IBM Z Performance and Capacity Analytics
Version 3 Release 1

*IBM i System Performance Feature
Guide and Reference*

IBM

Note

Before using this information and the product it supports, read the information in "Notices" on page 129 .

This edition applies to version 3, release 1 of IBM Z Performance and Capacity Analytics (program number 5698-AS3) and to all subsequent releases and modifications until otherwise indicated in new editions.

Last updated: August 2020

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Preface

The *IBM i System Performance Feature Guide and Reference* describes how to use IBM Z Performance and Capacity Analytics to collect and report performance data generated by IBM i on IBM Power Systems.

This book:

- Describes performance issues and how they affect the level of services you can offer users.
- Guides you through the process of selecting, installing, and implementing the relevant components.
- Explores performance characteristics shown in IBM Z Performance and Capacity Analytics reports so that you can analyze the characteristics of your system.

Note: The short form "SP400 Feature" is used throughout this book instead of the full title IBM i System Performance Feature.

Who should read this book

The *IBM i System Performance Feature Guide and Reference* is for:

- Anyone who analyzes or monitors IBM i performance.
- Anyone responsible for establishing or meeting service level objectives for IBM i user groups.
- IBM Z Performance and Capacity Analytics administrators (primarily as a guide to feature installation and as a reference to table and report definitions).
- Users with various backgrounds who are interested in analyzing IBM i performance data and improving IBM i performance.

You can use the IBM Z Performance and Capacity Analytics SP400 Feature to monitor IBM i, even if you have little experience with IBM i . However, to make the best use of the SP400 Feature to improve performance, you should be familiar with IBM i , the terms that are unique to IBM i , and the terminology associated with database design and performance.

If you are not familiar with IBM i , refer to the IBM Knowledge Center for a description of the basic concepts and introduction to the terminology:

https://www.ibm.com/support/knowledgecenter/ssw_ibm_i_73/

The better you understand the interaction of processor cycles, storage, and I/O, the easier it is to identify performance constraints. The IBM i product library is the authoritative source for information about understanding and tuning IBM i performance.

What this book contains

Use this book to help you collect performance data generated on the IBM i and create the reports supplied with the SP400 Feature. This book explains how to create and display IBM Z Performance and Capacity Analytics reports to both understand and monitor IBM i performance.

This book contains the following parts:

IBM i System Performance Feature Guide
    The Guide chapters describe the role of the SP400 Feature in the IBM Z Performance and Capacity Analytics environment and contain a description of how to plan for and set up the SP400 Feature so that reports and decision support information are available.

- Chapter 1, "Introducing the SP400 Feature," on page 1
- Chapter 2, "Installing the SP400 Feature on the IBM i," on page 3
- Chapter 3, "Installing SP400 Feature components on the z/OS system," on page 11

IBM i System Performance Feature Reference

The Reference chapters describe the flow of data from OS/400® logs to reports, showing IBM Z Performance and Capacity Analytics log and record definitions, tables, and reports. They also describe the supplied data tables and lookup tables, including their columns and expressions. The use and syntax of the OS/400 commands are also described.

Publications

This section describes how to access the IBM Z Performance and Capacity Analytics publications online.

For a list of publications and related documents, refer to "IBM Z Performance and Capacity Analytics publications" on page 131.

Accessing publications online

Publications for this and all other IBM products, as they become available and whenever they are updated, can be viewed on the IBM Knowledge Center website where you can also download the associated PDF.

IBM Z Performance and Capacity Analytics V3.1.0
> https://www.ibm.com/support/knowledgecenter/SSPNK7_3.1.0

IBM Knowledge Center
> https://www.ibm.com/support/knowledgecenter

Accessibility

Accessibility features help users with a physical disability, such as restricted mobility or limited vision, to use software products successfully. With this product, you can use assistive technologies to hear and navigate the interface. You can also use the keyboard instead of the mouse to operate all features of the graphical user interface.

For additional information, refer to the IBM Accessibility website:

https://www.ibm.com/accessibility

Support information

If you have a problem with your IBM software, you want to resolve it quickly. IBM provides the following ways for you to obtain the support you need:

- Searching knowledge bases: You can search across a large collection of known problems and workarounds, Technotes, and other information.
- Obtaining fixes: You can locate the latest fixes that are already available for your product.
- Contacting IBM Support: If you still cannot solve your problem, and you need to work with someone from IBM, you can use a variety of ways to contact IBM Support.

For more information about these ways of resolving problems, see .

Conventions used in this book

This guide uses several conventions for special terms and actions, operating system-dependent commands and paths, and margin graphics.

The following terms are used interchangeably throughout this book:

- MVS, OS/390®, and z/OS.
- VM and z/VM.

Typeface conventions

This guide uses the following typeface conventions:

Bold

- Lowercase commands and mixed case commands that are otherwise difficult to distinguish from surrounding text
- Interface controls (check boxes, push buttons, radio buttons, spin buttons, fields, folders, icons, list boxes, items inside list boxes, multicolumn lists, containers, menu choices, menu names, tabs, property sheets), labels (such as **Tip**, and **Operating system considerations**)
- Column headings in a table
- Keywords and parameters in text

Italic

- Citations (titles of books, diskettes, and CDs)
- Words defined in text
- Emphasis of words (words as words)
- Letters as letters
- New terms in text (except in a definition list)
- Variables and values you must provide

Monospace

- Examples and code examples
- File names, programming keywords, and other elements that are difficult to distinguish from surrounding text
- Message text and prompts addressed to the user
- Text that the user must type
- Values for arguments or command options

Except for editorial changes, updates to this edition are marked with a vertical bar to the left of the change.

Changes in this edition

This edition is an update to the previous edition of the same book.

Changes in this edition SC28-3212-00

The changes are largely editorial and no new technical content has been added.

Changes in the previous edition SC27-9060-01

This edition of the *IBM i System Performance Feature Guide and Reference* is an update of the previous edition of the same book, formerly titled *AS/400 System Performance Feature Guide and Reference*. The changes in this edition relate to IBM Z Performance and Capacity Analytics V3.1.0, and include the following:

- Renamed: AS/400 to IBM i software running on IBM Power Systems hardware.
- Replaced:
  - ADRLA400 and ADRLWS by ADRLBIN
  - SDRLA400 and SDRLWS by SDRLBIN
  - ADRLSKEL by SDRLBIN for binary parts for APAR documentation

  This provides a common repository for binary parts that do not go into USS. It is relevant to the installation of non-z/OS components.
- Replaced:
  - ADRLIDM by ADRLUSS
  - SDRLIDM by SDRLUSS

  This provides a repository for binary parts that must go into USS. For example, Java.

Chapter 1. Introducing the SP400 Feature

IBM Z Performance and Capacity Analytics collects performance, accounting, and configuration data logged by computer systems, then summarizes the data and produces reports. IBM Z Performance and Capacity Analytics consists of a base product and several optional features that are used in systems management.

Collecting performance data

All IBM operating systems record performance and utilization data into various objects such as files and journal receivers. Generically, these are referred to as log files.

The role of the SP400 Feature is to ensure that the operating system is collecting the appropriate data for your purposes, allowing you to extract the relevant information from these log files and then transfer this information to IBM Z Performance and Capacity Analytics.

Here, the IBM i data will be merged with some environment data, which is defined in lookup tables on the host, and then aggregated into the IBM Z Performance and Capacity Analytics tables. These tables provide all the data for the pre-defined or customized reports.

