is calculated like this:

```
((SKCTs + SKPTs) - Stealable/Reusable)/Total)*100
```

xProc Request
The total number of xProc requests.

xProc Total Allocation
The total number of pages that are allocated for xProcs.

Shareable Static SQL Requests (QISEKSPG)
The number of shareable static SQL statement requests.

This applies to DB2 11 or higher.

Total Allocation Shareable Static SQL (QISEKSPA8)
The total storage that is allocated to shareable static SQL statements.

This applies to DB2 11 or higher.

Plan Below the Bar Allocation
The amount of storage below the bar that was allocated for plans.

Package Below the Bar Allocation
The amount of storage below the bar that was allocated for packages.

Plan Above the Bar Allocation
The amount of storage above the bar that was allocated for plans.

Package Above the Bar Allocation
The amount of storage above the bar that was allocated for packages.

Failures due to DBD Pool Full
Failures that occurred because the DBD pool is full. DB2 10 and DB2 11 only.

Failures due to STMT Pool Full
Failures that occurred because the STMT pool is full. DB2 10 and DB2 11 only.

Failures due to SKEL Pool Full
Failures that occurred because the SKELpool is full. DB2 10 and DB2 11 only.

For each of the following fields, the following statistics are provided:

INTERVAL QUANTITY
The amount of activities that occur during the interval.

/MINUTE
Rate per minute. The number under /MINUTE (in parentheses) is the number of minutes in the interval.

/THREAD
Rate per thread. The number under /THREAD (in parentheses) is the number of Create Threads during the interval.

/COMMIT
Rate per Commit. The number under /COMMIT (in parentheses) is the number of Commit requests (including abort requests) during the interval.

Database Descriptor (DBD) Reqs
The number of requests for database descriptors.

DBD Loads
The number of database descriptors that had to be loaded from DASD.

% of DBD Loads from DASD
The percentage of DBD requests that resulted in DBD loads from DASD. This value should be kept low; 20% or lower is considered acceptable.

Cursor Table (CT) Reqs
The number of requests for cursor tables.

CT Loads
The number of cursor tables that had to be loaded from DASD.

% of CT Loads from DASD
The percentage of CT requests that resulted in CT loads from DASD. This value should be kept low; 20% or lower is considered acceptable.

Package Table (PT) Reqs
The number of requests for package tables.

PT Loads
The number of package tables that had to be loaded from DASD.

% of PT Loads from DASD
The percentage of PT requests that resulted in PT loads from DASD. This value should be kept low; 20% or lower is considered acceptable.

Dynamic Sql (DSC) Reqs
The number of requests to cache dynamic SQL.

DSC Loads
The number of dynamic SQL caches that had to be loaded from DASD.

CATALOG Loads
Dynamic SQL cache statements that had to be loaded from CATALOG. DB2 12 and later. (Field name: QISEDPSF)

% of CATALOG Loads into Pool

The percentage of dynamic SQL cache requests that resulted in CATALOG loads into the EDMpool. The higher the value, the more stabilized queries from catalog are used to avoid full prepare. Formula for calculation: QISEDPSF/QISEDSG. DB2 12 and later.

% of DSC Loads into Pool
The percentage of dynamic SQL cache requests that resulted in DSC loads into pool. This value should be kept low.

PKG Search Not Found
If a package is bound by using a wild card (*) for the package names, in the form of PKLIST(COL1.*,COL2.*.....), EDM generates a NOT-FOUND record to avoid future I/O if a collection ID/package name combination does not exist.

This field shows how often a cached record was located during package binding.

PKG Search Not Found Insert
If a package is bound by using a wild card (*) for the package names, in the form of PKLIST(COL1.*,COL2.*.....), EDM generates a NOT-FOUND record to avoid future I/O if a collection ID/package name combination does not exist.

This field shows how often a record was removed from the cache during package binding.

PKG Search Not Found Delete
If a package is bound by using a wild card (*) for the package names, in the form of PKLIST(COL1.*,COL2.*.....), EDM generates a NOT-FOUND record to avoid future I/O if a collection ID/package name combination does not exist.

This field shows how often a record was removed from the cache during package binding.

Number of Statements
The number of statements in the EDM pool.

Log Manager Statistics Summary by Report Interval

This panel shows an overview of the DB2 log manager activity that was recorded during a series of report intervals.

```
_________________ ZHLGS    VTM     02       V540.#P SE12 11/06/13 11:59:05   2
>       Help PF1      Back PF3      Up PF7      Down PF8       Zoom PF11
> H.A.G
>                   Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      B-BIND              C-BUFFER POOL    D-GROUP BP
> E-DISTRIBUTED DATABASE   F-EDM POOL          *-LOG MANAGER    H-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    L-DB2 COMMANDS
> O-OPTIONS
================================================================================
>                LOG MANAGER STATISTICS SUMMARY BY REPORT INTERVAL
 HLGS
+ Collection Interval:   1 min                              Start:  11/06 11:44
+ Report Interval:       1 min   Combine Level:  NONE         End:  11/06 11:59
+
+                                                          Archive  Archive
+                Total     Read    Total    Write     BSDS     Read    Write
+ Interval       Reads    Delay   Writes    Delay   Access   Allocs   Allocs
+ -----------  -------  -------  -------  -------  -------  -------  -------
+ 11/06 11:59        0        0       16        0        2        0        0
+ 11/06 11:57        0        0       15        0        2        0        0
+ 11/06 11:56        0        0       15        0        0        0        0
+ 11/06 11:55        0        0       15        0        0        0        0
+ 11/06 11:54        0        0      248        0        2        0        0
+ 11/06 11:53        0        0       15        0        2        0        0
+ 11/06 11:52        0        0       15        0        0        0        0
+ 11/06 11:51        0        0       15        0        0        0        0
+ 11/06 11:50        0        0       15        0        2        0        0
+ 11/06 11:49        0        0       36        0        2        0        0
+ 11/06 11:48   190535        0   212666        0      533        0        1
+ 11/06 11:47        0        0   109757        0        5        0        0
+ 11/06 11:46        0        0    57855        0        5        0        0
+ 11/06 11:45        0        0       15        0        2        0        0
================================================================================
```

Navigation

For additional information about

- a report interval, move the cursor to the line you want and press F11 (Zoom). (Each date/time displayed reflects the end of an interval.)
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the first interval in this display.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the last interval in this display.

Interval
Provides the date and time that mark the end of the report interval.

Total Reads
The number of times DB2 read a log record.

Read Delay
The number of log reads that were delayed.

Total Writes
The number of times DB2 externalized log records, both synchronously and asynchronously.

Write Delay
The number of times DB2 tried to place log records in the output buffer but could not find an available buffer.

BSDS Access
The number of times the bootstrap data set access routine was called.

Archive Read Allocs
The number of archive read allocations, which is an indicator of archive log open/close activity.

Archive Write Allocs
The number of archive write allocations, which is an indicator of archive log open/close activity.

Log Manager Statistics Detail

This panel provides detailed information about the logging and archiving activity of the DB2 log manager during a selected report interval.

```
 _________________ ZHLGD    VTM     O2       V540./C SE11 07/31/13 20:45:53   2
>       Help PF1      Back PF3      Up PF7      Down PF8
>
>                   Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      B-BIND              C-BUFFER POOL    D-GROUP BP
> E-DISTRIBUTED DATABASE   F-EDM POOL          *-LOG MANAGER    H-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    L-DB2 COMMANDS
> M-THREAD HISTORY
================================================================================
>                         LOG MANAGER STATISTICS DETAIL
 HLGD
+ Collection Interval:   1 min                            Start:  07/31 20:43
+ Report Interval:       1 min   Combine Level:  NONE      End:  07/31 20:44
+
+ High Used Log Record RBA = 00000000000202C64D4A
+ Number of Bytes Used     =                 1518
+
+                                          INTERVAL  /MINUTE  /THREAD  /COMMIT
+                                          QUANTITY  (    1)  (    1)  (    0)
+                                          --------  -------  -------  -------
+ Reads from Output Buffers                       0      .00      .00      .00
+ Reads from Active Log                           0      .00      .00      .00
+ Reads from Archive Log                          0      .00      .00      .00
+ Reads Delayed - Tape Contention                 0      .00      .00      .00
+ Reads Delayed - No Tape Unit                    0      .00      .00      .00
+ Look-Ahead TapeMounts Attempted                 0      .00      .00      .00
+ Look-Ahead TapeMounts Performed                 0      .00      .00      .00
+
+ Write NOWAIT Requests                           0      .00      .00      .00
+ Write FORCE Requests                           15    15.00    15.00      .00
+ Write Delayed - No Buffer                       0      .00      .00      .00
+
+ Write Active Log Buffers                       15    15.00    15.00      .00
+ Active Log CIs Created                          0      .00      .00      .00
+ Archive Log Read Allocations                    0      .00      .00      .00
+ Archive Log Write Allocations                   0      .00      .00      .00
+ Archive Log CIs Offloaded                       0      .00      .00      .00
+ BSDS Access Requests                            0      .00      .00      .00
+ Checkpoints                                     0      .00      .00      .00
+ IFI Abends                                      0      .00      .00      .00
+ IFI Unrecog Func                                0      .00      .00      .00
+ IFI Command Reqs                                1     1.00     1.00      .00
+ IFI READA Reqs                                  2     2.00     2.00      .00
+ IFI READS Reqs                                  5     5.00     5.00      .00
+ IFI WRITE Reqs                                  0      .00      .00      .00
+ Data Capture Invoked                            0      .00      .00      .00
+ Data Capture READS                              0      .00      .00      .00
+ Data Capture Rec Returned                       0      .00      .00      .00
+ Data Capture Row Returned                       0      .00      .00      .00
+ Data Capture Desc Returned                      0      .00      .00      .00
+ Data Capture Desc Performed                     0      .00      .00      .00
+ Data Capture Table Returned                     0      .00      .00      .00
+ Rollup (Threshold)                              0      .00      .00      .00
+ Rollup (Storage)                                0      .00      .00      .00
+ Rollup (Stallness)                              0      .00      .00      .00
+ Rollup (Non Qual)                               0      .00      .00      .00
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the interval currently displayed.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the interval currently displayed.

High Used Log Record RBA
The relative byte address (RBA) of the record that was being logged at the end of the interval.

Number of Bytes Used
The number of bytes of the log data set that were used during the interval.

For each of the following fields, the following statistics are provided:

INTERVAL QUANTITY
The amount of activities that occur during the interval.

/MINUTE
Rate per minute. The number under /MINUTE (in parentheses) is the number of minutes in the interval.

/THREAD
Rate per thread. The number under /THREAD (in parentheses) is the number of Create Threads during the interval.

/COMMIT
Rate per Commit. The number under /COMMIT (in parentheses) is the number of Commit requests (including abort requests) during the interval.

Reads from Output Buffers
The Reads that were satisfied from the output buffers.

Reads from Active Log
The Reads that were satisfied from the active log.

Reads from Archive Log
The Reads that were satisfied from the archive log.

Reads Delayed - Tape Contention
The number of reads delayed because a tape volume was already in use.

Reads Delayed - No Tape Unit
Number of archive log reads that were delayed because of unavailable tape units, or because the maximum amount of read parallelism is being used (not likely).

Look-Ahead Tape Mounts Attempted
Number of look-ahead tape mounts attempted.

Look-Ahead Tape Mounts Performed
Number of successful look-ahead tape mounts.

Write NOWAIT Requests
The times DB2 externalized log records asynchronously.

Write FORCE Requests
The times DB2 externalized log records synchronously.

Write Delayed - No Buffer
DB2 attempts to place log records in the output buffer when no log buffer could be found.

Write Active Log Buffers
Calls to the log write routine.

Active Log CIs Created
Active log control intervals created.

Archive Log Read Allocations
Archive read allocations, which reflect archive log open/close activity.

Archive Log Write Allocations
Archive write allocations, which reflect archive log open/close activity.

Archive Log CIs Offloaded
Number of active log control intervals offloaded to archive data sets.

BSDS Access Requests
Calls to the bootstrap data set access routine.

Checkpoints
The number of checkpoints DB2 takes since startup.

IFI Abends
The count of IFI abends.

IFI Unrecog Func
The count of IFI unrecognized functions.

IFI Command Reqs
The count of IFI command requests.

IFI READA Reqs
The count of IFI READA requests.

IFI READS Reqs
The count of IFI READS requests.

IFI WRITE Reqs
The count of IFI WRITE requests.

Data Capture Invoked
The number of log records retrieved for which data capture processing is invoked.

Data Capture READS
The number of data capture log reads for processing IFI requests for IFCID 0185.

Data Capture Rec Returned
The number of data capture log records returned.

Data Capture Row Returned
The number of data capture data rows returned.

Data Capture Desc Returned
The number of data capture data descriptions returned.

Data Capture Desc Performed
The number of data capture describes performed.

Data Capture Table Returned
The number of data capture tables returned.

Rollup (Threshold)
The number of rollup accounting records that are written because the rollup threshold is exceeded.

Rollup (Storage)
The number of rollup accounting records that are written because the rollup accounting storage threshold is exceeded.

Rollup (Stallness)
The number of rollup accounting records that are written because the staleness threshold is exceeded.

Rollup (Non Qual)
The number of records that failed to qualify for accounting rollup because all rollup key fields are NULL, or NULL values are not permitted.

Open/Close Statistics Summary by Report Interval

This panel shows an overview of the Open/Close activity that is recorded during a series of report intervals.

```
_________________ ZHOPS    VTM     O2       V540.#P SE12 11/06/13 11:59:37   2
>       Help PF1      Back PF3      Up PF7      Down PF8       Zoom PF11
> H.A.H
>                   Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      B-BIND              C-BUFFER POOL    D-GROUP BP
> E-DISTRIBUTED DATABASE   F-EDM POOL          G-LOG MANAGER    *-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    L-DB2 COMMANDS
> O-OPTIONS
================================================================================
>                OPEN/CLOSE STATISTICS SUMMARY BY REPORT INTERVAL
 HOPS
+ Collection Interval:   1 min                            Start:  11/06 11:44
+ Report Interval:       1 min   Combine Level:  NONE       End:  11/06 11:59
+
+               High Water   Current   Not-in-use   Not-in-use   DS Conv to
+ Interval        Open DS   Open DS   DS Request    DS Closed    Read-only
+ -----------   ----------   -------   ----------   ----------   ----------
+ 11/06 11:59          251       251           10            0            5
+ 11/06 11:58          251       251            0            0            0
+ 11/06 11:57          251       251            0            0            0
+ 11/06 11:56          251       251            0            0            0
+ 11/06 11:55          251       251            2            0            0
+ 11/06 11:54          251       251            4            0            0
+ 11/06 11:53          251       251            0            0            0
+ 11/06 11:52          251       251            4            0            0
+ 11/06 11:51          251       251            2            0            0
+ 11/06 11:50          248       245            2            0            0
+ 11/06 11:49          248       245            4            0            0
+ 11/06 11:48          248       246          746            0            0
+ 11/06 11:47          247       245            0            0            0
+ 11/06 11:46          247       245           20            0            1
+ 11/06 11:45          247       245            2            0            0
================================================================================
```

Navigation

For additional information about

- a report interval, move the cursor to the line you want and press F11 (Zoom). (Each date/time displayed reflects the end of an interval.)
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the first interval in this display.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the last interval in this display.

Interval
Provides the date and time that mark the end of the report interval.

High Water Open DS
Maximum number of data sets open at any given time.

Current Open DS
The current number of open data sets.

Not-in-use DS Request
The number of requests to open a data set that was on the Deferred Close queue. When this occurs, a physical data set Open is not necessary.

Not-in-use DS Closed
Number of not-in-use data sets that were closed because the total number of open data sets reached the Deferred Close threshold. The Deferred Close threshold is based on the smaller of the values of DSMAX or the MVS DD limit.

DS Conv to Read-only
Number of infrequently updated data sets converted from a read-write state to a read-only state (pseudo-close). The SYSLGRNG entry is closed at this time.

Open/Close Statistics Detail

This panel provides detailed information about open and close data set activity occurring within the DB2 subsystem during a selected report interval.

```
_________________ ZHOPD    VTM     O2       V540.#P SE12 11/06/13 11:59:56   2
>       Help PF1      Back PF3      Up PF7      Down PF8
>
>                   Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      B-BIND              C-BUFFER POOL    D-GROUP BP
> E-DISTRIBUTED DATABASE   F-EDM POOL          G-LOG MANAGER    *-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    L-DB2 COMMANDS
> M-THREAD HISTORY
================================================================================
>                          OPEN/CLOSE STATISTICS DETAIL
 HOPD
+ Collection Interval:   1 min                              Start:  11/06 11:47
+ Report Interval:       1 min   Combine Level:  NONE         End:  11/06 11:48
+
+ Current Number Open Datasets                =      246
+ High Water Mark Open Datasets               =      248
+ High Water Mark Not-in-use Datasets         =      242
+ Current Number Not-in-use Datasets          =       95
+
+                                          INTERVAL  /MINUTE  /THREAD  /COMMIT
+                                          QUANTITY  (    1)  (    2)  (    7)
+                                          --------  -------  -------  -------
+ Not-in-use Datasets Requested                 746   746.00   373.00   106.57
+ Not-in-use Datasets Closed                      0      .00      .00      .00
+ Datasets Converted to Read-Only                 0      .00      .00      .00
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the interval currently displayed.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the interval currently displayed.

Current Number Open Datasets
A snapshot value of the current number of open database data sets.

High-water Mark Open Datasets
The maximum number of data sets open at any one time since DB2 was started.

High-water Mark Not-in-use Datasets
The maximum number of pagesets that are not in use but are not physically closed.

Current Number Not-in-use Datasets
The current number of open pagesets that are not in use but are not physically closed.

For each of the following fields, the following statistics are provided:

INTERVAL QUANTITY
The amount of activities that occur during the interval.

/MINUTE
Rate per minute. The number under /MINUTE (in parentheses) is the number of minutes in the interval.

/THREAD
Rate per thread. The number under /THREAD (in parentheses) is the number of Create Threads during the interval.

/COMMIT
Rate per Commit. The number under /COMMIT (in parentheses) is the number of Commit requests (including abort requests) during the interval.

Not-in-use Datasets Requested
Number of requests to open a data set that was on the Deferred Close queue. When this occurs, a physical data set Open is not necessary.

Not-in-use Datasets Closed
Number of not-in-use data sets that were closed because the total number of open data sets reached the Deferred Close threshold. The Deferred Close threshold is based on the smaller of the values of DSMAX or the MVS DD limit.

Datasets Converted to Read-Only
Number of infrequently updated data sets converted from a Read-Write to a Read-Only state (pseudo-close). The SYSLGRNG entry is closed at this time.

SQL Statistics Summary by Report Interval

This panel shows an overview of the SQL activity that was recorded during a series of report intervals.

```
_________________ ZHSQS    VTM     O2       V540.#P SE12 11/06/13 12:00:18   2
>       Help PF1      Back PF3      Up PF7      Down PF8       Zoom PF11
> H.A.I
>                   Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      B-BIND              C-BUFFER POOL    D-GROUP BP
> E-DISTRIBUTED DATABASE   F-EDM POOL          G-LOG MANAGER    H-OPEN/CLOSE
> *-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    L-DB2 COMMANDS
> O-OPTIONS
================================================================================
>                    SQL STATISTICS SUMMARY BY REPORT INTERVAL
 HSQS
+ Collection Interval:   1 min                            Start:  11/06 11:44
+ Report Interval:       1 min   Combine Level:  NONE      End:  11/06 12:00
+
+               Manipulative (DML)      Control (DCL)     Definitional (DDL)
+ Interval      Quantity   /Minute   Quantity   /Minute   Quantity   /Minute
+ -----------   --------  --------   --------  --------   --------  --------
+ 11/06 12:00          0       .00          0       .00          6      6.00
+ 11/06 11:59          0       .00          0       .00          0       .00
+ 11/06 11:58          0       .00          0       .00          0       .00
+ 11/06 11:57          0       .00          0       .00          0       .00
+ 11/06 11:56          0       .00          0       .00          0       .00
+ 11/06 11:55          0       .00          0       .00          0       .00
+ 11/06 11:54          0       .00          0       .00          0       .00
+ 11/06 11:53          0       .00          0       .00          0       .00
+ 11/06 11:52          0       .00          1      1.00          0       .00
+ 11/06 11:51          4      4.00          4      4.00          0       .00
+ 11/06 11:50          0       .00          0       .00          0       .00
+ 11/06 11:49          0       .00          0       .00          0       .00
+ 11/06 11:48      43481  43481.00          0       .00         45     45.00
+ 11/06 11:47     206470   206.47K          0       .00          0       .00
+ 11/06 11:46     108744   108.74K          0       .00          0       .00
+ 11/06 11:45          0       .00          0       .00          0       .00
================================================================================
```

Navigation

For additional information about

- a report interval, move the cursor to the line you want and press F11 (Zoom). (Each date/time displayed reflects the end of an interval.)
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the first interval in this display.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the last interval in this display.

Interval
Provides the date and time that mark the end of the report interval.

Manipulative (DML)
The quantity and rate per minute of DML (data manipulative language) statements during the interval.

Control (DCL)
The quantity and rate per minute of DCL (data control language) statements during the interval.

Definitional (DDL)
The quantity and rate per minute of DDL (Data Definition Language) statements during the interval.