The process of entering and maintaining environment data is called *administration*. IBM Z Performance and Capacity Analytics provides an administration dialog for maintaining resource information. Refer to the *Administration Guide and Reference* for information on how to use the administration dialog.

The figure below illustrates how data is organized for inclusion within the IBM Z Performance and Capacity Analytics reports. For a more detailed description, see SP400 Feature general data flow.
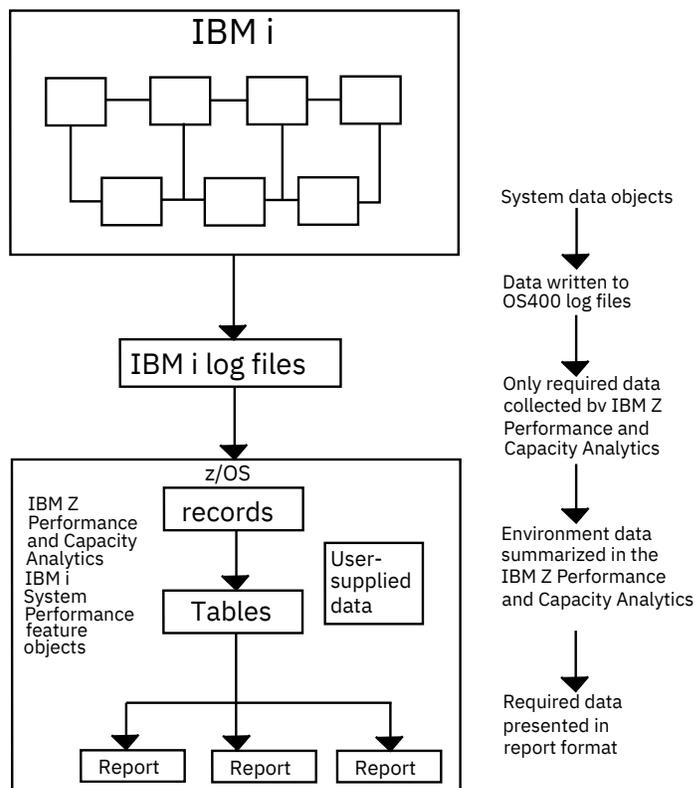
Figure 1. Organizing and presenting system performance data

The reports produced by IBM Z Performance and Capacity Analytics for the SP400 Feature are grouped in the following report groups:

OS400ACT
> Accounting reports

OS400CON
> Configuration reports

OS400JOB
> Job statistics reports

OS400MSG
> Message reports

OS400PRF
> Performance reports

These report groups are accessible through the ISPF interface on the z/OS system and reporting can be performed either online or in batch. See "Working with report groups" in the *Guide to Reporting* for more information about this.

For a description of the IBM Z Performance and Capacity Analytics collection process, refer to the *Administration Guide and Reference*.

Planning the SP400 Feature installation process

About this task

Use the planning process to prepare for these main customization tasks:

- Customize your IBM i systems to generate the data required by the components you install.
- Define the environment data, which is held in the lookup tables on the host.

  This is the only information (besides the input data) that the SP400 feature needs to create reports. Environment data controls the data collection process and provides more information in the reports.

Before installing the SP400 Feature, review your requirements as follows:

Procedure

1. Analyze the users' tasks to determine what data the SP400 Feature must gather to help the users accomplish those tasks.
2. Determine which SP400 Feature components you must install to meet the users' needs.
3. For each selected component, determine the administration tasks you must perform and make any decisions required by these tasks which will help you customize IBM Z Performance and Capacity Analytics and the SP400 Feature to work efficiently and effectively with your computer system.
4. For each selected component, determine the customization tasks you must perform for the supported products in order to enhance their usability and applicability in your situation.

Results

Finally, the key to successful implementation of IBM Z Performance and Capacity Analytics is knowing:

- The objectives that you want to achieve.
- The methods to use to collect and analyze the appropriate information in order to produce reports that will help you to achieve your objectives.

Chapter 2. Installing the SP400 Feature on the IBM i

This chapter focuses on the specific information to install the SP400 Feature on the IBM i. Supplementary information is available in the *Administration Guide and Reference* manual.

To install the SP400 Feature, complete the following steps:

- Step 1: Transfer the SP400 feature code to the IBM i
- Step 2: Check the IBM i requirements
- Step 3: Install the SP400 feature code on your IBM i

If this is the first time you have installed the SP400 Feature, then follow all these steps to ensure that the SP400 Feature installation is complete. If you are modifying your installation of the SP400 Feature then you might not need to perform all of these tasks.

Step 1: Transfer the SP400 Feature code to the IBM i

Procedure

1. Create a save file on the IBM i into which it can receive the DRLLIB library from the host.

   a) On the IBM i, use the CRTSAVF command to create a save file called DRLINST in the QGPL library.

      For example:

      CRTSAVF FILE(QGPL/DRLINST)

   b) Create a job on the host to transfer the SP400 Feature code from the SMP-installed target library DRL*vrm*.SDRLBIN to IBM i on IBM i.

      To do this, modify the sample JCL contained in the partitioned data set member DRL*vrm*.SDRLCNTL (DRLJA400) using the following table.

      Note: *vrm* is to be replaced with the Version, Release, and Modification level of the software that you are installing. For example, if it is Version 3, Release 1, Modification level 0 then the library name is DRL310.SDRLBIN.

Table 1. Host library members and OS/400 versions	
Members	**OS versions**
DRL5400V	OS/400 V5R1M0 and network transfer
DRL5240V	OS/400 V5R2M0 and network transfer
DRL5240V	OS/400 V5R3M0 or later and network transfer

2. Run the job.

   This produces a file that contains the save file used to install the SP400 feature on the IBM i.

3. Transfer the file from the z/OS system into the QGPL/DRLINST save file on the IBM i.

Step 2: Check the IBM i requirements

Before you begin

Check the following requirements:

Procedure

- Disk space requirements
- Software requirements

Disk space requirements

The disk space required by SP400 Feature depends upon the size of the databases created when data is captured.

To minimize the use of storage, perform data captures as frequently as possible.

Software requirements

The SP400 Feature requires the following programs, or subsequent upward-compatible levels, unless stated otherwise:

- Operating System/400® (OS/400) Version 5 Release 1 (5722-SS1). The IBM i network must be connected to the z/OS host either through an SNA or a TCP/IP connection.
- IBM Performance Tools for IBM i (5722-PT1) is recommended to change collection services parameters.

Step 3: Install the SP400 Feature code on your IBM i

To install the SP400 Feature code on your IBM i:

- 1. Sign on to the IBM i
- 2. Change the message queue
- 3. Restore DRLLIB library from DRLINST save file
- 4. Restore DRLDTA library from DRLDTA save file
- 5. Add DRLLIB and DRLDTA libraries to your library list
- 6. Installation verification of the SP400 Feature

1. Sign on to the IBM i

Procedure

Sign on as the IBM i security officer, QSECOFR.

2. Change the message queue

Procedure

Change the message delivery attribute of the QSECOFR message queue to break mode.

This will ensure that you don't overlook any messages that are sent to the QSECOFR message queue and will allow you to respond to them at any time. This mode will last until the end of your job or until you change it.

Example

CHGMSGQ MSGQ(QSECOFR) DLVRY(*BREAK)

3. Restore DRLLIB library from DRLINST save file

About this task
To restore the DRLLIB library:

Procedure

1. Enter the RSTLIB command and press F4 to see a choice of valid field options as shown in the following figure.

```
                    Restore Library (RSTLIB)

 Type choices, press Enter.

 Saved library  . . . . . . . . . > DRLLIB____    Name, *NONSYS, *ALLUSR
 Device . . . . . . . . . . . . . > *SAVF_____    Name, *SAVF
             + for more values     _____
 Save file  . . . . . . . . . . . > DRLINST___    Name
   Library  . . . . . . . . . . . >   QGPL_____  Name, *LIBL, *CURLIB

                     Additional Parameters

 Option . . . . . . . . . . . .    *ALL_         *ALL, *NEW, *OLD, *FREE
 Data base member option  . . . .  *MATCH        *MATCH, *ALL, *NEW, *OLD
 Date when saved  . . . . . . . .  _____      Date
 Time when saved  . . . . . . . .  _____      Time
 Allow object differences . . . .  *NONE         *NONE, *ALL
 Restore to library . . . . . . .  *SAVLIB___    Name, *SAVLIB
 Auxiliary storage pool ID  . . .  *SAVASP       1-16, *SAVASP
 Output . . . . . . . . . . . .    *NONE_        *NONE, *PRINT

 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

Figure 2. Restoring SP400 library from save file

2. Fill in the required fields and press Enter.

   The message "21 objects restored from DRLLIB to DRLLIB." is displayed at the bottom of the screen when the command has completed successfully. If this message is not displayed, check for the reason that the restore function failed.

3. Check that all objects in the library have been restored. The following table reports the number of restored objects according to the OS version:

What to do next

Table 2. Number of restored objects in DRLLIB library

OS versions	Number of restored objects
OS/400 V5R1M0	18
OS/400 V5R2M0	21
OS/400 V5R3M0 or later	21

1. Use the DSPLIB command to display the library. See : For example:

   DSPLIB LIB(DRLLIB)

```
 Display Library

 Library  . . . . . . . :    DRLLIB        Number of objects  . :   20
 Type . . . . . . . . . :    PROD          ASP of library . . . :   1
 Create authority . . :      *SYSVAL

 Type options, press Enter.
   5=Display full attributes   8=Display service attributes

 Opt  Object      Type       Attribute    Freed        Size  Text
      DRL601C     *PGM       C            NO          10240
      DRL602A     *PGM       CLP          NO          19456
      DRL602C     *PGM       C            NO           9728
      DRL603A     *PGM       CLP          NO          13824
      DRL603I     *PGM                    NO           2048
      DRL605A     *PGM       CLP          NO           5632
      DRL802I     *PGM                    NO           3072
      DRLMSGF     *MSGF                   NO          14848
      DRLDTA      *FILE      SAVF         NO         153600
      SAVSPDTA    *CMD                    NO           2048  Save SP400 data
      STRSPSRV    *CMD                    NO           1024  Start SP400 server
                                                                      More...

 F3=Exit   F12=Cancel   F17=Top   F18=Bottom
```

Figure 3. Listing of objects contained in DRLLIB

Note: The number of objects that are displayed will always be one less than the number of objects restored because the number of objects restored includes the library itself. The DSPLIB command only counts the number of objects in the library.

shows an example with the first 11 objects restored.

4. Restore DRLDTA library from DRLDTA save file

Before you begin

The DRLDTA library is saved in the DRLDTA save file that is contained in the DRLLIB library. To restore the DRLDTA library:

Procedure

1. Type the RSTLIB command and then press F4 to see a choice of valid field options.
   See the figure below:
2. Fill in the required parameters and press Enter.

```
                       Restore Library (RSTLIB)

 Type choices, press Enter.

 Saved library  . . . . . . . . . > DRLDTA____    Name, *NONSYS, *ALLUSR
 Device . . . . . . . . . . . . . > *SAVF_____    Name, *SAVF
              + for more values      _____
 Save file  . . . . . . . . . . . > DRLDTA____    Name
   Library  . . . . . . . . . . . >   DRLLIB____  Name, *LIBL, *CURLIB

                          Additional Parameters

 Option . . . . . . . . . . . .    *ALL_          *ALL, *NEW, *OLD, *FREE
 Data base member option  . . . .  *MATCH         *MATCH, *ALL, *NEW, *OLD
 Date when saved  . . . . . . . .  _____       Date
 Time when saved  . . . . . . . .  _____       Time
 Allow object differences . . . .  *NONE          *NONE, *ALL
 Restore to library . . . . . . .  *SAVLIB___     Name, *SAVLIB
 Auxiliary storage pool ID  . . .  *SAVASP        1-16, *SAVASP
 Output . . . . . . . . . . . .    *NONE_         *NONE, *PRINT

 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

Figure 4. Restoring DRLDTA library from the DRLDTA save file

The message "11 objects restored from DRLDTA to DRLDTA." will be displayed at the bottom of the screen when the command has completed successfully. If this message is not displayed, check for the reason that the restore function failed.

3. Check that all the objects in the library have been restored. The following table reports the number of restored objects according to the OS/version:

Table 3. Number of restored objects in DRLDTA library

Member	OS versions	Number of objects restored
DRL5400V	OS/400 V5R1M0	16
DRL5240V	OS/400 V5R2M0	11
DRL5240V	OS/400 V5R3M0 or later	11

4. Use the DSPLIB command to display the library.

See the following figure, which shows an example with 10 objects restored.

```
 Display Library

 Library  . . . . . . :   DRLDTA        Number of objects  . :   10
 Type . . . . . . . . :   PROD          Library ASP number . :   1
 Create authority . . :   *SYSVAL       Library ASP device . :   *SYSBAS

 Type options, press Enter.
   5=Display full attributes   8=Display service attributes

 Opt   Object      Type      Attribute         Size   Text
       DRL602A     *DTAARA                      4096   Data Area for Holding
       DRL610A     *DTAARA                      4096   Data Area for holding
       SAVSPDTA    *DTAARA                      4096   TDS/390 SP400 data ca
       USERDTAARA  *DTAARA                      4096   USER EXIT DATA AREA
       DRLQHST     *USRSPC                     36864   EPDMS SP400 History L
       DRL602A     *USRSPC                     12288   User Space for SP400
       DRL602B     *USRSPC                     12288   USER SPACE FOR CS400
       DRL605A     *USRSPC                      4096   User Space for SP400
       DRL607A     *USRSPC                      4096   User Space for SP400
       DRL610A     *USRSPC                     12288   User Space for SP400


 F3=Exit   F12=Cancel   F17=Top   F18=Bottom
 (C) COPYRIGHT IBM CORP. 1980, 2003.
```

Figure 5. Listing of objects contained in the DRLDTA library

5. Add DRLLIB and DRLDTA libraries to your library list

Before you begin

Before a user can use the SP400 Feature, these two libraries need to be added to the job's library list. This can be done in three different ways, depending upon your situation:

Procedure

- If every user requires access to these libraries then they can be added to the system value QUSRLIBL, along with any other libraries.

  For example: CHGSYSVAL SYSVAL(QUSRLIBL) VALUE('DRLLIB DRLDTA ... ...')

- If individual users require access to these libraries then their user profiles need to specify a Job Description [for example: TIVJOBD] where the initial library list parameter [INLLIBL] contains at least both of these libraries.

  For example: CRTJOBD JOBD(QGPL/TIVJOBD) INLLIBL(DRLLIBL DRLDTA ...) CHGUSRPRF USRPRF(xxxxxxx) JOBD(QGPL/TIVJOBD)

- A user can make a temporary change to their job's library list by using the ADDLIBLE command and F4 for prompting, as shown in the following figure. Do the same for the DRLDTA library.