SQL/RID Pool/I/O Parallelism Statistics Detail

This panel shows detailed information about SQL, RID Pool, I/O Parallelism, and Stored Procedure activity during a selected report interval.

```
_____________ ZHSQD    VTM     O2       V540.#P DC11 DD/MM/YY  6:18:58   2
>       Help PF1      Back PF3      Up PF7      Down PF8
>
>                   Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      B-BIND              C-BUFFER POOL    D-GROUP BP
> E-DISTRIBUTED DATABASE   F-EDM POOL          G-LOG MANAGER    H-OPEN/CLOSE
> *-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    L-DB2 COMMANDS
> M-THREAD HISTORY
================================================================================
>                  SQL/RID POOL/I/O PARALLELISM STATISTICS DETAIL
 HSQD
+ Collection Interval:   5 min                          Start:  03/31 06:10
+ Report Interval:       9 min   Combine Level:  NONE     End:  03/31 06:18
+
+                                  INTERVAL  /MINUTE  /THREAD  /COMMIT    % OF
+ SQL Manipulative (DML)           QUANTITY  (    9)  (    9)  (   29)     DML
+ ----------------------           --------  -------  -------  -------  ------
+ SELECT                                  0      .00      .00      .00     .00
+ INSERT                                  0      .00      .00      .00     .00
+ UPDATE                                  0      .00      .00      .00     .00
+ MERGE                                   0      .00      .00      .00     .00
+ DELETE                                  0      .00      .00      .00     .00
+ DESCRIBE                               24     2.66     2.66      .82    1.46
+ DESCRIBE TABLE                          0      .00      .00      .00     .00
+ PREPARE                                52     5.77     5.77     1.79    3.16
+ OPEN CURSOR                            22     2.44     2.44      .75    1.33
+ FETCH                                1519   168.77   168.77    52.37   92.45
+ CLOSE CURSOR                           22     2.44     2.44      .75    1.33
+ REFRESH TABLE                           4      .44      .44      .13     .24 *DB2 12
+              Total DML                1643   182.55   182.55    56.65  100.00
```

```
+
+                                    INTERVAL  /MINUTE  /THREAD  /COMMIT    % OF
+ SQL Control (DCL)                  QUANTITY  (    9)  (    9)  (   29)     DCL
+ ----------------------             --------  -------  -------  -------  ------
+ CALL                                      0      .00      .00      .00     .00
+ CONNECT (TYPE 1)                          0      .00      .00      .00     .00
+ CONNECT (TYPE 2)                          0      .00      .00      .00     .00
+ GRANT                                     0      .00      .00      .00     .00
+ LOCK TABLE                                0      .00      .00      .00     .00
+ RELEASE                                   0      .00      .00      .00     .00
+ REVOKE                                    0      .00      .00      .00     .00
+ SET CONNECTION                            0      .00      .00      .00     .00
+ SET CURRENT DEGREE                        0      .00      .00      .00     .00
+ SET CURRENT RULES                         0      .00      .00      .00     .00
+ SET CURRENT SQLID                         2      .22      .22      .06   18.18
+ SET HOST VARIABLE                         2      .22      .22      .06   18.18
+ SET CURRENT PATH                          0      .00      .00      .00     .00
+ SET CURRENT PRECISION                     0      .00      .00      .00     .00
+ ASSOCIATE LOCATOR                         0      .00      .00      .00     .00
+ ALLOCATE CURSOR                           0      .00      .00      .00     .00
+ HOLD LOCATOR                              0      .00      .00      .00     .00
+ FREE LOCATOR                              0      .00      .00      .00     .00
+ TRANSFER OWNERSHIP                        7      .77      .77      .24   63.63 *DB2 12
+              Total DCL                   11     1.22     1.22      .37  100.00
```

```
+
+                                    INTERVAL  /MINUTE  /THREAD  /COMMIT    % OF
+ SQL Definitional (DDL)             QUANTITY  (    2)  (    0)  (    1)     DDL
+ ----------------------             --------  -------  -------  -------  ------
+ CREATE TABLE                             0      .00      .00      .00     .00
+ CREATE GBL TEMP TABLE                    0      .00      .00      .00     .00
+ DCL GBL TEMP TABLE                       0      .00      .00      .00     .00
+ CREATE AUX TABLE                         0      .00      .00      .00     .00
+ CREATE INDEX                             0      .00      .00      .00     .00
+ CREATE TABLESPACE                        0      .00      .00      .00     .00
+ CREATE DATABASE                          0      .00      .00      .00     .00
+ CREATE STOGROUP                          0      .00      .00      .00     .00
+ CREATE SYNONYM                           0      .00      .00      .00     .00
+ CREATE VIEW                              0      .00      .00      .00     .00
+ CREATE ALIAS                             0      .00      .00      .00     .00
+ CREATE GBL TEMP TABLE                    0      .00      .00      .00     .00
+ CREATE TRIGGER                           0      .00      .00      .00     .00
+ CREATE DISTINCT TYPE                     0      .00      .00      .00     .00
+ CREATE FUNCTION                          0      .00      .00      .00     .00
+ CREATE PROCEDURE                         0      .00      .00      .00     .00
+ CREATE SEQUENCE                          0      .00      .00      .00     .00
+ CREATE ROLE                              0      .00      .00      .00     .00
+ CREATE TRUSTED CTX                       0      .00      .00      .00     .00
+ CREATE MASK/PERM                         0      .00      .00      .00     .00
+ CREATE VARIABLE                          0      .00      .00      .00     .00
+ DROP TABLE                               0      .00      .00      .00     .00
+ DROP INDEX                               0      .00      .00      .00     .00
+ DROP TABLESPACE                          0      .00      .00      .00     .00
+ DROP DATABASE                            0      .00      .00      .00     .00
+ DROP STOGROUP                            0      .00      .00      .00     .00
+ DROP SYNONYM                             0      .00      .00      .00     .00
+ DROP VIEW                                0      .00      .00      .00     .00
+ DROP ALIAS                               0      .00      .00      .00     .00
+ DROP PACKAGE                             0      .00      .00      .00     .00
+ DROP TRIGGER                             0      .00      .00      .00     .00
+ DROP DISTINCT TYPE                       0      .00      .00      .00     .00
+ DROP PROCEDURE                           0      .00      .00      .00     .00
+ DROP FUNCTION                            0      .00      .00      .00     .00
+ DROP SEQUENCE                            0      .00      .00      .00     .00
+ DROP TRUSTED CTX                         0      .00      .00      .00     .00
+ DROP ROLE                                0      .00      .00      .00     .00
+ DROP MASK/PERM                           0      .00      .00      .00     .00
+ DROP VARIABLE                            0      .00      .00      .00     .00
+ ALTER TABLE                              0      .00      .00      .00     .00
+ ALTER INDEX                              0      .00      .00      .00     .00
+ ALTER TABLESPACE                         0      .00      .00      .00     .00
+ ALTER DATABASE                           0      .00      .00      .00     .00
+ ALTER STOGROUP                           0      .00      .00      .00     .00
+ ALTER VIEW                               0      .00      .00      .00     .00
+ ALTER FUNCTION                           0      .00      .00      .00     .00
+ ALTER PROCEDURE                          0      .00      .00      .00     .00
+ ALTER SEQUENCE                           0      .00      .00      .00     .00
+ ALTER TRUSTED CTX                        0      .00      .00      .00     .00
+ ALTER JAR                                0      .00      .00      .00     .00
+ ALTER MASK/PERM                          0      .00      .00      .00     .00
+ RENAME TABLE                             0      .00      .00      .00     .00
+ RENAME INDEX                             0      .00      .00      .00     .00
+ TRUNCATED TABLE                          0      .00      .00      .00     .00
+ COMMENT ON                               0      .00      .00      .00     .00
+ LABEL ON                                 0      .00      .00      .00     .00
+              Total DDL                   0      .00      .00      .00     .00
```

```
+                                INTERVAL  /MINUTE  /THREAD  /COMMIT
+ RID List Processing            QUANTITY  (    9)  (    9)  (   29)
+ ----------------------        --------  -------  -------  -------
+ Successful                           0      .00      .00      .00
+ Not Used (No Storage)                0      .00      .00      .00
+ Not Used (Max Limit)                 0      .00      .00      .00
+ Not used (Final)                     0      .00      .00      .00
+ To WF (No Storage)                   0      .00      .00      .00
+ To WF (Max Limit)                    0      .00      .00      .00
+ Interrupted (No Stor)                0      .00      .00      .00
+ Interrupted (Max Lmt)                0      .00      .00      .00
+ Skipped (Adaptive IX)                0      .00      .00      .00 *DB2 12
+ Skipped (Index Known)                0      .00      .00      .00
+ Term (No Storage)                    0      .00      .00      .00
+ Term (> RDS Limit)                   0      .00      .00      .00
+ Term (> DM Limit)                    0      .00      .00      .00
+ Term (> PROC Limit)                  0      .00      .00      .00
+ HWM RID Blks Inuse                   0      N/A      N/A      N/A
+ Curr RID Blks Inuse                  0      .00      .00      .00
+ HWM RID Blks in WF                   0      N/A      N/A      N/A
+ Curr RID Blks in WF                  0      .00      .00      .00
```

```
+
+                                INTERVAL  /SECOND  /THREAD  /COMMIT
+ Query Parallelism              QUANTITY  (    4)  (    0)  (    0)
+ ----------------------        --------  -------  -------  -------
+ HWM degree Parallelism               0      .00      .00      .00
+ Max Degree (Planned)                0      .00      .00      .00
+ Max Degree (Estimated)              0      .00      .00      .00
+ Max Degree (Executed)               0      .00      .00      .00
+  Ran Planned                         0      .00      .00      .00
+  Ran Reduced (Storage)               0      .00      .00      .00
+  Ran Reduced (Negotia)               0      .00      .00      .00
+  Ran Seq (Cursor)                    0      .00      .00      .00
+  Ran Seq (No Buffer)                 0      .00      .00      .00
+  Ran Seq (No ESA Sort)               0      .00      .00      .00
+  Ran Seq (Autonomous)                0      .00      .00      .00
+  Ran Seq (Negotiate)                 0      .00      .00      .00
+  One DB2 (Coord=NO)                  0      .00      .00      .00
+  One DB2 (Isolation)                 0      .00      .00      .00
+  One DB2 (DCL GTT)                   0      .00      .00      .00
+ Groups Intended                      0      .00      .00      .00
+ Groups Skipped                       0      .00      .00      .00
+ Reform (Config)                      0      .00      .00      .00
+ Reform (No Buffer)                   0      .00      .00      .00
```

```
+
+                                INTERVAL  /MINUTE  /THREAD  /COMMIT
+ Miscellaneous                  QUANTITY  (    9)  (    9)  (   29)
+ ----------------------        --------  -------  -------  -------
+ Incremental Bind                     0      .00      .00      .00
+ Max SQL Levels                       0      .00      .00      .00
+ Max LOB Storage (MB)                 0      .00      .00      .00
+ Max XML Storage                      0      .00      .00      .00
+ Array Expansions                     0      .00      .00      .00
+ Sparse IX (Disabled)                 0      .00      .00      .00
+ Sparse IX (Built WF)                 0      .00      .00      .00
+ Fetched 1 Block Only                 0      .00      .00      .00 *DB2 12
+ Pipes Allocated                      0      .00      .00      .00 *DB2 12
+ Pipes Disabled                       0      .00      .00      .00 *DB2 12
+ Insert Algorithm 1                   7      .87     3.50     1.40
+ Insert Algorithm 2                   0      .00      .00      .00
+ Execution History Lost               0      .00      .00      .00
+ HV Recording Lost Hist               0      .00      .00      .00
```

```
+
+                                INTERVAL  /MINUTE  /THREAD  /COMMIT
+ Stored Procedures              QUANTITY  (    2)  (    0)  (    1)
+ ----------------------        --------  -------  -------  -------
+ Abended                              0      .00      .00      .00
+ Timed Out                            0      .00      .00      .00
+ Rejected                             0      .00      .00      .00
```

```
+
+                                  INTERVAL  /MINUTE  /THREAD  /COMMIT
+ User Defined Functions           QUANTITY  (    2)  (    0)  (    1)
+ ----------------------           --------  -------  -------  -------
+ Executed                               0      .00      .00      .00
+ Abended                                0      .00      .00      .00
+ Timed Out                              0      .00      .00      .00
+ Rejected                               0      .00      .00      .00
```

```
+
+                                  INTERVAL  /MINUTE  /THREAD  /COMMIT
+ Triggers                         QUANTITY  (    2)  (    0)  (    1)
+ ----------------------           --------  -------  -------  -------
+ Stmt Triggers Executed                 0      .00      .00      .00
+ Row Triggers Executed                  0      .00      .00      .00
+ SQL Error in Trigger                   0      .00      .00      .00
```

```
+                                  INTERVAL  /MINUTE  /THREAD  /COMMIT
+ Dynamic SQL                      QUANTITY  (    9)  (    9)  (   29)
+ ----------------------           --------  -------  -------  -------
+ Prepares (Copy Found)                 17     1.88     1.88      .58
+ Prepares (Catalog Fnd)                 0      .00      .00      .00 *DB2 12
+ Prepares (Copy NFound)                 8      .88      .88      .27
+ Prepares (Restrict IX)                 0      .00      .00      .00
+ KeepDyn (Implicit)                     0      .00      .00      .00
+ KeepDyn (Avoided)                      0      .00      .00      .00
+ KeepDyn (Exceed Limit)                 0      .00      .00      .00
+ KeepDyn (Invalidated)                  0      .00      .00      .00
+ Literals (Parsed)                      0      .00      .00      .00
+ Literals (Replaced)                    0      .00      .00      .00
+ Literals (Matched)                     0      .00      .00      .00
+ Literals (Duplicated)                  0      .00      .00      .00
```

```
+
+                                  INTERVAL  /MINUTE  /THREAD  /COMMIT
+ ROW ID                           QUANTITY  (    2)  (    0)  (    1)
+ ----------------------           --------  -------  -------  -------
+ Successful                             0      .00      .00      .00
+ Revert to Index                        0      .00      .00      .00
+ Revert to TS Scan                      0      .00      .00      .00
```

```
+
+                                  INTERVAL  /MINUTE  /THREAD  /COMMIT
+ Row Processing                   QUANTITY  (    2)  (    0)  (    1)
+ ----------------------           --------  -------  -------  -------
+ Rows Fetched                           0      .00      .00      .00
+ Rows Inserted                          1      .50      .00     1.00
+ Rows Updated                           0      .00      .00      .00
+ Rows Deleted                           0      .00      .00      .00
```

```
+
+                                  INTERVAL  /MINUTE  /THREAD  /COMMIT
+ Currently Committed              QUANTITY  (    2)  (    0)  (    1)
+ ----------------------           --------  -------  -------  -------
+ Insert Rows Skipped                    0      .00      .00      .00
+ Delete Rows Accessed                   0      .00      .00      .00
+ Update Rows Accessed                   0      .00      .00      .00
```

```
+
+                                  INTERVAL  /MINUTE  /THREAD  /COMMIT
+ Workfile Database                QUANTITY  (    2)  (    0)  (    1)
+ ----------------------           --------  -------  -------  -------
+ Curr WFDB For TS (KB)                   0      .00      .00      .00
+ DGTT WF configed (KB)                   0      .00      .00      .00
+ WF Stor Configed (KB)                   0      .00      .00      .00
+ System WKDB threshold                   0      .00      .00      .00
+ Max Total Storage                     512      N/A      N/A      N/A
+ HWM DGTT WF Stor (KB)                   0      N/A      N/A      N/A
+ HWM WF Storage (KB)                     0      N/A      N/A      N/A
+ Curr DGTT WF Stor (KB)                  0      .00      .00      .00
+ Curr WF Storage (KB)                    0      .00      .00      .00
+ Storage in 4K TS                        0      .00      .00      .00
+ Storage in 32K TS                       0      .00      .00      .00
+ 32K used instead of 4K                  0      .00      .00      .00
+ 4K used instead of 32K                  0      .00      .00      .00
+ HWM DM WF Count                         0      N/A      N/A      N/A
+ HWM NSort WF Count                      0      N/A      N/A      N/A
+ Curr DM WF Count                        0      .00      .00      .00
+ Curr NSort WF Count                     0      .00      .00      .00
+ HWM DM WF size (KB)                     0      N/A      N/A      N/A
+ Curr DM WF size (KB)                    0      .00      .00      .00
+ HWM Sort WF Count                       0      N/A      N/A      N/A
+ Curr Sort WF Count                      0      .00      .00      .00
+ HWM Sort WF size (KB)                   0      N/A      N/A      N/A
+ Curr Sort WF size (KB)                  0      .00      .00      .00
+ WF Overflow to TS                       0      .00      .00      .00
+ WF Not Created(NoStor)                  0      .00      .00      .00
+ Agent Max Storage                       0      .00      .00      .00
+ Number of Max Exceeded                  0      .00      .00      .00
+ Agent WFDB threshold                    0      .00      .00      .00
+ HWM WFDB by Thread(KB)                  0      N/A      N/A      N/A
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the interval currently displayed.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the interval currently displayed.

Maximum Degree of Parallelism Executed
The maximum degree of parallel I/O processing for all parallel groups. This is a high-water mark.

For each field described below the following statistics are provided:

- The amount of activities that occur during the interval.
- Rate per minute during the last cycle. The number under /MINUTE is the number of minutes in the interval.
- Rate per thread during the last cycle. The number under /THREAD is the number of Create Threads during the interval.
- Rate per Commit during the last cycle. The number under /COMMIT is the number of commit requests (including abort requests) during the interval.
- Percentage of DML, DCL, or DDL during the last cycle.

SQL Manipulative (DML):

SELECT
SELECT statements executed to retrieve rows from a DB2 table.

INSERT
INSERT statements executed to add rows to a DB2 table.

UPDATE
UPDATE statements executed to alter existing rows in a DB2 table.

MERGE
The number of times a MERGE statement is executed.

DELETE
DELETE statements executed to remove rows from a DB2 table.

DESCRIBE
DESCRIBE statements executed to obtain information about prepared SQL statements.

DESCRIBE TABLE
DESCRIBE TABLE statements executed to obtain information about a table or view.

PREPARE
Occasions when SQL statements were dynamically prepared for execution.

OPEN CURSOR
OPEN statements executed to prepare cursors for subsequent Fetch operations.

FETCH
FETCH statements executed to retrieve rows from DB2 tables.

CLOSE CURSOR
CLOSE statements executed to close previously opened cursors.

REFRESH TABLE
Number of refresh table statements. DB2 12 and later. (Field name: QXTREFTBL)

Total DML
All data manipulative language statements.

SQL Control (DCL):

CALL
CALL statements executed to invoke a stored procedure.

CONNECT (Type 1)
CONNECT (Type 1) statements executed to connect an application process to a designated server.

CONNECT (Type 2)
CONNECT (Type 2) statements executed to connect an application process to a designated server.

GRANT
GRANT statements issued to extend DB2 privileges to users.

LOCK TABLE
LOCK TABLE statements issued to lock a tablespace or table in a segmented tablespace.

RELEASE
RELEASE statements executed to place one or more connections in the released state.

REVOKE
REVOKE statements issued to revoke users' DB2 privileges.

SET CONNECTION
SET CONNECTION statements executed to establish the application server of the process.

SET CURRENT DEGREE
SET CURRENT DEGREE statements executed to assign a value to the CURRENT DEGREE special register.

SET CURRENT RULES
SET CURRENT RULE statements executed to assign a value to the current rules special register.

SET CURRENT SQLID
SET CURRENT SQLID statements issued to change your current authorization ID.

SET HOST VARIABLE
SET *host-variable* statements issued.

SET CURRENT PATH
SET CURRENT PATH statements issued to assign a value to the CURRENT PATH special register.

SET CURRENT PRECISION
The number of Set Current Precision statements.

ASSOCIATE LOCATOR
The number of ASSOCIATE LOCATOR statements issued.

ALLOCATE CURSOR
The number of ALLOCATE CURSOR statements issued.

HOLD LOCATOR
The number of Hold Locator statements.

FREE LOCATOR
The number of Free Locator statements.

TRANSFER OWNERSHIP
Number of transfer ownership statements. DB2 12 and later. (Field name: QXTRNOWN)

Total DCL
All data control language statements.

SQL Definitional (DDL):

CREATE TABLE
CREATE TABLE statements issued to define a DB2 table.

CREATE GBL TEMP TABLE
The number of Create Global Temporary Table statements issued to create a description of a temporary table at the current server.

DCL GBL TEMP TABLE TH
The number of SQL Declare Global Temporary Table statements.

CREATE AUX TABLE
The number of Create Auxiliary Table statements.

CREATE INDEX
CREATE INDEX statements issued to establish indexes on DB2 tables.

CREATE TABLESPACE
CREATE TABLESPACE statements issued to establish DB2 tablespaces.

CREATE DATABASE
CREATE DATABASE statements issued to establish DB2 databases.

CREATE STOGROUP
CREATE STOGROUP statements issued to establish DB2 storage groups.

CREATE SYNONYM
CREATE SYNONYM statements issued to create alternate names for DB2 tables and views.

CREATE VIEW
CREATE VIEW statements issued to establish views of DB2 tables.

CREATE ALIAS
CREATE ALIAS statements issued to achieve "location transparency" of DB2 tables. This field is used primarily to refer to tables and views from remote DB2 subsystems in a distributed environment.

CREATE TRIGGER
CREATE TRIGGER statements issued to define a trigger in a schema and build a trigger package at the current server.

CREATE DISTINCT TYPE
CREATE DISTINCT TYPE statements issued to define a distinct type, which is a data type that a user defines. A distinct type must be sourced on one of the built-in data types.

CREATE FUNCTION
CREATE FUNCTION statements issued to register a user-defined function with an application server. You can register the following types of functions with this statement: external scalar, external table, and sourced.

CREATE PROCEDURE
CREATE PROCEDURE statements issued to define a stored procedure.

CREATE SEQUENCE
The number of Create Sequence statements.

CREATE ROLE
The number of Create Role statements.

CREATE TRUSTED CTX
The number of Create Trusted CTX statements.

CREATE MASK/PERM
The number of Create Mask or Create Permission statements.

CREATE VARIABLE
The number of Create Variable statements. DB2 11 and later.

DROP TABLE
DROP TABLE statements issued to remove tables from DB2 databases.

DROP INDEX
DROP INDEX statements issued to remove indexes from DB2 tables.

DROP TABLESPACE
DROP TABLESPACE statements issued to delete tablespaces.

DROP DATABASE
DROP DATABASE statements issued to delete databases.

DROP STOGROUP
DROP STOGROUP statements issued to delete storage group definitions.

DROP SYNONYM
DROP SYNONYM statements issued to delete alternative table names and view names.

DROP VIEW
DROP VIEW statements issued to delete table views.

DROP ALIAS
DROP ALIAS statements issued to delete view and table aliases from the DB2 catalog.

DROP PACKAGE
DROP PACKAGE statements issued to delete packages.

DROP TRIGGER
DROP TRIGGER statements issued to delete triggers.

DROP FUNCTION
DROP FUNCTION statements issued to delete user-defined functions.

DROP DISTINCT TYPE
DROP DISTINCT TYPE statements issued to delete user-defined data types.

DROP PROCEDURE
DROP PROCEDURE statements issued to delete stored procedures.

DROP SEQUENCE
The number of Drop Sequence statements.

DROP TRUSTED CTX
The number of Drop Trusted CTX statements.

DROP ROLE
The number of Drop Role statements.

DROP MASK/PERM
The number of Drop Mask or Drop Permission statements.

DROP VARIABLE
The number of Drop Variable statements. DB2 11 and later.

ALTER TABLE
ALTER TABLE statements issued to change table attributes.

ALTER INDEX
ALTER INDEX statements issued to change index attributes.

ALTER TABLESPACE
Alter Tablespace statements issued to change tablespace attributes.

ALTER STOGROUP
ALTER STOGROUP statements issued to add devices to and delete devices from storage groups.

ALTER VIEW
Number of Alter View statements.

ALTER DATABASE
ALTER DATABASE statements issued to change database attributes.

ALTER FUNCTION
ALTER FUNCTION statements issued to change the description of an external scalar or external table function at the current server.

ALTER PROCEDURE
ALTER PROCEDURE statements issued to change the description of a stored procedure at the current server.

ALTER SEQUENCE
The number of Alter Sequence statements.

ALTER TRUSTED CTX
The number of Alter Trusted CTX statements.

ALTER JAR
The number of Alter Jar statements.

ALTER MASK/PERM
The number of Alter Mask or Alter Permission statements.

RENAME TABLE
RENAME TABLE statements issued to rename an existing table.

RENAME INDEX
The number of Rename Index statements.

TRUNCATED TABLE
The number of Truncated Table statements issued to rename an existing table.

COMMENT ON
COMMENT ON statements issued to add or replace comments for user-defined objects (tables, views, columns, and sets of columns) in the DB2 catalog.

LABEL ON
LABEL ON statements issued to add or replace labels in DB2 catalog descriptions of tables, views, columns, and sets of columns.

Total DDL
All Data Definition Language statements.

RID List Processing: For each field described below the following statistics are provided:

- The amount of activities that occur during the interval.
- Rate per minute.
- Rate per thread.
- Rate per Commit.

For high water mark fields, N/A is displayed for rate fields. For interval quantity fields, the high water mark value is displayed at the end of the interval.

Successful
Number of times RID list processing was used when accessing a DB2 table.

This field is incremented once for a given table access for Index Access with list prefetch and for Multiple Index Access.

Not Used (No Storage)
Number of times RID list processing was terminated because of insufficient storage to hold the list of RIDs.

Not Used (Max Limit)
Number of times RID list processing was terminated because the number of RIDs would exceed a RID limit or threshold.

Not Used (Final)
Number of times RID list processing was not used. This field is incremented once when RID list processing could not be used for a given table access for Index Access with list prefetch and/or for Multiple Index Access. DB2 12 and later.

To WF (No Storage)
The number of times a RID list overflows to a work file because RIDPOOL storage is not available to hold the list of RIDs.

To WF (Max Limit)
The number of times a RID list overflows to a work file because the number of RIDs exceeds internal limits.

Interrupted (No Stor)
The number of times a RID list append for a Hybrid Join is interrupted because RIDPOOL storage is not available to hold the list of RIDs. This is the number of times DB2 interrupted the RID phase and switched to the Data phase.

Interrupted (Max Lmt)
The number of times a RID list append for a Hybrid Join is interrupted because the number of RIDs exceeds internal limits. This is the number of times DB2 interrupted the RID phase and switched to the Data phase.

Skipped (Adaptive IX)
The number of times a DM is not called for RID list retrieval for multiple index access or LPF because it was not necessary due to Runtime Adaptive Index processing being able to predetermine the outcome. DB2 12 and later. (Field name: QXRSDMAD)

Skipped (Index Known)
The number of times a RID list retrieval for multiple index access was skipped because it was not necessary due to DB2 being able to predetermine the outcome of index ANDing or ORing.

Term (No Storage)
The number of times RID list processing exhausted virtual storage.

Term (> RDS Limit)
The number of times RID list processing terminated because the number of RID entries was greater than the RDS limit. The RDS limit is the maximum (25% of table size, number of RIDs that can fit into the guaranteed number of RID blocks).

Term (> DM Limit)
The number of times RID list processing terminated because the number of RID entries was greater than the DM limit. The DM limit is approximately 26 million RIDs.

Term (> PROC Limit)
The number of times the maximum RID pool storage was exceeded. The default maximum RID pool size is the minimum (install value pool size, 10GB).

HWM RID Blks Inuse
The number of RID blocks currently in use.

Curr RID Blks Inuse
The highest number of RID blocks in use at any one time since DB2 startup time.

HWM RID Blks in WF
The highest number of RID blocks overflown (stored) to a work file at any time since DB2 startup.

Curr RID Blks in WF
The number of RID blocks currently residing in work file storage.

Query Parallelism: For each field described below the following statistics are provided:

- Total quantity, which reflects the amount of activities since DB2 was started.
- Interval quantity, which reflect activity during the last cycle.
- Rate per minute during the last cycle.
- Rate per thread during the last cycle.
- Rate per Commit during the last cycle.

HWM degree Parallism
Maximum degree of parallelism among the parallel groups to indicate the extent to which query parallelism applies.

Max Degree (Planned)
The planned maximum degree of parallelism for a parallel group. This value is the optimal degree of parallelism that can be obtained at execution time after host variables or parameter markers are resolved and before buffer pool negotiation and system negotiation are performed. DB2 11 and later.

Max Degree (Estimated)
The estimated maximum degree of parallelism for a parallel group. This value is estimated at bind time, based on the cost formula. If a parallel group contains a host variable or parameter marker, the estimate is based on assumed values. DB2 11 and later.

Max Degree (Executed)
Total number of parallel groups executed.

Ran Planned
Total number of parallel groups that have a planned degree greater than one at run time and were executed to the same degree because of sufficient storage on the buffer pool.

Ran Reduced (Storage)
Total number of parallel groups that have a planned degree greater than one at run time but were processed to a parallel degree less than planned because of a storage shortage or contention on the buffer pool.

Ran Reduced (Negotia)
Number of parallel group degree to be reduced due to system negotiation result of system stress level. DB2 11 and later.

Ran Seq (Cursor)
Total number of parallel groups which fell back to sequential mode because the cursor might be used in UPDATE/DELETE.

Ran Seq (No Buffer)
Total number of parallel groups that have a planned degree greater than one at run time, but fell back to sequential mode because of storage shortage or contention on the buffer pool.

Ran Seq (No ESA Sort)
Total number of parallel groups which fell back to sequential mode due to lack of ESA sort support.

Ran Seq (No ESA Enc)
Total number of parallel groups executed in sequential mode due to the unavailable enclave. This applies only to DB2 9.

Ran Seq (Autonomous)
Total number of parallel groups which fell back to sequential mode due to executing under an autonomous procedure. This applies only to DB2 11 or higher.

Ran Seq (Negotiate)
Number of parallel groups that is degenerated to sequential mode due to system negotiation result of system stress level.

This applies only to DB2 11 or higher.

One DB2 (Coord=No)
Total number of parallel groups that are executed on a single DB2 because the COORDINATOR subsystem parameter is set to *NO*. When the statement is bound, the COORDINATOR subsystem parameter is set to *YES*. This situation might also occur when a plan or package is bound on a DB2 where the COORDINATOR subsystem parameter is set to *YES*, but is run on a DB2 where the subsystem parameter COORDINATOR is set to *NO*.

One DB2 (Isolation)
Total number of parallel groups that are executed on a single DB2 because of repeatable-read or read-stability isolation.

One DB2 (DCL GTT)
Total number of parallel groups that are part of a query block. The query block is using an UDF. It is executed on a single DB2 because a Declared Temporary Table exists in the application process. Neither the query block nor the parallel group is referencing a Declared Temporary Table. A parallel group might use or might not use an UDF.

Groups Intended
Total number of parallel groups that are intended to run across the data sharing group. This count is only incremented on the parallelism coordinator at run time.

Groups Skipped
The number of times that the parallelism coordinator must bypass a DB2 when distributing tasks because there is not enough buffer pool storage on one or more DB2 members.

This field is incremented only on the parallelism coordinator. It is only incremented once per parallel group even though it is possible that more than one DB2 systems have a buffer pool shortage for that parallel group. The purpose of this count is to indicate when there are not enough buffers on a member. Therefore, this count is incremented only when the buffer pool is defined to allow parallelism. For example, if VPXPSEQT is set to 0 on an assistant, DB2 does not send parallel work to the assistant, but this count is not incremented.

Reform (Config)
Total number of parallel groups for which DB2 reformulated the parallel portion of the access path because the sysplex configuration is different from the sysplex configuration at bind time. This counter is only incremented by the parallelism coordinator at run time.

Reform (No Buffer)
Total number of parallel groups for which DB2 reformulated the paralllel portion of the access path because there was not enough buffer pool resource. This counter is only incremented by the parallelism coordinator at run time.

Miscellaneous

Incremental Bind
Occurrences of incremental bind, which take place upon execution of a DB2 plan that is bound as VALIDATE(RUN).

Max SQL Levels
The maximum level of nested SQL cascading. This includes cascading because of triggers, UDFs, and stored procedures.

Max LOB Storage (MB)
Maximum storage that is used for LOB values.

Max XML Storage
Maximum storage that is used for XML values.

Array Expansions
The number of times an array variable is expanded beyond 32K.

This applies to DB2 11 or higher.

Sparse IX (Disabled)
The number of times that sparse index is disabled because of insufficient storage.

This applies to DB2 11 or higher.

Sparse IX (Built WF)
The number of times that sparse index built a physical work file for probing.

This applies to DB2 11 or higher.

Fetched 1 Block Only (QXR1BOAD)
The number of times 1 block is fetched and there were no further fetches. DB2 12 and later.

Pipes Allocated (QXR1INPA)
The number of data manager fast insert pipes allocated since DB2 restart. Db2 12 and later.

Pipes Disabled (QISTINPD)
The number of data manager fast insert pipes disabled since DB2 restart. Db2 12 and later.

Insert Algorithm 1
INSERT algorithm type 1. DB2 12 and later.

Insert Algorithm 2
INSERT algorithm type 2. DB2 12 and later.

Execution History Lost
Number of execution history lost. DB2 12 and later.

HV Recording Lost Hist
Number of HV recordings lost in execution history. DB2 12 and later.

Stored procedures: For each field described below the following statistics are provided:

- Total quantity, which reflects the amount of activities since DB2 was started.
- Interval quantity, which reflects activity during the last cycle.
- Rate per minute during the last cycle.
- Rate per thread during the last cycle.
- Rate per Commit during the last cycle.

Abended
CALL statements executed to invoke a stored procedure that terminated abnormally.

Timed Out
CALL statements executed to invoke a stored procedure that timed out while waiting to be scheduled.

Rejected
CALL statements executed to invoke a stored procedure that was in the STOP ACTION(REJECT) state.

User Defined Functions: For each field described below the following statistics are provided:

- Total quantity, which reflects the amount of activities since DB2 was started.

- Interval quantity, which reflects activity during the last cycle.
- Rate per minute during the last cycle.
- Rate per thread during the last cycle.
- Rate per Commit during the last cycle.

Executed
The number of user-defined functions (UDFs) executed.

Abended
The number of times a UDF abended.

Timed Out
The number of times a UDF timed out when waiting to be scheduled.

Rejected
The number of times a UDF was rejected.

Triggers: For each field described below the following statistics are provided:

- Total quantity, which reflects the amount of activities since DB2 was started.
- Interval quantity, which reflects activity during the last cycle.
- Rate per minute during the last cycle.
- Rate per thread during the last cycle.
- Rate per Commit during the last cycle.

Stmt Triggers Executed
The number of times a statement trigger was activated.

Row Triggers Activated
The number of times a row trigger was activated.

SQL Error in Trigger
The number of times an SQL error occurred during execution of a triggered action.

Dynamic SQL

Prepares (Copy Found)
The number of times a PREPARE request is satisfied by making a copy from the prepared statement cache.

Prepares (Catalog Found)
The number of times a PREPARE request is satisfied by making a copy from the stabilized statement in SYSIBM.SYSDYNQRY catalog table. The stabilized statement search is done only when no matching statement is found in the prepared statement cache. DB2 12 and later. (Field name: QXSTSFND)

Prepares (Copy NFound)
The number of times a PREPARE request is received but a matching statement is not found in the prepared statement cache. Cache search is only done for DML SQL and only if cache option is active.

Prepares (Restrict IX)
The number of PREPARE requests for which the use of index/indexes are restricted because the index is in a pending state.

KeepDyn (Implicit)
The number of times the following actions occurred:

- An implicit PREPARE is performed because the KEEPDYNAMIC(YES) option is used
- An OPEN, EXECUTE, or DESCRIBE of a dynamic statement occurred after a COMMIT, however, DB2 no longer had a valid copy of the executable version of the prepared statement.

KeepDyn (Avoided)
The number of times that a PREPARE is avoided because KEEPDYNAMIC(YES) is used together with prepared statement caching, and DB2 still had the copy of the executable version of the prepared statement.

KeepDyn (Exceed Limit)
The number of times that an executable copy of a prepared statement is discarded because the MAXKEEPD system limit is exceeded.

KeepDyn (Invalidated)
The number of times that a prepared statement is purged from the cache because a DROP, ALTER, or REVOKE statement is issued on a dependent object.

Literals (Parsed)
The number of times DB2 parsed dynamic statements because CONCENTRATE STATEMENTS WITH LITERALS behavior is in effect for the prepare of the statement for the dynamic statement cache.

Literals (Replaced)
The number of times DB2 replaced at least one literal in a dynamic statement because CONCENTRATE STATEMENTS WITH LITERALS is in effect for the prepare of the statement for dynamic statement cache.

Literals (Matched)
The number of times DB2 found a matching reusable copy of a dynamic statement in statement cache during preparation of a statement that had literals replaced because of CONCENTRATE.

Literals (Duplicated)
The number of times DB2 created a duplicate statement instance in the statement cache for a dynamic statement that had literals replaced by CONCENTRATE STATEMENTS WITH LITERALS behavior and the duplicate statement instance was needed because a cache match failed because of literal reusability criteria.

Row ID

Successful
The number of times that direct row access was successful.

Revert to Index
The number of times an attempt to use direct row access reverted to using an index to locate a record.

Revert to TS Scan
The number of times an attempt to use direct row access reverted to using a table space scan to locate a record.

Rows Processing

Rows Fetched
The number of fetched rows.

Rows Inserted
The number of inserted rows.

Rows Updated
The number of updated rows.

Rows Deleted
The number of deleted rows.

Currently Committed

Insert Rows Skipped
The number of rows that are skipped by read transactions because uncommitted inserts are performed when current committed read is in effect for fetch operations.

Delete Rows Accessed
The number of rows that are skipped by read transactions because uncommitted deletes are performed when current committed read is in effect for fetch operations.

Update Rows Accessed
The number of rows that are accessed by read transactions while uncommitted updates existed because currently committed read behavior is in effect for fetch operation.

Workfile Database (WFDB)

Curr WFDB For TS (KB)
Current total storage (KB) that is configured for all table spaces in the WFDB.

This applies to DB2 11 or higher.

DGTT WF configed (KB)
Total preferred STORAGE (KB) that is configured for DGTTs in the WFDB.

This applies to DB2 11 or higher.

WF Stor Configed (KB)
Total preferred STORAGE (KB) that is configured for work files in the WFDB.

This applies to DB2 11 or higher.

System WKDB threshold
The value in percent (%) for the threshold of the system-level WFDB space usage alert.

Valid values: 0 - 100

This applies to DB2 11 or higher.

Max Total Storage
The maximum total storage (KBs) that is used in the WFDB at system level for DGTTs and work files since DB2 is started. After restart, this value starts again with 0.

HWM DGTT WF Stor (KB)
The highest total storage (KB) that is used for DGTTs by all agents on the system since DB2 is started.

This applies to DB2 11 or higher.

HWM WF Storage (KB)
The highest total storage (KB) that is used for work files by all agents on the system since DB2 is started.

This applies to DB2 11 or higher.

Curr DGTT WF Stor (KB)
Current total storage (KB) that is used for DGTTs by all agents on the system since DB2 is started.

This applies to DB2 11 or higher.

Curr WF Storage (KB)
The current total storage (KB) that is used for work files by all agents on the system since DB2 started.

This applies to DB2 11 or higher.

Storage in 4K TS
Current 4KB table space storage that is used (KB).

Storage in 32K TS
Current 32KB table space storage that is used (KB).

32K used instead of 4K
The number of times a 32KB page TS is used when a 4KB page TS is to be preferred but not available.

4K used instead of 32K
The number of times a 4KB page TS is used when a 32KB page TS is to be preferred but not available.

HWM DM WF Count
High watermark count (maximum number) of SORT-related DM in-memory work files that are active at any point in time since DB2 is started.

HWM NSort WF Count
High watermark count (maximum number) of non-SORT-related DM in-memory work files that are active at any point in time since DB2 is started.

This applies to DB2 11 or higher.

Curr DM WF Count
The number of times SORT-related DM in-memory work files are currently active.

Curr NSort WF Count
The number of times non-SORT related DM in-memory work files are currently active.

This applies to DB2 11 or higher.

HWM DM WF size (KB)
High watermark count of maximum space in KB that is used for the active DM In-Memory work files at any point in time since DB2 is started.

Curr DM WF size (KB)
Total space in KB that is used for the currently active DM In-Memory work files.

HWM Sort WF Count
High watermark count (maximum number) of Sort-Inmem work files that are active at any point in time since DB2 is started.

Curr Sort WF Count
The number of times Sort-Inmem work files are currently active.

HWM Sort WF size (KB)
High watermark count of maximum space that is used for the active Sort-Inmem work files at any point in time since DB2 is started.

Curr Sort WF size (KB)
Total Space that is used for the currently active Sort-Inmem work files.

WF Overflow to TS
The number of times the type-2 in-memory work files overflow into a physical tablespace since DB2 is started.

This applies to DB2 11 or higher.

WF Not Created(NoStor)
The number of times a work file is not created as any type of DM in-memory work file because of critical storage conditions since DB2 is started.

This applies to DB2 11 or higher.

Agent Max Storage
The limit of the maximum storage per agent (KB).

Number of Max Exceeded
The number of times the maximum storage limit is exceeded.

Agent WFDB threshold
The value for the threshold of the agent-level WFDB space usage alert.

Valid values: 0 - 100.

This applies to DB2 11 or higher.

HWM WFDB by Thread(KB)
The highest amount of WFDB storage (KB) that is used by any thread on the system since DB2 is started.

This applies to DB2 11 or higher.

Lock Manager Statistics Summary by Report Interval

This panel provides an overview of the locking activity that was recorded during a series of report intervals.

```
_________________ ZHLKS    VTM     O2       V540.#P SE12 11/06/13 12:00:54   2
>       Help PF1      Back PF3      Up PF7      Down PF8       Zoom PF11
> H.A.J
>                    Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      B-BIND              C-BUFFER POOL    D-GROUP BP
> E-DISTRIBUTED DATABASE   F-EDM POOL          G-LOG MANAGER    H-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  *-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    L-DB2 COMMANDS
> O-OPTIONS
================================================================================
>                LOCK MANAGER STATISTICS SUMMARY BY REPORT INTERVAL
 HLKS
+ Collection Interval:   1 min                            Start:  11/06 11:44
+ Report Interval:       1 min   Combine Level:  NONE      End:  11/06 12:00
+
+                                      Total      Total  Escalate  Escalate
+ Interval     Deadlocks  Timeouts  Suspends  Lock Reqs    to SHR    to EXC
+ -----------  ---------  --------  --------  ---------  --------  --------
+ 11/06 12:00          0         0         9       1432         0         0
+ 11/06 11:59          0         0        12        227         0         0
+ 11/06 11:58          0         0         6        160         0         0
+ 11/06 11:57          0         0         6        156         0         0
+ 11/06 11:56          0         0         0        133         0         0
+ 11/06 11:55          0         0         0        140         0         0
+ 11/06 11:54          0         0         0        609         0         0
+ 11/06 11:53          0         0         0        144         0         0
+ 11/06 11:52          0         0        80        283         0         0
+ 11/06 11:51          0         0        40        287         0         0
+ 11/06 11:50          0         0        24        198         0         0
+ 11/06 11:49          0         0        54        271         0         0
+ 11/06 11:48          0         0       121       4185         0         0
+ 11/06 11:47          0         0       220      41511         0         1
+ 11/06 11:46          0         0        77      54719         0         0
+ 11/06 11:45          0         0       150        390         0         0
================================================================================
```

Navigation

For additional information about

- a report interval, move the cursor to the line you want and press F11 (Zoom). Each date/time displayed reflects the end of an interval.
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the first interval in this display.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the last interval in this display.

Interval
Provides the date and time that mark the end of the report interval.

Deadlocks
The total number of deadlocks detected during the interval.

Timeouts
The total number of times a suspension of a unit of work lasted longer than the Internal Resource Lock Manager (IRLM) timeout value.

Total Suspends
The total number of suspensions of a unit of work.

Total Lock Reqs
The number of requests to IRLM to obtain, change, query, and release locks, and also other IRLM requests.

Escalate to SHR
The number of times the allowable number of locks per tablespace was exceeded, causing a page (IS) lock to escalate to a shared (S) lock.

Escalate to EXC
The number of times the allowable number of locks per tablespace was exceeded, causing a page (IX) lock to escalate to an exclusive (X) lock.

Lock Manager Statistics Detail

This panel shows detailed information about locking and claim and drain activity during a selected report interval.

```
_________________ ZHLKD    VTM     O2       V540.#P SE12 DD/MM/YY 12:01:11   2
>       Help PF1      Back PF3      Up PF7      Down PF8
>
>                   Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      B-BIND              C-BUFFER POOL    D-GROUP BP
> E-DISTRIBUTED DATABASE   F-EDM POOL          G-LOG MANAGER    H-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  *-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    L-DB2 COMMANDS
> M-THREAD HISTORY
================================================================================
>                          LOCK MANAGER STATISTICS DETAIL
 HLKD
+ Collection Interval:   1 min                            Start:  11/06 11:46
+ Report Interval:       1 min   Combine Level:  NONE      End:  11/06 11:47
+
+                                          INTERVAL  /MINUTE  /THREAD  /COMMIT
+                                          QUANTITY  (    1)  (    0)  (    0)
+                                          --------  -------  -------  -------
+ Deadlocks Detected                              0      .00      .00      .00
+ Timeouts Detected                               0      .00      .00      .00
+ Susp Detected - Lock Only                       0      .00      .00      .00
+ Susp Detected - Latch Only                     33    33.00      .00      .00
+ Susp Detected - Other                         187   187.00      .00      .00
+
+ Lock Escalations - to Shared                    0      .00      .00      .00
+ Lock Escalations - to Exclusive                 1     1.00      .00      .00
+
+ Lock Requests                               41182  41182.0      .00      .00
+ Unlock Requests                               137   137.00      .00      .00
+ Query Requests                                187   187.00      .00      .00
+ Change Requests                                 5     5.00      .00      .00
+ Other IRLM Requests                             0      .00      .00      .00
```

+ CLAIM/DRAIN INFORMATION + ---------- + Claim Requests 64895 21 10.50 21.00 .00 + Unsuccessful Claim Requests 0 0 .00 .00 .00 + Drain Requests 6276 0 .00 .00 .00 + Unsuccessful Drain Requests 0 0 .00 .00 .00

```
+ SECONDARY LATCH CONT. COUNTERS
+ ----------------------------
+ Main Latch Cont. (Held)              663         2     1.00      .00      .00
+ Main Latch Cont. (UseCnt)           1293         4     2.00      .00      .00
+ Secondary Latch Cont. (Held)        2179         6     3.00      .00      .00
+ RES Hashtbl Latch (Lock)            1023         5     2.50      .00      .00
+ WKUNIT Hashtbl Latch (Lock)            1         0      .00      .00      .00
+ RES Hashtbl Latch (Unlock)           208         1      .50      .00      .00
+ WKUNIT Hashtbl Latch (Unlock)          9         0      .00      .00      .00
+ RES Hashtbl Latch (Chng)               0         0      .00      .00      .00
+ WKUNIT Hashtbl Latch (Chng)            0         0      .00      .00      .00
+ RES Hashtbl Latch (Notify)             0         0      .00      .00      .00
+ Notify CB Latch Cont.                  4         0      .00      .00      .00
+ RES Hashtbl Latch (Compat)             3         0      .00      .00      .00
+ WKUNIT Hashtbl Latch (Compat)          0         0      .00      .00      .00
+ RES Hashtbl Latch (Async)              2         0      .00      .00      .00
+ WKUNIT Hashtbl Latch (Async)           0         0      .00      .00      .00
+ WKUNIT Hashtbl Latch (Sync)            0         0      .00      .00      .00
+ RES Latch Cont. Counter                4         0      .00      .00      .00
+ UseCnt for Compat QueElem              0         0      .00      .00      .00
+ Num of Compat QEs Gened              631         0      .00      .00      .00
+ Generic Latch Cont.                   45         0      .00      .00      .00
+ RES Hashtbl Latch (Query)              0         0      .00      .00      .00
+ WKUNIT Hashtbl Latch (Query)           0         0      .00      .00      .00
+ Total Local Deadlocks                  0         0      .00      .00      .00
+ Timeout RLBs Purged                    0         0      .00      .00      .00
+ Retryable ABENDs                       0         0      .00      .00      .00
+ Non Retryable ABENDs                   0         0      .00      .00      .00
+ Suspend Exit Counter               88956       374   187.00      .00      .00
+ Resume Exit Counter                88956       374   187.00      .00      .00
+ Status Exit Counter                    0         0      .00      .00      .00
+ Deadlock Exit Counter                  0         0      .00      .00      .00
+ Timeout Exit Counter                   0         0      .00      .00      .00
+
+ LATCH COUNTERS
+ ----------------------
+ Infrequently Used                      0         0      .00      .00      .00
+ Global Authorization Cache             4         0      .00      .00      .00
+ DDF Disconnect                         0         0      .00      .00      .00
+ SYSSTRING Cache                        0         0      .00      .00      .00
+ IRLM Data Sharing Exits                1         0      .00      .00      .00
+ Data Sharing Index Split               0         0      .00      .00      .00
+ Index Lotch and OBD Alloc             10         0      .00      .00      .00
+ Query Parallelism                   6188         0      .00      .00      .00
+ Utilities or Stored Proc               3         0      .00      .00      .00
+ Allied Agent Chain or Seq Desc         7         0      .00      .00      .00
+ DGTT Allocation                        0         0      .00      .00      .00
+ Global Transaction ID Table         2980        23    11.50      .00      .00
+ Pageset Operations                     0         0      .00      .00      .00
+ Bufferpool LRU                    197499      3588  1794.00      .00      .00
+ Archive Log Mode (Quiesce)             0         0      .00      .00      .00
+ UR Chain                               0         0      .00      .00      .00
+ RURE Chain                             0         0      .00      .00      .00
+ DDF Resynch List                       2         0      .00      .00      .00
+ Log Write                              2         0      .00      .00      .00
+ System Checkpoint                      4         0      .00      .00      .00
+ Accounting Rollup                   6584         0      .00      .00      .00
+ Internal Checkpoint                    0         0      .00      .00      .00
+ Buffer Manager                    186828      2004  1002.00      .00      .00
+ EDMPool or Prefetch                18539       168    84.00      .00      .00
+ Workfile Allocation                 1282         2     1.00      .00      .00
+ Dynamic Statement Cache              472         0      .00      .00      .00
+ Stored Proc or Auth Cache             49         0      .00      .00      .00
+ Stored Proc or Auth Cache             16         0      .00      .00      .00
+ FieldProcs and DDF Trans Mgr         726         0      .00      .00      .00
+ Agent Services                      5569        40    20.00      .00      .00
+ Storage Manager                     3244        27    13.50      .00      .00
+ Storage Manager                     4401        12     6.00      .00      .00
+ Index Lotch                            3         0      .00      .00      .00
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the interval currently displayed.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the interval currently displayed.

For each of the following fields, the following statistics are provided:

INTERVAL QUANTITY
The amount of activities that occur during the interval.

/MINUTE
Rate per minute. The number under /MINUTE (in parentheses) is the number of minutes in the interval.

/THREAD
Rate per thread. The number under /THREAD (in parentheses) is the number of Create Threads during the interval.

/COMMIT
Rate per Commit. The number under /COMMIT (in parentheses) is the number of Commit requests (including abort requests) during the interval.

Deadlocks Detected
The number of deadlocks detected.

Timeouts Detected
Occasions when suspension of a unit of work lasted longer than the Internal Resource Lock Manager (IRLM) timeout value.

Susp Detected - Lock Only
Suspensions of a unit of work because a lock could not be obtained.

Susp Detected - Latch Only
DB2 internal latch suspensions.

Susp Detected - Other
Suspensions caused by something other than locks and latches.

Lock Escalations - to Shared
Occasions when the allowable number of locks per tablespace was exceeded, causing a page (IS) lock to escalate to a shared (S) lock.

Lock Escalations - to Exclusive
Occasions when the allowable number of locks per tablespace was exceeded, causing a page (IX) lock to escalate to an exclusive (X) lock.

Lock Requests
Requests to IRLM to obtain a lock on a resource.

Unlock Requests
Requests to IRLM to unlock a resource.

Query Requests
Requests to IRLM to query a lock.

Change Requests
Requests to IRLM to change a lock.

Other IRLM Requests
Requests to IRLM to perform a function other than those listed before.

Claim/drain information:

Claim requests
Number of claim requests.

Unsuccessful claim requests
Number of unsuccessful claim requests.

Drain requests
Number of drain requests.

Unsuccessful drain requests
Number of unsuccessful drain requests.

Secondary Latch Cont. Counters:

Main Latch Cont. (Held)
Main latch contention due to Main latch held.

Main Latch Cont. (UseCnt)
Main latch contention due to Use Count not being 0.

Secondary Latch Cont. (Held)
Secondary latch contention due to Main latch held.

RES Hashtbl Latch (Lock)
Resource Hash Table latch contention for LOCK.

WKUNIT Hashtbl Latch (Lock)
Workunit Hash Table latch contention for LOCK.

RES Hashtbl Latch (Unlock)
Resource Hash Table latch contention for UNLOCK.

RES Hashtbl Latch (Chng)
Resource Hash Table latch contention for CHANGE.

WKUNIT Hashtbl Latch (Chng)
Workunit Hash Table latch contention for CHANGE.

RES Hashtbl Latch (Notify)
Resource Hash Table latch contention for NOTIFY.

Notify CB Latch Cont.
Notify Control Block latch contention for NOTIFY.

RES Hashtbl Latch (Compat)
Resource Hash Table latch contention for COMPAT.

WKUNIT Hashtbl Latch (Compat)
Workunit Hash Table latch contention for COMPAT.

RES Hashtbl Latch (Async)
Resource Hash Table latch contention for ASYNC LOCK.

WKUNIT Hashtbl Latch (Async)
Workunit Hash Table latch contention for ASYNC LOCK.

WKUNIT Hashtbl Latch (Sync)
Workunit Hash Table latch contention for SYNC.

RES Latch Cont. Counter
Resource latch contention counter.

UseCnt for Compat QueElem
Use Count counter for Compat QEs (Queue Elemecreated to perform compatibility check of a wrequest following a lock grant/deny) in IRLM.

Num of Compat QEs Gened
The number of Compat QEs generated.

Generic Latch Cont.
Generic latch contentions.

RES Hashtbl Latch (Query)
Resource Hash Table latch contention for QUERY FAST (Fastpath QUERY request types).

WKUNIT Hashtbl Latch (Query)
Workunit Hash Table latch contention for QUERY FAST.

Total Local Deadlocks
Total number of local deadlocks.

Timeout RLBs Purged
Timeout RLBs purged by IRLM.

Retryable ABENDs
Re-tryable ABENDs in IRLM.

Non Retryable ABENDs
Non re-tryable ABENDs in IRLM.

Suspend Exit Counter
Suspend Exit counter (The number of times a DBMS exit code was called).

Resume Exit Counter
Resume Exit counter.

Status Exit Counter
Status Exit counter.

Deadlock Exit Counter
Deadlock Exit counter.

Timeout Exit Counter
Timeout Exit counter.

Latch Counters:

Infrequently Used
This field is infrequently used.

Global Authorization Cache
The predominant latch usage is: Global authorization cache.

DDF Disconnect
The predominant latch usage is: DDF disconnect.

SYSSTRING Cache
The predominant latch usage is: SYSSTRING cache.

IRLM Data Sharing Exits
The predominant latch usage is: IRLM data sharing exits or RLF.

Data Sharing Index Split
The predominant latch usage is: Data sharing index split.

Index Lotch and OBD Alloc
The predominant latch usage is: Index lotch and OBD allocation.

Query Parallelism
The predominant latch usage is: Query parallelism.

Utilities or Stored Proc
The predominant latch usage is: Utilities or stored procedure URIDs.

Allied Agent Chain or Seq Desc
The predominant latch usage is: Allied agent chain or sequence descriptors.

DGTT Allocation
The predominant latch usage is: DGTT allocation.

Global Transaction ID Table
The predominant latch usage is: Global transaction ID table.

Pageset Operations
The predominant latch usage is: Pageset operations.

Bufferpool LRU
The predominant latch usage is: Bufferpool LRU.

Archive Log Mode (Quiesce)
The predominant latch usage is: ARCHIVE LOG MODE(QUIESCE).

UR Chain
The predominant latch usage is: UR chain.

RURE Chain
The predominant latch usage is: RURE chain.

DDF Resynch List
The predominant latch usage is: DDF resynch list.

Log Write
The predominant latch usage is: Log write.

System Checkpoint
The predominant latch usage is: System checkpoint.

Accounting Rollup
The predominant latch usage is: Accounting rollup.

Internal Checkpoint
The predominant latch usage is: Internal checkpoint.

Buffer Manager
The predominant latch usage is: Buffer manager.

EDMPool or Prefetch
The predominant latch usage is: EDM pool or prefetch.

Workfile Allocation
The predominant latch usage is: Workfile allocation.