  Note: If you use this option, and then sign off, this temporary modification of the library list will be lost. Hence, when you sign on again the ADDLIBLE commands will need to be re-executed.

Figure 6. Adding DRLLIB to the library list of a job

```
                    Add Library List Entry (ADDLIBLE)

 Type choices, press Enter.

 Library  . . . . . . . . . . .    DRLLIB____    Name
 Library list position:
   List position  . . . . . . .    *LAST___      *FIRST, *LAST, *AFTER.
   Reference library  . . . . .    _____     Name









 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

6. Installation verification of the SP400 Feature

Before you begin

To make sure that the installation was successful:

Procedure

1. Sign off.
2. Sign on as a user who requires access to the SP400 feature.
3. If you require temporary access to the libraries, then enter the ADDLIBLE commands as shown previously. If not go to the next step.
4. Enter the command: GO SPMAIN

5. If the SPMAIN menu is displayed then the installation was successful. If not, then you need to validate all the previous installation steps to ensure that they completed successfully.

Chapter 3. Installing SP400 Feature components on the z/OS system

This chapter describes the activities necessary to install the SP400 Feature components on the z/OS system.

- Step 1: Decide which SP400 feature components to install
- Step 2: Install the SP400 feature components on the IBM Z Performance and Capacity Analytics system
- Step 3: Update the IBM Z Performance and Capacity Analytics lookup tables
- Step 4: Test the SP400 feature installation
- Step 5: Put the SP400 Feature into production

Step 1: Decide which SP400 Feature components to install

Your most critical planning task is determining what information users need from the SP400 Feature. For example, users might be interested only in error conditions or in processor capacity. Install only those features that the users need. Otherwise there will be an unwanted impact on performance.

If you require reports from a component that you have not installed, you must install that component and then wait several days or weeks until enough data has been collected to create meaningful reports.

The SP400 Feature is divided into five components:

- Accounting
- Configuration
- Job statistics
- Messages
- Performance

At this point, you might find it helpful to examine the predefined reports for each component. For more information, see Reports.

After the IBM Z Performance and Capacity Analytics base and features have been successfully installed, choose the feature components you want to load. IBM Z Performance and Capacity Analytics installs the necessary log and record definitions, log procedure, and update definitions to IBM Z Performance and Capacity Analytics system tables. IBM Z Performance and Capacity Analytics also installs the predefined tables (described in Data tables and lookup tables) and reports (described in Reports).

Each component of the SP400 Feature is optional. Use the administration dialog to select which components of the SP400 feature to install. To avoid wasting system resources, install only the SP400 Feature components that meet your requirements.

Step 2: Install the SP400 Feature components on the IBM Z Performance and Capacity Analytics system

Procedure

1. From the IBM Z Performance and Capacity Analytics Administration window (see the figure below), select Option 2 Components, and press Enter.

```
   Other  Utilities  Help
 ------------------------------------------------------------------------------
               IBM Z Performance and Capacity Analytics Administration

   Select one of the following.  Then press Enter.


               2_  1.   System
                   2.   Components
                   3.   Logs
                   4.   Tables
                   5.   Reports




   Command ===> _____
     F1=Help      F2=Split     F3=Exit     F9=Swap     F10=Actions  F12=Cancel
```

Figure 7. IBM Z Performance and Capacity Analytics Administration Window

The Components window is displayed, see the figure below:

```
    Components  Other  Help
  ------------------------------------------------------------------------------
                              Components                  ROW 1 TO  13 OF 47

   Select one or more components. Then press Enter to Open component.

   /   Components                                       Status     Date
   _   Network Line Utilization Component               Installed  00-03-19
   _   Network NetView FTP Component                     Installed  00-03-19
   _   Network NPM Internal Utilization Component        Installed  00-03-19
   _   Network NV/SM Internal Utilization Component      Installed  00-03-19
   _   Network Problem Component                         Installed  00-03-19
   _   Network RTM Response Time Component               Installed  00-03-19
   _   Network Service Component                         Installed  00-03-19
   _   Db2 Component                                     Installed  00-03-17
   /   OS/400 Accounting Component
   _   OS/400 Configuration Component
   _   OS/400 Jobs Component
   _   OS/400 Messages Component
   _   OS/400 Performance Component

   Command ===> _____
     F1=Help      F2=Split     F3=Exit     F5=New      F6=Install   F7=Bkwd
     F8=Fwd       F9=Swap     F10=Actions  F12=Cancel
```

Figure 8. Components Window

2. From the Components window, select the components to install (here, the OS/400 accounting component), and press F6.

   The Installation Options window is displayed:

```
                 Installation Options

    Select one of the following.  Then press Enter.

        __  1. Online
            2. Batch

    F1=Help     F2=Split    F6=Objects  F9=Swap     F12=Cancel
```

Figure 9. Installation Options

3. Using the component-installation procedure in the *Administration Guide and Reference,* decide if the components are to be installed in batch mode or online.

   Batch mode installation results in less output than online installation. In addition, during online installation your terminal will be blocked. Therefore, it is recommended that you install components in batch.

What to do next

Note: If, when you install the OS/400 Configuration component, the following messages are displayed, you can disregard them:

```
     SQL DELETE FROM &PREFIX.OS400_DASDTYPE              -- PQ06212
         WHERE DEVICE_TYPE = '9332' AND
               DEVICE_MODEL = '400' AND
               MEGABYTE_COUNT = 200;
 DSNT404I SQLCODE = 100, NOT FOUND: ROW NOT FOUND FOR FETCH, UPDATE, OR
         DELETE, OR THE RESULT OF A QUERY IS AN EMPTY TABLE
     SQL DELETE FROM &PREFIX.OS400_DASDTYPE              -- PQ06212
         WHERE DEVICE_TYPE = '9332' AND
               DEVICE_MODEL = '600' AND
               MEGABYTE_COUNT = 300;
 DSNT404I SQLCODE = 100, NOT FOUND: ROW NOT FOUND FOR FETCH, UPDATE, OR
         DELETE, OR THE RESULT OF A QUERY IS AN EMPTY TABLE
```

Step 3: Update the IBM Z Performance and Capacity Analytics lookup tables

Before you begin

All components of the SP400 Feature include lookup tables, which contain the environment data, that you can modify to control the content of your reports.

Procedure

- If you specify online installation, IBM Z Performance and Capacity Analytics displays the Lookup Tables window. To edit a lookup table using ISPF edit, select a table and press Enter.
- If you specify batch mode installation, you can edit the lookup tables using the ISPF editor after the component is installed.

  To do this:

  1. Select 2, IBM Z Performance and Capacity Analytics Administration from the IBM Z Performance and Capacity Analytics Primary Menu.
  2. Select 4, Tables.
  3. Select the lookup table that you want to edit, select the Edit pull-down, and press Enter.
  4. Select 3, ISPF Editor from the Edit pull-down.

What to do next

The lookup tables that you can customize are:

1. OS400_JOB_ACCTCODE
2. OS400_DASDTYPE
3. OS400_JOBGROUP
4. OS400_DATE_FORMAT

These tables are described in the following sections.

1. Updating OS400_JOB_ACCTCODE

Before you begin

The OS400_JOB_ACCTCODE table is created when you install the SP400 Feature Job Statistics component. Default information is provided in the table as a guide to customizing the table for your own use.

You must decide, for example:

Procedure

- Which account codes are to be used?
- Are account codes to be different for batch and for online jobs types?
- Which account codes should users be allocated?
- Should certain job names carry specific account codes?

What to do next

A sample of the lookup table contents is given in OS400_JOB_ACCTCODE.

2. Updating OS400_DASDTYPE

The SP400 Feature uses the OS400_DASDTYPE table when Performance Component reports are produced.

The table contains information about OS/400 device types, model information, and their capacity (in megabytes).

Note: You must update this table whenever additional devices are installed.

A sample of the lookup table contents is given in OS400_DASDTYPE.

3. Updating OS400_JOBGROUP

All jobs are grouped automatically by the SP400 Feature when a job is started. Performance data is collected and categorized on the basis of the job group number.

When the reports "OS/400 Perf CPU and Trans by Job Group, Hourly Trend report" on page 96 and "OS/400 Perf CPU by Job Group, Hourly Trend report" on page 97 are being produced, the SP400 Feature uses this lookup table to find a job group name from a job group number.

A sample of the lookup table contents is given in OS400_JOBGROUP.

A description of each of the job group types, together with an example of their use in a performance report, are given in Explanation of job group types.

4. Updating OS400_DATE_FORMAT

Before you begin

The OS400_DATE_FORMAT table is created when you install the SP400 Feature Job Statistics component or Accounting component.

You must complete the table if the system date format or the job date format in your IBM i system is not MDY.

In that instance, you must specify:

Procedure

- The IBM i system ID
- The system date format (use the DSPSYSVAL QDATFMT IBM i command to find the format)
- The job date format (use the DSPJOB, Option 2 to display its Date Format)

What to do next

After the installation is complete, IBM Z Performance and Capacity Analytics returns to the Components window, and the Status field indicates that the component is installed.

Step 4: Test the SP400 Feature installation

Before you begin

Before starting the daily use of the SP400 Feature, run a few tests to check that the installation was successful.

Procedure

1. Ensure the lookup tables contain appropriate values.
2. Check that the SP400 Feature is collecting the correct data on the IBM i.
3. Test the data transfer facility that will be used to move the IBM i data to the z/OS platform.
4. Ensure the correct data is being used for the creation of reports.

What to do next

Refer to the *Administration Guide and Reference* for the steps involved in testing the component installation.

Step 5: Put the SP400 Feature into production

After the tests have verified that the installation was successful, the SP400 Feature and its components can be used in production.

The figure below shows the daily steps involved in using IBM Z Performance and Capacity Analytics, as perceived by the z/OS operator:

Check that the file transfer program has transferred data → Run COLLECT job → Perform database maintenance → Create reports
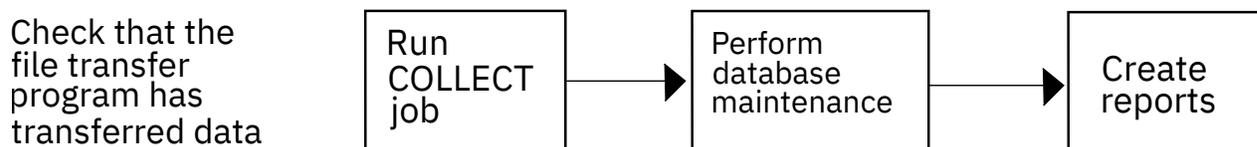
Figure 10. Daily steps involved in using IBM Z Performance and Capacity Analytics

Reports can be run in batch, after setting batch parameters for each report using the administration dialog.

For detailed information about these steps, refer to the *Administration Guide and Reference*

Chapter 4. Using the SP400 Feature on the IBM i

This chapter contains information pertaining to the following topics:

- Description of the OS/400 log files
- Collecting data on the IBM i
- Transferring the captured performance data files to z/OS

Description of the OS/400 log files

The OS/400 objects that contain the captured performance data are either physical files in the OS/400 database or journal receivers. Various jobs write data records to these objects on a fixed time interval or when special events occur. That is, they maintain a log of events that pertain to jobs or hardware devices and hence are often referred to as log files.

The contents of these objects are captured (using the Start SP400 Data Capturing command (STRSP400)) into up to six files which are then transferred to z/OS. These files must have a format that is acceptable to IBM Z Performance and Capacity Analytics. To distinguish between data from different systems, the SP400 Feature uses a column called SYSTEMID containing the name of the system. However, OS/400 logs do not contain this information. Therefore, the first record in all log files transferred must be a SOURCE record, with the following layout:

```
1...+....10...+....20...+....30...+....40...+....50...+....60....+..
SOURCE netname systemid                           logtypeversn timest
```

The fields have the following format:

Table 4. Layout of the SOURCE record.			
Starting position	**Field length**	**Value**	**Description**
1	6	SOURCE	The word SOURCE, in capitals.
8	8	netname	The network name of the IBM i.
16	8	systemid	The Current System Name of the IBM i.
50	7	logtype	The OS/400 log type as shown in the table below.
57	6	version	Is the OS/400 version in the form VxRyMz.
63	6	timestamp	Is the time the data is saved in the form hhmmss.

All log files must have fixed length records. For each log file, the following table gives the record length, and the entry required in columns 50-56 of the log file's first record.

Table 5. Record lengths and logtype entries for OS/400 logs			
OS/400 log	**Logtype entry (pos. 50-56 of 1st record)**	**OS/400 version**	**Record length**
QACGJRN	JOURNAL	V5R1 V5R2 V5R3 V5R4 V6R1	539 539 603 539 539

17

Table 5. Record lengths and logtype entries for OS/400 logs (continued)			
OS/400 log	**Logtype entry (pos. 50-56 of 1st record)**	**OS/400 version**	**Record length**
QRZALLF	CONFIG	V5R1 V5R2 V5R3 V5R4 V6R1	330 330 409 409 409
QHST	HISTORY	V5R1 V5R2 V5R3 V5R4 V6R1	142 142 142 142 142
QAPMSYS	PMSY	V5R1 V5R2 V5R3 V5R4 V6R1	3288 3294 3344 3367 3367
QAPMDISK	PMDI	V5R1 V5R2 V5R3 V5R4 V6R1	366 367 373 376 483
QAPMPOOL	PMPO	V5R1 V5R2 V5R3 V5R4 V6R1	95 95 96 96 96

To see how these OS/400 logs are used as the input to the SP400 feature log and record definitions, see Description of record definitions and logs.

Collecting data on the IBM i

In order to include any IBM i SP400 Feature performance data in the z/OS reports, the IBM i data must be collected and transferred to z/OS. There are three functions that need to be performed in order to collect the relevant information.

Firstly, the SP400 monitor job writes the DRL8003 message to the system history log, as frequently as specified in the Time Interval parameter, and for as long as the job is running. These messages contain the average values of the performance data computed for the time interval, including CPU utilization, auxiliary storage available, I/O, and paging. This information will be used by z/OS to insert or update the data in the tables OS400_PERF_SUM_H and OS400_PERF_SUM_D which are then used to create the performance reports.

Secondly, the Collection Services process must be started so that it can accumulate the relevant information at the required frequency and store it in the IBM i's Performance Tools management collection objects, of type *MGTCOL.

Finally, the relevant performance information must be extracted from these management collection objects and stored in up to six files before they are transferred to z/OS.

The detailed instructions for performing these tasks are listed in the following section.

Start SP400 Monitor

Procedure

1. Enter the command : GO SPMAIN

   The IBM Z Performance and Capacity Analytics SP400 Main Menu is displayed. If not, check the job's library list and ensure the DRLLIB library is present.