Dynamic Statement Cache
The predominant latch usage is: Dynamic statement cache.

Stored Proc or Auth Cache
The predominant latch usage is: Stored procedures or authorization cache.

Stored Proc or Auth Cache (QVLSLC27)
The predominant latch usage is: Stored procedures or authorization cache.

Stored Proc or Auth Cache (QVLSLC28)
The predominant latch usage is: Stored procedures or authorization cache.

FieldProcs and DDF Trans Mgr
The predominant latch usage is: Field procs and DDF transaction manager.

Agent Services
The predominant latch usage is: Agent services.

Storage Manager (QVLSLC31)
The predominant latch usage is: Storage manager.

Storage Manager (QVLSLC32)
The predominant latch usage is: Storage manager.

Index Lotch
The predominant latch usage is: Index lotch.

Global Lock Statistics Summary by Report Interval

This panel provides an overview of the global locking activity that was recorded during a series of report intervals.

```
 _________________ ZHGLS    VTM     O2       V540./C SE11 07/31/13 21:43:32   2
>       Help PF1      Back PF3      Up PF7      Down PF8       Zoom PF11
> H.A.K
>                   Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      B-BIND              C-BUFFER POOL    D-GROUP BP
> E-DISTRIBUTED DATABASE   F-EDM POOL          G-LOG MANAGER    H-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  *-GLOBAL LOCK    L-DB2 COMMANDS
> O-OPTIONS
================================================================================
>               GLOBAL LOCK STATISTICS SUMMARY BY REPORT INTERVAL
 HGLS
+ Collection Interval:   1 min                            Start:  07/31 20:41
+ Report Interval:       1 min   Combine Level:  NONE       End:  07/31 21:43
+
+                 Total     Total     Total      Total  Incompat       False
+ Interval     XES Reqs  Suspends   P-Locks  Negotiate  Retained  Contention
+ -----------  --------  --------  --------  ---------  --------  ----------
+ 07/31 21:43        66         0         0          0         0         .0%
+ 07/31 21:42       166         0         2         23         0         .0%
+ 07/31 21:41       217        15        48          0         0         .0%
+ 07/31 21:40       122         0         0          0         0         .0%
+ 07/31 21:39       124         0         0          0         0         .0%
+ 07/31 21:38       124         0         0          0         0         .0%
================================================================================
```

Navigation

For additional information about

- a report interval, move the cursor to the line you want and press F11 (Zoom). Each date/time displayed reflects the end of an interval.
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the first interval in this display.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the last interval in this display.

Interval
Provides the date and time that mark the end of the report interval.

Total XES Requests
The total number of lock, change, and unlock requests that were propagated to MVS either synchronously or asynchronously.

Total Suspends
The total number of XES requests that resulted in a suspension. This includes suspends for Internal Resource Lock Manager (IRLM) global contention, XES global contention, or false contention.

Total P-Locks
The total number of lock, change, and unlock requests for P-locks.

Total Negotiate
The number of times that this DB2 member was driven to negotiate a P-lock.

Incompat Retained
The number of global lock or change requests that failed because of an incompatible retained lock. Certain P-locks can be retained because of a system failure. Another DB2 member cannot access the data that the retained P-lock is protecting unless it requests a P-lock in a compatible state.

False Contention
The rate of false contentions to real contentions.

Global Lock Statistics Detail

This panel shows detailed information about global locking activity in a data sharing environment during a selected report interval.

```
_________________ ZHGLD    VTM     O2       V540.#P SE12 DD/MM/YY 12:01:52   2
>       Help PF1      Back PF3      Up PF7      Down PF8
>
>                   Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      B-BIND              C-BUFFER POOL    D-GROUP BP
> E-DISTRIBUTED DATABASE   F-EDM POOL          G-LOG MANAGER    H-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  *-GLOBAL LOCK    L-DB2 COMMANDS
> M-THREAD HISTORY
================================================================================
>                          GLOBAL LOCK STATISTICS DETAIL
 HGLD
+ Collection Interval:   1 min                            Start:  11/06 11:47
+ Report Interval:       1 min   Combine Level:  NONE      End:  11/06 11:48
+
+ Total Global Contention  =           .0%   P-Lock/Notify Engines   =      500
+ False Contention         =           .0%
+
+                                       INTERVAL  /MINUTE  /THREAD  /COMMIT
+                                       QUANTITY  (    1)  (    2)  (    7)
+                                       --------  -------  -------  -------
+ P-Lock Lock Requests                       344   344.00   172.00    49.14
+ P-Lock Change Requests                     158   158.00    79.00    22.57
+ P-Lock Unlock Requests                      39    39.00    19.50     5.57
+
+ XES Lock Requests                         1134  1134.00   567.00   162.00
+ XES Change Requests                        181   181.00    90.50    25.86
+ XES Unlock Requests                        749   749.00   374.50   107.00
+ XES Asynchronous Requests                    0      .00      .00      .00
+ XES Sync to Async Conv                       0      .00      .00      .00
+
+ Suspends-IRLM Global Contention              0      .00      .00      .00
+ Suspends-XES Global Contention               0      .00      .00      .00
+ Suspends-False Contention                    0      .00      .00      .00
+
+ Negotiate Pageset P-Locks                    0      .00      .00      .00
+ Negotiate Page P-Locks                       0      .00      .00      .00
+ Negotiate Other P-Locks                      0      .00      .00      .00
+ Negotiate P-Lock Change                      0      .00      .00      .00
+
+ Incompatible Retained Locks                  0      .00      .00      .00
+ Notify Messages Sent                       106   106.00    53.00    15.14
+ Notify Messages Received                     0      .00      .00      .00
+ Engine Not Available                         0      .00      .00      .00
+ Very Conditional Rejections                  0      .00      .00      .00
+

+ IRLM SYSTEM ACTIVITY COUNTERS
+ ------------------------------
+ CB Latch Cont.                    1198         2      .01      .67      .01
+ Global Deadlocks                     0         0      .00      .00      .00
+ Local Resource Cont.              1831         0      .00      .00      .00
+ Global Resource Cont.            10237         9      .04     3.00      .03
+ Cont. Exit Visits                 9193         9      .04     3.00      .03
+ False Cont.                       1212         1      .00      .33      .00
+ Plock Exit Visits                 2221         4      .02     1.33      .01
+ Notify Exit Visits               81892        70      .33    23.33      .23
================================================================================
```

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the interval currently displayed.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the interval currently displayed.

Total Global Contention
The percent of synchronous XES lock, change, or unlock requests that resulted in global contention.

False Contention Percentage
The rate of false contentions to real contentions. This number should be no more than 50%.

P-Lock/Notify Engines
The number of engines available for P-lock exit or notify exit requests.

For each of the following fields, the following statistics are provided:

INTERVAL QUANTITY
The amount of activities that occur during the interval.

/THREAD
Rate per thread. The number under /THREAD (in parentheses) is the number of Create Threads during the interval.

/COMMIT
Rate per Commit. The number under /COMMIT (in parentheses) is the number of Commit requests (including abort requests) during the interval.

P-lock Lock Requests
Number of lock requests for P-locks. A P-lock is a physical lock used only in a data sharing environment to provide consistency of data cached in different DB2 subsystems.

P-lock Change Requests
Number of change requests for P-locks.

P-lock Unlock Requests
Number of unlock requests for P-locks.

XES Lock Requests
The number of lock requests (both logical and physical) that were propagated to MVS XES synchronously under the caller's execution unit. This count does not include suspended requests. Only the most restrictive lock for a particular resource is propagated to XES and the coupling facility.

XES Unlock Requests
The number of unlock requests (both logical and physical) that are propagated to MVS XES synchronously under the caller's execution unit. This count does not include suspended requests.

XES Change Requests
The number of change requests (both logical and physical) that were propagated to MVS XES synchronously under the caller's execution unit. This count does not include suspended requests.

XES Asynchronous Requests
The number of L-locks and P-locks propagated to XES asynchronously. This occurs when a new inter-DB2 interest occurs on a parent resource or when a request completes after the requestor's execution unit has been suspended.

XES Sync to Async Conv
The number of sync to async heuristic conversions for LOCK requests in XES. This conversion is done when XES determines that it is more efficient to drive the request asynchronously to the CF.

Suspends-IRLM Global Contention
The number of suspends due to Internal Resource Lock Manager (IRLM) global resource contentions. IRLM lock states were in conflict and inter-system communication is required to resolve the conflict.

Suspends-XES Global Contention
The number of suspends due to MVS XES global resource contentions that were not IRLM-level contentions. The XES lock states were in conflict, but the IRLM lock states were not.

Suspends-False Contention
The number of suspends caused by MVS XES false contentions. XES detects hash class contention when two different locks on different resources hash to the same entry in the coupling facility lock table. The requester is suspended until it is determined that no real lock contention exists.

Negotiate Pageset P-Locks
The number of times this DB2 member was driven to negotiate a pageset/partition P-lock because of changing inter-DB2 interest levels on the pageset/partition.

Negotiate Page P-Locks
The number of times this DB2 member was driven to negotiate a page P-lock because of inter-DB2 P-lock contention.

Negotiate Other P-Locks
The number of times this DB2 member was driven to negotiate a P-lock type other than pageset/partition or page.

Negotiate P-Lock Change
The number of times a P-lock change request was issued during P-lock negotiation.

Incompatible Retained Locks
The number of global lock or change requests that failed because of an incompatible retained lock. Certain P-locks can be retained because of a system failure. Another DB2 member cannot access the data that the retained P-lock is protecting unless it requests a P-lock in a compatible state.

Notify Messages Sent
The number of notify messages sent.

Notify Messages Received
The number of notify messages received.

Engine Not Available
The number of times an engine was not available for a P-lock exit or a notify exit request.

Very Conditional Rejections
The number of rejections of very conditional requests which could not get processed because of the heuristic algorithm used by XES.

IRLM System Activity Counters:

CB Latch Cont.
Active IRLM Control Block latch contention counter.

Global Deadlocks
Total number of global deadlocks.

Local Resource Cont.
Local resource contentions.

Global Resource Cont.
Global resource contentions.

Cont. Exit Visits
Visits to the contention exit, and IRLM granted the request. How many times lock contention was found and the request was sent to IRLM contention Exit, and the request was granted.

False Cont.
False contentions.

Plock Exit Visits
Plock Exit counter.

Notify Exit Visits
Notify Exit counter.

DB2 Command Statistics By Report Interval

This panel provides an overview of DB2 command activity recorded during a series of report intervals.

You can view detailed statistics by zooming in on that interval.

```
_________________ ZHCMS    VTM     O2       V540.#P SE12 11/06/13 12:02:43   2
>       Help PF1      Back PF3      Up PF7      Down PF8       Zoom PF11
> H.A.L
>                   Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      B-BIND              C-BUFFER POOL    D-GROUP BP
> E-DISTRIBUTED DATABASE   F-EDM POOL          G-LOG MANAGER    H-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    *-DB2 COMMANDS
> O-OPTIONS
================================================================================
>               DB2 COMMAND STATISTICS SUMMARY BY REPORT INTERVAL
 HCMS
+ Collection Interval:   1 min                            Start:  11/06 11:44
+ Report Interval:       1 min   Combine Level:  NONE       End:  11/06 12:02
+
+              START/      START/STOP/            RECOVER/  CANCEL    ALTER
+              STOP        MODIFY       ARCHIVE   RESET     DDF       BUFFER
+ Interval     DATABASE    TRACE        LOG       INDOUBT   THREAD    POOL
+ -----------  ----------  -----------  --------  --------  --------  --------
+ 11/06 12:02           0            0         0         0         0         0
+ 11/06 12:01           0            0         0         0         0         0
+ 11/06 12:00           0            0         0         0         0         0
+ 11/06 11:59           0            0         0         0         0         0
+ 11/06 11:58           0            0         0         0         0         0
+ 11/06 11:57           0            0         0         0         0         0
+ 11/06 11:56           0            0         0         0         0         0
+ 11/06 11:55           0            0         0         0         0         0
+ 11/06 11:54           0            0         0         0         0         0
+ 11/06 11:53           0            0         0         0         0         0
+ 11/06 11:52           0            0         0         0         0         0
+ 11/06 11:51           0            0         0         0         0         0
+ 11/06 11:50           0            0         0         0         0         0
+ 11/06 11:49           0            0         0         0         0         0
+ 11/06 11:48           0            0         0         0         0         0
+ 11/06 11:47           0            0         0         0         0         0
+ 11/06 11:46           0            0         0         0         0         0
+ 11/06 11:45           0            0         0         0         0         0
================================================================================
```

Navigation

For additional information about

- a report interval, move the cursor to the required line and press F11 (Zoom). (Each date/time displayed reflects the end of an interval.)
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the first interval in the display.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

For each field described below the following statistics are provided:

- The amount of activities that occur during the interval.
- Rate per minute during the interval.
- Percentage of total commands during the interval.

START/STOP DATABASE
The number of Start and Stop Database commands executed this interval to change the availability of specified databases.

START/STOP/MODIFY TRACE
The number of Start, Stop, and Modify Trace commands executed this interval to trace activity in the DB2 subsystem.

ARCHIVE LOG
The number Archive Log commands executed to initiate a DB2 active log switch.

RECOVER/RESET INDOUBT
The number of Recover and Reset Indoubt commands executed this interval to recover or purge indoubt threads.

CANCEL DDF THREAD
The number of Cancel DDF Thread commands executed this interval to cancel a distributed thread.

ALTER BUFFERPOOL
The number of **ALTER BUFFERPOOL** commands executed this interval to alter attributes for active or inactive buffer pools.

DB2 Command Statistics Detail

This panel provides detailed statistics about DB2 command activity during a selected report interval.

```
 _________________ ZHCMD    VTM     O2       V540./C SE11 07/30/13  1:47:48
2
> A-SUBSYSTEM SUPPORT      B-BIND              C-BUFFER POOL    D-GROUP BP
> E-DISTRIBUTED DATABASE   F-EDM POOL          G-LOG MANAGER    H-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    *-DB2 COMMANDS
> M-THREAD HISTORY
================================================================================
>                        DB2 COMMAND STATISTICS DETAIL
 HCMD
+ Collection Interval:   1 min                            Start:  07/30 01:46
+ Report Interval:       2 min   Combine Level:  NONE       End:  07/30 01:47
+
+                                                    INTERVAL  /MINUTE    % OF
+ DB2 Command                                        QUANTITY  (    2)   TOTAL
+ ----------------------------------------           --------  -------  ------
+ ALTER BUFFERPOOL                                          0      .00      .0
+ ALTER GROUPBUFFERPOOL                                     0      .00      .0
+ ALTER UTILITY                                             0      .00      .0
+ ARCHIVE LOG                                               0      .00      .0
+ CANCEL (DDF) THREAD                                       0      .00      .0
+ DISPLAY ARCHIVE                                           0      .00      .0
+ DISPLAY BUFFERPOOL                                        0      .00      .0
+ DISPLAY DATABASE                                          0      .00      .0
+ DISPLAY GROUP                                             0      .00      .0
+ DISPLAY GROUPBUFFERPOOL                                   0      .00      .0
+ DISPLAY LOCATION                                          0      .00      .0
+ DISPLAY PROCEDURE                                         0      .00      .0
+ DISPLAY RLIMIT                                            0      .00      .0
+ DISPLAY THREAD                                            0      .00      .0
+ DISPLAY TRACE                                             0      .00      .0
+ DISPLAY UTILITY                                           0      .00      .0
+ DISPLAY FUNCTION                                          0      .00      .0
+ DISPLAY LOG                                               0      .00      .0
+ MODIFY TRACE                                              0      .00      .0
+ RECOVER BSDS                                              0      .00      .0
+ RECOVER INDOUBT                                           0      .00      .0
+ RESET INDOUBT                                             0      .00      .0
+ RESET GENERICLU                                           0      .00      .0
+ SET ARCHIVE                                               0      .00      .0
+ START DATABASE                                            0      .00      .0
+ START DB2                                                 0      .00      .0
+ START DDF                                                 0      .00      .0
+ START PROCEDURE                                           0      .00      .0
+ START RLIMIT                                              0      .00      .0
+ START TRACE                                               0      .00      .0
+ START FUNCTION                                            0      .00      .0
+ STOP DATABASE                                             0      .00      .0
+ STOP DB2                                                  0      .00      .0
+ STOP DDF                                                  0      .00      .0
+ STOP PROCEDURE                                            0      .00      .0
+ STOP RLIMIT                                               0      .00      .0
+ STOP TRACE                                                0      .00      .0
+ STOP FUNCTION                                             0      .00      .0
+ TERM UTILITY                                              0      .00      .0
+ SET LOG                                                   0      .00      .0
+ DISPLAY ACCEL                                             0      .00      .0
+ START ACCEL                                               0      .00      .0
+ STOP ACCEL                                                0      .00      .0
+ SET SYSPARM                                               0      .00      .0
+ DISPLAY DDF                                               0      .00      .0
+ ACCESS DATABASE                                           0      .00      .0
+ START PROFILE                                             0      .00      .0
+ STOP PROFILE                                              0      .00      .0
+ DISPLAY PROFILE                                           0      .00      .0
+ MODIFY DDF                                                0      .00      .0
+ ACTIVATE FUNCTION LEVEL                                   0      .00      .0
+ START DYNQUERYCAPTURE                                     0      .00      .0
+ STOP DYNQUERYCAPTURE                                      0      .00      .0
+ DISPLAY DYNQUERYCAPTURE                                   0      .00      .0
+ UNRECOGNIZED COMMAND                                      0      .00      .0
+                          Total                            0      .00      .0
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Start
The start time of the interval currently displayed.

Report Interval
This field determines the report interval. It is set on the Near-Term History Report Option panel.

Combine Level
This field reflects the selected combine level. If Combine Level is NONE, the report interval is the same as the collection interval. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

End
The end time of the interval currently displayed.

For each field described below the following statistics are provided:

- Interval quantity, which is the activity during the interval.
- Rate per minute during the interval.
- Percentage of total commands during the interval.

ALTER BUFFERPOOL
ALTER BUFFERPOOL commands executed to alter attributes for active or inactive buffer pools.

ALTER GROUPBUFFERPOOL
ALTER GROUPBUFFERPOOL commands executed to alter attributes for group buffer pools.

ALTER UTILITY
ALTER UTILITY commands executed to change the values of certain parameters of an execution of the REORG utility that uses SHRLEVEL REFERENCE or CHANGE.

ARCHIVE LOG
ARCHIVE LOG commands executed to initiate a DB2 active log switch.

CANCEL (DDF) THREAD
CANCEL DDF THREAD commands executed to cancel a distributed thread.

DISPLAY ARCHIVE
DISPLAY ARCHIVE commands executed to display input archive log information.

DISPLAY BUFFERPOOL
DISPLAY BUFFERPOOL commands executed to display statistics for active or inactive buffer pools.

DISPLAY DATABASE
DISPLAY DATABASE commands executed to display status information about tablespaces and indexspaces within a database.

DISPLAY GROUP
DISPLAY GROUP commands executed to display statistics about the data sharing group to which the DB2 subsystem belongs.

DISPLAY GROUPBUFFERPOOL
DISPLAY GROUPBUFFERPOOL commands executed to display attributes of group buffer pools.

DISPLAY LOCATION
DISPLAY LOCATION commands executed to display statistics of threads with distributed relationships.

DISPLAY PROCEDURE
DISPLAY PROCEDURE commands execute to display statistics about stored procedures.

DISPLAY RLIMIT
DISPLAY RLIMIT commands executed to display the current status of the resource limit facility.

DISPLAY THREAD
DISPLAY THREAD commands executed to display status information about DB2 threads.

DISPLAY TRACE
DISPLAY TRACE commands executed to display a list of active traces.

DISPLAY UTILITY
DISPLAY UTILITY commands executed to display status information about DB2 utility jobs.

DISPLAY FUNCTION
DISPLAY FUNCTION specific commands executed to display statistics about external user-defined functions accessed by DB2 applications.

DISPLAY LOG
DISPLAY LOG commands executed to display log information and the status of the offload task.

MODIFY TRACE
MODIFY TRACE commands executed to change the IFCIDs being traced for an active trace.

RECOVER BSDS
RECOVER BSDS commands executed to recover a boot strap data set that has been disabled by an error.

RECOVER INDOUBT
RECOVER INDOUBT commands executed to recover threads left in the indoubt status.

RESET GENERICLU
RESET GENERICLU commands executed to purge information stored by VTAM in the coupling facility for one or more partners of a particular DB2 subsystem.

RESET INDOUBT
RESET INDOUBT commands executed to purge indoubt thread information.

SET ARCHIVE
SET ARCHIVE commands executed to change the maximum tape units and the deallocation time parameters originally set in the installation parameters.

START DATABASE
START DATABASE commands executed to make stopped databases available for use.

START DB2
START DB2 commands executed.

START DDF
START DDF commands executed to start the distributed data facility.

START PROCEDURE
START PROCEDURE commands executed to activate the definition of a stored procedure which is stopped, or which refreshes a stored procedure that is cached.

START RLIMIT
START RLIMIT commands executed to start the resource limit facility.

START TRACE
START TRACE commands executed to begin collection of DB2 trace records.

START FUNCTION
START FUNCTION specific commands executed to activate an external function that is stopped. Built-in functions or user-defined functions that are sourced on another function cannot be started.

STOP DATABASE
STOP DATABASE commands executed to make specified databases unavailable for use.

STOP DB2
STOP DB2 commands executed.

STOP DDF
STOP DDF commands executed to stop the distributed data facility.

STOP PROCEDURE
STOP PROCEDURE commands executed to prevent DB2 from accepting SQL CALL statements for one or more stored procedures.

STOP RLIMIT
STOP RLIMIT commands executed to stop the resource limit facility.

STOP TRACE
STOP TRACE commands executed to stop collection of DB2 trace records.

STOP FUNCTION
STOP FUNCTION specific commands executed to prevent DB2 from accepting SQL statements with invocations of the specified functions. You cannot stop built-in functions or user-defined functions that are sourced on another function.

TERM UTILITY
TERM UTILITY commands executed to terminate execution of a utility job.

SET LOG
SET LOG commands executed to modify the checkpoint frequency specified during installation.

DISPLAY ACCEL
Display Accelerator commands that are executed to display details about accelerators that are connected to the current subsystem.

START ACCEL
Start Accelerator commands that are executed to activate an accelerator.

STOP ACCEL
Stop Accelerator commands that are executed to deactivate an accelerator.

SET SYSPARM
The number of **DB2 SET SYSPARM** commands that are issued. This includes normal and abnormal completion of the command.

DISPLAY DDF
The number of **DB2 DISPLAY DDF** commands that are issued. This includes normal and abnormal completion of the command.

ACCESS DATABASE
The number of **DB2 ACCESS DATABASE** commands that are issued. This includes normal and abnormal completion of the command.

START PROFILE
The number of **DB2 START PROFILE** commands that are issued. This includes normal and abnormal completion of the command.

STOP PROFILE
The number of **DB2 STOP PROFILE** commands that are issued. This includes normal and abnormal completion of the command.

DISPLAY PROFILE
The number of **DB2 DISPLAY PROFILE** commands that are issued. This includes normal and abnormal completion of the command.

MODIFY DDF
The number of **DB2 MODIFY DDF** commands that are issued. This includes normal and abnormal completion of the command.

This field is only displayed for DB2 10 or above.

ACTIVATE FUNCTION LEVEL (Q9STCTEN)
The number of DB2 ACTIVATE FUNCTION LEVEL commands issued. This includes normal and abnormal completion of the command. DB2 12 and later.

START DYNQUERYCAPTURE (Q9STCTSQ)
The number of DB2 START DYNQUERYCAPTURE commands issued. This includes normal and abnormal completion of the command. DB2 12 and later.

STOP DYNQUERYCAPTURE (QSTCTXQ)
The number of DB2 STOP DYNQUERYCAPTURE commands issued. This includes normal and abnormal completion of the command. DB2 12 and later.

DISPLAY DYNQUERYCAPTURE (Q9STCTDQ)
The number of DB2 DISPLAY DYNQUERYCAPTURE commands issued. This includes normal and abnormal completion of the command. This field only shown for DB2 12 and later.

UNRECOGNIZED COMMAND
Number of unrecognized commands.

Total
All DB2 commands.

Near-Term History Report Option

This panel shows the current data collection interval and the number of intervals that have been collected since the Near-Term History Data Collector was started. Use this panel to set the combine level for near-term history reporting.

```
 _________________ ZHOPT    VTM     O2       V540.#P SE12 11/06/13 12:03:16   2
>       Help PF1                                          Back PF3
> H.A.O
>                   Enter a selection letter on the top line.
>
> A-SUBSYSTEM SUPPORT      B-BIND              C-BUFFER POOL    D-GROUP BP
> E-DISTRIBUTED DATABASE   F-EDM POOL          G-LOG MANAGER    H-OPEN/CLOSE
> I-SQL/RID/PARALLEL/PROC  J-LOCK/CLAIM/DRAIN  K-GLOBAL LOCK    L-DB2 COMMANDS
> *-OPTIONS
================================================================================
>                       NEAR-TERM HISTORY REPORT OPTION
 HOPT
+ Collection Interval           = 1 minute
+ Number of Intervals Collected = 18
+
: Report Combine Level = NONE           (NONE, HOURLY)
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

Collection Interval
The time interval specified for the collection of near-term history data. This unit of time was specified when the Near-Term History Data Collector was started.

Number of Intervals Collected
The number of intervals' worth of data that has been collected since the Near-Term History Data Collector was started. The interval that is currently in progress is not included in this count.

The maximum of 288 can be stored is 288, which is equivalent to the number of five-minute intervals during 24 hours).

Report Combine Level
Use this field to establish the report interval for near-term history reporting. Possible values:

HOURLY
Data will be reported in hourly intervals.

NONE
Data will be reported in the time unit specified by the collection interval.

Note: To change this setting permanently, save your user profile. Select the Save User option from the Profile Maintenance Menu.

Near-Term Thread History Filter Options

Use this panel to specify the reporting period for which you want to view near-term thread history information, the intervals into which the report is divided, and filter options that restrict the data that is displayed on subsequent thread history panels.

```
_________________ ZHAFL    VTM     O2       V540.#P SE12 11/06/13 12:03:53   2
>       Help PF1                                                 Back PF3
> H.B
>     Specify filter options then press ENTER to continue
================================================================================
>                    NEAR-TERM THREAD HISTORY FILTER OPTIONS
 HAFL
+ Time of oldest available record:   10/03/2013  16:31:00.003126
+ Time of latest record:             11/06/2013  11:54:56.428849
+ Total number of records:                  5426
+
:   START-DATE/TIME =  __________  _____     (mm/dd/yyyy or dd.mm.yyyy, hh:mm)
:   END-DATE/TIME   =  __________  _____     (mm/dd/yyyy or dd.mm.yyyy, hh:mm)
:   RELATIVE-START  =    1 HOUR   ago        (1-nn, MINS or HOURS)
:   RELATIVE-END    =  ___ _____  from start (1-nn, MINS or HOURS)
:   REPORT-INTERVAL =   15 minutes           ( 1-60 mins, in  1 min increments)
+
+ Specify the values to be used to filter the Thread History displays. Wildcard
+ values * (multiple characters) or ? (single character) can be specified.
+
+           The values to be used to filter at interval display level
:   PLAN            =  ________   ________   ________   ________   ________
:   AUTHID          =  ________   ________   ________   ________   ________
:   CONNID          =  ________   ________   ________   ________   ________
:   CONNTYPE        =  ________   ________   ________   ________   ________
+
+      The values to be used to filter only at thread detail display level
:   PACKAGE         =  ________   ________   ________   ________   ________
:   CORRID          =  ____________  ____________  ____________  ____________
:   GETPAGES        >  __________
:   DEADLK/TIMEOUT  >  __________
:   LOCK-ESCAL      >  __________
:   COMMIT          >  __________
:   DB2-CPU-TIME    >  ______________         ( seconds )
:   DB2-ELAP-TIME   >  ______________         ( seconds )
:   IO-WAIT-TIME    >  ______________         ( seconds )
================================================================================
```

Navigation

For additional information about other topics, use the PF keys.

Fields

Information about available data:

Time of oldest available record
Displays the earliest time that thread data was collected to active data sets. Displays N/A if no thread data is collected.

This is either the time stamp of the first IFCID 3 record or, if detail is not being collected, the oldest near-term thread summary record.

Time of latest record
Displays the most recent time that thread data was collected to active data sets. Displays N/A if no thread data is collected.

This is either the time stamp of the last IFCID 3 record or, if detail is not being collected, the last near-term thread summary record.

Total number of records
Displays the number of thread records (IFCID 3) that are collected to active data sets. Displays 0 if no detail thread records are collected.

Filter options limiting the time: Specify an absolute or relative time range of at most 24 hours for the reporting period for which you want to view near-term thread history information. The specified time range should be within the range of collected data.

START-DATE/TIME
Specify an absolute start date and time. START-DATE/TIME and RELATIVE-START are mutually exclusive.

You can specify the date and time in U.S., European, or ISO format.

DATE

- *mm*/*dd*/*yyyy* (U.S.)
- *dd*.*mm*.*yyyy* (European)
- *yyyy*-*mm*-*dd* (ISO)

TIME

- *hh*:*mm* (U.S.)
- *hh*.*mm* (European, ISO)

END-DATE/TIME
Specify an absolute end date and time. END-DATE/TIME and RELATIVE-END are mutually exclusive.

You can specify the date and time in U.S., European, or ISO format.

DATE

- *mm*/*dd*/*yyyy* (U.S.)
- *dd*.*mm*.*yyyy* (European)
- *yyyy*-*mm*-*dd* (ISO)

TIME

- *hh*:*mm* (U.S.)
- *hh*.*mm* (European, ISO)

RELATIVE-START
Specify a start time relative to the current time, as the number of minutes or hours before the current time. The default value is one hour. RELATIVE-START and START-DATE/TIME are mutually exclusive.

RELATIVE-END
Specify an end time relative to the specified start time, as the number of minutes or hours after START-DATE/TIME or RELATIVE-START. RELATIVE-END and END-DATE/TIME are mutually exclusive.

REPORT-INTERVAL
Specify a report interval by which the report period is partitioned, from 5 to 60 minutes, in five minute increments. The value must be some multiple of the Near-Term History Data Collector summary record write frequency.

Filter options to be used at interval display level: You can use these options to filter near-term history data at thread summary (interval) display level.

PLAN
You can specify up to five plan names that you want to be displayed on subsequent thread history panels. You can enter multiple values including wildcards. You can compare values using the equal (=) or not equal (^=, <>) comparison operators. Use the *equal* operator to OR multiple values. Use the *not equal* operator to AND multiple values.

AUTHID
You can specify up to five authorization ids that you want to be displayed on subsequent thread history panels. You can enter multiple values including wildcards. You can compare values using the equal (=) or not equal (^=, <>) comparison operators. Use the *equal* operator to OR multiple values. Use the *not equal* operator to AND multiple values.

CONNID
You can specify up to five connection ids that you want to be displayed on subsequent thread history panels. You can enter multiple values including wildcards. You can compare values using the equal (=) or not equal (^=, <>) comparison operators. Use the *equal* operator to OR multiple values. Use the *not equal* operator to AND multiple values.

CONNTYPE
You can specify up to five connection types that you want to be displayed on subsequent thread history panels.

TSO
TSO foreground and background (QWHCTSO)

CALLATCH
DB2 call attach (QWHCDB2C)

CICS
CICS attach (QWHCCICS)

DLI
DL/I batch (QWHCDLIB)

IMSBPP
IMS attach BMP (QWHCIMSB)

IMSMPP
IMS attach MPP (QWHCIMSM)

IMSCTRL
IMS control region (QWHCICTL)

IMSBMP
IMS transaction BMP (QWHCTBMP)

IMS
All IMS threads including DL/I batch (QWHCDLIB + QWHCIMSB + QWHCIMSM + QWHCICTL + QWHCTBMP)

SYSDIR
System directed access (data base access threads) (QWHCDUW)

APPLDIR
Application directed access (data base access threads) (QWHCRUW)

DIST
Data base access threads (System-directed and Application-directed) (QWHCDUW + QWHCRUW)

BATCH
DB2 call attach (QWHCDB2C)

Filter options to be used only at thread detail display level: You can use these options to filter near-term history data at thread detail display level.

PACKAGE
You can specify up to five package ids that you want to be displayed on subsequent thread history panels. You can enter multiple values including wildcards. You can compare values using the equal (=)

or not equal (^=, <>) comparison operators. Use the *equal* operator to OR multiple values. Use the *not equal* operator to AND multiple values.

CORRID
You can specify up to five correlation ids that you want to be displayed on subsequent thread history panels. You can enter multiple values including wildcards. You can compare values using the equal (=) or not equal (^=, <>) comparison operators. Use the *equal* operator to OR multiple values. Use the *not equal* operator to AND multiple values.

GETPAGES
Specify the minimum number of Getpage requests that you want to be displayed on subsequent thread history panels. You can compare values using the equal (=) or not equal (^=, <>) comparison operators. Use the *equal* operator to OR multiple values. Use the *not equal* operator to AND multiple values.

DEADLK/TIMEOUT
Specify the minimum number of deadlocks and lock timeouts that you want to be displayed on subsequent thread history panels. You can compare values using the equal (=) or not equal (^=, <>) comparison operators. Use the *equal* operator to OR multiple values. Use the *not equal* operator to AND multiple values.

LOCK-ESCAL
Specify the minimum number of lock escalations that you want to be displayed on subsequent thread history panels. You can compare values using the equal (=) or not equal (^=, <>) comparison operators. Use the *equal* operator to OR multiple values. Use the *not equal* operator to AND multiple values.

COMMIT
Specify the minimum number of commits that you want to be displayed on subsequent thread history panels. You can compare values using the equal (=) or not equal (^=, <>) comparison operators. Use the *equal* operator to OR multiple values. Use the *not equal* operator to AND multiple values.

DB2-CPU-TIME
Specify the minimum amount of DB2 processor time that you want to be displayed on subsequent thread history panels. You can compare values using the equal (=) or not equal (^=, <>) comparison operators. Use the *equal* operator to OR multiple values. Use the *not equal* operator to AND multiple values.

DB2-ELAP-TIME
Specify the minimum amount of DB2 elapsed timethat you want to be displayed on subsequent thread history panels. You can compare values using the equal (=) or not equal (^=, <>) comparison operators. Use the *equal* operator to OR multiple values. Use the *not equal* operator to AND multiple values.

IO-WAIT-TIME
Specify the minimum amount of I/O wait time that you want to be displayed on subsequent thread history panels. You can compare values using the equal (=) or not equal (^=, <>) comparison operators. Use the *equal* operator to OR multiple values. Use the *not equal* operator to AND multiple values.

Near-Term Thread History Filter Options - Confirmation

This panel shows the reporting and filtering options that you have specified on the Near-Term Thread History Filter Options panel.

```
_________________ ZHAFC    VTM     O2       V540.#P SE12 11/06/13 12:04:28   2
>       Help PF1                                              Back PF3
================================================================================
>          NEAR-TERM THREAD HISTORY FILTER OPTIONS - CONFIRMATION
>
>     The following options have been specified, to view Thread History
>     press ENTER, to modify these options or CANCEL press PF3.
>
 HAFD
+ Date and time options in effect for Thread History displays
+
+   Start     =   1 hour ago
+   For       =   1 hour or up to the Thread History display time
+
+   Report Interval   =  15 minutes
+
+ Filter options in effect for Thread History displays
+
+   Plan Name         =
+   Authorization Id  =
+   Connection Id     =
+   Connection Type   =
+   Package           =
+   Correlation Id    =
+   Getpages          >
+   Deadlock/timeout  >
+   Lock-escal        >
+   Commit            >
+   DB2-CPU-TIME      >
+   DB2-ELAP-TIME     >
+   IO-WAIT-TIME      >
================================================================================
```

To modify any option value, press F3, which returns you to the Near-Term Thread History Filter Options panel.

Navigation

For additional information about

- overview of thread activity, press Enter.
- other topics, use the PF keys.

Fields

Start
The start of the reporting period.

For
The minutes or hours of the reporting period.

Report Interval
The minutes by which the report period is partitioned.

Plan Name
The specified plan names.

Authorization Id
The specified authorization identifiers.

Connection Id
The specified connection identifiers.

Connection Type
The specified connection types.

Package
The specified package identifiers.

Correlation ID
The specified correlation identifiers.

Getpages
The specified number of Getpage requests.

Deadlock/timeout
The specified number of deadlocks and lock timeouts.

Lock-escal
The specified number of lock escalations.

Commit
The specified number of Commits.

DB2-CPU-TIME
The specified amount of DB2 processor time.

DB2-ELAP-TIME
The specified amount of DB2 elapsed time.

IO-WAIT-TIME
The specified amount of I/O wait time.

Thread History By Report Interval

This panel provides an overview of thread activity for the specified reporting period, divided into a series of report intervals.

Each time displayed in this panel reflects the start of an interval.

```
_________________ ZHARP    VTM     O2       V540.#P DA41 11/06/13 12:05:40   2
> Help PF1               Back PF3               Up PF7                 Down PF8
>
>       Type a selection letter next to an Interval and press Enter.
>
> A-BY PLAN           B-BY AUTHID        C-BY PLAN,AUTHID     D-BY AUTHID,PLAN
> E-THREAD SUMMARY    F-BY SUBINTERVAL   G-BY CORRID
================================================================================
>                          THREAD HISTORY BY REPORT INTERVAL
 HARP
+ Report Interval:  15 mins                     Start:   11/06 09:45:00.000000
+ Report Filtered:       NO                        End:   11/06 11:26:59.999999
+
+                                    Dlk/  In-DB2  In-DB2  In-DB2           GetP/
+   Time  Thrds Commit Abort DML     TOut  Elap Tm CPU Tm  Wait Tm  Getpage RIO
+   ----- ----- ------ ----- -----  ----  ------- -------  -------  ------- -----
: _ 11:15     2      6     0    20     0       .0     .00      .0       20   .0
: _ 11:00    17    170     0   416     0       .2     .08      .0      599   .0
: _ 10:45    18    180     0   457     0       .1     .10      .0      641   .0
: _ 10:30    17    170     0   415     0       .1     .08      .0      598   .0
: F 10:15    19    181     0   456     0       .5     .09      .2      650  .7K
: _ 10:00     5     50     0   116     0       .2     .02      .1      348   .0
: _ 09:45     2  81269     2  330K     0     36.4   25.79     4.1   366415 3.6K
================================================================================
```

Navigation

For additional information about

- a report interval, move the cursor to the line you want, enter one of the following selection letters, and press Enter.

  A
  Thread history by Plan. For more information, see the description of panel “Thread History By Plan” on page 700.

  B
  Thread history by Authid. For more information, see the description of panel “Thread History By Authid” on page 702.

C
Thread history by Plan, Authid. For more information, see the description of panel "Thread History By Plan, Authid" on page 703.

D
Thread history by Authid, Plan. For more information, see the description of panel "Thread History By Authid, Plan" on page 705.

E
Thread history summary (no grouping). For more information, see the description of panel "Thread History Summary" on page 708.

F
Thread summary by subinterval (the Near-Term History Data Collector summary record write frequency). This is valid only when the report interval is set to a multiple of the innate subinterval. For more information, see the description of panel "Thread History By Subinterval" on page 710.

G
Thread history summary by correlation ID. For more information, see the description of panel "Thread History By Correlation ID" on page 713.

- other topics, use the PF keys.

Fields

Report Interval
The time interval by which the report period is partitioned. For more information, see the description of panel "Near-Term Thread History Filter Options" on page 693.

Start
The start date and time of the first interval in the display.

Report Filtered
This field shows YES if thread filter values were used to create this display. Otherwise, NO is displayed.

End
The end date and time of the last interval in the display.

Time
The time of the start of the report interval.

Thrds
The number of threads completed in this interval.

Commit
The number of successful commits performed in this interval. For attachments that use two-phase-commit protocol, this count represents the number of phase two commits. For others, this count represents the number of single-phase commit (sync) requests.

Abort
The number of successful rollbacks performed in this interval.

DML
The number of DML calls issued in this interval.

DLk/TOut
The number deadlocks and timeouts occurred in this interval.

In-DB2 Elap Tm
The elapsed time spent in DB2 for this interval. Accounting class 2 data is required. Displays N/A if accounting class 2 data is not available.

In-DB2 CPU Tm
The CPU time spent in DB2 for this interval. Accounting class 2 data is required. Displays N/A if accounting class 2 data is not available.

In-DB2 Wait Tm
The time spent waiting in DB2 for this interval. Accounting class 3 data is required. Displays N/A if accounting class 3 data is not available. DB2 Accounting class 3 wait events are:

- Synchronous I/O waits
- Asynchronous Read I/O waits
- Asynchronous Write I/O waits
- Lock/latch waits
- Page latch waits
- Drain lock waits
- Drain of claims waits
- DB2 service task waits
- Archive Log Mode(QUIESCE) waits
- Archive read from tape waits

Getpage
The number of Getpage requests issued in this interval.

GetP/RIO
The ratio of Getpage requests to synchronous Read I/Os for this interval.

Thread History By Plan

This panel provides information about thread activity grouped by plan for a selected report interval or subinterval.

```
_________________ ZHAGPL   VTM     O2       V540.#P DA41 11/06/13 12:07:17   3
> Help PF1         Back PF3         Up PF7         Down PF8          Zoom PF11
>
>                   Enter a selection letter on the top line.
>
> *-BY PLAN       B-BY AUTHID       C-BY PLAN,AUTHID       D-BY AUTHID,PLAN
> O-OPTIONS       G-BY CORRID
================================================================================
>                            THREAD HISTORY BY PLAN
 HAGP
+ Report Interval:   15 mins                     Start: 11/06 10:15:00.000000
+ Report Filtered:       NO                         End: 11/06 10:29:59.999999
 plan
+
+                                     DLk/ In-DB2  In-DB2  In-DB2          GetP
+Plan         Thrds Commit Abrt DML   TOut Elap Tm CPU Tm  Wait Tm Getpage RIO
+--------     ----- ------ ---- ----- ---- ------- ------- ------- ------- ----
+DISTSERV        19    181    0   456    0      .5     .09      .2     650  .7K
================================================================================
```

Navigation

For additional information about

- a report interval, move the cursor to the line you want, enter one of the following selection letters, and press Enter.

  B
  Thread history by Authid. For more information, see the description of panel “Thread History By Authid” on page 702.

  C
  Thread history by Plan, Authid. For more information, see the description of panel “Thread History By Plan, Authid” on page 703.

  D
  Thread history by Authid, Plan. For more information, see the description of panel “Thread History By Authid, Plan” on page 705.

O
Thread history display options. For more information, see the description of the panel "Thread History Display Options" on page 706.

G
Thread history summary by correlation ID. For more information, see the description of panel "Thread History By Correlation ID" on page 713.

- threads associated with a plan, move the cursor to the line you want and press F11 (Zoom).
- other topics, use the PF keys.

Fields

Report Interval
The time interval by which the report period is partitioned. For more information, see the description of panel "Near-Term Thread History Filter Options" on page 693.

Start
The start date and time of the first interval in the display.

Report Filtered
This field shows YES if thread filter values were used to create this display. Otherwise, NO is displayed.

End
The end date and time of the last interval in the display.

Plan
The DB2 plan name.

Thrds
The number of threads completed in this interval.

Commit
The number of successful commits performed by threads running. this plan. For attachments that use two-phase-commit protocol, this count represents the number of phase two commits. For others, this count represents the number of single-phase commit (sync) requests.

Abort
The number of successful rollbacks performed by threads running this plan.

DML
The number of DML calls issued by threads running this plan.

DLk/TOut
The number deadlocks and timeouts that occurred for threads running this plan.

In-DB2 Elap Tm
The elapsed time spent in DB2 for threads running this plan. Accounting class 2 data is required. Displays N/A if accounting class 2 data is not available.

In-DB2 CPU Tm
The CPU time spent in DB2 for threads running this plan. Accounting class 2 data is required. Displays N/A if accounting class 2 data is not available.

In-DB2 Wait Tm
The time spent waiting in DB2 for threads running this plan. Accounting class 3 data is required. Displays N/A if accounting class 3 data is not available.

Getpage
The number of Getpage requests issued by threads running this plan.

GetP/RIO
The ratio of Getpage requests to synchronous Read I/Os for this interval.

Thread History By Authid

This panel provides information about thread activity grouped by authorization ID for a selected report interval or subinterval.

```
_________________ ZHAGAU   VTM     O2       V540.#P DA41 11/06/13 12:07:30   2
> Help PF1          Back PF3         Up PF7          Down PF8          Zoom PF11
>
>                    Enter a selection letter on the top line.
>
> A-BY PLAN        *-BY AUTHID       C-BY PLAN,AUTHID       D-BY AUTHID,PLAN
> O-OPTIONS        G-BY CORRID
================================================================================
>                             THREAD HISTORY BY AUTHID
 HAGP
+ Report Interval:   15 mins                     Start: 11/06 10:15:00.000000
+ Report Filtered:       NO                         End: 11/06 10:29:59.999999
 auth
+
+                                    DLk/ In-DB2  In-DB2  In-DB2          GetP
+Authid       Thrds Commit Abrt DML   TOut Elap Tm CPU Tm  Wait Tm Getpage RIO
+--------     ----- ------ ---- ----- ---- ------- ------- ------- ------- ----
+MIS             19    181    0   456    0      .5     .09      .2     650  .7K
================================================================================
```

Navigation

For additional information about

- a report interval, move the cursor to the line you want, enter one of the following selection letters, and press Enter.

  A

  Thread history by Plan. For more information, see the description of panel “Thread History By Plan” on page 700.

  C

  Thread history by Plan, Authid. For more information, see the description of panel “Thread History By Plan, Authid” on page 703.

  D

  Thread history by Authid, Plan. For more information, see the description of panel “Thread History By Authid, Plan” on page 705.

  O

  Thread history display options. For more information, see the description of the panel “Thread History Display Options” on page 706.

  G

  Thread history summary by correlation ID. For more information, see the description of panel “Thread History By Correlation ID” on page 713.

- threads associated with an authorization ID, move the cursor to the line you want and press F11 (Zoom).
- other topics, use the PF keys.

Fields

Report Interval
The time interval by which the report period is partitioned. For more information, see the description of panel “Near-Term Thread History Filter Options” on page 693.

Start
The start date and time of the interval currently displayed.

Report Filtered
This field shows YES if thread filter values were used to create this display. Otherwise, NO is displayed.

End
The end time of the interval currently displayed.

Authid
The DB2 authorization identifier.

Thrds
The number of threads completed for the authid.

Commit
The number of successful commits performed by threads run with this authid. For attachments that use two-phase-commit protocol, this count represents the number of phase two commits. For others, this count represents the number of single-phase commit (sync) requests.

Abort
The number of successful rollbacks performed by threads run with this authid.

DML
The number of DML calls issued by threads run with this authid.

DLk/TOut
The number deadlocks and timeouts that occurred for threads run with this authid.

In-DB2 Elap Tm
The elapsed time spent in DB2 for threads run with this authid. Accounting class 2 data is required. Displays N/A if accounting class 2 data is not available.

In-DB2 CPU Tm
The CPU time spent in DB2 for threads run with this authid. Accounting class 2 data is required. Displays N/A if accounting class 2 data is not available.

In-DB2 Wait Tm
The time spent waiting in DB2 for threads run with this authid. Accounting class 3 data is required. Displays N/A if accounting class 3 data is not available.

Getpage
The number of Getpage requests issued by threads run with this authid.

GetP/RIO
The ratio of Getpage requests to synchronous Read I/Os for threads run with this authid.

Thread History By Plan, Authid

This panel provides information about thread activity grouped by plan and authid for a selected report interval or subinterval.

```
_________________ ZHAGPA   VTM     O2       V540.#P DA41 11/06/13 12:07:38   2
> Help PF1          Back PF3         Up PF7          Down PF8          Zoom PF11
>
>                    Enter a selection letter on the top line.
>
> A-BY PLAN        B-BY AUTHID       *-BY PLAN,AUTHID       D-BY AUTHID,PLAN
> O-OPTIONS        G-BY CORRID
================================================================================
>                        THREAD HISTORY BY PLAN, AUTHID
 HAGP
+ Report Interval:   15 mins                     Start: 11/06 10:15:00.000000
+ Report Filtered:       NO                         End: 11/06 10:29:59.999999
 plna
+
+                                      In-DB2   In-DB2   In-DB2           GetP/
+ Plan     Authid   Thrds Commit  DML  Elap Tm  CPU Tm   Wait Tm  Getpage RIO
+ -------- -------- ----- ------ ----- -------  -------  -------  ------- -----
+ DISTSERV MIS         19    181   456      .5      .09       .2      650  .7K
================================================================================
```

Navigation

For additional information about

- a report interval, move the cursor to the line you want, enter one of the following selection letters, and press Enter.

  A
  Thread history by Plan. For more information, see the description of panel "Thread History By Plan" on page 700.

  B
  Thread history by Authid. For more information, see the description of panel "Thread History By Authid" on page 702.

  D
  Thread history by Authid, Plan. For more information, see the description of panel "Thread History By Authid, Plan" on page 705.

  O
  Thread history display options. For more information, see the description of the panel "Thread History Display Options" on page 706.

  G
  Thread history summary by correlation ID. For more information, see the description of panel "Thread History By Correlation ID" on page 713.
- threads associated with a plan and authorization ID, move the cursor to the line you want and press F11 (Zoom).
- other topics, use the PF keys.

Fields

Report Interval
The time interval by which the report period is partitioned. For more information, see the description of panel "Near-Term Thread History Filter Options" on page 693.

Start
The start date and time of the interval currently displayed.

Report Filtered
This field shows YES if thread filter values were used to create this display. Otherwise, N0 is displayed.

End
The end time of the interval currently displayed.

Plan
The DB2 plan name. The plan name is displayed only on the first line within a group. However, if you sort this panel on a field other than the Plan+Authid combination, the plan name is displayed on each line.

Authid
The DB2 authorization identifier of the threads.

Thrds
The number of threads completed for the plan, authid.

Commit
The number of successful commits performed by this plan, authid. For attachments that use two-phase-commit protocol, this count represents the number of phase two commits. For others, this count represents the number of single-phase commit (sync) requests.

DML
The number of DML calls issued.

In-DB2 Elap Tm
The elapsed time spent in DB2. Accounting class 2 data is required. Displays N/A if accounting class 2 data is not available.

In-DB2 CPU Tm
The CPU time spent in DB2 for threads run with this authid. Accounting class 2 data is required. Displays N/A if accounting class 2 data is not available.

In-DB2 Wait Tm
The time spent waiting in DB2. Accounting class 3 data is required. Displays N/A if accounting class 3 data is not available.

Getpage
The number of Getpage requests issued.

GetP/RIO
The ratio of Getpage requests to synchronous Read I/Os.

Thread History By Authid, Plan

This panel provides information about thread activity grouped by plan and authid for a selected report interval or subinterval.

```
 _________________ ZHAGAP   VTM     O2       V540.#P DA41 11/06/13 12:07:48   2
> Help PF1          Back PF3         Up PF7          Down PF8          Zoom PF11
>
>                    Enter a selection letter on the top line.
>
> A-BY PLAN        B-BY AUTHID       C-BY PLAN,AUTHID       *-BY AUTHID,PLAN
> O-OPTIONS        G-BY CORRID
================================================================================
>                         THREAD HISTORY BY AUTHID, PLAN
 HAGP
+ Report Interval:   15 mins                     Start: 11/06 10:15:00.000000
+ Report Filtered:       NO                         End: 11/06 10:29:59.999999
 autp
+
+                                       In-DB2   In-DB2   In-DB2           GetP/
+ Authid   Plan     Thrds Commit  DML  Elap Tm  CPU Tm   Wait Tm  Getpage RIO
+ -------- -------- ----- ------ ----- -------  -------  -------  ------- -----
+ MIS      DISTSERV    19    181   456       .5       .09       .2      650  .7K
================================================================================
```

Navigation

For additional information about

- a report interval, move the cursor to the line you want, enter one of the following selection letters, and press Enter.

  A
  Thread history by Plan. For more information, see the description of panel "Thread History By Plan" on page 700.

  B
  Thread history by Authid. For more information, see the description of panel "Thread History By Authid" on page 702.

  C
  Thread history by Plan, Authid. For more information, see the description of panel "Thread History By Plan, Authid" on page 703.

  O
  Thread history display options. For more information, see the description of the panel "Thread History Display Options" on page 706.

  G
  Thread history summary by correlation ID. For more information, see the description of panel "Thread History By Correlation ID" on page 713.

- threads associated with an authorization ID and plan, move the cursor to the line you want and press F11 (Zoom).
- other topics, use the PF keys.

Fields

Report Interval
The time interval by which the report period is partitioned. For more information, see the description of panel "Near-Term Thread History Filter Options" on page 693.

Start
The start date and time of the interval currently displayed.

Report Filtered
This field shows YES if thread filter values were used to create this display. Otherwise, NO is displayed.

End
The end time of the interval currently displayed.

Authid
The DB2 authorization ID. The authorization ID is displayed on the only first line within a group. However, if you sort this panel on a field other than the Authid+Plan combination, the authorization ID is displayed on each line.

Plan
The DB2 plan name.

Thrds
The number of threads completed for the authid,plan.

Commit
The number of successful commits performed by this authid,plan. For attachments that use two-phase-commit protocol, this count represents the number of phase two commits. For others, this count represents the number of single-phase commit (sync) requests.

DML
The number of DML calls issued.

In-DB2 Elap Tm
The elapsed time spent in DB2. Accounting class 2 data is required. Displays N/A if accounting class 2 data is not available.

In-DB2 CPU Tm
The CPU time spent in DB2 for threads run with this authid. Accounting class 2 data is required. Displays N/A if accounting class 2 data is not available.

In-DB2 Wait Tm
The time spent waiting in DB2. Accounting class 3 data is required. Displays N/A if accounting class 3 data is not available.

Getpage
The number of Getpage requests issued.

GetP/RIO
The ratio of Getpage requests to synchronous Read I/Os.

Thread History Display Options

This panel shows the thread history display options that you have specified on the Near-Term Thread History Filter Options panel.

```
 _________________ ZHAFD VTM O2 V540.#P DA41 02/21/14 14:27:29 2
>       Help PF1                                          Back PF3
================================================================================
>                       THREAD HISTORY DISPLAY OPTIONS
HAFD
+ Date and time options in effect for Thread History displays
+
+ Start = 5 hours ago
+ For = 5 hours or up to the Thread History display time
+
+ Report Interval = 15 minutes
+
+ Filter options in effect for Thread History displays
+
+ Plan Name =
+ Authorization Id =
+ Connection Id =
+ Connection Type =
+ Package =
+ Correlation Id =
+ Getpages >
+ Deadlock/timeout >
+ Lock-escal >
+ Commit >
+ DB2-CPU-TIME >
+ DB2-ELAP-TIME >
+ IO-WAIT-TIME >
================================================================================
```

To modify any option value, press F3, which returns you to the Near-Term Thread History Filter Options panel.

Navigation

For additional information about

- overview of thread activity, press Enter.
- other topics, use the PF keys.

Fields

Start
The start of the reporting period.

For
The minutes or hours of the reporting period.

Report Interval
The minutes by which the report period is partitioned.

Plan Name
The specified plan names.

Authorization Id
The specified authorization identifiers.

Connection Id
The specified connection identifiers.

Connection Type
The specified connection types.

Package
The specified package identifiers.

Correlation ID
The specified correlation identifiers.

Getpages
The specified number of Getpage requests.

Deadlock/timeout
The specified number of deadlocks and lock timeouts.

Lock-escal
The specified number of lock escalations.

Commit
The specified number of Commits.

DB2-CPU-TIME
The specified amount of DB2 processor time.

DB2-ELAP-TIME
The specified amount of DB2 elapsed time.

IO-WAIT-TIME
The specified amount of I/O wait time.

Thread History Summary

This panel provides summary information about thread activity within a report interval.

```
_____________ ZHATACT  VTM     O2       V540.#P DA41 11/06/13 12:08:30   3
> Help PF1         Back PF3         Up PF7         Down PF8          Zoom PF11
>
>                   Enter a selection letter on the top line.
>
> *-Summary    B-Buffer Pool    C-DB2 Time    D-Lock/Scan/Sort    E-Alt Summary
> O-OPTIONS
================================================================================
>                            Thread History Summary
 HATH
+ Report Interval:   15 mins                    Start: 11/06 10:15:00.000000
+ Report Filtered:       NO                       End: 11/06 10:29:59.999999
 act
+
+                                  Elapsed  CPU                           Term
+ End Time       Plan     Authid   Time     Time   SQL   Commit Abrt Pkg Status
+ ------------   -------- -------- -------  ------ ----- ------ ---- --- ------
+ 10:29:44.922 D DISTSERV MIS          .25    .005    23     10     0   1 LIMIT
+ 10:29:43.020 D DISTSERV MIS         2.20    .008    40     10     0   1 LIMIT
+ 10:28:46.916 D DISTSERV MIS          .33    .005    24     10     0   1 LIMIT
+ 10:27:44.895 D DISTSERV MIS          .25    .005    23     10     0   1 LIMIT
+ 10:26:46.850 D DISTSERV MIS          .33    .006    23     10     0   1 LIMIT
+ 10:25:46.527 D DISTSERV MIS          .33    .005    24     10     0   1 LIMIT
+ 10:24:46.868 D DISTSERV MIS          .36    .005    24     10     0   1 LIMIT
+ 10:23:56.423 D DISTSERV MIS          .16    .001     2      1     0   1 STALE
+ 10:23:44.839 D DISTSERV MIS          .27    .005    23     10     0   1 LIMIT
+ 10:22:46.739 D DISTSERV MIS          .37    .005    24     10     0   1 LIMIT
+ 10:21:53.019 D DISTSERV MIS          .44    .006    24     10     0   1 LIMIT
+ 10:21:43.725 D DISTSERV MIS         1.20    .006    21     10     0   1 LIMIT
+ 10:20:46.830 D DISTSERV MIS          .45    .005    24     10     0   1 LIMIT
+ 10:19:44.924 D DISTSERV MIS          .28    .005    23     10     0   1 LIMIT
+ 10:19:42.953 D DISTSERV MIS         1.34    .007    40     10     0   1 LIMIT
+ 10:18:47.089 D DISTSERV MIS          .35    .005    24     10     0   1 LIMIT
+ 10:17:45.072 D DISTSERV MIS          .37    .005    23     10     0   1 LIMIT
+ 10:16:45.779 D DISTSERV MIS          .26    .005    23     10     0   1 LIMIT
+ 10:15:45.582 D DISTSERV MIS          .35    .005    24     10     0   1 LIMIT
================================================================================
```

Navigation

For additional information about

- a particular thread, move the cursor to the thread information line and press F11 (Zoom).
- related topics, choose on of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Report Interval
The time interval by which the report period is partitioned. For more information, see the description of panel "Near-Term Thread History Filter Options" on page 693.

Start
The start date and time of the interval currently displayed.

Report Filtered
This field shows YES if thread filter values were used to create this display. Otherwise, NO is displayed.

End
The end time of the interval currently displayed.

End Time
The end time of the DB2 thread execution.

If this thread involves parallel processing or if it invokes autonomous procedures, one of the following identifiers is displayed after the elapsed time to provide more information about this thread:

*****
This thread is a parallel task initiated on behalf of another (originating) thread to process a query request in parallel.

A
This thread is an autonomous procedure rollup record.

D
This thread is a RRSAF/DDF rollup record due to `ZPARM ACCUMACC >= 2`.

O
This thread is the originating thread that invokes autonomous procedures.

P
This thread is the parent or the originating thread of the parallel tasks that are created to process a query request in parallel. Activity that is performed for this (originating) thread is reflected under the parallel tasks.

R
This thread is a parallel task rollup record due to `ZPARM PTASKROL = YES`.

Plan
The DB2 plan name.

Authid
The DB2 authorization identifier of the thread.

Elapsed Time
The total elapsed time for the thread.

CPU Time
The amount of CP time used by the thread. This value reflects MVS TCB time for non-database access threads and SRB time for database access threads and parallel tasks. This time represents CP time only and does not include SE (Specialty Engine) time.

SQL
The total number of DCL, DDL, and DML SQL calls issued by the thread. COMMIT and ROLLBACK/ABORT are not included.

Commit
The number of Commits performed by the thread.

Abrt
The number of aborts performed by the thread.

Pkg
The number of package and DBRM executions for the thread. Accounting classes 7 and 8 are required. Displays N/A if accounting classes 7 and 8 are not available.

Term Status
The status that indicates the reason for the thread termination.

READS
IFI READ request.

RESIGN
Same user signed on with same authentification identifier.

NEWUSE
User signon.

DDFINA
The distributed thread went inactive.

DEALLO
Thread termination.

COMMIT
RRSAF thread specified accounting interval = COMMIT.

EOT/TE
End of task, application terminated normally.

EOT/AB
End of task, application terminated abnormally.

EOM/AB
End of memory, application terminated abnormally.

RES/IN
Resolve indoubt processing.

FORCE
Stop forced, MVS canceled DB2 or MVS forced DB2.

IEOT/T
End of task, application terminated normally and is indoubt.

IEOT/A
End of task, application terminated abnormally and is indoubt.

IEOM/A
End of memory, application terminated abnormally and is indoubt.

IFORCE
Stop forced, MVS canceled DB2 or MVS forced DB2, and the thread is indoubt.

STALE
Staleness Threshold exceeded for DDF or RRSAF thread.

LIMIT
DDF ROLLUP threshold limit exceeded.

STORAG
Internal DB2 storage threshold was reached for DDF or RRSAF thread.

INACT
Distributed database access thread termination.

Thread History By Subinterval

This panel provides information about thread activity for a selected interval from the Thread History by Report Interval panel.

Each time displayed in this panel reflects the start of a subinterval. The subinterval is determined by the near-term history data collection options keyword NTAINTERVAL, which is specified by means of the Configuration Tool. For more information, see *Configuration and Customization*.

```
_________________ ZHARS    VTM     O2       V540.#P DA41 11/06/13 12:09:54   2
> Help PF1               Back PF3              Up PF7                Down PF8
>
>       Type a selection letter next to a Subinterval and press Enter.
>
> A-BY PLAN           B-BY AUTHID        C-BY PLAN,AUTHID     D-BY AUTHID,PLAN
> E-THREAD SUMMARY    *-BY SUBINTERVAL   G-BY CORRID
================================================================================
>                           THREAD HISTORY BY SUBINTERVAL
 HARS
+ Report Interval:  15 mins                    Start:   11/06 10:15:00.000000
+ Report Filtered:       NO                       End:   11/06 10:29:59.999999
+
+                                    Dlk/  In-DB2  In-DB2  In-DB2           GetP/
+   Time  Thrds Commit Abort DML     TOut  Elap Tm CPU Tm  Wait Tm  Getpage RIO
+   ----- ----- ------ ----- -----   ----  ------- -------  -------  ------- -----
: _ 10:29     2     20     0    63     0        .0      .01       .0       67   .0
: _ 10:28     1     10     0    24     0        .0      .00       .0       38   .0
: _ 10:27     1     10     0    23     0        .0      .00       .0       37   .0
: _ 10:26     1     10     0    23     0        .0      .00       .0       40   .0
: _ 10:25     1     10     0    24     0        .0      .00       .0       35   .0
: _ 10:24     1     10     0    24     0        .0      .00       .0       38   .0
: _ 10:23     2     11     0    25     0        .1      .00       .0       43 43.0
: _ 10:22     1     10     0    24     0        .0      .00       .0       38   .0
: _ 10:21     2     20     0    45     0        .0      .01       .0       59   .0
: _ 10:20     1     10     0    24     0        .0      .00       .0       38   .0
: _ 10:19     2     20     0    63     0        .0      .01       .0       67   .0
: _ 10:18     1     10     0    24     0        .0      .00       .0       38   .0
: _ 10:17     1     10     0    23     0        .1      .00       .0       37   .0
: _ 10:16     1     10     0    23     0        .0      .00       .0       40   .0
: _ 10:15     1     10     0    24     0        .0      .00       .0       35   .0
================================================================================
```

Navigation

For additional information about

- a report subinterval, move the cursor to the line you want, enter one of the following selection letters, and press Enter.

  A

  Thread history by Plan. For more information, see the description of panel "Thread History By Plan" on page 700.

  B

  Thread history by Authid. For more information, see the description of panel "Thread History By Authid" on page 702.

  C

  Thread history by Plan, Authid. For more information, see the description of panel "Thread History By Plan, Authid" on page 703.

  D

  Thread history by Authid, Plan. For more information, see the description of panel "Thread History By Authid, Plan" on page 705.

  E

  Thread history summary (no grouping). For more information, see the description of panel "Thread History Summary" on page 708.

  G

  Thread history summary by correlation ID. For more information, see the description of panel "Thread History By Correlation ID" on page 713.

- other topics, use the PF keys.

Fields

Report Interval
The time interval by which the report period is partitioned. For more information, see the description of panel “Near-Term Thread History Filter Options” on page 693.

Start
The start date and time of the first interval in the display.

Report Filtered
This field shows YES if thread filter values were used to create this display. Otherwise, NO is displayed.

End
The end time of the last subinterval in the display.

Time
The time of the start of the report subinterval.

Thrds
The number of threads completed in this subinterval.

Commit
The number of successful commits performed in this subinterval. For attachments that use two-phase-commit protocol, this count represents the number of phase two commits. For others, this count represents the number of single-phase commit (sync) requests.

Abort
The number of successful rollbacks performed in this subinterval.

DML
The number of DML calls issued in this subinterval.

DLk/TOut
The number deadlocks and timeouts occurred in this subinterval.

In-DB2 Elap Tm
The elapsed time spent in DB2 for this subinterval. Accounting class 2 data is required. Displays N/A if accounting class 2 data is not available.

In-DB2 CPU Tm
The CPU time spent in DB2 for this subinterval. Accounting class 2 data is required. Displays N/A if accounting class 2 data is not available.

In-DB2 Wait Tm
The time spent waiting in DB2 for this subinterval. Accounting class 3 data is required. Displays N/A if accounting class 3 data is not available. DB2 Accounting class 3 wait events are:

- Synchronous I/O waits
- Asynchronous Read I/O waits
- Asynchronous Write I/O waits
- Lock/latch waits
- Page latch waits
- Drain lock waits
- Drain of claims waits
- DB2 service task waits
- Archive Log Mode(QUIESCE) waits
- Archive read from tape waits

Getpage
The number of Getpage requests issued in this subinterval.

GetP/RIO
The ratio of Getpage requests to synchronous Read I/Os for this subinterval.

Thread History By Correlation ID

This panel provides information about thread activity grouped by correlation ID for a selected report interval or subinterval.

```
_________________ ZHAGTX   VTM     O2       V540.#P DA41 11/06/13 12:10:49   3
> Help PF1          Back PF3         Up PF7          Down PF8          Zoom PF11
>
>                    Enter a selection letter on the top line.
>
> A-BY PLAN        B-BY AUTHID       C-BY PLAN,AUTHID       D-BY AUTHID,PLAN
> O-OPTIONS        *-BY CORRID
================================================================================
>                             THREAD HISTORY BY CORRID
 HAGP
+ Report Interval:   15 mins                     Start: 11/06 10:15:00.000000
+ Report Filtered:       NO                         End: 11/06 10:29:59.999999
 corr
+
+                                    DLk/ In-DB2  In-DB2  In-DB2          GetP
+Corrid       Thrds Commit Abrt DML   TOut Elap Tm CPU Tm  Wait Tm Getpage RIO
+------------ ----- ------ ---- ----- ---- ------- ------- ------- ------- ----
+DB2PEAgent.e    19    181    0   456    0      .5     .09      .2     650  .7K
================================================================================
```

Navigation

For additional information about

- a report subinterval, move the cursor to the line you want, enter one of the following selection letters, and press Enter.

  A
  Thread history by Plan. For more information, see the description of panel "Thread History By Plan" on page 700.

  B
  Thread history by Authid. For more information, see the description of panel "Thread History By Authid" on page 702.

  C
  Thread history by Plan, Authid. For more information, see the description of panel "Thread History By Plan, Authid" on page 703.

  D
  Thread history by Authid, Plan. For more information, see the description of panel "Thread History By Authid, Plan" on page 705.

  O
  Thread history display options. For more information, see the description of the panel "Thread History Display Options" on page 706.
- threads associated with a correlation ID, move the cursor to the line you want and press F11 (Zoom).
- other topics, use the PF keys.

Fields

Report Interval
The time interval by which the report period is partitioned. For more information, see the description of panel "Near-Term Thread History Filter Options" on page 693.

Start
The start date and time of the first interval in the display.

Report Filtered
This field shows YES if thread filter values were used to create this display. Otherwise, NO is displayed.

End
The end date and time of the last interval in the display.

Corrid
The DB2 correlation identifier.

Thrds
The number of completed threads for the correlation identifier.

Commit
The number of successful commits run with the correlation identifier. For attachments that use two-phase-commit protocol, this count represents the number of phase two commits. For others, this count represents the number of single-phase commit (sync) requests.

Abort
The number of successful rollbacks performed by threads running with the correlation identifier.

DML
The number of DML calls issued by threads running with the correlation identifier.

DLk/TOut
The number deadlocks and timeouts that occurred for threads run with the correlation identifier.

In-DB2 Elap Tm
The elapsed time spent in DB2 for threads run with the correlation identifier. Accounting class 2 data is required. Displays N/A if accounting class 2 data is not available.

In-DB2 CPU Tm
The CPU time spent in DB2 for threads run with the correlation identifier. Accounting class 2 data is required. Displays N/A if accounting class 2 data is not available.

In-DB2 Wait Tm
The time spent waiting in DB2 for threads run with the correlation identifier. Accounting class 3 data is required. Displays N/A if accounting class 3 data is not available. DB2 Accounting class 3 wait events are:

- Synchronous I/O waits
- Asynchronous Read I/O waits
- Asynchronous Write I/O waits
- Lock/latch waits
- Page latch waits
- Drain lock waits
- Drain of claims waits
- DB2 service task waits
- Archive Log Mode(QUIESCE) waits
- Archive read from tape waits

Getpage
The number of Getpage requests issued by threads run with the correlation identifier.

GetP/RIO
The ratio of Getpage requests to synchronous Read I/Os for the correlation identifier.

Thread History Buffer Pool Summary

This panel provides summary information about thread buffer pool activity within a report interval.

```
_________________ ZHATBUF  VTM     O2       V540.#P DA41 11/06/13 12:14:53   2
> Help PF1          Back PF3         Up PF7          Down PF8          Zoom PF11
>
>                     Enter a selection letter on the top line.
>
> A-Summary    *-Buffer Pool    C-DB2 Time    D-Lock/Scan/Sort    E-Alt Summary
> O-OPTIONS
================================================================================
>                       Thread History Buffer Pool Summary
 HATH
+ Report Interval:   15 mins                     Start: 11/06 10:00:00.000000
+ Report Filtered:       NO                         End: 11/06 10:14:59.999999
 buf
+
+                                                Read   GetP/                 Immed
+ End Time       Plan     Authid   GetPage  I/O    RIO    Pfetch Update Write
+ ------------   -------- -------- -------  -----  -----  ------ ------ ------
+ 10:14:46.339 D DISTSERV MIS           38      0      0       0     18      0
+ 10:13:44.882 D DISTSERV MIS           37      0      0       0     17      0
+ 10:12:45.707 D DISTSERV MIS           38      0      0       0     18      0
+ 10:11:46.491 D DISTSERV MIS           33      0      0       0     13      0
+ 10:11:32.884 D DISTSERV MIS          202      0      0       0      6      0
================================================================================
```

Navigation

For additional information about

- a particular thread, move the cursor to the thread information line and press F11 (Zoom).
- related topics, choose on of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Report Interval
The time of the thread summary report displayed.

Start
The start date and time of the interval currently displayed.

Report Filtered
This field shows YES if thread filter values were used to create this display. Otherwise, NO is displayed.

End
The end time of the interval currently displayed.

End Time
The end time of the DB2 thread execution.

If this thread involves parallel processing or if it invokes autonomous procedures, one of the following identifiers is displayed after the elapsed time to provide more information about this thread:

*****
This thread is a parallel task initiated on behalf of another (originating) thread to process a query request in parallel.

A
This thread is an autonomous procedure rollup record.

D
This thread is a RRSAF/DDF rollup record due to ZPARM ACCUMACC >= 2.

O
This thread is the originating thread that invokes autonomous procedures.

P
This thread is the parent or the originating thread of the parallel tasks that are created to process a query request in parallel. Activity that is performed for this (originating) thread is reflected under the parallel tasks.

R
This thread is a parallel task rollup record due to ZPARM PTASKROL = YES.

Plan
The DB2 plan name.

Authid
The DB2 authorization identifier of the threads.

Getpage
The number of Getpage requests issued.

Read I/O
The number of synchronous Read I/Os performed.

GetP/RIO
The ratio of Getpage requests to synchronous Read I/Os.

Pfetch
The number of Prefetch requests issued.

Update
The number of buffer pool page updates performed.

Immed Write
The number of immediate (synchronous) writes performed.

Thread History DB2 Time Summary

This panel provides a summary of thread In-DB2 times for a selected report interval.

```
_________________ ZHATTIM  VTM     O2       V540.#P DA41 11/06/13 12:15:51   2
> Help PF1         Back PF3         Up PF7         Down PF8          Zoom PF11
>
>                   Enter a selection letter on the top line.
>
> A-Summary    B-Buffer Pool    *-DB2 Time    D-Lock/Scan/Sort    E-Alt Summary
> O-OPTIONS
================================================================================
>                       Thread History DB2 Time Summary
 HATH
+ Report Interval:   15 mins                     Start: 11/06 10:00:00.000000
+ Report Filtered:       NO                         End: 11/06 10:14:59.999999
 time
+
+                                  In-DB2   In-DB2        Wait    I/O    I/O
+ End Time       Plan     Authid   Elap Tm  CPU Tm  Waits Time    Waits Wait Tm
+ ------------   -------- -------- -------  ------- ----- ------- ----- -------
+ 10:14:46.339 D DISTSERV MIS          .05      .00     8    .000     0    .000
+ 10:13:44.882 D DISTSERV MIS          .01      .00     8    .000     0    .000
+ 10:12:45.707 D DISTSERV MIS          .01      .00     8    .000     0    .000
+ 10:11:46.491 D DISTSERV MIS          .02      .00     6    .000     0    .000
+ 10:11:32.884 D DISTSERV MIS          .15      .01     5    .000     0    .000
================================================================================
```

Navigation

For additional information about

- a particular thread, move the cursor to the thread information line and press F11 (Zoom).
- related topics, choose on of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Report Interval
The time of the thread summary report displayed.

Start
The start date and time of the interval currently displayed.

Report Filtered
This field shows YES if thread filter values were used to create this display. Otherwise, NO is displayed.

End
The end time of the interval currently displayed.

End Time
The end time of the DB2 thread execution.

If this thread involves parallel processing or if it invokes autonomous procedures, one of the following identifiers is displayed after the elapsed time to provide more information about this thread:

*****
This thread is a parallel task initiated on behalf of another (originating) thread to process a query request in parallel.

A
This thread is an autonomous procedure rollup record.

D
This thread is a RRSAF/DDF rollup record due to ZPARM ACCUMACC >= 2.

O
This thread is the originating thread that invokes autonomous procedures.

P
This thread is the parent or the originating thread of the parallel tasks that are created to process a query request in parallel. Activity that is performed for this (originating) thread is reflected under the parallel tasks.

R
This thread is a parallel task rollup record due to ZPARM PTASKROL = YES.

Plan
The DB2 plan name.

Authid
The DB2 authorization identifier of the threads.

In-DB2 Elap Tm
The elapsed time spent in DB2. Accounting class 2 is required. Displays N/A if accounting class 2 data is not available.

In-DB2 CPU Tm
The CPU time spent in DB2. Accounting class 2 is required. Displays N/A if accounting class 2 data not available.

Waits
The total number of waits in DB2. Accounting class 3 is required. Displays N/A if accounting class 3 data is not available.

Wait Time
The time spent waiting in DB2. Accounting class 3 is required. Displays N/A if accounting class 3 data is not available.

I/O Waits
The total number of waits for I/O. Accounting class 3 is required. Displays N/A if accounting class 3 data is not available.

I/O Wait Tm
The time spent waiting for I/O. Accounting class 3 is required. Displays N/A if accounting class 3 data is not available.

Thread History DB2 Lock/Scan/Sort Summary

This panel provides a summary of thread lock, sort, and scan information for a selected report interval.

```
_________________ ZHATLOC  VTM     O2       V540.#P DA41 11/06/13 12:19:47   2
> Help PF1         Back PF3         Up PF7          Down PF8          Zoom PF11
>
>                    Enter a selection letter on the top line.
>
> A-Summary    B-Buffer Pool    C-DB2 Time    *-Lock/Scan/Sort    E-Alt Summary
> O-OPTIONS
================================================================================
>                    Thread History Lock/Scan/Sort Summary
 HATH
+ Report Interval:   15 mins                    Start: 11/06 10:00:00.000000
+ Report Filtered:       NO                       End: 11/06 10:14:59.999999
 locs
+
+                                          Dlk/  Lock   Lock     TS        Recs
+ End Time       Plan     Authid   Locks  Tout Waits  Wait Tm  Scan Sort Sorted
+ ------------   -------- -------- ------ ---- -----  -------  ---- ---- ------
+ 10:14:46.339 D DISTSERV MIS          38    0     0     .000    63    0      0
+ 10:13:44.882 D DISTSERV MIS          38    0     0     .000    53    0      0
+ 10:12:45.707 D DISTSERV MIS          38    0     0     .000    43    0      0
+ 10:11:46.491 D DISTSERV MIS          36    0     0     .000    33    0      0
+ 10:11:32.884 D DISTSERV MIS          97    0     0     .000    23    0      0
================================================================================
```

Navigation

For additional information about

- a particular thread, move the cursor to the thread information line and press F11 (Zoom).
- related topics, choose on of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Report Interval
The time of the thread summary report displayed.

Start
The start date and time of the interval currently displayed.