```
 SPMAIN    IBM Z Performance and Capacity Analytics SP400 Main Menu

   Select one of the following:

    1. Start SP400 Monitor
    2. Collection Services
    3. Start SP400 data capturing
    4. Initialize Tape
    5. Save SP400 data


   90. Signoff

 Selection or command
    ===> _____
 F3=Exit    F4=Prompt   F9=Retrieve   F12=Cancel
```

Figure 11. SPMAIN Menu

2. From the SP400 Main Menu, select Option 1, and press Enter.

   The Start SP400 Server (STRSPSRV) window is displayed. Detailed explanations of all the parameters are included in the figure below.

```
 Start SP400 Server (STRSPSRV)

   Type choices, press Enter.
   Time interval  . . . . . . . . .   5_____      Number of minutes
   Job queue  . . . . . . . . . .   QCTL___      Name
   Library  . . . . . . . . . . .   *LIBL__      Name, *LIBL, *CURLIB
```

Figure 12. Start SP400 Server (STRSPSRV)

3. To start the SP400 monitor job with the default values for the parameters, press Enter.

   This job runs in the QCTL subsystem. There is no option to end this job. If you need to terminate the job, use the command WRKSBSJOB SBS(QCTL) and select Option 4 alongside the SP400 job in order to end it.

Collection Services

Procedure

1. To start the Collection Services job, select Option 2 from the SP400 Main Menu, and press Enter.

   The Start Collection Services (STRCSSRV) window is displayed. Detailed explanations of all the parameters are included in STRCSSRV (Start Collections Services) command.

```
Start Collection Services (STRCSSRV)

  Type choices, press Enter:

  Collection service activity  . . *START        *START, *END
  Collection interval (minutes) . 15             1, 5, 15, 30, 60
  Retention period   . . . . . . . 24            1-720 hours




  F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel  F13=How to use this display
  F24=More keys
```

Figure 13. Start Collection Services command

2. To accept the default values for the parameters, press Enter. Alternatively, insert values for the collection interval (in minutes) and for and retention period (in hours).

   Performance data is collected according to the collection interval parameter in the *MGTCOL object stored in the QPFRDATA (for V5R1M0) or QMPGDATA (for V5R2M0 and above) library. Collection data older than the retention period is deleted. These objects are NOT the ones that are transferred to the host for reporting by the IBM Z Performance and Capacity Analytics. The files that are transferred are created by the Start Data Capturing command (STRSP400), which is described in a following section. Additional information pertaining to these parameters is included in Chapter 8.

   When the Enter key is pressed, the QYPSPFRCOL job is submitted to the QSYSNOMAX job queue in the QSYSWRK subsystem. This job creates a management collection object (*MGTCOL) to store the performance data.

3. To end Collection Services, select Option 2 from the SP400 Main Menu and change the "Collection service activity" parameter to *END and press Enter.

   The Data Capturing process (Option 3 on the SPMAIN menu) can be run without terminating the Collection Services job.

   This terminates the QYPSPFRCOL job.

Start SP400 data capturing

Procedure

1. To start SP400 Data Capturing, select Option 3 from the SP400 Main Menu and press Enter.

   Detailed explanations of all the parameters are included in the figure below.

   The Start SP400 Data Capturing (STRSP400) window is displayed.

```
Start SP400 Data Capturing (STRSP400)

  Type choices,  press Enter:

  Outfile  . . . . . . . .   DRLQHST      DRLQHST, DRLQACG, DRLQHDW...
  Library  . . . . . . . .   DRLDTA     Name, *LIBL



  F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel  F13=How to use this display
  F24=More keys
```

Figure 14. STRSP400 (Start SP400 data capturing) command

2. The value that is specified for the Outfile parameter determines what information is extracted from the management collection objects and stored in one or more of the six SP400 Feature data files. It is these files that will ultimately be transferred to z/OS and their data that will be incorporated into the relevant reports.

   There are four separate values that can be selected for the Outfile parameter, namely DRLQHST, DRLQACG, DRLQHDW, and DRLQPFR. When the cursor is in the Outfile field, these names can be displayed by pressing F4, and detailed information relating to each of these files can be displayed by pressing F13. Each value corresponds with one or more files which will be cleared and filled with the

newly captured output. Examples of the appropriate parameters for each of these options are shown in the following section.

- **DRLQHST**

```
 Start SP400 Data Capturing (STRSP400)

   Type choices, press Enter:

   Outfile   . . . . . . . .   DRLQHST      DRLQHST, DRLQACG, DRLQHDW...
   Library   . . . . . . . . .  DRLDTA     Name, *LIBL
  Time period for log output:
   Start time and date:
   Beginning time  . . . . .  *AVAIL      Time, *AVAIL
   Beginning date  . . . . .  *BEGIN      Date, *BEGIN, *CURRENT
   End time and date:
   Ending time  . . . . . . .  *AVAIL      Time, *AVAIL
   Ending time  . . . . . . .  *AVAIL      Time, *AVAIL



  F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel  F13=How to use this display
 F24=More keys
```

Figure 15. Set time period parameter for data capturing

The fields under the heading **Time period for log output** contain the start and end times for the data to be captured. Data will be captured from the OS/400 system history log, based on the values specified in the Time period for log output fields. If the defaults are used, the command will capture all the logged message data from the last time that the SP400 Monitor was started up to the present.

The first time that the command is executed using the defaults, data is captured from the beginning of all the history files on the system. When you press Enter, the data is captured and placed in the DRLQHST file. You can then send this data file to z/OS by using the SAVSPDTA command.

- **DRLQACG**

The parameters for this Outfile option are the same as for the DRLQHST option.

- **DRLQHDW**

When you select DRLQHDW as the Outfile to capture hardware data, there are no parameters for the start and end time.

- **DRLQPFR**

When you select DRLQPFR as the Outfile to capture performance data, the output files DRLQSYS, DRLQDSK, and DRLQPOL are produced.

For example, if you type DRLQPFR and press Enter, the following window is displayed:

```
 Start SP400 data capturing (STRSP400)

   Type choices,  press Enter:

   Outfile   . . . . . . . . . .   DRLQPFR              DRLQHST, DRLQACG, DRLQHDW..
   Library   . . . . . . . . . .   DRLDTA        Name, *LIBL
   Time interval (in minutes) . .  *FROMMGTCOL    *FROMMGTCOL, 1, 5, 15, 30, 60
  Collection type  . . . . . . .  *ACTIVE        *ACTIVE, *ALL
  Starting date and time:
   Starting date  . . . . . . .  *FROMMGTCOL    Date, *FROMMGTCOL
   Starting time  . . . . . . .  _____        Time
  Ending date and time:
   Ending date  . . . . . . . .  *FROMMGTCOL    Date, *FROMMGTCOL
   Ending time  . . . . . . . .  _____        Time



  F3=Exit    F4=Prompt   F5=Refresh   F12=Cancel  F13=How to use this display
 F24=More keys
```

Figure 16. Set parameters to retrieve performance data from collections

Performance data is extracted from the database by running the CRTPFRDTA command on a management collection (*MGTCOL) object. Files and file members will be created as needed, based on the data contained in the management collection object and the information requested on this command. If the files already exist and the requested member exists in any of them, the member will be cleared before the collection is generated.

The time interval parameter specifies the time interval (in minutes) between successive entries in the files. Within the database, these collection intervals are identified by interval number and interval time. Interval numbers begin with 1 and increment with each interval. Interval time is based on the time at the end of the interval synchronized to the clock time (for example, if INTV(15) is specified, intervals can be generated as 01:00:00, 01:15:00, 01:30:00, and 01:45:00).

Select *FROMMGTCOL to use the interval set for the management collection object. The collection type parameter determines whether the CRTPFRDTA command operates on either the active collection, to capture data for the current day starting from 00:00:00, or on all the collections available on the system.

Use the retention period parameter of the STRCSSRV command to control the amount of data you want to manage. You can also specify a starting and ending date and time for collections or use the values as in the management collection object.

Transferring the captured performance data files to z/OS

There are many methods of transferring captured data to z/OS. Some of the options are described in the following section.

Magnetic Tape Transfer

If you have a compatible magnetic tape drive then it is possible to transfer the data files to z/OS by saving them from the IBM i to tape. This is performed as follows:

1. Select option 4 from the SP400 Feature main menu, and press Enter. The following window is displayed:

```
 Initialize Tape (INZTAP)

  Type choices, press Enter.