Report Filtered
This field shows YES if thread filter values were used to create this display. Otherwise, NO is displayed.

End
The end time of the interval currently displayed.

End Time
The end time of the DB2 thread execution.

If this thread involves parallel processing or if it invokes autonomous procedures, one of the following identifiers is displayed after the elapsed time to provide more information about this thread:

*****
This thread is a parallel task initiated on behalf of another (originating) thread to process a query request in parallel.

A
This thread is an autonomous procedure rollup record.

D
This thread is a RRSAF/DDF rollup record due to ZPARM ACCUMACC >= 2.

O
This thread is the originating thread that invokes autonomous procedures.

P
This thread is the parent or the originating thread of the parallel tasks that are created to process a query request in parallel. Activity that is performed for this (originating) thread is reflected under the parallel tasks.

R
This thread is a parallel task rollup record due to ZPARM PTASKROL = YES.

Plan
The DB2 plan name.

Authid
The DB2 authorization identifier of the threads.

Locks
The number of Internal Resource Lock Manager (IRLM) lock requests issued.

DLk/TOut
The number of deadlocks and timeouts occurred.

Lock Waits
The total number of waits because of lock or latch suspension. Accounting class 3 is required. Displays N/A if accounting class 3 data is not available.

Lock WaitTm
The time spent waiting as a result of lock or latch suspension. Accounting class 3 is required. Displays N/A if accounting class 3 data is not available.

TS Scan
The number of tablespace scans. Scan data required. Displays N/A if sort data is not available.

Sort
The number of sorts performed. Sort data required. Displays N/A if sort data is not available.

Recs Sorted
The total number of records sorted. Sort data required. Displays N/A if sort data is not available.

Thread History Times Summary

This panel provides time-based summary information of threads that completed within a report interval.

```
_________________ ZHATALT  VTM     O2       V540.#P DA41 11/06/13 12:36:44   2
> Help PF1         Back PF3         Up PF7         Down PF8          Zoom PF11
>
>                   Enter a selection letter on the top line.
>
> A-Summary    B-Buffer Pool    C-DB2 Time    D-Lock/Scan/Sort    *-Alt Summary
> O-OPTIONS
================================================================================
>                      Thread History Times Summary
 HATH
+ Report Interval:   15 mins                     Start: 11/06 10:00:00.000000
+ Report Filtered:       NO                         End: 11/06 10:14:59.999999
 alt
+
+                                  Elapsed CPU     In-DB2  In-DB2
+ End Time       Plan     Authid   Time    Time    Elap Tm CPU Tm   SQL  GetPag
+ ------------   -------- -------- ------- ------- ------- -------- ---- ------
+ 10:14:46.339 D DISTSERV MIS          .45     .005    .05      .00   24     38
+ 10:13:44.882 D DISTSERV MIS          .26     .005    .01      .00   23     37
+ 10:12:45.707 D DISTSERV MIS          .36     .005    .01      .00   24     38
+ 10:11:46.491 D DISTSERV MIS          .44     .004    .02      .00   24     33
+ 10:11:32.884 D DISTSERV MIS          .98     .011    .15      .01   22    202
================================================================================
```

Navigation

For additional information about

- a particular thread, move the cursor to the thread information line and press F11 (Zoom).
- related topics, choose on of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Report Interval
The timespan (to the nearest minute) of the report.

Start
The start date and time of the interval currently displayed.

Report Filtered
This field shows YES if thread filter values were used to create this display. Otherwise, NO is displayed.

End
The end time of the interval currently displayed.

End Time
The end time of the DB2 thread execution.

If this thread involves parallel processing or if it invokes autonomous procedures, one of the following identifiers is displayed after the elapsed time to provide more information about this thread:

*****
This thread is a parallel task initiated on behalf of another (originating) thread to process a query request in parallel.

A
This thread is an autonomous procedure rollup record.

D
This thread is a RRSAF/DDF rollup record due to ZPARM ACCUMACC >= 2.

O
This thread is the originating thread that invokes autonomous procedures.

P
This thread is the parent or the originating thread of the parallel tasks that are created to process a query request in parallel. Activity that is performed for this (originating) thread is reflected under the parallel tasks.

R
This thread is a parallel task rollup record due to ZPARM PTASKROL = YES.

Plan
The DB2 plan name.

Authid
The DB2 authorization identifier of the threads.

Elapsed Time
The total elapsed time for the thread.

CPU Time
The amount of CP time used by the thread. This value reflects MVS TCB time for non-database access threads and SRB time for database access threads and parallel tasks. This time represents CP time only and does not include SE (Specialty Engine) time.

In-DB2 Elap Tm
The elapsed time spent in DB2. Accounting class 2 is required. Displays N/A if accounting class 2 data is not available.

In-DB2 CPU Tm
The CPU time spent in DB2. Accounting class 2 is required. Displays N/A if accounting class 2 data not available.

SQL
The total number of DCL, DDL, and DML SQL calls issued by the thread. COMMIT and ROLLBACK/ABORT are not included.

Getpag
The number of Getpage requests issued.

Thread History Detail

This panel provides detail information about the activity of a completed thread or parallel task.

A parallel task is a subtask that is created from an originating thread to process a part of a query.

```
_________________ ZHTACT   VTM     O2       V540.#P DC11 06/30/16 21:37:03   2
> Help PF1               Back PF3               Up PF7                 Down PF8

>          THREAD HISTORY:  Enter a selection letter on the top line.

> *-THREAD DETAIL   B-LOCK COUNTS  C-LOCK WAITS     D-GLOBAL LOCKS  E-SORT/SCAN
> F-DYNAMIC SQL     G-SQL COUNTS   H-DISTRIBUTED    I-BUFFER POOL   J-GROUP BP
> K-PACKAGE SUMMARY L-RES LIMIT    M-PARALLEL TASKS
================================================================================
>                           THREAD HISTORY DETAIL
 HPLN
+ Thread:  Plan=DSNTEP12  Connid=BATCH    Corrid=HONGDGTB     Authid=HONG
+ Attach:  BATCH          DB2=DC11        MVS=PMO1
+ Time  :  Start=06/30/2016 21:33:10.830412     End=06/30/2016 21:33:39.000595
+ Luwid=DEIBMIPS.IPSAQC11.D0F943973839
 act
+ Termination Status    =         DEALLOC     Commits              =          1
+ Total Elapsed Time    =    00:00:28.170     Aborts               =          0
+ Total CP CPU Time     =    00:00:00.755
+ ZIIP CPU Time         =    00:00:00.000
+ Total Stored Proc CPU =    00:00:00.000
+ Stored Proc Wait      =    00:00:00.000     Stored Proc Wait Cnt =          0
+ Workfile Max Blocks   =           96768
+ Workfile Curr Blocks  =            4096
+
+ In-DB2 Times                                    Total
+ ------------------------------                  ------------
+ Elapsed Time                                    00:00:28.152
+ CP CPU Time                                     00:00:00.753
+ IIP CPU Time                                    00:00:00.000
+ Stored Procedure CPU Time                       00:00:00.000
+ STP CP CPU Time                                 00:00:00.000
+ STP IIP CPU Time                                00:00:00.000
+ STP Elapsed Time Main                           00:00:00.000
+ UDF CP CPU Time                                 00:00:00.000
+ UDF IIP CPU Time                                00:00:00.000
+ UDF Elapsed Time Main                           00:00:00.000
+
+ Waits                                    Count    Total
+ -------------------------------- ----------    ------------
+ Synchronous I/O Wait                     3415    00:00:21.330
+ Asynchronous Read I/O Wait                308    00:00:00.819
+ Asynchronous Write I/O Wait               229    00:00:00.206
+ Local Lock/Latch Wait                       1    00:00:00.002
+ Page Latch Wait                          1852    00:00:00.663
+ Drain Lock Wait                             0    00:00:00.000
+ Drain of Claims Wait                        0    00:00:00.000
+ Archive Log Mode(Quiesce) Wait              0    00:00:00.000
+ Archive Read from Tape Wait                 0    00:00:02.957
+ Switch to Open/Close Wait                   0    00:00:00.000
+ Switch to SYSLGRNG Service Wait             0    00:00:00.000
+ Switch to DMS Waits                         0    00:00:00.000
+ Other Service Waits                         4    00:00:00.015
+ Force at Commit Waits                       0    00:00:00.000
+ Log Write I/O Wait                          1    00:00:00.002
+ Sync EX Unit Sw-com/abort/dealloc           1    00:00:00.001
+ LOB Materialization                         0    00:00:00.000
+ Latch Contention Wait                     479    00:00:00.062
+ Autonomous Proc Wait                        0    00:00:00.000
+ Parallel Query Sync Wait                    0    00:00:00.000
+ Asynch IXLCACHE/IXLFCOMP                    0    00:00:00.000
+ Fast Insert Pipe Wait                       0    00:00:00.000
+ Accelerator Wait                            0    00:00:00.000
+                                    ----------    ------------
+ Total Class 3 Wait Time                  6290    00:00:26.062
================================================================================
```

Navigation

For additional information about

- related topics, choose on of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Attachment identifier:

Connection Type
The connection type is displayed in the first field:

APPLDIR
Application directed access (data base access threads)

BATCH
Other DB2 batch threads

CALLATCH
DB2 call attach

CICS
CICS attach

DLI
DL/I batch

IMSBMP
IMS attach BMP

IMSMPP
IMS attach MPP

IMSCTRL
IMS control region

IMSBMPB
IMS transaction BMP

RRSAF
Recoverable Resource Manager Services Attachment Facility

SYSDIR
System directed access (data base access threads)

TSO
TSO foreground and background

Utility
Utility thread

DB2
The DB2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) DB2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Time identifier:

Start
The start date and time of this thread execution.

End
The end date and time of this thread execution.

Distributed thread identifier: The following fields are displayed if the thread has a distributed relationship with a remote Db2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote Db2 location.

Database Access
A responding thread; one that is serving a remote Db2 location by responding to an SQL call.

Db2=
The Db2 subsystem ID, indicating the member of the data sharing group of this thread.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any Db2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the *Luwid* field displays data like in the following example:

```
USCAC001.O2D22A.A1FE8E04B9D4=8
```

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

Data fields:

Termination Status
The status that indicates the reason for the thread termination:

- READS
- RESIGNON
- NEWUSER
- DDFINACT
- DEALLOC
- COMMIT
- EOT/TERM
- EOT/ABND
- EOM/ABND
- RES/INDT
- FORCE
- IEOT/TRM
- IEOT/ABN
- IEOM/ABN

- IFORCE
- STALE
- LIMIT
- STORAGE
- INACT

Commits
The number of Commits performed by the thread.

Total Elapsed Time
The total elapsed time for the thread, in the format *hh:mm:ss.th*.

Aborts
The number of aborts performed by the thread.

Total CP CPU Time
The total central processor CPU time accumulated for the thread. This value includes only MVS TCB time. SRB time is not included.

Parallel Tasks
The number of parallel tasks that are created on behalf of this thread. Any activity that is performed on behalf of this thread by parallel tasks is not included in this thread. For a parallel task rollup record, this value is the number of child threads that are included in this record.

OR

Accounting Intervals
For a DDF or RRSAF rollup record, this value is the number of accounting intervals that are included in the record for the corresponding end user.

OR

Autonomous Procs
For an autonomous procedure rollup record, this value is the number of autonomous procedures that are included in this record.

This applies to DB2 11 and higher.

ZIIP CPU Time
The accumulated CPU time that is consumed while running on an IBM ZIIP in all environments.

Parallel Agents
For all non-rollup records, this value is always 0.

For a parallel query rollup record, this is the number of parallel child agents rolled into this record.

For an autonomous procedure rollup record, this value is always 0.

For a DDF/RRSAF rollup record, this value is the number of parallel query child agents that rolled into this record. These agents are not counted in QWACPCNT.

This applies to DB2 10 and higher.

Autonomous Count
For non-rollup records, this is the number of autonomous procedures that are completed.

For parallel query rollup records, this value is always 0.

For autonomous procedure rollup records, this value is always 0.

For DDF/RRSAF rollup recrods, this is the number of autonomous procedures that are completed. These procedures are not counted in QWACPCNT.

This applies to DB2 11 and higher.

IIP CPU Time
The total amount of zIIP in-DB2 CPU time that is accumulated for the thread.

Total Stored Proc CPU
The total CPU time (TCB time) spend processing SQL CALL statements in the DB2 stored procedures address space.

WorkFile:

Workfile Max Blocks
Maximum number of workfile blocks being used by this agent at any given point in time (traditional workfile use, DGTT and DGTT indexes). DB2 12 and later.

Workfile Curr Blocks
Current number of workfile blocks being used by this agent (traditional workfile use, DGTT and DGTT indexes). DB2 12 and later.

In-DB2 times: In-DB2 times require an Accounting trace class 2. If this trace is not active, N/A is displayed.

Elapsed Time
The elapsed time spent in DB2 for the thread, in the format *hh:mm:ss.th.*

CP CPU Time
The In-DB2 CPU time accumulated for the thread. This includes only TCB time. SRB time is not included.

Stored Procedure CPU Time
The CPU (TCB) time spent in DB2 processing SQL CALL statements issued from stored procedures for this thread.

UDF CP CPU Time
The accumulated In-DB2 central processor CPU time consumed executing user defined functions (UDFs) on the main application execution unit. This time does not include SE CPU time.

Because these UDFs run entirely within DB2, this time represents class 1 and class 2 time.

UDF IIP CPU Time
The accumulated In-DB2 zIIP CPU time consumed executing user defined functions (UDFs) on the main application execution unit.

Because these UDFs run entirely within DB2, this time represents class 1 and class 2 time.

UDF Elapsed Time Main
The accumulated In-DB2 elapsed time consumed executing user-defined functions (UDFs) on the main application execution unit.

Because these UDFs run entirely within DB2, this time represents class 1 and class 2 time.

In-DB2 waits: Wait times require an Accounting trace class 2. If this DB2 trace is not active, N/A is displayed. For each of the following fields two values are provided:

- Time displays the total wait time that has elapsed
- Count displays the total number of waits.

Synchronous I/O Wait
Wait for synchronous I/O reads or writes.

Asynchronous Read I/O Wait
Wait for Read I/O performed under another thread (for example, list or Sequential Prefetch).

Asynchronous Write I/O Wait
Wait for Write I/O performed under another thread (for example, Deferred Writes).

Local Lock/Latch Wait
Wait for locks or latches.

Page Latch Wait
Wait for page latches.

Drain Lock Wait
Wait to acquire drain locks.

Drain of Claims Wait
Wait for claims to be released after acquiring drain lock.

Archive Log Mode(Quiesce) Wait
Wait for ARCHIVE LOG MODE(QUIESCE) command to complete.

Archive Read from Tape Wait
Waits for reads of archive log from tape.

Switch to Open/Close Wait
Waits for switches to the OPEN/CLOSE service.

Switch to SYSLGRNG Service Wait
Waits for switches to the SYSLGRNG recording service.

Switch to DMS Waits
Waits for switches to the database managed space (DMS).

Other Service Waits
Waits for switches to other DB2 service tasks.

Force at Commit Waits
Waits for force-at-commit DB2 service tasks.

Log Write I/O Wait
Waits due to Log write I/O

Sync EX Unit Sw-com/abort/dealloc
Waits due to synchronous execution switch for DB2 commit, abort, or deallocation processing.

LOB Materialization
Waits for TCP/IP LOB and XML materialization.

Latch Contention Wait
Waits due to page latch contention.

Autonomous PROC Wait (QWAC_AT_WAIT QWAC_AT_COUNT)
The amount of waits that are due to autonomous procedures.

This applies to DB2 11 and higher.

Parallel Query Sync Wait (QPAC_PQS_WAIT QPAC_PQS_COUNT)
The amount of waits after parallel query processing suspended waiting for parent/child to be synchronized.

This applies to DB2 11 and higher.

Asynch IXLCACHE/IXLFCOMP (QWAXIXLT)
The accumulated wait time for IXLCACHE and IXLFCOMP requests.

Fast Insert Pipe Wait
The accumulated wait time for a pipe wait. DB2 12 and later.

LOB Compression Wait
The accumulated wait time for LOB compression. DB2 12 and later.

Accelerator Wait (QWACAACW QPACAACC)
The accumulated wait time for requests to an accelerator. DB2 11 and later.

Total Class 3 Wait Time
The total class 3 wait time.

Thread History Lock Waits

This panel provides detailed information about lock waits that occurred for a thread.

Thread data must be collected by the Near-Term History Data Collector with the LOCKCONT(YES) or LOCKSUSP(YES) keywords. Otherwise, the panel displays a message that lock wait information is not available for a thread.

```
_________________ ZHTWAIT  VTM     O2       V540.#P SE12 11/06/13 13:45:16   2
> Help PF1               Back PF3               Up PF7                 Down PF8

>          THREAD HISTORY:  Enter a selection letter on the top line.

> A-THREAD DETAIL   B-LOCK COUNTS  *-LOCK WAITS     D-GLOBAL LOCKS  E-SORT/SCAN
> F-DYNAMIC SQL     G-SQL COUNTS   H-DISTRIBUTED    I-BUFFER POOL   J-GROUP BP
> K-PACKAGE SUMMARY L-RES LIMIT    M-PARALLEL TASKS
================================================================================
>                           THREAD HISTORY LOCK WAITS
 HPLN
+ Thread:  Plan=DSNESPCS  Connid=TSO      Corrid=MIS          Authid=MIS
+ Attach:  TSO            DB2=SE12        MVS=PMO4
+ Time  :  Start=11/06/2013 13:30:02.142363     End=11/06/2013 13:31:39.784388
+ Luwid=DEIBMIPS.IPSATE12.CC39197D8375
 wait
+                               Lock Suspension
+
+ Time         Resource                              Type Lvl Dur Elapsed Resume
+ ------------ ------------------------------------ ---- --- --- ------- ------
+ 13:30:02.286 DB=DSNDB06                           DTBS S   CMT     .00 NORMAL
+ 13:30:02.286 DB=DSNDB06  PS=SYSTSDBA              PALK IX  CMT     .00 NORMAL
+ 13:30:02.287 DB=DSNDB06  PS=SYSTSDBU              PALK IS  CMT     .00 NORMAL
+ 13:30:02.288 DB=DSNDB06  PS=SYSGPAUT              PSET IS  CMT     .00 NORMAL
+ 13:30:02.288 DB=DSNDB06  PS=SYSSEQ2               PSET IX  CMT     .00 NORMAL
+ 13:30:02.288 DBID=00006  TABL=00379               TABL IX  CMT     .00 NORMAL
+ 13:30:02.289 DB=DSNDB06  PS=SYSSEQ                PSET IS  CMT     .00 NORMAL
+ 13:30:02.289 DBID=00006  TABL=00372               TABL IS  CMT     .00 NORMAL
+ 13:30:02.289 DB=DSNDB06  PS=SYSSEQ                SREC X   MNL     .00 NORMAL
+ 13:30:02.289 N/A (Lock with non zero token)       N/A  X   INT     .00 NORMAL
+ 13:30:02.311 DBID=00543                           DTBS U   CMT     .00 NORMAL
```

Navigation

For additional information about

- related topics, choose on of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Attachment identifier:

Connection Type
The connection type is displayed in the first field:

APPLDIR
Application directed access (data base access threads)

BATCH
Other DB2 batch threads

CALLATCH
DB2 call attach

CICS
CICS attach

DLI
DL/I batch

IMSBMP
IMS attach BMP

IMSMPP
IMS attach MPP

IMSCTRL
IMS control region

IMSBMPB
IMS transaction BMP

RRSAF
Recoverable Resource Manager Services Attachment Facility

SYSDIR
System directed access (data base access threads)

TSO
TSO foreground and background

Utility
Utility thread

DB2
The DB2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) DB2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Time identifier:

Start
The start date and time of this thread execution.

End
The end date and time of this thread execution.

Distributed thread identifier: The following fields are displayed if the thread has a distributed relationship with a remote Db2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote Db2 location.

Database Access
A responding thread; one that is serving a remote Db2 location by responding to an SQL call.

Db2=
The Db2 subsystem ID, indicating the member of the data sharing group of this thread.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any Db2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the *Luwid* field displays data like in the following example:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

Lock Contention (Timeout): This section is displayed only when the thread execution ended due to a lock timeout and lock contention data was collected.

Resource:

The DB2 resource that was requested by the timed-out thread that was waiting for the resource.

The resource varies depending upon the type of lock requested. If it is possible, the DBid and the OBid of the resource are translated to the DBname and tablespace or to indexspace names.

Lock types such as DPAG, MDEL, TABL, or ROW might include a table record ID in the lock resource. The DBid and OBid of these resources cannot be translated. Therefore the values of the DBid and the OBid are displayed.

This field displays the following resources:

Lock Type
Resource and Explanation

ALBP
Alter buffer pool lock. BP=buffer pool ID

BIND
Autobind/remote bind lock.

BMBA
Buffer manager SCA MBA L-lock.

BMC_MBAO or BMC_MBAR

BPPS Buffer manager pageset RR P-lock

- BP=buffer pool ID
- DB=database name
- PS=pageset name

CCAT
CATMAINT convert catalog lock.

CDIR
CATMAINT convert directory lock.

CDRN
Cursor Stability drain lock

- DB=database name
- PS=pageset name
- PT=partition

CMIG
CATMAINT migration lock.

COLL
Collection lock.

COLL=collection ID

DBEX
Database exception LPL/GRECP lock.

DBXU
DB exception update lock.

DGTT
DGTT URID lock

URID=unit of recovery ID

DPAG
Page lock in a tablespace

- DB=database name
- PS=pageset name
- PG=page

DSET
Partitioned lock

- DB=database name
- PS=pageset name
- PT=partition number

DTBS
Database lock.

- DB=database name
- PS=pageset name
- PT=partition number

GRBP
Group buffer pool start/stop lock.

BP=buffer pool ID

HASH
Hash anchor lock.

- DB=database name
- PS=pageset name
- PG=page

IEOF
Index IEOF.

- DB=database name
- PS=pageset name
- PT=partition

IPAG
Page lock in an indexspace

- DB=database name
- PS=pageset name
- PG=page

MDEL
Mass delete lock.

- DB=database name
- PS=pageset name

PALK

- DB=database name
- PS=pageset name
- PT=partition

PBPC
Group Bp level castout P-lock.

PCDB
DDF CDB P-lock.

PDBD
PDBD P-lock.

PDSO
Pageset or dataset open lock

- DB=database name
- PS=pageset name

PITR
Index manager tree P-lock.

- DB=database name
- PS=pageset name
- PT=partition

PPAG
Page P-lock.

PPSC
Pageset/partition level castout P-lock.

PPSP
Pageset/partition P-lock.

PRLF
RLF P-lock.

PSET
Pageset lock.

- DB=database name
- PS=pageset name

PSPI
Pageset piece lock.

- DB=database name
- PS=pageset name

RDRN
Repeatable read drain lock.

- DB=dataset name
- PS=pageset name
- PT=partition

RSTR
SCA access for restart/redo lock.

BMC-RSTP

ROW
Row lock.

SDBA
Start/stop lock on DBA table.

- DB=dataset name
- PS=pageset name

SKCT
Skeleton cursor table lock.

PLAN=plan name

SKPT

Skeleton package table lock.

TOKEN=(CONTOKEN) column from SYSIBM.SYSPACKAGE

SPRC Sys Level PIT Recovery lock
SYS_PITR

SREC
Log range lock.

- DB=database name
- TS=tablespace name

UIDA
Util I/O Damage Assessment

TABL
Table lock.

- DBID=DBid
- TABL=Tableid

UNDT
Resource ID (in hexadecimal).

UNKN
Lock without resource provided.

- Resource does not exist.

UTEX
Utility exclusive execution lock

- UTEXEC

UTID
Utility UID lock.

- UID=utility id

UTOB
Utility Object Lock

- DB=database name
- PS=pageset name
- PT=partition

UTSE
Utility serialization lock.

- UTSERIAL

WDRN
Write drain lock.

- DB=database name

- PS=pageset name
- PT=partition

Wait:

This section provides information about the lock that ended due to timeout. This section includes the following information:

Lock Level

The level or mode of the lock request. This information describes the level of resource access demanded by the lock request. Possible lock levels are:

IS
Intent share

IX
Intent exclusive

NSU
Nonshared update

S
Share

SIX
Share intent exclusive

U
Update

UNS
Unprotected share

X
Exclusive

Duration

The duration of the requested lock. Possible duration categories are:

Allocation
Lock is held until thread terminates or until plan is deallocated.

COMMIT
Lock is held until Commit is processed.

Commit+1
Lock is held until Commit is processed, unless Lock is needed to maintain the position of the cursor that was opened with the Hold attribute.

Free
Duration to free all locks.

Interest
Lock is held as long as DB2 has interest in the resource. This duration is used only for P-locks.

Manual
A lock of short duration that DB2 acquires to perform tasks such as authorization checking.

Manual+1
A lock of short duration that DB2 acquires to temporarily change from CS to RR during bind or DDL.

Plan
Lock is held until plan is deallocated.

Undetermined
Lock is held for undetermined duration.

IRLM Function

The type of request to the Internal Resource Lock Manager (IRLM). The possible request types are:

LOCK
Lock request

UNLOCK
Unlock request

CHANGE
Change lock request

Request Type
The type of lock request. Possible types are:

Conditional
Conditional lock request.

Unconditional
Unconditional lock request.

Holder's Program Name
The plan name of the thread holding the resource. This might be an application plan name or a DB2 system plan name.

Holder's Coll
Holder's package or DBRM name, which consists of the fields:

QW0172Q1
Program name

QW0172Q2
Package collection ID

QW0172Q3
Location name

Holder's Location
Holder's package or DBRM name, which consists of the fields:

QW0172Q1
Program name

QW0172Q2
Package collection ID

QW0172Q3
Location name

Statement ID
The SQL statement identifier.

Statement Type
The SQL statement type.

Own
Lock ownership information. The following fields provide detailed information about the holders of incompatible locks on the resource that was requested by the timed-out thread.

Plan
The plan name of the lock owners.

Connid
The connection identifiers of the lock owners.

Corrid
The correlation identifier of the lock owners.

Luwid
The Logical Unit-of-Work identifier. This field is displayed only for database access threads (DBATs).

Lock Level
The level of the lock. (See possible lock levels listed for the **Wait:** section before).

Duration
The duration of the threads holding incompatible locks.

PWait
Priority waiter information. The following fields provide detailed information about any threads that were priority waiters for the resource during the lock request timeout.

Plan
The plan name of the priority waiter.

Connid
The connection identifiers of the priority waiter.

Corrid
The correlation identifier of the priority waiter.

Luwid
The logical unit-of-work identifier. This field is displayed only for database access threads (DBATs).

Lock Level
The level of the lock. For a list of lock levels, see the **Wait:** section above.

Duration
Indicates the duration of the requested lock. For a list of duration values, see the **Duration** section above.

Lock contention (deadlock): Deadlock information is displayed only when the thread ended due to a deadlock.

Time of Deadlock
The time that the locking deadlock occurred.

Deadlock Interval
The DB2 deadlock detection interval.

Resource
The DB2 resource that was requested by the deadlocked thread (see table above). The resource format varies depending upon the type of lock requested.

Wait
See Wait fields described under Timeout section above.

Own
See Own fields described under Timeout section above.

DBMS Subsystem ID
The database management subsystem identifier.

Lock Suspension: Lock suspension information is displayed only when lock suspension data was collected.

Time
The time that the lock was suspended.

Resource
The name of the resource for which the lock suspension occurred. The contents of this field depend on the Lock Type (see table above).

If the name of the resource is not available, N/A and the reason why the resource name is not available is displayed. One of the following reasons might be the cause:

Notify IRLM function
Anything to do with lock state, duration, etc. is invalid.

Query IRLM function
Anything to do with lock state, duration, etc. is invalid.

Change with non zero token
Change a non zero value indicates the lock to free. The values of resource and type are not valid.

Unlock with non zero token
Unlock a non zero value indicates the lock to free. The values of resource and type are not valid.

Lock with non zero token
Token should be zero on Lock.

Reason for the suspend=XX
Is displayed if none of the above reasons is found. See QW0044WS for possible XX values.

Type
The type of lock requested. This field determines the contents of the resource name (see table above).

Lvl
The level of the lock.

Dur
The duration of the requested lock. For a list of duration values, see the Wait section above.

Elapsed
The elapsed time (in seconds) for each suspended lock that was resumed.

Resume
The reason why the lock suspension was resumed. Possible reasons:

DEADLK
Deadlock

IDENT
Identify to IRLM

NORMAL
Normal resume

TIMOUT
Timeout

Thread History Lock/Claim/Drain Activity

This panel provides lock/claim/drain statistics such as the number of requests to acquire a lock and the number of pages that were locked for a thread.

```
_________________ ZHTLOCT  VTM     O2       V540.#P SE12 11/06/13 13:46:21   2
> Help PF1               Back PF3               Up PF7                 Down PF8

>          THREAD HISTORY:  Enter a selection letter on the top line.

> A-THREAD DETAIL   *-LOCK COUNTS  C-LOCK WAITS     D-GLOBAL LOCKS  E-SORT/SCAN
> F-DYNAMIC SQL     G-SQL COUNTS   H-DISTRIBUTED    I-BUFFER POOL   J-GROUP BP
> K-PACKAGE SUMMARY L-RES LIMIT    M-PARALLEL TASKS
================================================================================
>                  THREAD HISTORY LOCK/CLAIM/DRAIN ACTIVITY
 HPLN
+ Thread:  Plan=DSNESPCS  Connid=TSO      Corrid=MIS          Authid=MIS
+ Attach:  TSO            DB2=SE12        MVS=PMO4
+ Time  :  Start=11/06/2013 13:30:02.142363     End=11/06/2013 13:31:39.784388
+ Luwid=DEIBMIPS.IPSATE12.CC39197D8375
 loct
+ Lock Requests          =       1645   Deadlocks Detected         =          0
+ Unlock Requests        =        636   Timeouts Detected          =          0
+ Query Requests         =         72   Suspends - Lock Only       =          0
+ Change Requests        =        272   Suspends - Latch Only      =          1
+ Other IRLM Requests    =          0   Suspends - Other           =          0
+ Escalations to Shared  =          0   Escalations to Exclusive   =          0
+ Maximum Page/Row Locks =          6
+
+ Claim Requests         =        867   Claims Failed              =          0
+ Drain Requests         =         18   Drains Failed              =          0
================================================================================
```

Navigation

For additional information about

- related topics, choose on of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Thread Identifier:

Plan
The DB2 plan name of the thread.

Connid
The DB2 connection identifier of the thread.

Corrid
The DB2 correlation identifier of the thread.

Authid
The DB2 authorization identifier of the thread.

Attachment identifier:

Connection Type
The connection type is displayed in the first field:

APPLDIR
Application directed access (data base access threads)

BATCH
Other DB2 batch threads

CALLATCH
DB2 call attach

CICS
CICS attach

DLI
DL/I batch

IMSBMP
IMS attach BMP

IMSMPP
IMS attach MPP

IMSCTRL
IMS control region

IMSBMPB
IMS transaction BMP

RRSAF
Recoverable Resource Manager Services Attachment Facility

SYSDIR
System directed access (data base access threads)

TSO
TSO foreground and background

Utility
Utility thread

DB2
The DB2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) DB2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Distributed thread identifier: The following fields are displayed when the thread has a distributed relationship with a remote DB2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote DB2 location.

Database Access
A server thread; one that has received and is serving an SQL request from a remote DB2 location.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any DB2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the **Luwid** field displays data such as the following:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

Time identifier:

Start
The start date and time of this thread execution.

End
The end date and time of this thread execution.

Lock/Claim/Drain:

Lock Requests
Requests to Internal Resource Lock Manager (IRLM) to obtain a lock on a resource.

Deadlocks Detected
The number of deadlocks detected.

Unlock Requests
Requests to IRLM to unlock a resource.

Timeouts Detected
Occasions when suspension of a unit of work lasted longer than the IRLM timeout value.

Query Requests
Requests to IRLM to query a lock.

Change Requests
Requests to IRLM to change a lock.

Suspends - Latch Only
DB2 internal latch suspensions.

Other IRLM Requests
Requests to IRLM to perform a function other than those listed above.

Suspends - Other
Suspensions caused by something other than locks and latches.

Lock Escalations - to Shared
Occasions when the allowable number of locks per tablespace was exceeded, causing a page (IS) lock to escalate to a shared (S) lock.

Lock Escalations - to Exclusive
Occasions when the allowable number of locks per tablespace was exceeded, causing a page (IX) lock to escalate to an exclusive (X) lock.

Maximum Page/Row Locks
The maximum number of page locks held concurrently during the thread's execution. This count cannot exceed the value of the NUMLKUS (locks per user) installation parameter.

Claim/Drain information:

Claim Requests
The number of requests for a claim on a resource.

Claims Failed
The number of unsuccessful claim requests.

Drain Requests
The number of requests for a drain of claims.

Drains Failed
The number of unsuccessful drain requests.

Thread History Global Lock Activity

This panel provides information about global locking activity for an individual thread.

```
_________________ ZHTGLOC  VTM     O2       V540.#P SE12 11/06/13 13:51:22   2
> Help PF1               Back PF3               Up PF7                 Down PF8

>          THREAD HISTORY:  Enter a selection letter on the top line.

> A-THREAD DETAIL   B-LOCK COUNTS  C-LOCK WAITS     *-GLOBAL LOCKS  E-SORT/SCAN
> F-DYNAMIC SQL     G-SQL COUNTS   H-DISTRIBUTED    I-BUFFER POOL   J-GROUP BP
> K-PACKAGE SUMMARY L-RES LIMIT    M-PARALLEL TASKS
================================================================================
>                  THREAD HISTORY GLOBAL LOCK ACTIVITY
 HPLN
+ Thread:  Plan=DSNESPCS  Connid=TSO      Corrid=MIS          Authid=MIS
+ Attach:  TSO            DB2=SE12        MVS=PMO4
+ Time  :  Start=11/06/2013 13:30:02.142363     End=11/06/2013 13:31:39.784388
+ Luwid=DEIBMIPS.IPSATE12.CC39197D8375
 gloc
+ P-lock Lock Requests        =     312   XES Lock Requests           =     870
+ P-lock Unlock Requests      =      36   XES Unlock Requests         =     347
+ P-lock Change Requests      =     145   XES Change Requests         =     163
+ Suspends - IRLM Global Cont =       0   Total L-lock Requests       =    3290
+ Suspends - XES Global Cont  =       0   XES L-lock Req Percentage   =   34.4%
+ Suspends - False (and Conv) =     273   Incompatible Retained Locks =       0
+ Notify Messages Sent        =     103   Total Number False Content. =       0
================================================================================
```

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Attachment identifier:

Connection Type
The connection type is displayed in the first field:

APPLDIR
Application directed access (data base access threads)

BATCH
Other DB2 batch threads

CALLATCH
DB2 call attach

CICS
CICS attach

DLI
DL/I batch

IMSBMP
IMS attach BMP

IMSMPP
IMS attach MPP

IMSCTRL
IMS control region

IMSBMPB
IMS transaction BMP

RRSAF
Recoverable Resource Manager Services Attachment Facility

SYSDIR
System directed access (data base access threads)

TSO
TSO foreground and background

Utility
Utility thread

DB2
The DB2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) DB2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Time identifier:

Start
The start date and time of this thread execution.

End
The end date and time of this thread execution.

Distributed thread identifier: The following fields are displayed if the thread has a distributed relationship with a remote Db2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote Db2 location.

Database Access
A responding thread; one that is serving a remote Db2 location by responding to an SQL call.

Db2=
The Db2 subsystem ID, indicating the member of the data sharing group of this thread.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any Db2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the *Luwid* field displays data like in the following example:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

Global lock information:

Thread History Dynamic SQL Calls

This panel provides information about dynamic SQL calls that were issued by a completed thread.

You must specify the keyword **DYNAMICSQL(YES)** if thread data is collected; otherwise the panel displays a message that dynamic SQL information is not available for the thread.

```
_________________ ZHTCALL  VTM     O2       V540.#P SE12 11/06/13 13:53:17   2
> Help PF1               Back PF3               Up PF7                 Down PF8

>          THREAD HISTORY:  Enter a selection letter on the top line.

> A-THREAD DETAIL   B-LOCK COUNTS  C-LOCK WAITS     D-GLOBAL LOCKS  E-SORT/SCAN
> *-DYNAMIC SQL     G-SQL COUNTS   H-DISTRIBUTED    I-BUFFER POOL   J-GROUP BP
> K-PACKAGE SUMMARY L-RES LIMIT    M-PARALLEL TASKS N-SQL PA
================================================================================
>                      THREAD HISTORY DYNAMIC SQL CALLS
 HPLN
+ Thread:  Plan=DSNESPCS  Connid=TSO      Corrid=MIS          Authid=MIS
+ Attach:  TSO            DB2=SE12        MVS=PMO4
+ Time  :  Start=11/06/2013 13:30:02.142363     End=11/06/2013 13:31:39.784388
+ Luwid=DEIBMIPS.IPSATE12.CC39197D8375
 call
+
: Select Call=NEXT      (FIRST/LAST/NEXT/PREV/+nnnnn/-nnnnn/Snnnnn)
+
+                              SQL Statement      (      41 of      72)
+
+ UPDATE WEATHER2 SET CITY = 'DELETED'
+
+                              Miniplan Generated
+
+ Plan #  1    (Estimated Cost:      118 )
+
+ Table: WEATHER2               Access Type: SEQUENTIAL SCAN
+ Prefetch Activity: SEQUENTIAL
================================================================================
```

Navigation

For additional information about

- related topics, choose on of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Attachment identifier:

Connection Type
The connection type is displayed in the first field:

APPLDIR
Application directed access (data base access threads)

BATCH
Other DB2 batch threads

CALLATCH
DB2 call attach

CICS
CICS attach

DLI
DL/I batch

IMSBMP
IMS attach BMP

IMSMPP
IMS attach MPP

IMSCTRL
IMS control region

IMSBMPB
IMS transaction BMP

RRSAF
Recoverable Resource Manager Services Attachment Facility

SYSDIR
System directed access (data base access threads)

TSO
TSO foreground and background

Utility
Utility thread

DB2
The DB2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) DB2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Time identifier:

Start
The start date and time of this thread execution.

End
The end date and time of this thread execution.

Distributed thread identifier: The following fields are displayed if the thread has a distributed relationship with a remote Db2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote Db2 location.

Database Access
A responding thread; one that is serving a remote Db2 location by responding to an SQL call.

Db2=
The Db2 subsystem ID, indicating the member of the data sharing group of this thread.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any Db2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the *Luwid* field displays data like in the following example:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

Miniplan:

Select Call
Specifies the next SQL statement that is displayed. Initially this panel displays the first SQL statement that was collected for the thread. Use these keywords to control the display:

FIRST
First SQL statement encountered for the thread.

LAST
Last SQL statement encountered for the thread.

NEXT
Next SQL statement encountered for the thread.

PREV
Previous statement encountered for the thread.

+nnnnn
The nnnnn (1-99999) entry after the currently displayed SQL statement.

-nnnnn
The nnnnn (1-99999) entry before the currently displayed SQL statement.

Snnnnn
Statement number nnnnn.

Plan #
The plan for a select block within the prepared SQL statement.

Estimated Cost
The cost factor for this SQL statement, generated by the DB2 Optimizer.

Table
The name of the table that was accessed.

Access Type
The method by which the table was accessed. Possible values are:

Index
Index was used to access table data.

Index (One-Fetch)
Index was used to determine which data page is needed for processing. This type of access is used for processing MIN and MAX functions.

Index (IN keyword)
Index was used to access table data for processing the IN keyword in SQL statements.

Index (Page Range)
Index was used to access table data in a particular page range.

Sequential Scan (Page Range)
All pages within a particular page range of the partitioned tablespace were accessed sequentially.

Sequential Scan
All pages in the tablespace (or table if the tablespace is segmented) were accessed sequentially.

Join Method
The type of join being performed. Possible values:

- Nested Loops
- Hybrid
- Merge Scan

Table Type
Indicates whether the table was the INNER or OUTER table for the join processing.

Prefetch Activity
The type of prefetch activity performed. If no prefetch was performed, this field is not displayed. Possible values are:

Sequential
Sequential Prefetch.

List
List Prefetch for one or more indexes.

Sort Activity
The reason for the sort. If no sort was performed, this field is not displayed. Possible values are:

Uniq
Sort to remove duplicate rows.

Join
Sort needed for join processing.

Order
Sort needed to satisfy Order By clause.

Group
Sort needed to satisfy Group By clause.

Uniq(C)
Sort to remove duplicate rows (composite table).

Join(C)
Sort needed for join processing (composite table).

Order(C)
Sort needed to satisfy Order By clause (composite table).

Group(C)
Sort needed to satisfy Group By clause (composite table).

Access Degree
The degree of parallelism used by the query. This is the number of parallel I/O streams determined by the optimizer at PREPARE time. The actual number of I/O streams used at execution time can be different.

Access Group ID
The parallel group identifier used for accessing the new table. This is the identifier for a group of consecutive parallel operations. These parallel operations have the same number of I/O streams. The value is determined at PREPARE time and can be changed at execution time.

Access Type
The type of parallel processing to be used. Possible values are:

CPU
CPU parallelism

I/O
I/O parallelism

Join Degree
The degree of parallelism used in joining the composite table with the new table. This is the number of parallel I/O streams used for the join. The value is set at PREPARE time and can change at execution time.

Join Group ID
The value that is used to identify the parallel group when DB2 joins the composite table with the new table. This is determined at PREPARE time and could be different at execution time.

Thread History SQL Counts

This panel provides information about SQL calls that were issued by a completed thread. It also provides data definition and data manipulation statements.

With the information on this panel, you can obtain counts of the various SQL, RID pool, or Parallel activities of a completed thread. This helps you to determine the activities that use resources excessively. For example, a single SELECT command might result in many physical FETCHes.

```
 _________________ ZHTSQLS  VTM     O2       V540./C DA31 DD/MM/YY 13:31:27   2
> Help PF1               Back PF3               Up PF7                 Down PF8

>          THREAD HISTORY:  Enter a selection letter on the top line.

> A-THREAD DETAIL   B-LOCK COUNTS  C-LOCK WAITS     D-GLOBAL LOCKS  E-SORT/SCAN
> F-DYNAMIC SQL     *-SQL COUNTS   H-DISTRIBUTED    I-BUFFER POOL   J-GROUP BP
> K-PACKAGE SUMMARY L-RES LIMIT    M-PARALLEL TASKS
================================================================================
>                       THREAD HISTORY SQL COUNTS
 HPLN
+ Thread:  Plan=KO2PLAN   Connid=RRSAF    Corrid=             Authid=OMPEUSER
+ Attach:  RRSAF          DB2=DA31        MVS=PMO3
+ Time  :  Start=10/30/2014 10:41:25.730054     End=10/30/2014 13:29:00.008316
+ Luwid=DEIBMIPS.IPSASA31.CDFB32ADD12C
 sqls
+ Commit         =       7  Abort          =       0  Select          =       5
+ Open Cursor    =       3  Close Cursor   =       3  Fetch           =    9443
+ Insert         =       0  Delete         =       0  Update          =       1
+ Describe       =       0  Lock Table     =       0  Prepare         =       1
+ Grant          =       0  Revoke         =       0  Set Rules       =       0
+ Increm Bind    =       0  Label/Comm On  =       0  Set SQLID       =       0
+ Set Host Var   =       0  Set Connection =       0  Set Degree      =       0
+ Conn Type 1    =       0  Conn Type 2    =       0  Set Path        =       0
+ Rename Table   =       0  Hold Locator   =       0  Free Locator    =       0
+ Release        =       0  Assoc Locator  =       0  Alloc Cursor    =       0
+ Merge          =       0  Rename Index   =       0  Truncate Table  =       0
+ Refresh Table  =       1  Transfer Owner =       2
```

```
+
+ Creates:                  Drops:                    Alters:
+  Table         =       0   Table         =       0   Table          =       0
+  Index         =       0   Index         =       0   Index          =       0
+  Table Space   =       0   Table Space   =       0   Table Space    =       0
+  Data Base     =       0   Data Base     =       0   Data Base      =       0
+  Storage Group =       0   Storage Group =       0   Storage Group  =       0
+  Synonym       =       0   Synonym       =       0
+  View          =       0   View          =       0   View           =       0
+  Alias         =       0   Alias         =       0
+  Function      =       0   Function      =       0   Function       =       0
+  Procedure     =       0   Procedure     =       0   Procedure      =       0
+  Sequence      =       0   Sequence      =       0   Sequence       =       0
+  Role          =       0   Role          =       0
+  Trusted CTX   =       0   Trusted CTX   =       0   Trusted CTX    =       0
+  Mask/Perm     =       0   Mask/Perm     =       0   Mask/Perm      =       0
+  Variable      =     N/A   Variable      =     N/A
+  Trigger       =       0   Trigger       =       0
+  Dist Type     =       0   Dist Type     =       0
+  Aux Table     =       0   Package       =       0   Jar            =       0
+  Glob Temp Tab =       0   Declare GTT   =       0
+
```

```
+ RID List
+ ---------------------
+ Successful              =       0   To Workfile (No Storage)        =       0
+ Not Used (No Storage)   =       0   To Workfile (Max Limit)         =       0
+ Not Used (Max Limit)    =       0   Interrupted (No Storage)        =       0
+ Not used (Final)        =       0   Interrupted (No Storage)        =       0
+ Skipped (Index Known)   =       0   Interrupted (Max Limit)         =       0
+ Skipped (Adaptive IX)   =       0
```

```
+ Query Parallelism
+ --------------------
+ Max Degree (Planned)    =     N/A   Parallel Group Degenerated      =     N/A
+ Max Degree (Estimated)  =     N/A   Reform Parallelism (Config Chg) =       0
+ Max Degree (Executed)   =       0   Reform Parallelism (No Buffer)  =       0
+  Ran Planned            =       0   Total Parallel Groups           =       0
+  Ran Reduced (Storage)  =       0   Groups Intended                 =       0
+  Ran Reduced (Negot)    =     N/A   Members Skipped                 =       0
+  Ran Seq (Cursor)       =       0    One DB2 (Coord=NO)            =       0
+  Ran Seq (No Buffer)    =       0    One DB2 (Isolation)           =       0
+  Ran Seq (No ESA Sort)  =       0    One DB2 (DCL GTT)             =       0
+  Ran Seq (Autonomous)   =     N/A
+  Ran Seq (Negotiate)    =     N/A
```

```
+ Miscellaneous                      Triggers
+ --------------------              ---------------------
+ Max LOB Storage (KB)    =       0   Statement Trigger               =       0
+ Maximum XML Storage     =       0   Row Trigger                     =       0
+ Maximum Nested SQL      =       0   SQL Errors                      =       0
+ Array Expansions        =     N/A
+ Sparse IX (Disabled)    =     N/A
+ Sparse IX (Built WF)    =     N/A
+ Fetch 1 Block Only      =       0
+ Insert Algorithm 1      =       1
+ Insert Algorithm 2      =       0
+ Execution History Lost  =       0
+ HV Recording Lost Hist  =       0
```

```
+ Stored Procedures                  User Defined Functions
+ --------------------              ---------------------
+ Executed                =       0   Executed                        =       0
+ Abended                 =       0   Abended                         =       0
+ Timed Out               =       0   Timed Out                       =       0
+ Rejected                =       0   Rejected                        =       0
+
```

```
+ Prepare Statistics
+ --------------------
+ Prepares (Copy Found)   =       0   Prepares (Copy Not Found)       =       1
+ Prepares (restrict IX)  =       0   Prepares (Catalog Found)        =       0
+ Literals (Parsed)       =       0   KeepDyn (Prepared)              =       0
+ Literals (Replaced)     =       0   KeepDyn (Avoided)               =       0
+ Literals (Matched)      =       0   KeepDyn (Exceed Limit)          =       0
+ Literals (Duplicated)   =       0   KeepDyn (Invalidated)           =       0
```

```
+ ROWID                              Row Processing
+ --------------------              ---------------------
+ Direct Access           =       0   Rows Fetched                    =    9443
+ Index Used              =       0   Rows Updated                    =       0
+ TS Scan Used            =       0   Rows Inserted                   =       1
+                                     Rows Deleted                    =       0
================================================================================
```

Navigation

For additional information about

- related topics, choose on of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier:

Plan
The DB2 plan name of the thread.

Connid
The DB2 connection identifier of the thread.

Corrid
The DB2 correlation identifier of the thread.

Authid
The DB2 authorization identifier of the thread.

Attachment identifier:

Connection Type
The connection type is displayed in the first field:

APPLDIR
Application directed access (data base access threads)

BATCH
Other DB2 batch threads

CALLATCH
DB2 call attach

CICS
CICS attach

DLI
DL/I batch

IMSBMP
IMS attach BMP

IMSMPP
IMS attach MPP

IMSCTRL
IMS control region

IMSBMPB
IMS transaction BMP

RRSAF
Recoverable Resource Manager Services Attachment Facility

SYSDIR
System directed access (data base access threads)

TSO
TSO foreground and background

Utility
Utility thread

DB2
The DB2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) DB2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Time identifier:

Start
The start date and time of this thread execution.

End
The end date and time of this thread execution.

Distributed thread identifier: The following fields are displayed if the thread has a distributed relationship with a remote Db2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote Db2 location.

Database Access
A responding thread; one that is serving a remote Db2 location by responding to an SQL call.

Db2=
The Db2 subsystem ID, indicating the member of the data sharing group of this thread.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any Db2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the *Luwid* field displays data like in the following example:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

SQL counts:

Commit
The number of times the thread successfully concluded Commit phase 2 processing.

Abort
A count of the number of times the thread has rolled back uncommitted data.

Select
The number of SELECT requests.

Open Cursor
The number of OPEN cursor statements issued by a thread.

Close Cursor
The number of CLOSE cursor statements issued by a thread.

Fetch
The number of FETCH requests.

Insert
The number of INSERT statements executed by the thread.

Delete
The number of DELETE statements issued by the thread.

Update
The number of UPDATE statements executed by the thread.

Describe
The number of DESCRIBE statements issued by the thread.

Lock Table
A count of the number of LOCK TABLE statements issued by the application (not the total number of tables locked by the thread).

Prepare
The number of PREPARE statements issued by a thread.

Grant
The total number of times SQL GRANT requests were issued from within the program.

Revoke
The total number of times SQL REVOKE requests were issued from within the program.

Set Rules
The number of SET CURRENT RULES statements executed by the thread.

Increm Bind
A count of the number of times the plan active in the thread was rebound. PREPARES are not included. This value should be zero in a production environment. The plan can be rebound with VALIDATE(BIND) to prevent incremental binds.

Label/Comm On
The number of LABEL ON and COMMENT ON statements issued by the thread.

Set SQLID
The number of SET SQLID requests issued by the thread.

Set Host Var
The number of SET host variable requests executed by the thread.

Set Connection
The number of SET CONNECTION statements executed by the thread.

Set Degree
The number of SET CURRENT DEGREE statements executed by the thread.

Connect Type 1
The number of CONNECT type 1 statements executed by the thread.

Connect Type 2
The number of CONNECT type 2 statements executed by the thread.

Set Path
The number of SET CURRENT PATH statements executed by the thread.

Rename table
The number of RENAME TABLE statements executed by the thread.

Hold Locator
The number of HOLD LOCATOR statements executed by the thread.

Free Locator
The number of FREE LOCATOR statements executed by the thread.

Release
The number of RELEASE statements executed by the thread.

Assoc Locator
The number of ASSOCIATE LOCATOR statements executed by the thread.

Alloc Cursor
The number of ALLOCATE CURSOR statements executed by the thread.

Merge
The number of MERGE statements executed by the thread.

Rename Index
The number of RENAME INDEX statements executed by the thread.

Truncate Table
The number of TRUNCATE TABLE statements executed by the thread.

Refresh Table
Number of refresh table statements. DB2 12 and later. (Field name: QXTREFTBL)

Transfer Owner
Number of transfer ownership statements. DB2 12 and later. (Field name: QXTRNOWN)

Creates, Drops, Alters:

Table
The number of CREATE, DROP, or ALTER TABLE statements executed by the thread.

Index
The number of CREATE, DROP, or ALTER INDEX statements executed by the thread.

Table Space
The number of CREATE, DROP, or ALTER TABLESPACE statements executed by the thread.

Data Base
The number of CREATE, DROP, or ALTER DATABASE statements executed by the thread.

Storage Group
The number of CREATE, DROP, or ALTER STOGROUP statements executed by the thread.

Synonym
The number of CREATE or DROP SYNONYM statements executed by the thread.

View
The number of CREATE or DROP VIEW statements executed by the thread.

Alias
The number of CREATE or DROP ALIAS statements executed by the thread.

Function
The number of CREATE, DROP, or ALTER FUNCTION statements executed by the thread.

Procedure
The number of CREATE, DROP, or ALTER PROCEDURE statements executed by the thread.

Sequence
The number of CREATE, DROP, or ALTER PROCEDURE statements executed by the thread.

Role
The number of CREATE, DROP, or ROLE statements executed by the thread.

Trusted CTX
The number of CREATE, DROP, or ALTER TRUSTED CONTENT statements executed by the thread.

Mask/Perm
The number of CREATE, DROP, or ALTER MASK/PERM statements executed by the thread.

Variable
The number of CREATE, or DROP Variable statements executed by the thread. DB2 11 and above.

Trigger
The number of CREATE or DROP DISTINCT TRIGGER statements executed by the thread.

Dist Type
The number of CREATE or DROP DISTINCT TYPE statements executed by the thread.

Aux Table
The number of CREATE AUXILIARY TABLE statements executed by the thread.

Package
The number of the DROP PACKAGE statements executed by the thread.

JAR
The number of ALTER JAR statements executed by the thread.

Glob Temp Tab
The number of CREATE GLOBAL TEMPORARY TABLE statements executed by the thread.

Declare GTT
The number of DECLARE GLOBAL TEMPORARY TABLE statements executed by the thread.

RID List:

Successful
The number of times RID list processing used. This field is incremented once for a given table access for Index Access with list prefetch and for Multiple Index Access.

To Workfile (No Storage)
The number of times a RID list was overflown to a work file because no RIDPOOL storage was available to hold the list of RIDs. DB2 10 and above.

Not Used (No Storage)
The number of times a RID list was not used for a given RID list process involving one index (Index Access with list prefetch) or involving multiple indexes (Multiple Index Access) because no storage was available to hold the list of RIDs.

To Workfile (Max Limit)
The number of times a RID list was overflown to a work file because the number of RIDs exceeded one or more internal limits. DB2 10 and above.

Not Used (Max Limit)
The number of times one or more RID lists were not used for a given RID list process involving one index (Index Access with list prefetch) or involving multiple indexes (Multiple Index Access) because the number of RIDs exceeded one or more internal limits.

Not Used (Final)
Number of times RID list processing was not used. This field is incremented once when RID list processing could not be used for a given table access for Index Access with list prefetch and/or for Multiple Index Access. DB2 12 and later.

Interrupted (No Storage)
The number of times a RID list append for a Hybrid Join was interrupted because no RIDPOOL storage was available to hold the list of RIDs (that is, number of times DB2 interrupted the RID phase and switched to the Data phase). DB2 10 and above.

Skipped (Index Known)
The number of times a RID list retrieval for multiple index access was skipped because it was not necessary due to DB2 being able to predetermine the outcome of index ANDing or ORing. DB2 10 and above.

Interrupted (Max Limit)
The number of times a RID list append for a Hybrid Join was interrupted because the number of RIDs exceeded one or more internal limits (that is, number of times DB2 interrupted the RID phase and switched to the Data phase). DB2 10 and above.

Skipped (Adaptive IX)
The number of times a DM is not called for RID list retrieval for multiple index access or LPF because it was not necessary due to Runtime Adaptive Index processing being able to predetermine the outcome. DB2 12 and later. (Field name: QXRSDMAD)

Query Parallelism:

Max Degree (Planned)
The planned maximum degree of parallelism for a parall group. This value is the optimal degree of parallelis that can be obtained at execution time, after host variables or parameter markers are resolved, and before buffer pool negotiation and system negotiation are performed. DB2 11 and above.

Parallel Group Degenerated
Total number of parallel groups that changed to sequential mode during optimization, for reasons such as, the result of evaluation of a parallel group is that zero rows are returned, or a parallel group is partitioned on a single record. DB2 11 and above.

Max Degree (Estimated)
The estimated maximum degree of parallelism for a parallel group. This value is estimated at bind time, based on the cost formula. If a parallel group contains a host variable or parameter marker, the estimate is based on assumed values. DB2 11 and above.

Reform Parallelism (Config Chg)
The total number of parallel groups for which DB2 reformulated the parallel portion of the access path because the sysplex configuration was different from the sysplex configuration at bind time. This counter is only incremented by the parallelism coordinator at run time.

Max Degree (Executed)
Maximum degree of parallelism among the parallel groups to indicate the extent to which query parallelism applies.

Reform Parallelism (No Buf)
The total number of parallel groups for which DB2 reformulated the parallel portion of the access path because there was not enough buffer pool resource. This counter is only incremented by the parallelism coordinator at run time.

Ran Planned
The total number of parallel groups that have a planned degree greater than one at run time, and were executed to the same degree because of sufficient storage on the buffer pool.

Total Parallel Groups
The total number of parallel groups executed.

Ran Reduced (Storage)
The total number of parallel groups that have a planned degree greater than one at run time, but were processed to a parallel degree less than planned because of a storage shortage or contention on the buffer pool.

Groups Intended
The total number of parallel groups that were intended to run across the data sharing group. This count is only incremented on the parallelism coordinator at run time.

Ran Reduced (Negot)
The total number of parallel groups for which the degree of parallelism was reduced as a result of parallel system negotiation because system resources were constrained. DB2 11 and above.

Members Skipped
The number of times that the parallelism coordinator had to bypass a DB2 when distributing tasks because there was not enough buffer pool storage on one or more DB2 members. This field is incremented only on the parallelism coordinator, and it is only incremented once per parallel group, even though it is possible that more than one DB2 had a buffer pool shortage for that parallel group. The purpose of this count is to indicate when there are not enough buffers on a member. Therefore, this count is incremented only when the buffer pool is defined to allow parallelism. For example, if VPXPSEQT = 0 on an assistant, DB2 does not send parallel work there, but this count is not incremented.

Ran Seq (Cursor)
The total number of parallel groups which fell back to sequential mode because the cursor may be used in UPDATE/DELETE.

One DB2 (Coord=NO)
The total number of parallel groups executed on a single DB2 due to the COORDINATOR subsystem parameter being set to NO. When the statement was bound, the COORDINATOR subsystem parameter was set to YES. This situation can also occur when a plan or package is bound on one DB2 where COORDINATOR=YES but is run on a DB2 where COORDINATOR=NO.

Ran Seq (No Buffer)
The total number of parallel groups that have a planned degree greater than one at run time, but fell back to sequential mode because of storage shortage or contention on the buffer pool.

One DB2 (Isolation)
The total number of parallel groups executed on a single DB2 due to repeatable-read or read-stability isolation.

Ran Seq (No ESA Sort)
The total number of parallel groups that fell back to sequential operation because of a lack of ESA sort support.

One DB2 (DCL GTT)
The total number of parallel groups that are part of a query block using a UDF and executed on a single DB2 due to the existence of a Declared Temporary Table in the application process. Neither the query block nor the parallel group references a Declared Temporary Table, and a parallel group may or may not use a UDF.

Ran Seq (Autonomous)
The total number of parallel groups that changed to sequential mode because they were executing under an autonomous procedure. DB2 11 and above.

Ran Seq (Negotiate)
The total number of parallel groups that changed to sequential mode as a result of parallel system negotiation because system resources were constrained. DB2 11 and above.

Ran Seq (No ESA Enc)
The total number of parallel groups executed in sequential because Z/OS enclave services were unavailable. DB2 9 only.

Miscellaneous:

Maximum LOB Storage
The maximum storage used for LOB values, in Megabytes.

Maximum XML Storage
The maximum storage used for XML values.

Maximum Nested SQL
Maximum level of nested SQL cascading because of Triggers, User-Defined Functions, or Stored Procedures.

Array Expansions
The number of times an array variable was expanded to be larger than 32KB. DB2 11 and above.

Sparse IX (Disabled)
The number of times that sparse index was disabled because of insufficient storage. DB2 11 and above.

Sparse IX (Built WF)
The number of times that sparse index built a physical work file for probing. DB2 11 and above.

Fetched 1 Block Only (QXR1BOAD)
The number of times 1 block is fetched and there were no further fetches. DB2 12 and later.

Insert Algorithm 1
INSERT algorithm type 1. DB2 12 and later.

Insert Algorithm 2
INSERT algorithm type 2. DB2 12 and later.

Execution History Lost
Number of execution histories lost. DB2 12 and later.

HV Recording Lost Hist
Number of HV recordings lost in execution history. DB2 12 and later.

Triggers:

Statement Trigger
Number of times a Statement Trigger is activated.

Row Trigger
Number of times a Row Trigger is activated.

SQL Errors
Number of times an SQL error occurred during execution of a triggered action.

Stored procedures: For each field described below the following statistics are provided:

- Total quantity, which reflects the amount of activities since DB2 was started.
- Interval quantity, which reflects activity during the last cycle.
- Rate per minute during the last cycle.
- Rate per thread during the last cycle.
- Rate per Commit during the last cycle.

Abended
CALL statements executed to invoke a stored procedure that terminated abnormally.

Timed Out
CALL statements executed to invoke a stored procedure that timed out while waiting to be scheduled.

Rejected
CALL statements executed to invoke a stored procedure that was in the STOP ACTION(REJECT) state.

User Defined Functions:

Executed
The number of user-defined functions (UDFs) executed.

Abended
The number of times a UDF abended.

Timed Out
The number of times a UDF timed out when waiting to be scheduled.

Rejected
The number of times a UDF was rejected.

Prepare Statistics:

Prepares (Copy Found)
The number of times that DB2 satisfied a prepare request by making a copy of a statement in the Prepared Statement Cache.

Prepare (Copy Not Found)
The number of times that DB2 searched the Prepared Statement Cache but could not find a suitable prepared statement.

Prepares (Catalog Found)
The number of times a PREPARE request is satisfied by making a copy from the stabilized statement in SYSIBM.SYSDYNQRY catalog table. The stabilized statement search is done only when no matching statement is found in the prepared statement cache. DB2 12 and later. (Field name: QXSTSFND)

Prepare (Restrict IX)
The number of prepare statements for which the use of indexes was restricted because the indexes were in a pending state.

Literals (Parsed)
Number of times DB2 parsed dynamic statements because of CONCENTRATE STATEMENTS WITH LITERALS behaviour.

Literals (Replaced)
Number of times DB2 replaced at least one literal in a dynamic statement because of CONCENTRATE STATEMENTS WITH LITERALS behaviour.

Literals (Matched)
Number of times DB2 found a matching reusable copy of a dynamic statement in cache because of CONCENTRATE STATEMENTS WITH LITERALS behaviour.

Literals (Duplicated)
Number of times DB2 created a duplicate stmt instance in the statement cache because of CONCENTRATE STATEMENTS WITH LITERALS behaviour.

KeepDyn (Prepared)
The number of times that DB2 did an implicit prepare for a statement bound with KEEPDYNAMIC(YES), because the Prepared Statement Cache did not contain a valid copy of the prepared statement.

KeepDyn (Avoided)
The number of times that DB2 did not prepare a statement bound with KEEPDYNAMIC(YES), because the Prepared Statement Cache contained a valid copy of the prepared statement.

KeepDyn (Exceed Limit)
The number of times that DB2 discarded a prepared statement from the Prepared Statement Cache, because the number of prepared statements in the cache exceeded the value of subsystem parameter MAXKEEPD.

KeepDyn (Invalidated)
The number of times that DB2 discarded a prepared statement from the Prepared Statement Cache, because a program executed a DROP, ALTER, or REVOKE statement against a dependent object.

Row ID

Successful
The number of times that direct row access was successful.

Revert to Index
The number of times an attempt to use direct row access reverted to using an index to locate a record.

Revert to TS Scan
The number of times an attempt to use direct row access reverted to using a table space scan to locate a record.

Row Processing

Rows Fetched
The number of fetched rows.

Rows Inserted
The number of inserted rows.

Rows Updated
The number of updated rows.

Rows Deleted
The number of deleted rows.

Thread History Buffer Pool Activity

This panel provides information about buffer pool activity for a completed thread.

```
_________________ ZHTBUF   VTM     O2       V540.#P SE12 11/06/13 13:54:31   2
> Help PF1               Back PF3               Up PF7                 Down PF8

>          THREAD HISTORY:  Enter a selection letter on the top line.

> A-THREAD DETAIL   B-LOCK COUNTS  C-LOCK WAITS     D-GLOBAL LOCKS  E-SORT/SCAN
> F-DYNAMIC SQL     G-SQL COUNTS   H-DISTRIBUTED    *-BUFFER POOL   J-GROUP BP
> K-PACKAGE SUMMARY L-RES LIMIT    M-PARALLEL TASKS
================================================================================
>                     THREAD HISTORY BUFFER POOL ACTIVITY
 HPLN
+ Thread:  Plan=DISTSERV  Connid=SERVER   Corrid=db2bp.exe    Authid=MIS
+ Attach:  APPLDIR        DB2=SE12        MVS=PMO4
+ Dist  :  Type=DATABASE ACCESS, Luwid=G99D84D9.I2DD.131106113855
+ Time  :  Start=11/06/2013 12:40:33.546188     End=11/06/2013 13:41:56.444510
 buf
+ Buffer Pool: BP0
+
+ Getpage Requests       =    6790500   Failed Getpage Requests    =          0
+ Synchronous Read I/O   =          0   Getpage/Read I/O           =        .00
+ Page Updates           =          0   Seq Prefetch Requests      =          0
+ List Prefetch Requests =          0   Dynamic Prefetch Requests  =    1851955
+ Prefetch Pages Read    =          0
+ Immediate Writes       =          0   BP Hit Percentage          =      72.7%
================================================================================
```

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Attachment identifier:

Connection Type
The connection type is displayed in the first field:

APPLDIR
Application directed access (data base access threads)

BATCH
Other DB2 batch threads

CALLATCH
DB2 call attach

CICS
CICS attach

DLI
DL/I batch

IMSBMP
IMS attach BMP

IMSMPP
IMS attach MPP

IMSCTRL
IMS control region

IMSBMPB
IMS transaction BMP

RRSAF
Recoverable Resource Manager Services Attachment Facility

SYSDIR
System directed access (data base access threads)

TSO
TSO foreground and background

Utility
Utility thread

DB2
The DB2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) DB2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Distributed thread identifier: The following fields are displayed if the thread has a distributed relationship with a remote Db2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote Db2 location.

Database Access
A responding thread; one that is serving a remote Db2 location by responding to an SQL call.

Db2=
The Db2 subsystem ID, indicating the member of the data sharing group of this thread.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any Db2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the *Luwid* field displays data like in the following example:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

Time identifier:

Start
The start date and time of this thread execution.

End
The end date and time of this thread execution.

Buffer pool:

Getpage Requests
The number of thread Getpage requests. This value includes conditional, unconditional, successful, and unsuccessful requests. A Getpage request might not actually result in physical I/O if the requested page is in the buffer pool.

Failed Getpage Requests
The number of times a conditional Getpage request could not be satisfied. A conditional Getpage will not wait for a page that is not currently in the buffer pool. A conditional Getpage is used with parallel I/O processing only.

Synchronous Read I/O
The number of synchronous Read I/O requests issued by the thread.

Getpage/Read I/O
The ratio of Getpage requests to the number of synchronous Read I/O requests. This value does not include Prefetch requests.

Page Updates
The number of DB2 page updates made by the thread since thread creation. This value is incremented each time a row in a page is updated, not just once for each page updated. DB2 might update pages when it creates intermediate result tables because of a qualified SELECT statement, even though SELECT statements are generally thought of as read only operations. Pages that have been updated are written asynchronously by DB2, according to DB2's internal Deferred Write algorithm, not immediately after update or commit. DB2 resets the page update count at Create Thread and Signon. If Signon is not driven, the page update count is cumulative.

Seq Prefetch Requests
The number of Sequential Prefetch requests issued by the thread. Sequential Prefetch Read I/O is performed asynchronously to the user's request.

List Prefetch Requests
The number of List Prefetch requests issued by the thread.

Dynamic Prefetch Requests
The number of Dynamic Prefetch requests issued by the thread.

Prefetch Pages Read
The number of pages read asynchronously for Prefetch.

Immediate Writes
The number of immediate (synchronous) Write I/O requests issued for a thread.

BP Hit Percentage
The percentage of Getpage requests for which the data was already in the buffer pool.

Thread History Resource Limit Statistics

This panel provides information about resource limits for a completed thread, such as the highest CPU time used by a thread and the number of times each thread exceeded the maximum CPU time limit.

```
_________________ ZHTRLMS  VTM     O2       V540.#P SE12 11/06/13 14:11:48   2
> Help PF1               Back PF3               Up PF7                 Down PF8

>          THREAD HISTORY:  Enter a selection letter on the top line.

> A-THREAD DETAIL   B-LOCK COUNTS  C-LOCK WAITS     D-GLOBAL LOCKS  E-SORT/SCAN
> F-DYNAMIC SQL     G-SQL COUNTS   H-DISTRIBUTED    I-BUFFER POOL   J-GROUP BP
> K-PACKAGE SUMMARY *-RES LIMIT    M-PARALLEL TASKS
================================================================================
>                  THREAD HISTORY RESOURCE LIMIT STATISTICS
 HPLN
+ Thread:  Plan=DSNESPCS  Connid=TSO      Corrid=MIS          Authid=MIS
+ Attach:  TSO            DB2=SE12        MVS=PMO4
+ Time  :  Start=11/06/2013 14:10:40.156306     End=11/06/2013 14:10:40.166786
+ Luwid=DEIBMIPS.IPSATE12.CC39229295B3
 rlms
+          Resource Limit Table Name In Use     =          DSNRLST96
+          Resource Limit Origin                =      Auth/Coll/Pkg
+          Resource Limit In Effect (SUs)       =                20
+          Resource Limit CPU time per SU       =            .000002
+          Resource Limit In Effect (CPU secs)  =
+          Resource Limit High Water Mark (CPU) =
+          Ratio Of HWM To Resource Limit (CPU) =              35.2%
================================================================================
```

Navigation

For additional information about

- related topics, choose on of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier:

Plan
The DB2 plan name of the thread.

Connid
The DB2 connection identifier of the thread.

Corrid
The DB2 correlation identifier of the thread.

Authid
The DB2 authorization identifier of the thread.

Attachment identifier:

Connection Type
The connection type is displayed in the first field:

APPLDIR
Application directed access (data base access threads)

BATCH
Other DB2 batch threads

CALLATCH
DB2 call attach

CICS
CICS attach

DLI
DL/I batch

IMSBMP
IMS attach BMP

IMSMPP
IMS attach MPP

IMSCTRL
IMS control region

IMSBMPB
IMS transaction BMP

RRSAF
Recoverable Resource Manager Services Attachment Facility

SYSDIR
System directed access (data base access threads)

TSO
TSO foreground and background

Utility
Utility thread

DB2
The DB2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) DB2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Distributed thread identifier: The following fields are displayed when the thread has a distributed relationship with a remote DB2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote DB2 location.

Database Access
A server thread; one that has received and is serving an SQL request from a remote DB2 location.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any DB2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the **Luwid** field displays data such as the following:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

Time identifier:

Start
The start date and time of this thread execution.

End
The end date and time of this thread execution.

Resource limit:

Resource Limit Table Name in Use
The resource limit specification table used by the DB2 subsystem.

Resource Limit Origin
The origin of the resource limit in effect for this thread, if resource limiting was active.

Resource Limit in Effect (SUs)
The resource limit in MVS service units for the thread.

Resource Limit CPU Time Per SU
The number of CPU seconds per service unit. This is the ratio of the limit in CPU seconds to the limit in service units.

Resource Limit In Effect (CPU secs)
The resource limit in effect in CPU seconds.

Resource Limit High Water Mark (CPU)
The highest CPU time used for dynamic request since the thread was created.

Ratio of HWM to Resource Limit (CPU)
The ratio (in percent) of the high- water mark (HWM) to the CPU resource limit in effect.

Thread History Distributed Activity

This panel displays distributed SQL statistics for each remote DB2 location with which the thread has communicated either as a requestor or server.

```
_________________ ZHTRSUM  VTM     O2       V540.#P SC12 07/13/16 16:18:49   2
> Help PF1               Back PF3              Up PF7                Down PF8

>          THREAD HISTORY:  Enter a selection letter on the top line.

> A-THREAD DETAIL   B-LOCK COUNTS  C-LOCK WAITS     D-GLOBAL LOCKS  E-SORT/SCAN
> F-DYNAMIC SQL     G-SQL COUNTS   *-DISTRIBUTED    I-BUFFER POOL   J-GROUP BP
> K-PACKAGE SUMMARY L-RES LIMIT    M-PARALLEL TASKS
================================================================================
>                    THREAD HISTORY DISTRIBUTED ACTIVITY
 HPLN
+ Thread:  Plan=DSNESPCS  Connid=TSO      Corrid=MIS          Authid=MIS
+ Attach:  TSO            DB2=SC12        MVS=OMP6
+ Dist  :  Type=DISTRIBUTED ALLIED, Luwid=DEIBMIPS.IPUAQC12.D1093703189A
+ Time  :  Start=07/13/2016 14:02:05.770338     End=07/13/2016 15:49:31.337245
 rsum
+                        Distributed TCP/IP Data
+
+ Workstation Name: TSO
+ Transaction Name: MIS
+ TCP/IP Userid:    MIS
+
+                         Distributed SQL Statistics
+
+ Remote Location Name   = OMPDA5         Remote Product ID      = DSN10015
+
+ Protocol Used        = SYSTEM           Conversations Queued   =            0
+                                         Conv Deallocated       =            0
+ Indoubt/Remote       =            0
+ Dist Local Elapsed   = 00:00:00.017
+
+                 SQL     Row Message     Byte  Commit   Abort    Conv  Blocks
+               ------- ------- ------- -------- ------- ------- ------- -------
+ Sent              2       0       5     1147       0       1       1       0
+ Recv              0       1       5      954       0       0       0       1
+
+ Remote Location Name   = OMPDC61        Remote Product ID      = DSN12015
+
+ Protocol Used        = SYSTEM           Conversations Queued   =            0
+                                         Conv Deallocated       =            0
+ Indoubt/Remote       =            0
+ Dist Local Elapsed   = 00:00:00.008
+
+
+                 SQL     Row Message     Byte  Commit   Abort    Conv  Blocks
+               ------- ------- ------- -------- ------- ------- ------- -------
+ Sent              2       0       5     1153       0       1       1       0
+ Recv              0       1       5      957       0       0       0       1
+
+ Remote Location Name   = ALL LOCATIONS
+
+ Protocol Used        = SYSTEM           Conversations Queued   =            0
+                                         Conv Deallocated       =            0
+ Indoubt/Remote       =            0
+ Dist Local Elapsed   = 00:00:00.026
+
+                 SQL     Row Message     Byte  Commit   Abort    Conv  Blocks
+               ------- ------- ------- -------- ------- ------- ------- -------
+ Sent              4       0      10     2300       0       2       2       0
+ Recv              0       2      10     1911       0       0       0       2
================================================================================
```

Navigation

For additional information about

- related topics, choose on of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier:

Plan
The DB2 plan name of the thread.

Connid
The DB2 connection identifier of the thread.

Corrid
The DB2 correlation identifier of the thread.

Authid
The DB2 authorization identifier of the thread.

Attachment identifier:

Connection Type
The connection type is displayed in the first field:

APPLDIR
Application directed access (data base access threads)

BATCH
Other DB2 batch threads

CALLATCH
DB2 call attach

CICS
CICS attach

DLI
DL/I batch

IMSBMP
IMS attach BMP

IMSMPP
IMS attach MPP

IMSCTRL
IMS control region

IMSBMPB
IMS transaction BMP

RRSAF
Recoverable Resource Manager Services Attachment Facility

SYSDIR
System directed access (data base access threads)

TSO
TSO foreground and background

Utility
Utility thread

DB2
The DB2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) DB2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Distributed thread identifier: The following fields are displayed when the thread has a distributed relationship with a remote DB2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote DB2 location.

Database Access
A server thread; one that has received and is serving an SQL request from a remote DB2 location.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any DB2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the **Luwid** field displays data such as the following:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

Time identifier:

Start
The start date and time of this thread execution.

End
The end date and time of this thread execution.

Distributed TCP/IP Data: If no TCP/IP data is available, N/A is displayed.

Workstation Name
The end user's workstation name.

Transaction Name
The transaction or application name that the end user is running.

TCP/IP Userid
The end user's user ID.

Distributed SQL Statistics:

Remote Location Name
The name of the remote location with which the local DB2 communicated. The statistics in this panel pertain to the remote location.

Remote Product ID
The product identifier of the DB2 remote location. The format is: *PPPVVRRM* where *PPP* is the product identifier, *VV* is the version number, *RR* is the release number, and *M* is the modification level.

Protocol Used
The distributed protocol used to communicate with the remote server. Possible values are APPLICATION for application directed access or SYSTEM for system directed access.

This field is blank if you are monitoring a database access thread.

Conversations Queued
The number of conversations that were queued by DDF.

Conv Deallocated
The number of conversations deallocated.

Dist Local Elapsed
The time spent waiting for a response to a remote SQL request (includes remote DB2 processing time, VTAM processing time, and network time). This field is displayed only for distributed allied threads.

SQL Sent/Recv
The number of SQL calls sent to the location and number of SQL calls received from the location.

Row Sent/Recv
The number of rows sent to the location and number of rows received from the location.

Message Sent/Recv
The number of VTAM messages sent to the location and number of VTAM messages received from the location.

Byte Sent/Recv
The number of bytes sent to the location and number of bytes received from the location.

Commit Sent/Recv
The number of Commits sent to the location and number of commits received from the location.

Abort Sent/Recv
The number of aborts sent to the location and number of aborts received from the location.