  Tape device  . . . . . . . . . . > TAP01_____    Name
  New volume identifier  . . . . . > *NONE_____    Character value, *NONE
  Tape density . . . . . . . . . . > *DEVTYPE___   *DEVTYPE, *FMT3480...



  F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
 F24=More keys
```

Figure 17. Initialization of tape for data transfer to IBM Z Performance and Capacity Analytics

2. On TAP01, (or change this to the name of the device description that coincides with the tape drive that handles z/OS compatible tapes) mount a tape with a density supported by z/OS. The tape must also be valid for this device and for the device you intend to use on z/OS. To display a list of tape densities in IBM i, press F4. Press Enter to initialize this tape.

```
 Specify Value for Parameter DENSITY

  Type choice, press Enter.


  Tape density . . . . . . . . . . > *DEVTYPE___

    *DEVTYPE
    *FMT3480
    *FMT3490E
    *QIC130
    *QIC525
    *QIC1000
          1600
          3200
          6250
         10000
         16000
         38000
         43200

  F3=Exit    F5=Refresh    F12=Cancel    F13=How to use this display    F24=More keys
```

Figure 18. Density values

3. When you have initialized the tape, select Option 5 (Save SP400 data) and press Enter. The following window is displayed:

```
 Save SP400 data (SAVSPDTA)

  Type choices, press Enter.

  File . . . . . . . . . . . . . .    *ALL          *ALL, DRLQHST, DRLQACG...
                + for more values
  Library  . . . . . . . . . . .      DRLDTA        Name, *LIBL, *CURLIB
  Delete unused perf. files  . . .    *NO           *NO, *YES
  File transfer type . . . . . . . >  *USER         *NJE, *TAPE, *USER



  F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
  F24=More keys
```

Figure 19. SAVSPDTA command window

4. Type the individual names of the files you want to save or specify *ALL, then press Enter to start this function.

   If you select DRLQPFR or *ALL in the File field, you will be prompted to complete two additional fields. In the Member field, specify either the name of the member you want to save from the IBM i Performance files, or *SP400 if you want to save all available members.

   In the Delete unused perf files field, specify *YES or *NO depending on whether or not you want to save the performance files that were captured but not used.

NJE connection

If you have an NJE connection to z/OS, you can use NJE instead of tape. In this case, specify *NJE in the File transfer type field in "Transferring the captured performance data files to z/OS" on page 22.

User exit program

You can use a user exit program. In this case, specify *USER in the File transfer type field in "Transferring the captured performance data files to z/OS" on page 22.

To use this method:

• You must first create a user exit program and a data area.

- The user program must reside in a library on the library list. It must define the Library and File parameters because it will be called from the SP400 Feature with the library and file names of the files you want to transfer.
- The user data area must have the name DRLDTA/USERDTAARA, and the program name must reside in the first 10 characters of the user data area. The first time that the SAVSPDTA command is executed with *USER specified in the `File transfer type`, the command creates the DRLDTA/USERDTAARA data area. You must add the program name to this data area.

Remote job entry

You can use Remote Job Entry (RJE). This method requires some programming work.

TCP/IP File Transfer

If you have TCP/IP Server installed on the z/OS then you can use the IBM i TCP/IP client to establish a connection to the z/OS and 'PUT' the files to the z/OS system.

Alternatively, the IBM i can act as a TCP/IP Server in which case, assuming you have the TCP/IP Client software on the z/OS system, you can 'GET' the files from the IBM i.

Chapter 5. Data flow and IBM Z Performance and Capacity Analytics objects

This chapter describes:

- The general data flow, starting with the OS/400 logs and ending with the production of IBM Z Performance and Capacity Analytics reports. Included are descriptions of the SP400 Feature record definitions and OS/400 logs.

- The data flow for each SP400 Feature component, including the names of OS/400 logs, IBM Z Performance and Capacity Analytics records, tables, and reports. The SP400 Feature components are:

  - Accounting component
  - Configuration component
  - Job statistics component
  - Messages component
  - Performance component

SP400 Feature general data flow

```
          ┌─────────────────────┐
          │       IBM i         │
          └─────────────────────┘
                     │
                     │ ▐1▌
                     ▼
          ┌─────────────────────┐
          │     IBM i logs      │
          └─────────────────────┘
```

▐2▌ IBM Z Performance and Capacity Analytics