Conv Sent/Recv
The number of conversations initiated from this location to the remote location and the number of conversations initiated from the remote location to this location.

Blocks Sent/Recv
The number of blocks sent to the location and number of blocks received from the location if using block mode.

The following field values are displayed only for 2-PHASE COMMIT:

Prepare Sent/Recv
The number of Prepare requests sent to the participant and number of requests received from the coordinator.

Last Agent Sent/Recv
The number of last agent requests sent to the coordinator and number of requests received from the initiator.

Commit Sent/Recv
The number of committed requests sent to the participant and number of requests received from the initiator.

Backout Sent/Recv
The number of backout requests sent to the participant and number of requests received from the coordinator.

Forget Sent/Recv
The number of forget requests sent to the participant and number of requests received from the coordinator.

Commit Resp Sent/Recv
The number of commit responses sent to the participant and number of requests received from the coordinator.

Backout Resp Sent/Recv
The number of backout responses sent to the participant and number of requests received from the coordinator.

Thread History Package Summary

This panel provides a list of programs (DMRMs or packages) that were executed by a completed thread.

Accounting classes 7 or 8 are required to display package information.

```
_________________ ZHTPKG   VTM     O2       V540.#P SN12 11/06/13 15:25:47   2
> Help PF1          Back PF3         Up PF7          Down PF8         Zoom PF11

>          THREAD HISTORY:  Enter a selection letter on the top line.

> A-THREAD DETAIL   B-LOCK COUNTS  C-LOCK WAITS     D-GLOBAL LOCKS  E-SORT/SCAN
> F-DYNAMIC SQL     G-SQL COUNTS   H-DISTRIBUTED    I-BUFFER POOL   J-GROUP BP
> *-PACKAGE SUMMARY L-RES LIMIT    M-PARALLEL TASKS
================================================================================
>                        THREAD HISTORY PACKAGE SUMMARY
 HPLN
+ Thread:  Plan=RUNSPNA9  Connid=DB2CALL  Corrid=MISRSP9      Authid=MIS
+ Attach:  CALLATCH       DB2=SN12        MVS=PMO4
+ Time  :  Start=11/06/2013 15:15:30.343017     End=11/06/2013 15:24:40.330325
+ Luwid=DEIBMIPS.IPSATN12.CC3931107571
 pkg
+
+                            SQL       In-DB2       In-DB2               In-DB2
+ Package/DBRM         Requests Elapsed Time     CPU Time    Waits    Wait Time
+ ----------------- ---------- ------------ ------------ -------- ------------
+ SPNAT9_NEWNAME_TES          3 00:09:09.209 00:05:07.396       79 00:00:00.432
+ RUNSPNA9                    2 00:00:00.057 00:00:00.000        5 00:00:00.030
================================================================================
```

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Attachment identifier:

Connection Type
The connection type is displayed in the first field:

APPLDIR
Application directed access (data base access threads)

BATCH
Other DB2 batch threads

CALLATCH
DB2 call attach

CICS
CICS attach

DLI
DL/I batch

IMSBMP
IMS attach BMP

IMSMPP
IMS attach MPP

IMSCTRL
IMS control region

IMSBMPB
IMS transaction BMP

RRSAF
Recoverable Resource Manager Services Attachment Facility

SYSDIR
System directed access (data base access threads)

TSO
TSO foreground and background

Utility
Utility thread

DB2
The DB2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) DB2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Time identifier:

Start
The start date and time of this thread execution.

End
The end date and time of this thread execution.

Distributed thread identifier: The following fields are displayed if the thread has a distributed relationship with a remote Db2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote Db2 location.

Database Access
A responding thread; one that is serving a remote Db2 location by responding to an SQL call.

Db2=
The Db2 subsystem ID, indicating the member of the data sharing group of this thread.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any Db2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the *Luwid* field displays data like in the following example:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

Package summary:

Package/DBRM
The name of the program for which data is reported. Up to 18 characters of the package name are returned. An asterisk (*) is displayed after the program name of the last executed program.

SQL Requests
The number of SQL statements issued in this package or DBRM.

Total Elapsed Time
The total DB2 time that has elapsed while executing in this package or DBRM.

Total CPU Time
The total DB2 CPU time used while executing in this package or DBRM.

Waits
The total number of times that the thread had to wait for a class 8 event to complete while executing in this package or DBRM.

Total Wait Time
The total time spent waiting for a class 8 event to complete while executing in this package or DBRM.

Thread History Package Detail

This panel provides detailed Accounting information on a program (package or DBRM) that has been executed by this thread.

It provides information collected for Accounting trace classes 7 and 8. If these traces are not active, this information is not available.

DB2 accounting trace classes 7 and 8 must be started before the plan begins execution, or package information is not displayed:

- If only class 7 was started, the In-DB2 Times fields display data, and N/A is displayed for the Waits and Count fields.
- If only class 8 was started, the Waits and Count fields display data, and N/A is displayed for In-DB2 Times fields.

```
_________________ ZHTPKD   VTM     O2       V540./C DC11 03/18/16 23:02:39   2
> Help PF1               Back PF3               Up PF7                Down PF8
================================================================================
>                        THREAD HISTORY PACKAGE DETAIL
 HPLN
+ Thread:  Plan=DISTSERV  Connid=SERVER    Corrid=db2jcc_appli    Authid=HONG
+ Attach:  APPLDIR          DB2=DC11        MVS=PMO1
+ Dist  :  Type=DATABASE ACCESS,  Luwid=G94C2ED3.E4F7.D076505438EB
+ Time  :  Start=03/18/2016 19:49:49.930017     End=03/18/2016
19:50:41.092444
 pkd  SYSLH200:NULLID:PMODC11
+ Program = SYSLH200
+ Type    = ROLLUP PACKAGE         Location   = PMODC11
+ Token   = 5359534C564C3031       Collection = NULLID
+
+ SQL Request Count = 30
+
+ In-DB2 Times                                  Total
+ ------------------------------                ------------
+ Elapsed Time                                  00:00:00.045
+ CPU Time                                      00:00:00.017
+
+ Waits                                 Count    Total
+ ------------------------------    ----------    ------------
+ Synchronous I/O Wait                       0    00:00:00.000
+ Asynchronous Read I/O Wait                 0    00:00:00.000
+ Asynchronous Write I/O Wait                0    00:00:00.000
+ Local Lock/Latch Wait                      0    00:00:00.000
+ Page Latch Wait                            0    00:00:00.000
+ Drain Lock Wait                            0    00:00:00.000
+ Drain of Claims Wait                       0    00:00:00.000
+ DB2 Service Task Wait                      0    00:00:00.000
+ Archive Log Mode(Quiesce) Wait             0    00:00:00.000
+ Archive Read from Tape Wait                0    00:00:00.000
+ Parallel Query Sync Wait                   0    00:00:00.000
+ LOB Materialization Wait                   0    00:00:00.000
+ Accelerator Wait                           0    00:00:00.000
+ Pipe Wait                                  0    00:00:00.000
+ ------------------------------    ----------    ------------
+ Total Class 3 Wait Time                    0    00:00:00.000
================================================================================
```

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Attachment identifier:

Connection Type
The connection type is displayed in the first field:

APPLDIR
Application directed access (data base access threads)

BATCH
Other DB2 batch threads

CALLATCH
DB2 call attach

CICS
CICS attach

DLI
DL/I batch

IMSBMP
IMS attach BMP

IMSMPP
IMS attach MPP

IMSCTRL
IMS control region

IMSBMPB
IMS transaction BMP

RRSAF
Recoverable Resource Manager Services Attachment Facility

SYSDIR
System directed access (data base access threads)

TSO
TSO foreground and background

Utility
Utility thread

DB2
The DB2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) DB2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Time identifier:

Start
The start date and time of this thread execution.

End
The end date and time of this thread execution.

Distributed thread identifier: The following fields are displayed if the thread has a distributed relationship with a remote Db2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote Db2 location.

Database Access
A responding thread; one that is serving a remote Db2 location by responding to an SQL call.

Db2=
The Db2 subsystem ID, indicating the member of the data sharing group of this thread.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any Db2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the *Luwid* field displays data like in the following example:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

Package information:

Program
The program name for which data is reported. Up to 18 characters of the package name are returned.

Type
The program type can be:

- PACKAGE
- DBRM
- PACKAGE-STORPROC, which means that the program is a package that was loaded by a stored procedure.

Location
The name of the location where the package is executed. For remote packages, times displayed represent the time spent locally to execute the remote package.

Token
The consistency token.

Collection
The package collection ID. This field is displayed only if the program type is PACKAGE.

SQL Request Count
The number of SQL statements issued. All DCL, DDL, and DML SQL statements as well as some Statistic Counters from DSNDQXST are included. COMMIT and ROLLBACK/ABORT are not included.

In-DB2 Times: In-DB2 times require an Accounting trace class 7. If this trace is not active, N/A is displayed.

In-DB2 elapsed time
The elapsed time while processing this package or DBRM:

Total
The total time the thread spends processing this package or DBRM.

Current
The total time spent processing the currently active SQL statement.

In-DB2 CPU time
The CPU time spent processing this package or DBRM.

Total
The total time the thread spends processing this package or DBRM.

Current
The total time spent processing the currently active SQL statement.

Waits: Wait times require an Accounting trace class 8. If this trace is not active, N/A is displayed. The following Statistics information is provided for each field described below:

Count
The total number of waits.

Total
The total wait time.

Synchronous I/O Wait
Waits for synchronous I/O reads or writes.

Asynchronous Read I/O Wait
Waits for Read I/O performed under another thread (prefetch).

Asynchronous Write I/O Wait
Waits for Write I/O performed under another thread (deferred writes).

Local Lock/Latch Wait
Waits for locks or latches.

Page Latch Wait
Waits for page latch.

Drain Lock Wait
Waits to acquire DRAIN lock.

Drain of Claims Wait
Waits for claimers to be released after acquiring DRAIN lock.

DB2 Service Task Wait
Waits for DB2 services. The following types of DB2 services are included:

- Open/close of data set
- DFHSM recall of a data set
- SYSLGRNG update
- Define/extend/delete of data set
- Commit phase 2 for read only threads.

Starting from DB2 11, waits that are associated with autonomous procedures are also included.

Archive Log Mode(Quiesce) Wait
Waits for MODE(QUIESCE) command to complete.

Archive Read from Tape Wait
Waits for read of archive log from tape.

Parallel Query Sync Wait (QPAC_PQS_WAIT QPAC_PQS_COUNT)
The amount of waits after parallel query processing suspended waiting for parent/child to be synchronized.

This applies to DB2 11 and higher.

LOB Materialization Wait (QPACALBW QPACALBC)
Waits for TCP/IP LOB and XML materialization.

Accelerator Wait (QWACAACW QPACAACC)
The accumulated wait time for requests to an accelerator. DB2 11 and later.

Pipe Wait (QOAC_PIPE_WAIT QPAC_PIPEWAIT_COUNT)
The accumulated wait time for a pipe while this package is being executed. DB2 12 and later.

Total Class 3 Wait Time
The total class 3 wait time.

Thread History Sort and Scan Activity

This panel displays sort and scan statistics, such as the number of sorts, the sort elapsed time, and the number of pages scanned by a completed thread.

You must specify SCAN(YES) or SORT(YES) when collecting thread data.

```
 _________________ ZHTSOCS  VTM     O2       V540.#P SAD  11/06/13 15:27:36   2
> Help PF1               Back PF3              Up PF7                Down PF8

>          THREAD HISTORY:  Enter a selection letter on the top line.

> A-THREAD DETAIL   B-LOCK COUNTS  C-LOCK WAITS     D-GLOBAL LOCKS  *-SORT/SCAN
> F-DYNAMIC SQL     G-SQL COUNTS   H-DISTRIBUTED    I-BUFFER POOL   J-GROUP BP
> K-PACKAGE SUMMARY L-RES LIMIT    M-PARALLEL TASKS
================================================================================
>                     THREAD HISTORY SORT AND SCAN ACTIVITY
 HPLN
+ Thread:  Plan=DISTSERV  Connid=SERVER   Corrid=db2bp.exe    Authid=MIS
+ Attach:  APPLDIR        DB2=SAD         MVS=PMO4
+ Dist  :  Type=DATABASE ACCESS, Luwid=G99D84D9.GDFE.131106140419
+ Time  :  Start=11/06/2013 15:05:57.333818     End=11/06/2013 15:05:57.777552
 socs
+                               Sort Statistics
+
+ Number of Sorts      =            4     Number of Work Files   =           0
+ Records Sorted       =            3     Work File Inserts      =           0
+ Sort Elapsed Time    = 00:01:30.317     Work File Reads        =           0
+ Sort CPU Time        = 00:00:52.085
+
+                               Scan Statistics
+
+ Rows Deleted - RI    =            0     Pages Scanned - RI     =           0
+
+                 Rows        Rows        Rows        Rows        Pages
+ Type    Count   Processed   Updated     Inserted    Deleted     Scanned
+ -----   -----   ---------   ---------   ---------   ---------   ---------
+ INDEX   3801K     3835564           0           0           0       45294
+ DATA       17         869           0           0           0         168
+ WORK        0           0           0           0           0           0
================================================================================
```

Navigation

For additional information about

- related topics, choose on of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier:

Plan
The DB2 plan name of the thread.

Connid
The DB2 connection identifier of the thread.

Corrid
The DB2 correlation identifier of the thread.

Authid
The DB2 authorization identifier of the thread.

Attachment identifier:

Connection Type
The connection type is displayed in the first field:

APPLDIR
Application directed access (data base access threads)

BATCH
Other DB2 batch threads

CALLATCH
DB2 call attach

CICS
CICS attach

DLI
DL/I batch

IMSBMP
IMS attach BMP

IMSMPP
IMS attach MPP

IMSCTRL
IMS control region

IMSBMPB
IMS transaction BMP

RRSAF
Recoverable Resource Manager Services Attachment Facility

SYSDIR
System directed access (data base access threads)

TSO
TSO foreground and background

Utility
Utility thread

DB2
The DB2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) DB2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Distributed thread identifier: The following fields are displayed when the thread has a distributed relationship with a remote DB2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote DB2 location.

Database Access
A server thread; one that has received and is serving an SQL request from a remote DB2 location.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any DB2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the **Luwid** field displays data such as the following:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

Time identifier:

Start
The start date and time of this thread execution.

End
The end date and time of this thread execution.

Sort statistics:

Number of Sorts
The total number of sorts performed for this thread.

Records Sorted
The total number of records sorted for this thread.

Sort Elapsed Time
The total time spent performing sort processing.

Sort CPU Time
The total CPU time spent performing sort processing.

Number of Work Files
The number of logical work files used during sort processing. This is a high-water mark.

Work File Inserts
The number of records inserted into a work file during sort processing.

Work File Reads
The number of records retrieved from a work file during sort processing.

Scan statistics:

Rows Deleted - RI
The number of rows that were deleted or set to null to enforce referential integrity constraints.

Pages Scanned - RI
The number of pages that were scanned to enforce referential integrity constraints.

Type
The type of scan information displayed. Possible types:

INDEX
Index scan

DATA
Data row scan

WORK
Work file scan

Count
The number of times this thread generated a scan.

Rows Processed
The number of rows processed by the Data Manager.

Rows Updated
The number of rows updated by the Data Manager.

Rows Inserted
The number of rows inserted by the Data Manager.

Rows Deleted
The number rows deleted by the Data Manager.

Pages Scanned
The number of pages scanned by the Data Manager.

Thread History Group Buffer Pool Activity

This panel provides a summary of group buffer pool usage for an individual thread.

```
_________________ ZHTGBUF  VTM     O2       V540.#P SN12 11/06/13 15:33:44   2
> Help PF1               Back PF3               Up PF7                 Down PF8

>          THREAD HISTORY:  Enter a selection letter on the top line.

> A-THREAD DETAIL   B-LOCK COUNTS  C-LOCK WAITS     D-GLOBAL LOCKS  E-SORT/SCAN
> F-DYNAMIC SQL     G-SQL COUNTS   H-DISTRIBUTED    I-BUFFER POOL   *-GROUP BP
> K-PACKAGE SUMMARY L-RES LIMIT    M-PARALLEL TASKS
================================================================================
>                  THREAD HISTORY GROUP BUFFER POOL ACTIVITY
 HPLN
+ Thread:  Plan=DSNESPCS  Connid=TSO      Corrid=MIS          Authid=MIS
+ Attach:  TSO            DB2=SN12        MVS=PMO4
+ Time  :  Start=11/06/2013 15:31:46.293559     End=11/06/2013 15:32:36.252634
+ Luwid=DEIBMIPS.IPSATN12.CC3934B34B7E
 gbuf
+ Group Buffer Pool:   ALL
+ Reads - Cross-Invalidation:             Reads - Page Not Found:
+   Data Returned             =       0     Data Returned             =       0
+   Data not in GBP-R/W Int   =       0     Data not in GBP-R/W Int   =       0
+   Data not in GBP-No R/W Int=       0     Data not in GBP-No R/W Int=       0
+ Read Hit Percentage         =     .0%   Read-to-Write Percentage    =     .0%
+ Changed Pages Written       =       0   Clean Pages Written         =       0
+
+ Group Buffer Pool:   GBP0
+ Reads - Cross-Invalidation:             Reads - Page Not Found:
+   Data Returned             =       0     Data Returned             =       0
+   Data not in GBP-R/W Int   =       0     Data not in GBP-R/W Int   =       0
+   Data not in GBP-No R/W Int=       0     Data not in GBP-No R/W Int=       0
+ Read Hit Percentage         =     .0%   Read-to-Write Percentage    =     .0%
+ Changed Pages Written       =       0   Clean Pages Written         =       0
+
+ Group Buffer Pool:   GBP32K
+ Reads - Cross-Invalidation:             Reads - Page Not Found:
+   Data Returned             =       0     Data Returned             =       0
+   Data not in GBP-R/W Int   =       0     Data not in GBP-R/W Int   =       0
+   Data not in GBP-No R/W Int=       0     Data not in GBP-No R/W Int=       0
+ Read Hit Percentage         =     .0%   Read-to-Write Percentage    =     .0%
+ Changed Pages Written       =       0   Clean Pages Written         =       0
================================================================================
```

Fields

Thread identifier: This information identifies the thread to which the information in this panel applies.

Plan
The Db2 plan name of the active thread.

Connid
The Db2 connection identifier of the active thread.

Corrid
The Db2 correlation identifier of the active thread. If the correlation is not set, N/A is displayed.

Authid
The Db2 authorization identifier of the active thread.

Attach
Depending on the type of connection, the appropriate information is displayed.

Attach information is displayed only if the thread is a distributed allied thread (not for distributed database access threads).

Attachment identifier:

Connection Type
The connection type is displayed in the first field:

APPLDIR
Application directed access (data base access threads)

BATCH
Other DB2 batch threads

CALLATCH
DB2 call attach

CICS
CICS attach

DLI
DL/I batch

IMSBMP
IMS attach BMP

IMSMPP
IMS attach MPP

IMSCTRL
IMS control region

IMSBMPB
IMS transaction BMP

RRSAF
Recoverable Resource Manager Services Attachment Facility

SYSDIR
System directed access (data base access threads)

TSO
TSO foreground and background

Utility
Utility thread

DB2
The DB2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) DB2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Time identifier:

Start
The start date and time of this thread execution.

End
The end date and time of this thread execution.

Distributed thread identifier: The following fields are displayed if the thread has a distributed relationship with a remote Db2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote Db2 location.

Database Access
A responding thread; one that is serving a remote Db2 location by responding to an SQL call.

Db2=
The Db2 subsystem ID, indicating the member of the data sharing group of this thread.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any Db2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the *Luwid* field displays data like in the following example:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

System
The originating Db2 job name and the resource manager that is the source of the thread. An additional line below the **Attach** line identifies the user thread, if any, being served by the system thread.

Group buffer pool information:

Group Buffer Pool
The group buffer pool ID.

Reads - Cross Invalidation: Data Returned
The number of reads to the group buffer pool required because the page in the member's buffer pool was invalidated where the data was found and returned to the member.

Reads - Page Not Found: Data Returned
The number of reads to the group buffer pool required because the page was not in the member's buffer pool where the data was found and returned to the member.

Reads - Cross Invalidation: Data not in GBP-R/W Int
The number of reads to the group buffer pool required because the page in the member's buffer pool was invalidated, where:

- The data was not found in the group buffer pool and the member had to go to DASD to read the page
- Other members had read/write interest in the pageset, so DB2 created a directory entry for this page if it did not already exist.

Reads - Page Not Found: Data not in GBP-R/W Int
The number of reads to the group buffer pool required because the page was not in the member's buffer pool, where:

- The data was not found in the group buffer pool and the member had to go to DASD to read the page
- Other members had read/write interest in the pageset, so DB2 created a directory entry for this page if it did not already exist.

Reads - Cross Invalidation: Data not in GBP-No R/W Int
The number of reads to the group buffer pool required because the page in the member's buffer pool was invalidated, where:

- The data was not found in the group buffer pool and the member had to go to DASD to read the page
- No other member had read/write interest in the pageset, so DB2 did not have to register the page, since another member cannot cause a cross-invalidation by updating a page.

Reads - Page Not Found: Data not in GBP-No R/W Int
The number of reads to the group buffer pool required because the page was not in the member's buffer pool, where:

- The data was not found in the group buffer pool and the member had to go to DASD to read the page
- No other member had read/write interest in the pageset, so DB2 did not have to register the page, since another member cannot cause a cross-invalidation by updating a page.

Read Hit Percentage
The percentage of all Reads to the group buffer pool for which the needed data was found and returned to the member.

Read-to-Write Percentage
The ratio of reads to writes expressed as a percentage for the group buffer pool.

Changed Pages Written
The number of changed pages written to the group buffer pool. Pages can be forced out before the application commits if a buffer pool threshold is reached, or when P-lock negotiation forces the pages on the vertical Deferred Write queue to be written to the group buffer pool.

Clean Pages Written
The number of clean pages written to the group buffer pool. DB2 writes clean pages for pagesets and partitions defined with GBPCACHE ALL.

Thread History Parallel Task Summary

This panel provides information about the activity of parallel tasks that executed on behalf of a thread.

Parallel tasks are created when CPU parallelism is selected as the method for processing an SQL query. Internally, parallel tasks are displayed as DB2 system threads. The first line of information identifies the thread. The second line identifies the thread's connection type and related information. The remaining lines display summary accounting information for each parallel task.

```
 _________________ ZHTTASK  VTM     O2       V540./I DB1H 03/06/14 13:39:16   2
> Help PF1         Back PF3         Up PF7            Down PF8         Zoom PF11

>          THREAD HISTORY:  Enter a selection letter on the top line.

> A-THREAD DETAIL   B-LOCK COUNTS  C-LOCK WAITS     D-GLOBAL LOCKS  E-SORT/SCAN
> F-DYNAMIC SQL     G-SQL COUNTS   H-DISTRIBUTED    I-BUFFER POOL   J-GROUP BP
> K-PACKAGE SUMMARY L-RES LIMIT    *-PARALLEL TASKS
================================================================================
>                  THREAD HISTORY PARALLEL TASK SUMMARY
 HPLN
+ Thread:  Plan=DSNTEP11  Connid=BATCH    Corrid=HONGPTK0     Authid=  @@@@
+ Attach:  BATCH          DB2=DB1H        MVS=PMO1
+ Time  :  Start=03/06/2014 13:38:40.455719     End=03/06/2014 13:38:40.523782
+ Luwid=DEIBMIPS.IPSAQB1H.CCCFFB37B478
 task
+                                                 Read                 Wait
+ Start Time    End Time      CPU Time  GetPage    I/O  Pfetch  Waits  Time
+ ------------  ------------  --------  -------  -----  ------  ------ --------
+ 13:38:40.463  13:38:40.521      .021     1048      0       1       0     .000
+ 13:38:40.463  13:38:40.465      .001       58      0       1       0     .000
+ 13:38:40.463  13:38:40.464      .000        2      0       0       0     .000
+ 13:38:40.463  13:38:40.463      .000        2      0       0       0     .000
================================================================================
```

Navigation

For more information about one of the following items, perform the corresponding task below:

- a particular parallel task, move the cursor to the task information line and press F11 (Zoom). The “Thread Detail” on page 41 panel is displayed (for that parallel task).
- exceptions that have tripped, type E.A on the top line of the panel.
- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Thread identifier:

Plan
The DB2 plan name of the thread.

Connid
The DB2 connection identifier of the thread.

Corrid
The DB2 correlation identifier of the thread.

Authid
The DB2 authorization identifier of the thread.

Attachment identifier:

Connection Type
The connection type is displayed in the first field:

APPLDIR
Application directed access (data base access threads)

BATCH
Other DB2 batch threads

CALLATCH
DB2 call attach

CICS
CICS attach

DLI
DL/I batch

IMSBMP
IMS attach BMP

IMSMPP
IMS attach MPP

IMSCTRL
IMS control region

IMSBMPB
IMS transaction BMP

RRSAF
Recoverable Resource Manager Services Attachment Facility

SYSDIR
System directed access (data base access threads)

TSO
TSO foreground and background

Utility
Utility thread

DB2
The DB2 subsystem identifier.

MVS
The MVS system identifier.

ORIGAUTH
The original (primary) DB2 authorization identifier of the thread. This field displays only when the original identifier is different from the Authid.

Distributed thread identifier: The following fields are displayed when the thread has a distributed relationship with a remote DB2 subsystem.

Type
The distributed thread type.

Distributed Allied
A requesting thread; one that has issued an SQL call to a remote DB2 location.

Database Access
A server thread; one that has received and is serving an SQL request from a remote DB2 location.

Luwid
This value consists of two parts: the logical unit of work ID (luw-id) and a token. The token can be used in place of the luw-id in any DB2 command that accepts luw-id as input. Format:

```
luw-id=token
```

The luw-id consists of the network name, the originating VTAM LUNAME, and a unique identifier (separated by periods). Thus, the **Luwid** field displays data such as the following:

```
USCACO01.O2D22A.A1FE8E04B9D4=8
```

Time Identifier task information:

Start
The start date and time of this thread execution.

End
The end date and time of this thread execution.

Parallel task information:

Start Time
The time the parallel task was created.

End Time
The time the parallel task ended.

CPU Time
The CPU time for the parallel task.

Getpage
The number of requests for pages.

Getpage requests are logical Read requests that might not actually result in physical I/O if the requested page is currently in the buffer pool. DB2 reset this count at create thread and signon.

Read I/O
The number of synchronous Read I/O operations.

Pfetch
The number of Sequential, List, and Dynamic Prefetch requests.

Waits
The number of waits in DB2. Accounting class 3 is required. N/A is displayed if the data is not available.

Wait Time
The time spent waiting in DB2. Accounting class 3 is required. N/A is displayed if the data not available.

Near-Term History Data Collection Options

This panel shows the specifications for the currently active Near-Term History Data Collector.

For example, you can see which DB2 subsystem is being monitored, which DB2 traces are turned on, and where the data is being stored. The values shown in this panel are determined by the content of the collection options data set member RKD2PAR(COPT*cccc*), where *cccc* specifies the DB2 subsystem being monitored. The values are set by means of the Configuration Tool and are applied when the Near-Term History Data Collector is started. More information about the content of the RKD2PAR(COPT*cccc*) member is described in *Configuration and Customization*.

```
 _________________ ZH2IN    VTM     O2       V540.#P SAD 11/06/13 15:55:11   2
>     Help PF1         Back PF3                Up PF7          Down PF8
> H.C.A
>    NEAR-TERM HISTORY INFORMATION: Enter a selection letter on the top line.

> *-COLLECTION OPTIONS        B-RECORD INFORMATION           C-DATASET STATUS
================================================================================
>                 NEAR-TERM HISTORY DATA COLLECTION OPTIONS
 COPT
+                              H2 Collection Options
+
+ DB2sys       = SAD           Writeoption = VSAM,SEQ     Interval    = 1
+ ArchiveSEQ   = N/A           Tracebufsz  = 1024K        Ifireadtime = 010000
+ NTAInterval  = 5 Minutes     Suspcoll    = Yes          PostPCT     = 70
+
+ Statistics   = Yes
+ Accounting   = (1 2 3 7 8 10)
+                              Sort summary  = Yes        Lock contention  = Yes
+                              Scan summary  = Yes        Lock suspension  = Yes
+                              Dynamic SQL   = Yes        Negative SQL     = Yes
+
+ H2 Data Sets :
+                 SYS1PMO.O310.V540.SE12.SAD.RKD2VS01
+                 SYS1PMO.O310.V540.SE12.SAD.RKD2VS02
+                 SYS1PMO.O310.V540.SE12.SAD.RKD2VS03
+                 SYS1PMO.O310.V540.SE12.SAD.RKD2VS04
+
+                 SYS1PMO.O310.D843.SDN1(+1)
+
+ Filtering    :
+  Plannname   = DISTSERV DYNSELP1
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

DB2sys
The identifier (1 to 4 characters) of the DB2 subsystem that is being monitored by the Near-Term History Data Collector.

Writeoption
The specified storage medium for trace data. Possible values are:

VSAM
The Near-Term History Data Collector stores the trace data in VSAM data sets.

VSAM,SEQ
The Near-Term History Data Collector stores the trace data in VSAM data sets *and* sequential data sets. Sequential data sets are either regular sequential data sets or Generation Data Group (GDG) data sets. This specification is made by means of the Configuration Tool.

Interval
The time interval for data collection.

ArchiveSEQ
If sequential data sets were specified as storage medium for trace data (WRITEOPTION(VSAM,SEQ) keyword in collection options member RKD2PAR(COPT*cccc*)), this entry displays the name of the data set member RKD2PAR(ARCS*cccc*) that contains the JCL to archive the sequential data sets. *cccc* specifies the DB2 subsystem being monitored.

Tracebufsz
The size of the buffer on the **START TRACE** command.

Ifireadtime
The frequency of IFI reads on lightly loaded DB2s. The value is *mmsshh*, where *mm* stands for minutes, *ss* for seconds, and *hh* for 1/100s of a second.

Suspcoll
Flag indicating whether the data collection is to be suspended at times the VSAM data set is not available.

A near-term history VSAM data set is considered to be unavailable from the time all allocated file space is used until the end of a successful execution of the archive job.

Yes
The Near-Term History Data Collector is requested to discard all collected data in memory until a VSAM data set becomes available gain for use.

No
The Near-Term History Data Collector is requested to accumulate all collected data in memory until a VSAM data set becomes available gain for use.

PostPCT
A percentage value that determines when the Near-Term History Data Collector drains its IFI buffer on behalf of DB2.

Use this information to tune the Near-Term History Data Collector, if you often see the DB2 message DSNW133I. This value is used to compute a "high water mark" or threshold, which is a percentage of the total number of bytes in the IFI buffer. When this threshold is exceeded, DB2 posts the Near-Term History Data Collector to drain the buffer.

NTAInterval
Displays the Near-Term History sub-interval time. This value may be specified as minutes or seconds. This value is used to provide a secondary display of thread accounting data from a smaller period of time. Sub-Interval periods may be displayed by entering F next to an interval of time on the THREAD HISTORY BY REPORT INTERVAL screen.

Statistics
Indicates whether a Statistics trace is active.

Accounting
Displays the number of each accounting trace class that is turned on. Accounting class 11 is available from DB2 11 and later. When class 11 is on, class 1, 7, 8, and 10 are suppressed.

Sort summary
Indicates whether sort processing is active.

Lock contention
Indicates whether lock timeout and deadlock information is being collected.

Scan summary
Indicates whether scan processing is active.

Lock suspension
Indicates whether lock wait information is being collected.

Dynamic SQL
Indicates whether SQL text and access path information for dynamic SQL is being collected.

Negative SQL
Indicates whether information about SQL statements returning negative SQLCODE is being collected.

This entry is only shown if `Negative SQL` is specified in the Near-Term History configuration.

H2 Data Sets
The fully qualified names of the data sets that hold the trace data. The list of names varies depending on what media were specified with the Configuration Tool.

Filtering
Displays the specified filtering values. An asterisk (*) at the end of the filtering value means that all collected data begins with the characters that precede the asterisk. A question mark (?) at any position in the filtering value serves as a wildcard for a single character.

Near-Term History Data Record Information

This panel shows the type and number of records that have been collected and stored since the Near-Term History Data Collector was started. It also displays the timestamp of the first and last records of each type.

```
 _________________ ZH2RC    VTM     O2       V540.#P SE12 11/06/13 15:56:30   2
>     Help PF1         Back PF3               Up PF7          Down PF8
> H.C.B
>   NEAR-TERM HISTORY INFORMATION:  Enter a selection letter on the top line.

> A-COLLECTION OPTIONS        *-RECORD INFORMATION           C-DATASET STATUS
================================================================================
>             NEAR-TERM HISTORY DATA COLLECTION RECORD INFORMATION
 CREC
+                            H2 Record Information
+
+ Record Type   Count    Timestamp of First Record  Timestamp of Last Record
+ ------------ -------- -------------------------- --------------------------
+ Accounting          68 2013-11-06-11.46.25.199182 2013-11-06-15.54.56.428105
+  DDF Section         6 2013-11-06-11.46.25.199182 2013-11-06-14.12.56.419860
+  Pkg Section        53 2013-11-06-11.46.25.199182 2013-11-06-15.37.13.507546
+  BP Section         79 2013-11-06-11.46.25.199182 2013-11-06-15.37.13.507546
+ Acctg Sum
+  DDF Section
+  BP Section
+ Perf-LockCont       21 2013-11-06-13.30.48.299397 2013-11-06-14.00.54.084429
+ Perf-LockSusp    31222 2013-11-06-11.44.27.353316 2013-11-06-15.56.12.708153
+ Perf-Dyn SQL    179750 2013-11-06-11.46.25.199000 2013-11-06-15.36.23.598174
+ Perf-Neg SQL         7 2013-11-06-13.29.55.406733 2013-11-06-14.10.45.698326
================================================================================
```

Navigation

For additional information about

- related topics, select one of the options at the top of the panel.
- other topics, use the PF keys.

Fields

Record Type
The type of record reported on this line. Possible values:

Accounting
Accounting data.

DDF Section
Distributed accounting data.

Pkg Section
Package accounting data.

BP Section
Buffer pool accounting data.

Acctg-Sum
Summarized accounting data.

DDF Section
Summarized distributed accounting data.

BP Section
Summarized buffer pool accounting data.

Perf-Lock Cont
Lock timeout and deadlock data.

Perf-lock Susp
Lock suspension data.

Perf-Dyn SQL
SQL text and access path data.

Perf-Neg SQL
Data about SQL statements returning negative SQLCODE.

Count
The number of records of this type that have been collected and stored since the collector was started.

Timestamp of First Record
The date and time that the first record of this type was collected.

Timestamp of Last Record
The date and time that the last record of this type was collected; that is, the most recent record.

Near-Term History Data Collector Dataset Status

This panel displays the status and space utilization of the data sets used by the Near-Term History Data Collector.

This panel provides the following information:

- The name of the data set defined in the near-term history data collection options member.
- The status of the data set.
- The percentage of the space that is used by the data set.

```
 _________________ ZH2DS    VTM     O2       V540./C SN11 08/13/13 14:57:54   2
>     Help PF1         Back PF3              Up PF7          Down PF8
> H.C.C
>  NEAR-TERM HISTORY INFORMATION:  Enter a selection letter on the top line.

> A-COLLECTION OPTIONS        B-RECORD INFORMATION           *-DATASET STATUS
================================================================================
>                  NEAR-TERM HISTORY DATA COLLECTOR DATASET STATUS
 H2DS
+  H2 Dataset                                        Status        %Full
+  ----------------------------------------------    --------      ------
+  SYS1PMO.O310.D843SN11.SN12.RKD2VS01               AVAIL         100.0
+  SYS1PMO.O310.D843SN11.SN12.RKD2VS02               ACTIVE          1.6
+  SYS1PMO.O310.D843SN11.SN12.RKD2VS03               UNAVAIL       100.0
================================================================================
```

Navigation

For additional information about

- near-term history data collection options or record information, choose one of the menu options at the top of the panel.
- other topics, use the PF keys.

Fields

H2 Dataset
The name of the H2 (near-term history) data set defined in the near-term history data collection options member.

Status
The status of the H2 data set. Possible values:

- ACTIVE
- FULL
- AVAIL(available)
- UNAVAIL(unavailable)
- ARCHIVE

% Full
The percentage of space used in this H2 data set.

Chapter 17. SQL Performance Analyzer Reports

Select this main menu option to access the results from the DB2 SQL Performance Analyzer for z/OS (SQL PA).

SQL PA analyzes former and current SQL queries and report the results. Analyses can be initiated from the following panels:

- "SQL Call Being Executed" on page 63
- "EDM Snapshot Dynamic SQL Cache Statement Statistics Detail" on page 268
- "Thread History Dynamic SQL Calls" on page 742

The results from SQL PA are SQL Enhanced Explain reports, SQL Query Limits reports, and SQL Trace information.

The output provided by SQL PA reports is based on SQL PA configuration parameters that are applied by means of the Configuration Tool. During the customization the affected DB2 subsystems and Performance Warehouse options to be used by SQL PA are determined.

When an SQL performance analysis is requested, the OMEGAMON Collector silently submits a batch job that captures the analysis data and puts it into appropriate Performance Warehouse tables, from where it is retrieved and reassembled and presented as an SQL PA report.

SQL PA reports might be long. If you cannot page down to the end of a report, the "logical rows" session parameter value might be too low. Log on again, with the session parameter set to a higher value. You can set this parameter either on the OMEGAMON XE for DB2 PE Classic Interface panel or as a logon command parameter, for example `logon applid(ipobd2c) data(lrows=9999)`.

SQL Performance Analysis: Available Reports

This panel lists currently available SQL PA reports. use this list to select a report, which provides access to panels that display detailed information about the selected report, or to perform maintenance actions on the listed reports.

```
_________________ ZSQPL    VTM     O2       V540.#P DA41 11/06/13 16:00:04   2
>  Help PF1        Back PF3         Up PF7         Down PF8         Zoom PF11
>
>                         SQL PA Analysis: Available Reports
>
>  PF11 (zoom) to Review Report Detail
>
>  Actions: D-Delete   C-Cancel   B-Scope to Public   V-Scope to Private
>
================================================================================
 SQPL
>  Rept # Status   Plan     Package  SQL St# Date       Time     Creator  Pub
>  ------ -------- -------- -------- ------- ---------- -------- -------- ---
: _000006 FAILED   DSNESPRR DSNESM68 0000259 2011-09-16 17.45.05 OMINSTAL Y
: _000017 SUCCESS  **NONE** **NONE** 0000000 2012-04-13 15.19.24 OMINSTAL Y
: _000020 RUNNING  DSNESPCS DSNESM68 0541779 2013-11-06 16.02.48 OMUSER#P N
================================================================================
```

Navigation

You can scroll through the list using F7 (Up) and F8 (Down), or select a particular list item and press F11 (Zoom) for additional information.

For additional options

- select one of the options from the menu.

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- use the PF keys.

Actions

You can refresh the list of current SQL PA reports by pressing Enter.

Use F11 (Zoom) to obtain access to the different report types (Enhanced Explain, Query Limits, Trace).

You can apply the following maintenance actions on a single SQL PA report by typing the corresponding letter left to one of the listed reports. Some actions are permitted only if you are the creator of the report.

D-Delete
Creator only: Deletes a particular SQL PA report. Applicable if the report status is READY, FAILED, or CANCELED.

C-Cancel
Creator only: Cancels an active SQL PA invocation. Applicable if the report status is RUNNING. (The status changes to CANCEL. Keep hitting the Enter key until the status changes to CANCELED.)

B-Scope to Public
Creator only: Marks the report as public so that other users can see the report output. Applicable if the report status is READY, FAILED, or CANCELED.

P-Scope to Private
Creator only: Marks the report as private so that other users cannot see the report output. Applicable if the report status is READY, FAILED, or CANCELED.

Fields

Rept #
The unique report number (identical to the Performance Warehouse log identifier).

Status
The current status of the report.

SUCCESS
The report has completed successfully.

RUNNING
The report is currently running.

FAILED
The job for this reported has failed, based on the completion code from SQL PA.

CANCEL
There is a pending Cancel request for this SQL PA invocation.

CANCELED
The report request was canceled.

Plan
The plan from which the SQL was taken.

Package
The package from which the SQL was taken.

SQL St#
The SQL statement number.

Date
The date when the report was run.

Time
The time when the report was run.

Creator
The creator of the report. The ID of the creator is dependent on a couple of factors:

- If the signon security interface has been enabled, the creator ID is the identification used by the user to sign on.

- If the security interface has not been enabled, but signon profiles are used, the creator ID is of the form OMUSER*xx*, where *xx* is the 2-character OMEGAMON profile name.
- If neither the signon exit nor signon profiles are used, a default ID of OMINSTAL is used.

Users can only see reports that they have created or reports that other users have marked as public.

Pub
Indicator whether the report is currently public (Y) or private (N). Public reports are viewable by any user. Private reports are only viewable by the report's creator. Only the creator of the report can switch the status between Public and Private.

SQL Performance Analysis: Enhanced Explain

This panel shows an Enhanced Explain report of the report selected in the SQL Performance Analysis: Available Reports panel.

```
_________________ ZSQPO00  VTM     O2       V540./C DB51 11/07/13 13:10:25   2
> Help PF1         Back PF3           Up PF7              Down PF8
>
>                  SQL PA Analysis: EXPLAIN Output
>
> *-EXPLAIN   B-QLIMIT    C-QTRACE    D-SYSPRINT  E-ANLSQL    F-JOBERR
>
================================================================================
 SQPO
> Report=000061 Plan=**NONE** Package=**NONE** Date=2013-11-07 Time=13.09.10
13:09:11.813               SQL Performance Analyzer               Version  4.1.
 11-07-2013                Enhanced Explain Report                Level  41-413
                                                                  APAR   PM7540

                            SQL PA Parameters
(ANLPARM)
   VERSION V10R1
   DEGREES ONE
   BUFFHIT 0
   DBRMKEY +OFF+
   USEPLAN +OFF+
   QUALIFY
   SYNONYM
   EXPLAIN NEW
   EEECALL SPA
   QUERYNO 1
   STOPQNO 999999999
   CONNECT CAF
   REFRESH NO
   VIADRDA +OFF+
   RETCODE NO
   DELIMIT +OFF+
   DSN8EXP NO
   NLSCODE +OFF+
   KEEPLAN NO
   PROCESS +OFF+
   PROCESS +OFF+
   NUMBERS YES
   REPORTS DET
   SHOWALT NO
   PRECISE NO
   ADVISOR NO
   OBJECTS NO
```

Navigation

You can scroll through the report using F7 (Up) and F8 (Down). F3 (Back) returns to the SQL Performance Analysis: Available Reports panel.

You can select a different report type by choosing one of the options from the menu.

SQL Performance Analysis: Query Limits

This panel shows a Query Limits report of the report selected in the SQL Performance Analysis: Available Reports panel.

```
_________________ ZSQPO01  VTM     O2       V540./C DB51 11/07/13 13:11:33   2
> Help PF1          Back PF3            Up PF7              Down PF8
>
>                   SQL PA Analysis: QLIMIT Output
>
> A-EXPLAIN   *-QLIMIT    C-QTRACE    D-SYSPRINT  E-ANLSQL    F-JOBERR
>
================================================================================
 SQPO
> Report=000061 Plan=**NONE** Package=**NONE** Date=2013-11-07 Time=13.09.10
13:09:11.813               SQL Performance Analyzer               Version  4.1.
 11-07-2013                  Query Limits Report                  Level  41-413

CEIQ$ Error  Queryno  Type    CPU Time     Elapsed   Phys I/O    Qunits Monetar
-----    0  100000001 ST       0.00100       1.672          4         4
================================================================================
```

Navigation

You can scroll through the report using F7 (Up) and F8 (Down). F3 (Back) returns to the SQL Performance Analysis: Available Reports panel.

You can select a different report type by choosing one of the options from the menu.

SQL Performance Analysis: Trace

This panel shows a Trace report of the report selected in the SQL Performance Analysis: Available Reports panel.

```
_________________ ZSQPO02  VTM     O2       V540./C DB51 11/07/13 13:11:49   2
> Help PF1          Back PF3            Up PF7              Down PF8
>
>                  SQL PA Analysis: QTRACE Output
>
> A-EXPLAIN   B-QLIMIT    *-QTRACE    D-SYSPRINT  E-ANLSQL    F-JOBERR
>
================================================================================
 SQPO
> Report=000061 Plan=**NONE** Package=**NONE** Date=2013-11-07 Time=13.09.10
13:09:11.813              SQL Performance Analyzer               Version  4.1.
 11-07-2013           Execution Forecast: Detail Trace           Level  41-413
                                                                 APAR   PM7540

                           SQL PA Parameters
(ANLPARM)
   VERSION V10R1
   DEGREES ONE
   BUFFHIT 0
   DBRMKEY +OFF+
   USEPLAN +OFF+
   QUALIFY
   SYNONYM
   EXPLAIN NEW
   EEECALL SPA
   QUERYNO 1
   STOPQNO 999999999
   CONNECT CAF
   REFRESH NO
   VIADRDA +OFF+
   RETCODE NO
   DELIMIT +OFF+
   DSN8EXP NO
   NLSCODE +OFF+
   KEEPLAN NO
   PROCESS +OFF+
   PROCESS +OFF+
   NUMBERS YES
   REPORTS DET
   SHOWALT NO
   PRECISE NO
   ADVISOR NO
   OBJECTS NO
```

Navigation

You can scroll through the report using F7 (Up) and F8 (Down). F3 (Back) returns to the SQL Performance Analysis: Available Reports panel.

You can select a different report type by choosing one of the options from the menu.

SQL Performance Analysis: SYSPRINT

This panel shows a SYSPRINT report of the report selected in the SQL Performance Analysis: Available Reports panel.

```
_________________ ZSQPO03  VTM     O2       V540./C DB51 11/07/13 13:14:07   2
> Help PF1          Back PF3            Up PF7              Down PF8
>
>                   SQL PA Analysis: SYSPRINT Output
>
> A-EXPLAIN   B-QLIMIT    C-QTRACE    *-SYSPRINT  E-ANLSQL    F-JOBERR
>
================================================================================
 SQPO
> Report=000061 Plan=**NONE** Package=**NONE** Date=2013-11-07 Time=13.09.10
1 ================================================================================
0                *** SQL Performance Analyzer * SQL PA * 5655-W60 ***

 ANLSQLPA Program begins at: 13:09:11.813   on   11-07-2013 Version 4.1.35 41-4
                                                                          PM75


 ANL3042I Processing SQL from SYS1PMO.OCN8.F51.DB51.S000003E.ANLSQL

 ANL1025I Because the QUALIFY parameter was set to blanks, pgm assumes Synonym
          Pgm will use the PLAN_TABLE under the Primary Authid DB2PM    for thi
          Automatic synonyms reaction is taken by pgm. Processing continues.

 ANL0003T Parsed statement  100000001 Length (   39):
 SELECT COUNT(*) FROM SYSIBM.SYSCOLUMNS


  DSNT404I SQLCODE = 20520, WARNING:  ATTEMPT TO USE A DEPRECATED FEATURE, REAS
  DSNT418I SQLSTATE   = 01694 SQLSTATE RETURN CODE
  DSNT415I SQLERRP    = DSNXOD0Z SQL PROCEDURE DETECTING ERROR
  DSNT416I SQLERRD    = 20  0  1  1077172992  0  0 SQL DIAGNOSTIC INFORMATION
  DSNT416I SQLERRD    = X'00000014'  X'00000000'  X'00000001'  X'40345B00'  X'0
           INFORMATION


 ANL2021W The VERSION is set to V10R, but V11R was detected and used. Update th

  SQL PA Analysis for Queryno 100000001

  SELECT COUNT(*)
  FROM SYSIBM.SYSCOLUMNS

 ANL3017I No statistic for "  CARDF " on table SYSIBM  .SYSCOLUMNS
          Optimizer default used for Queryno  100000001
```

Navigation

You can scroll through the report using F7 (Up) and F8 (Down). F3 (Back) returns to the SQL Performance Analysis: Available Reports panel.

You can select a different report type by choosing one of the options from the menu.

SQL Performance Analysis: ANLSQL

This panel shows the actual SQL statement that was analyzed by SQL PA for the report selected in the SQL Performance Analysis: Available Reports panel.

```
_________________ ZSQPO04  VTM     O2       V540./C DB51 11/07/13 13:14:55   2
> Help PF1          Back PF3            Up PF7              Down PF8
>
>                   SQL PA Analysis: ANLSQL Output
>
> A-EXPLAIN   B-QLIMIT    C-QTRACE    D-SYSPRINT  *-ANLSQL    F-JOBERR
>
================================================================================
 SQPO
> Report=000061 Plan=**NONE** Package=**NONE** Date=2013-11-07 Time=13.09.10
SET CURRENT SQLID = DB2PM   ;     /* 13:09  11-07-2013 */
EXPLAIN  ALL SET QUERYNO = 100000001 FOR
 SELECT COUNT(*)
 FROM SYSIBM.SYSCOLUMNS  ;
================================================================================
```

Navigation

You can scroll through the report using F7 (Up) and F8 (Down). F3 (Back) returns to the SQL Performance Analysis: Available Reports panel.

You can select a different report type by choosing one of the options from the menu.

SQL Performance Analysis: JOBERR

This panel shows diagnostics information, if the SQL PA job of the report selected in the SQL Performance Analysis: Available Reports panel failed.

```
_________________ ZSQPO05  VTM     O2       V540.#P DA41 11/06/13 17:37:38   2
> Help PF1          Back PF3            Up PF7              Down PF8
>
>                   SQL PA Analysis: JOBERR Output
>
> A-EXPLAIN   B-QLIMIT    C-QTRACE    D-SYSPRINT  E-ANLSQL    *-JOBERR
>
================================================================================
 SQPO
> Report=000006 Plan=DSNESPRR Package=DSNESM68 Date=2011-09-16 Time=17.45.05
MVS JOB was canceled:
  Return code .......... :       16 (00000010x)
  Reason code .......... :        0 (00000000x)
  Detecting module ..... : DGOZPC3
  Error message ........ :
   +-------------------------------------------------------------------------+
   | THE MVS JOB WAS CANCELED BY OPERATOR OR BY MVS                          |
   | ITSELF. LAST MENTIONED MAY HAVE SEVERAL REASONS:                        |
   |   - THE JCL CONTAINS SYNTAX ERRORS                                      |
   |   - YOU HAVE SPECIFIED MORE THAN ONE INPUT DATASET                      |
   |     AND THOSE DATASETS HAVE DIFFERENT FORMATS                           |
   |   - THE PM SERVER IS NOT ALLOWED TO WRITE TO THE                        |
   |     WORKING DIRECTORY                                                   |
   +-------------------------------------------------------------------------+
  User action .......... :
   +-------------------------------------------------------------------------+
   | PLEASE VERIFY THE FOLLOWING:                                            |
   |   - CHECK THE JCL FOR SYNTAX ERRORS. THIS IS THE                        |
   |     MVS JOB JCL MODIFIED DURING INSTALLATION                            |
   |   - IF YOU HAVE SPECIFIED MORE THAN ONE INPUT                           |
   |     DATASETS, VERIFY THAT ALL DATASETS HAVE THE                         |
   |     SAME FORMAT (RECORD LENGTH, FORMAT, ...)                            |
   |   - VERIFY THAT THE PM SERVER STARTED TASK USERID                       |
   |     HAS WRITE ACCESS TO THE WORKING DIRECTORY AS                        |
   |     SPECIFIED DURING INSTALLATION.                                      |
   +-------------------------------------------------------------------------+
================================================================================
```

Navigation

You can scroll through the report using F7 (Up) and F8 (Down). F3 (Back) returns to the SQL Performance Analysis: Available Reports panel.

You can select a different report type by choosing one of the options from the menu.

Chapter 18. Analyzing DB2 CPU Usage

This topic contains information about considerations for analyzing DB2 CPU usage.

DB2 CPU Usage

DB2 uses MVS cross memory services extensively in processing application requests. As a result, the majority of CPU time consumed in processing thread activity is attributed by MVS SRM to the thread-originating (user's) address space, not to one of the DB2 system address spaces (SSAS, DBAS, IRLM).

OMEGAMON XE for DB2 PE provides CPU use information for threads within DB2. In all cases in which CPU use is reported, the CPU rate is expressed in terms of 1-100%, regardless of the number of CPUs online in the processor complex.

The discussion below is designed to help you interpret and make use of the information provided by OMEGAMON XE for DB2 PE regarding CPU usage.

DB2 exploits MVS CPU timing services introduced in MVS/XA SP2.2 and MVS/ESA.

OMEGAMON XE for DB2 PE also exploits the new CPU timing services as it monitors a DB2 subsystem. To accurately interpret CPU utilization data reported by OMEGAMON XE for DB2 PE, first consider the type of DB2 attachment that is in use. That is, did the threads in question originate from a CICS attachment or from another type of attachment (IMS, TSO, and so on)?

CICS Attachments

For threads that originate from the CICS/DB2 attachment, the reported thread CPU usage is entirely attributable to the CICS/DB2 thread. In other words, it is entirely attributable to the CICS/DB2 attachment TCB servicing the thread. The CPU rate includes MVS TCB time only; SRB time is not included. Any CPU usage reported for CICS/DB2 threads is a subset of total CICS address space CPU utilization.

For example, assume that the total CICS address space CPU utilization is 50%, and two threads originate from the CICS connection. If one thread has a reported CPU rate of 5% and the other's rate is 10%, the conclusion is that 15% of CICS address space CPU utilization is attributable to servicing DB2 requests. Also, 30% (15% / 50% = 30%) of total CICS address space utilization is attributable to servicing DB2 requests.

CPU utilization reported for CICS threads is the same, regardless of the version of the DB2 subsystem being monitored.

Non-CICS Attachments

Analysis of CPU use in non-CICS environments (IMS, TSO, CAF, batch, and utilities) must take several factors into account:

- thread status
- specific attachment environment

OMEGAMON XE for DB2 PE reports CPU use for the actual MVS TCB (subtask) that owns the active DB2 thread. SRB time is not included.

Thread Status

Unlike the CICS attachment, non-CICS environments typically contain a single DB2 thread. Recognizing the status of that thread will help you determine whether the reported CPU use can be attributed to DB2 request activity.

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For example, if thread status is In-SQL-Call, the CPU rate reported is indeed related to DB2 thread activity. However, if the thread status is Not-In-DB2, you can conclude that the CPU rate reported is attributable to application activity that is unrelated to DB2, although the application indeed still owns a DB2 thread (for example, an IMS transaction doing DL/I requests).

Attachment Environment

The non-CICS attachment environments vary in the MVS task structure they use to service DB2 threads. Thus, your analysis must take into account the attachment type in use.

For example, an IMS attachment does not result in the creation of an MVS subtask to service a thread. In a TSO environment, however, an additional MVS TCB is created to service each thread.

The following examples explain the ways in which thread status, DB2 version, and attachment environment jointly affect your interpretation of the OMEGAMON XE for DB2 PE CPU use data.

Example 1

In a TSO attachment environment using SPUFI, program DSN is attached as an MVS daughter subtask in the TSO address space. The DSN subtask then attaches program DSNECP10, which is a daughter subtask of the DSN subtask. The DSNECP10 subtask is the actual MVS TCB that owns the DB2 thread. As a result, it is the CPU use of this MVS task that is being reported by OMEGAMON XE for DB2 PE.

If thread status indicates Not-In-DB2, OMEGAMON XE for DB2 PE will report that CPU use (MVS TCB CPU use) is 0.

Example 2

In an IMS environment, the IMS attachment does not attach a new MVS subtask to service the DB2 thread. As a result, the CPU use reported for IMS threads can reflect CPU time that is attributable to non-DB2 work. This means that you must take into account the status of the DB2 thread, as discussed above.

Example 3

Assume an application that creates multiple DB2 threads (executing concurrently), using the DB2 call attach facility (CAF).

The reported CPU use of a thread is always attributable to the MVS task that owns that thread. And you must consider the thread's status to determine whether the reported CPU use is attributable to DB2 or to non-DB2 application activity.

Chapter 19. Trace requirements for OMEGAMON XE for DB2 PE

This topic contains information about the trace requirements for OMEGAMON XE for DB2 PE.

Trace activation

To fully exploit OMEGAMON XE for DB2 PE's realtime performance monitoring abilities, Accounting trace class 1 and class 2 must be active while OMEGAMON XE for DB2 PE is monitoring your DB2 system. If these traces are not active, specific data elements (listed in Table 35 on page 800) will not be available to OMEGAMON XE for DB2 PE. Also, some data related to reusable threads becomes cumulative, instead of reflecting a single transaction (see Table 36 on page 803).

To use the near-term history reporting facilities, you must activate some traces as well. Unlike the realtime portion of OMEGAMON XE for DB2 PE, near-term history reporting depends entirely on data supplied by traces. To determine exactly which traces you must activate to report on specific data elements, see the online data dictionary.

Realtime data fields for which data is unavailable

The following table lists the data fields that are available to OMEGAMON XE for DB2 PE's realtime component only when certain Accounting traces are active. (When the required Accounting class is not active, OMEGAMON XE for DB2 PE displays N/A in the affected fields.) Each row in the table contains the name of an OMEGAMON XE for DB2 PE panel, the affected fields on that panel, and the Accounting trace class that makes data available to each field.

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Table 35. Realtime data fields that depend on Accounting traces		
Panel name	**Field names**	**Accounting traces**
"Thread Detail" on page 41	Elapsed Time	Class 1
	In-DB2 Time Total	Class 2
	In-DB2 Time Current	Class 2
	In-DB2 CPU Time Total	Class 2
	In-DB2 CPU Time Current	Class 2
	Synchronous I/O Wait Total	Class 3
	Synchronous I/O Wait Current	Class 3
	Asynchronous Read I/O Wait Total	Class 3
	Asynchronous Read I/O Wait Current	Class 3
	Asynchronous Write I/O Wait Total	Class 3
	Asynchronous Write I/O Wait Current	Class 3
	Lock/Latch Wait Total	Class 3
	Lock/Latch Wait Current	Class 3
	Page Latch Wait Total	Class 3
	Page Latch Wait Current	Class 3
	Drain Lock Wait Total	Class 3
	Drain Lock Wait Current	Class 3
	Drain of Claims Wait Total	Class 3
	Drain of Claims Wait Current	Class 3
	DB2 Service Task Wait Total	Class 3
	DB2 Service Task Wait Current	Class 3
	Archive Log Mode (Quiesce) Wait Total	Class 3
	Archive Log Mode (Quiesce) Wait Current	Class 3
	Archive Log Mode (Quiesce) Wait Current	Class 3
	Archive Read from Tape Wait Total	Class 3
	Archive Read From Tape Wait Current	Class 3

Table 35. Realtime data fields that depend on Accounting traces (continued)		
Panel name	**Field names**	**Accounting traces**
Package Detail	Elapsed Time	Class 1
	In-DB2 Time Total	Class 7
	In-DB2 Time Current	Class 7
	In-DB2 CPU Time Total	Class 7
	In-DB2 CPU Time Current	Class 7
	Synchronous I/O Wait Total	Class 8
	Synchronous I/O Wait Current	Class 8
	Asynchronous Read I/O Wait Total	Class 8
	Asynchronous Read I/O Wait Current	Class 8
	Asynchronous Write I/O Wait Total	Class 8
	Asynchronous Write I/O Wait Current	Class 8
	Lock/Latch Wait Total	Class 8
	Lock/Latch Wait Current	Class 8
	Page Latch Wait Total	Class 8
	Page Latch Wait Current	Class 8
	Drain Lock Wait Total	Class 8
	Drain Lock Wait Current	Class 8
	Drain of Claims Wait Total	Class 8
	Drain of Claims Wait Current	Class 8
	DB2 Service Task Wait Total	Class 8
	DB2 Service Task Wait Current	Class 8
	Archive Log Mode (Quiesce) Wait Total	Class 8
	Archive Log Mode (Quiesce) Wait Current	Class 8
	Archive Read from Tape Wait Total	Class 8
	Archive Read From Tape Wait Current	Class 8
Summary of DB2 Activity	Elapsed Time	Class 1
	Getpage Rate	Class 1
Exception Messages	COMT	Class 1
	ETIM	Class 1

Table 35. Realtime data fields that depend on Accounting traces (continued)		
Panel name	**Field names**	**Accounting traces**
Current SQL Counts	Aborts	Class 1
	Commits	Class 1
"Threads Summary Excluding Idle Threads" on page 39	Commit	Class 1
	Elapsed	Class 1
Background Thread Summary	Commit	Class 1
	Elapsed	Class 1
CICS Thread Summary	Commit	Class 1
	Elapsed	Class 1
IMS Thread Summary	Commit	Class 1
	Elapsed	Class 1
TSO Thread Summary	Commit	Class 1
	Elapsed	Class 1
Distributed Database Access Thread Summary	Elapsed	Class 1

Realtime data fields for which data is cumulative

OMEGAMON XE for DB2 PE reports cumulative values for some fields when Accounting trace class 1 is not active. When Accounting trace class 1 is not active and the thread involved is reused, the value on OMEGAMON XE for DB2 PE displays is cumulative since thread creation. The following table contains the names of the fields that might contain cumulative data and the names of the panels on which they are displayed.

Table 36. Accounting trace class 1 - Cumulative data fields	
Panel name	**Field names**
Thread Buffer Pool Activity	Getpage Requests
	Getpages/Read I/O
	Page Updates
	List Prefetch Requests
	Prefetch Pages Read
	Immediate Writes
	Failed Getpage Requests
	Synchronous Read I/O
	Sequential Prefetch Requests
	Dynamic Prefetch Requests
	Elapsed Time
	ETIM
	GETP
	PREF
	RIO
Summary of DB2 Activity	PGUP
Exception Messages	Aborts
	Alters
	Connects Type 1
	Connects Type 2
	Commits

Table 36. Accounting trace class 1 - Cumulative data fields (continued)	
Panel name	**Field names**
Current SQL Counts	Creates/Drops
	Deletes
	Describes
	Fetches
	Grants/Revokes
	Incremental Binds
	Inserts
	Label/Comment Ons
	Lock Tables
	Open/Close Cursors
	Prepares
	Releases
	Selects
	Set Connections
	Set Degrees
	Set Host Variables
	Set SQLIDs
	Updates
	Commit
	Elapsed
	Getpg
	Update
	Commit
“Threads Summary Excluding Idle Threads” on page 39	Elapsed
	Getpg
	Update
CICS Thread Summary	

When Accounting trace class 1 is active, the values in these fields will still be cumulative if all of the following conditions are met:

- The thread involved was created as a reusable thread.
- The thread is actually being reused.
- Thread Signon was not driven for the new user of the thread.

Chapter 20. Lock types and lock levels

This topic contains additional information about the lock types and lock levels that OMEGAMON XE for DB2 PE reports.

If a database is deleted or a data inconsistency problem exists, OMEGAMON XE for DB2 PE cannot translate the database name. It displays the resource ID instead of the database name.

If a pageset is deleted or a data inconsistency problem exists, OMEGAMON XE for DB2 PE cannot translate the pageset name. No information is displayed instead of the pageset name.

Lock types

The table in this section describes the lock types that are displayed by OMEGAMON XE for DB2 PE.

Table 37. Lock types

Lock type	Description
ACSC	The Accelerator Services commands (ACSC) lock.
ALBP	The Alter buffer pool (ALBP) lock indicates a lock on a buffer pool during execution of an **ALTER BUFFERPOOL** command.
BIND	The BIND lock indicates an autobind or remote bind lock.
BMBA	The Buffer manager SCA MBA (BMBA) L-lock. The Buffer Manager (BM) gets this lock when it needs to read, insert, or update a multiple buffer pool (MBA) record in a Shared Communications Area (SCA). (BMC_MBAO or BMC_MBAR)
BPPS	The Buffer Manager Pageset (BPPS) RR (repeatable read) P-lock: • BP = buffer pool ID • DB = database name • PS = pageset name
CCAT	The CATMAINT convert catalog (CCAT) lock is acquired when catalog conversion is performed.
CDBL	The Compress dictionary build (CDBL) lock.
CDIR	The CATMAINT convert directory (CDIR) lock is acquired when directory conversion is performed.
CDRN	The Cursor Stability drain (CDRN) lock is acquired to drain all CS read access to an object: • DB = database name • PS = pageset name • PT = partition
CMDS	The DB2 Command Serialization (CMDS) lock.
CMIG	The CATMAINT migration (CMIG) lock is acquired when catalog migration is performed.
COLL	The Collection (COLL) lock

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Table 37. Lock types (continued)	
Lock type	**Description**
DBDL	The DBD load (DBDL) lock is the database descriptor load lock.
DBEX	The Database exception (DBEX) lock indicates a lock on a "Logical page list" (LPL) or "Group buffer pool recovery pending" (GRECP) database exception status. This lock is only used in a data sharing environment.
DBXU	The DB exception update lock is used for updating the database exception status.
DGTT	The DGTT URID lock is acquired to protect segments that belong to a Declared Global Temporary Table (DGTT). These segments are deallocated during Commit 1 by logging them and serializing them using the Unit of Recovery ID (URID) lock.
DPAG	The DB2 page (DPAG) lock in a tablespace. When programs read data or update data, they acquire a page lock containing the data. • DB = database name • PS = pageset name • PG = page
DSET	The partitioned lock. A partitioned tablespace contains one or more partitions (up to 64). It is created when you create a table space using the SQL CREATE TABLESPACE statement with the NUMPARTS parameter. Only one table can be stored on a partitioned tablespace. Each partition contains one part of a table. The partitioned lock only locks the partition with the data that is referenced. • DB = database name • PS = pageset name • PT = partition number
DTBS	The Database lock indicates a lock on the database. • DB = database name • PS = pageset name • PT = partition number
GRBP	The Group buffer pool (GRBP) start/stop lock. BP=buffer pool ID
HASH	The Hash anchor (HASH) lock. • DB = database name • PS = pageset name • PG = page
HPSP	The Header Page (HP) Bucket or Stored Procedure (SP) Command lock.

Table 37. Lock types (continued)	
Lock type	**Description**
IEOF	The Index end of file (IEOF) lock is acquired at the index end of file. • DB = database name • PS = pageset name • PT = partition
IPAG	The Index page (IPAG) lock in an index space. When application programs read or update data, they acquire a lock on the page containing the index when indexing is used. • DB = database name • PS = pageset name • PG = page
IXKY	The Index key (IXKY) lock.
LBLK	The Large object (LOB) lock.
LPLR	The Logical page list recovery (LPLR) lock.
MDEL	The Mass delete (MDEL) lock is acquired when doing a mass delete from a table (for example, when you DELETE FROM a table) within a segmented tablespace. It is used to prevent another user from reusing freed segments before a delete operation is committed. • DB = database name • PS = pageset name
PALK	The Partition lock. • DB = database name • PS = pageset name • PT = partition
PBPC	The Group BP level castout (PBPC) P-lock. A physical lock acquired when a castout of a group buffer pool occurs. Castout is the process of writing pages in the group buffer pool out to DASD. This lock is only used in a data sharing environment.
PCDB	The DDF CDB P-lock. A Distributed Data Facility communication database physical lock. This lock is only used in a data sharing environment.
PDBD	The DBD P-lock is a database descriptor physical lock. This lock is only used in a data sharing environment.

Table 37. Lock types (continued)	
Lock type	**Description**
PDSO	The Pageset or partitioned pageset open lock. If the data set supporting the tablespace that is referenced by the application is not opened, the program will acquire a lock to open the data set. The data set will stay open if CLOSE=NO is defined in the SQL statement creating the tablespace. • DB = database name • PS = pageset name
PITR	The Index manager tree (PITR) is a physical lock (P-lock). This lock is only used in a data sharing environment. • DB = database name • PS = pageset name • PT = partition
PPAG	The Page P-lock is a physical lock on a page. This lock is only used in a data sharing environment.
PPSC	The Pageset/partition level castout physical lock (P-lock). This lock is only used in a data sharing environment.
PPSP	The Pageset/partition physical lock (P-lock). This lock is only used in a data sharing environment.
PRLF	The Resource Limit Facility (RLF) physical lock (P-lock). This lock is only used in a data sharing environment.
PSET	The Pageset (PSET) lock can be a tablespace or indexspace. A pageset containing DB2 tables is a tablespace. A pageset containing DB2 index structure is an indexspace. A pageset can be simple or partitioned. This lock type is for the simple pageset only. • DB = database name • PS = pageset name
PSPI	The Pageset piece (PSPI) lock. A pageset is a collection of pageset pieces. Each pageset piece is a separate VSAM data set. A simple pageset contains from 1 to 32 pieces. Each piece of a simple pageset is limited to 2 GB. Whenever a simple pageset piece reaches this size, another piece is allocated and the pageset grows. This is a lock on the expanded pageset piece.
RDBD	The Repair DBD (RDBD) lock is acquired when REPAIR DBD REBUILD is running (test/ diagnose).

Table 37. Lock types (continued)	
Lock type	**Description**
RDRN	The Repeatable Read drain (RDRN) lock is acquired to drain all RR access to an object. • DB = database name • PS = pageset name • PT = partition
RGDA	The Retry Getpage During Abort (RGDA) lock.
ROW	The Row lock indicates a lock on a row.
RSTR	The Shared Communications Area (SCA) restart (RSTR) lock indicates a lock on SCA access for restart/redo information. (BMC-RSTP)
SDBA	The Start/stop lock on DBA (SDBA) table indicates a lock on the table, tablespace, or database when a CREATE/DROP is processed against these objects. • DB = database name • PS = pageset name
SENV	The System environment (SYSENV) serialization lock.
SKCT	The Skeleton cursor table (SKCT) lock indicates a lock on the application plan. PLAN=plan name
SKPT	The Skeleton package table (SKPT) lock indicates a lock on the application package. TOKEN= the consistency token (CONTOKEN) column from SYSIBM.SYSPACKAGE.
SPRC	The System level point in time (PIT) recovery lock. SYS_PITR
SREC	The Log range lock. DB2 writes a record in the log range tablespace (SYSLGRNG) every time a tablespace is opened and updated, and updates SYSLGRNG whenever that tablespace is closed. The record contains the opening and/or closing log RBA (relative byte address) for the tablespace. When DB2 writes to SYSLGRNG, the program acquires a lock on the tablespace with updates. • DB = database name • TS = tablespace name
TABL	The Table (TABL) lock on the table which resides in a segmented tablespace. • DBID = DBid • TABL = Tableid
UIDA	The Util I/O Damage Assessment lock.

Table 37. Lock types (continued)	
Lock type	**Description**
UNDT	The Undetermined (UNDT) lock indicates that this lock cannot be determined because it is not part of the other listed lock types. Resource ID (in hexadecimal).
UNKN	The Unknown (UNKN) lock indicates the resource does not exist.
UTEX	The Utility exclusive execution (UTEX) lock. UTEXEC
UTID	The Utility identifier (UTID) lock. UID=utility id
UTOB	The Utility object (UTOB) lock. • DB = database name • PS = pageset name • PT = partition
UTSE	The Utility serialization (UTSE) lock is required when running utility jobs. UTSERIAL
WDRN	The Write drain (WDRN) lock is acquired to drain all write access to an object. • DB = database name • PS = pageset name • PT = partition
XMLK	The XML lock.

Page lock levels

The table in this section describes the page lock levels that are displayed by OMEGAMON XE for DB2 PE.

Table 38. Page lock levels		
Lock type	**Description**	**Explanation**
S	Shared	The lock owner and any concurrent programs might read, but not change the locked data.
U	Update	The lock owner can read the data, and intends to change it. Concurrent programs can acquire S locks and read the data; no other program can acquire a U lock.
X	Exclusive	The lock owner can read or change the locked data. No other program can acquire any lock on the data, or access the locked data at all.

Tablespace lock levels

The following table describes the tablespace lock levels that are displayed by OMEGAMON XE for DB2:

Table 39. Tablespace lock levels

Lock type	Description	Explanation
IS	Intent Share	The lock owner might read data in the tablespace, but not change it. Other programs might both read and change the data.
IX	Intent Exclusive	The lock owner and concurrent programs might read and change data in the tablespace.
S	Shared	The lock owner and any concurrent programs might read, but not change data in the tablespace.
SIX	Share with Intent Exclusive	The lock owner might read and change data in the tablespace. Concurrent programs might read data in the tablespace, but not change it.
X	Exclusive	The lock owner might read or change data in the tablespace. No other program might access the tablespace at all.

Internal lock types

OMEGAMON XE for DB2 PE also displays the following lock types that are used internally by DB2:

NSU
Non-shared update.

UNS
Unprotected share.

Chapter 21. DB2 Thread Status Values

This topic contains a list of all possible values for the status of a DB2 thread. This field is displayed on thread summary and thread detail panels as Status, DB2 Status, or Thread Status.

The following list shows all possible values for the status of a DB2 thread:

NOT-AVAIL
The thread is not available

IN-ABORT
The thread is in abort processing.

IN-ACCEL
The thread is executing on IBM Db2 Analytics Accelerator for z/OS.

IN-AUTO-PROC
The thread is processing an autonomous procedure.

IN-BIND-DYNM
The thread is in dynamic bind processing.

IN-BIND-STAT
The thread is in static bind processing.

IN-COMMAND
Command threads display this status when they are active in DB2 and executing within the DB2 command processor. (This type of thread always has a blank plan name.)

IN-COMMIT
The thread is in Commit processing (applies only to threads that originate from an attachment that does not use two-phase-commit protocol).

IN-COMT-PHS1
The thread is in Commit phase 1 processing.

IN-COMT-PHS2
The thread is in Commit phase 2 processing.

IN-CRTE-THRD
The thread is in Create Thread processing.

IN-DB2
The thread is executing in DB2. A more descriptive status could not be determined.

INDOUBT
The thread is in doubt.

IN-SIGNON
The thread is in signon processing. This status applies only to threads originating from CICS or IMS attachments.

IN-SQL-CALL
The thread is processing an SQL call.

IN-SQL-SORT
The thread is executing an SQL call and is doing the sort processing required to satisfy the call's request.

IN-STOR-PROC
The thread is currently running in a stored procedure.

IN-TERM-THRD
The thread is in termination as a result of allied task termination. This status corresponds to DB2 DISPLAY THREAD=D status.

IN-TRIGGER
The thread is currently running in a trigger.

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IN-USER-FUNC
The thread is currently running a user-defined function.

NOT-IN-DB2
The thread is not currently executing in DB2.

SP/UDF-INACT
The thread is trying but not able to run in a stored procedure or user-defined function.

SWAPPED-OUT
The thread is not currently executing in DB2. The thread originating address space is swapped out.

WAIT-ARCHIVE
The thread is waiting for an archive log tape mount necessary during thread abort processing.

WAIT-ARCREAD
The thread is currently waiting for read of archive log from tape.

WAIT-ASYNCRD
The thread is currently waiting for completion of a read I/O that is being done under a thread other than this one (for example, sequential or List Prefetch).

WAIT-ASYNCWR
The thread is currently waiting for completion of Write I/O that is being done under a thread other than this one (for example, Deferred Writes).

WAIT-CONVLIM
The distributed thread is in a synchronous wait because the conversation limit has been reached for its designated logmode.

WAIT-CTHREAD
The thread is queued in Create Thread processing because DB2 reached the CTHREAD value. This status corresponds to DB2 DISPLAY THREAD=QD status.

WAIT-GLBLOCK
The thread is currently waiting for either:

- Inter-system communication within the data sharing group to determine if there is lock contention.
- A lock held by another subsystem in the data sharing group.

WAIT-LOCK
The thread is waiting for a lock.

WAIT-MSGSEND
The thread is waiting because of inter-system message sending contention.

WAIT-REMREQ
The database access thread is in a synchronous wait (waiting for a response or a request from the originating DB2 subsystem).

WAIT-REMSQL
The distributed allied thread is in a synchronous wait (waiting for a response from the remote DB2 subsystem being accessed).

WAIT-REUSE
The thread is not currently in use and is waiting to be reused. This status applies only to CICS and IMS threads.

WAIT-SERVICE
The thread is currently waiting for completion of a DB2 service. Types of DB2 services include: open/close of a dataset, DFHSM recall of a dataset, SYSLGRNG update or define/extend/delete of a dataset, rollback, and Commit phase 2 for read only threads.

WAIT-SP-STOP
The thread is queued waiting for a stopped stored procedure.

WAIT-TERM-TH
The thread is queued and waiting for thread termination as a result of allied task termination. This status corresponds to DB2 DISPLAY THREAD=QD status.

UTIL-STOP
The DB2 utility was started but not completed because of abnormal termination.

The following status are only available when class 2/3 traces are on:

WAIT-ACCEL
The thread is currently waiting for claimers to be released after acquiring drain lock.

WAIT-CLAIMER
The thread is currently waiting for claimers to be released after acquiring drain lock.

WAIT-CL3LOCK
The thread is currently waiting for the completion of an identify call to the IRLM.

WAIT-COMMIT
The thread is waiting for the FORCE-AT-COMMIT event to finish.

WAIT-DRNLOCK
The thread is currently waiting to acquire drain lock.

WAIT LOB
The thread is currently waiting for TCP/IP to materialize a LOB.

WAIT-LOCKLAT
The thread is waiting for a LOCK-I/O-LATCH.

WAIT-LOCKPIP
The thread is currently waiting for a PIPE suspend.

WAIT-LOCKPQS
The thread is currently suspended for parallel task synchronization.

WAIT-LOGQSCE
The thread is currently suspended because of an ARCHIVE LOG MODE(QUIESCE) command.

WAIT-PGLATCH
The thread is currently waiting for page latch.

WAIT-SP-SCHD
The thread is waiting for a TCB to become available in the stored procedures address space to schedule a stored procedure.

WAIT-SWITCH
The thread is currently waiting for the completion of a synchronous execution switch.

WAIT-SYNC-IO
The thread is currently waiting for completion of a synchronous Read I/O or Write I/O.

Note: This status can indicate that a DB2 resource is not large enough. You can use the OMEGAMON XE for DB2 PE resource manager or object analysis displays to further isolate the problem.

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