```
          ┌─────────────────────┐
          │  IBM i log data sets │
          └─────────────────────┘
                     │
                     ▼
          ┌─────────────────────┐
          │   Log definitions    │
          │  Record Definitions  │
          └─────────────────────┘
                     │
                     │ ▐3▌   "Collect"
                     ▼
          ┌──────────────┐      ┌─────────────────────┐
          │    Tables    │◄─────│   Control tables    │
          └──────────────┘      │   Lookup tables     │
                                └─────────────────────┘
                     │ ▐4▌
                     ▼
          ┌──────────────┐      ┌─────────────────────┐
          │   Reports    │◄─────│    Lookup tables    │
          └──────────────┘      └─────────────────────┘
```
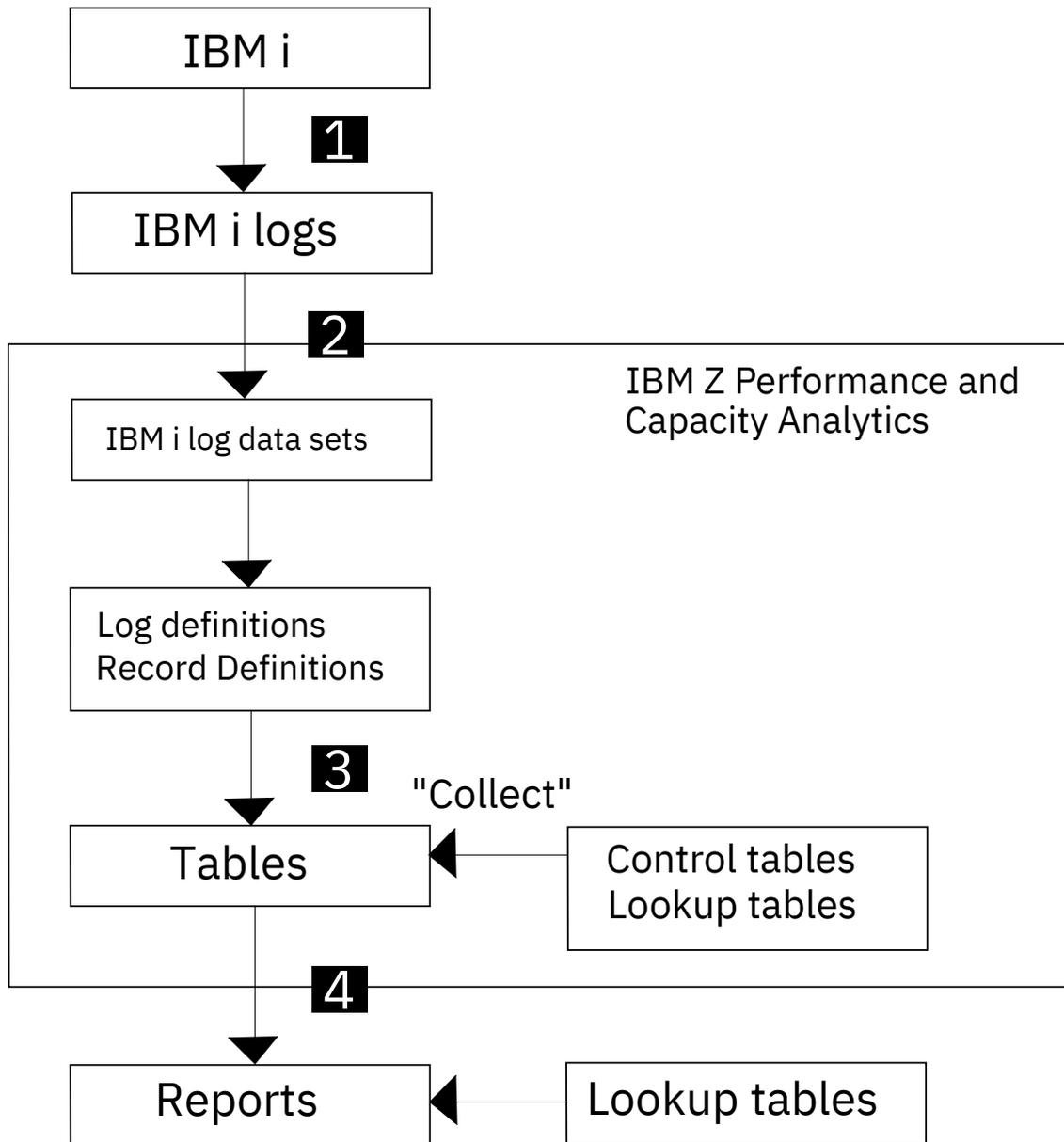
Figure 20. General SP400 Feature data flow

The processing steps shown in the figure above are:

1

Capture the IBM i performance data into the OS/400 logs.

2

Transmit the OS/400 logs to IBM Z Performance and Capacity Analytics.

3

Collect OS/400 log data into IBM Z Performance and Capacity Analytics tables, using the information from log definitions, record definitions, control tables, and lookup tables.

4

Create reports, using lookup tables.

The following sections describe these steps in more detail.

1. Capture IBM i performance data, Step 1 (shown in the figure above).

The IBM i logs its performance data in six OS/400 logs at times determined by the IBM i base interval. The logs are:

- QACGJRN - which is a journal receiver (Object type = *JRNRCV)
- QARZALLF - which is a physical file (Object type = *FILE)
- QHST - which are physical files (Object type = *FILE)
- QAPMSYS - which is a physical file (Object type = *FILE)
- QAPMDISK - which is a physical file (Object type = *FILE)
- QAPMPOOL - which is a physical file (Object type = *FILE)

These OS/400 logs are used with record definitions to create the information to be entered into IBM Z Performance and Capacity Analytics tables. The logs and the record definitions that use the logs are described in "Description of record definitions and logs" on page 27.

2. Transmit the OS/400 logs to IBM Z Performance and Capacity Analytics., Step 2

   You can transfer information to z/OS using any of your existing techniques, such as with magnetic tape, Network Job Entry (NJE), Remote Job Entry (RJE) or TCP/IP File Transfer.

3. Collect OS/400 log data into IBM Z Performance and Capacity Analytics tables, Step 3

   In processing each record contained in the OS/400 log, the collect procedure:

   a. Uses a log procedure to read the record from the OS/400 log and reformat according to the IBM Z Performance and Capacity Analytics record definition.
   b. Updates the IBM Z Performance and Capacity Analytics table with the reformatted record. To do this, the log collector:

      - Uses the log definition and record definitions to update the IBM Z Performance and Capacity Analytics table with the reformatted record.
      - Uses an update definition to decide which reformatted record fields are to be included in which IBM Z Performance and Capacity Analytics table, including further summarizing into other tables (for example, updating the monthly table OS400_ACCT_JOB_M from the information used for updating the daily table OS400_ACCT_JOB_D).
      - Takes information from control tables (for example, the SP400 Feature can determine the period in which the measurements were made by looking up the day type information in the SPECIAL_DAY or DAY_OF_WEEK tables).
      - Uses lookup tables (which contain user-defined information that defines an organization's operating environment) to add user-defined data to the IBM Z Performance and Capacity Analytics table record.

   For a description of the COLLECT procedure, see the *Language Guide and Reference*.

   For a description of the use of control tables, refer to the *Administration Guide and Reference*.

4. Create reports, Step 4

   A description of how to create new reports is provided in the *Guide to Reporting*.

   The reports that are created after installing the SP400 Feature are described in Reports.

Description of record definitions and logs

The table below shows the following:

- The OS/400 log file that the record definition uses
- The IBM Z Performance and Capacity Analytics log to which the record belongs
- The IBM Z Performance and Capacity Analytics record definition and record definition description
- The SP400 Feature component to which the log and the record definitions belong

Table 6. Record definitions and logs used by SP400 Feature

OS/400 log (see Note 2)	IBM Z Performance and Capacity Analytics log definition	IBM Z Performance and Capacity Analytics record definition and description (see Note 1)	SP400 Feature component
QACGJRN (journal)	OS400_JOURNAL	OS400_ACCT_JOB (accounting job data)	Accounting
QACGJRN (journal)	OS400_JOURNAL	OS400_ACCT_PRINT (accounting print data)	Accounting
QARZALLF (config.)	OS400_CONFIG	OS400_CONFIG (configuration data)	Configuration
QHST (history)	OS400_HISTORY	OS400_HISTORY_MSG (job history data)	Job statistics, Message, Performance
QAPMSYS (system performance monitor)	OS400_PM_SYS	OS400_PM_SYS (system usage data)	Performance
QAPMDISK (disk performance monitor)	OS400_PM_DISK	OS400_PM_DISK_5 (disk data) V5R1 OS400_PM_DISK_52 (disk data) V5R2	Performance

Notes:

1. The fields contained in each record definition can easily be displayed when you do the following:

   a. Select 2, IBM Z Performance and Capacity Analytics Administration from the IBM Z Performance and Capacity Analytics Primary Menu.
   b. Select 3, Logs.
   c. Select the log definition using the previous table, which contains the record definition you require.
   d. Select the record definition you require, and the fields will be displayed.

2. The OS/400 history log is documented in the *IBM i CL Programmer's Guide.* The other OS/400 logs are documented in the *IBM i Work Management Guide.*

SP400 Feature accounting component data flow

```
                    ┌──────────────────┐
                    │      IBM i        │
                    └──────────────────┘
                             │
                             ▼  ■1
                    ┌──────────────────┐
                    │   IBM i Log:      │
                    │   QACGJRN         │
                    └──────────────────┘
   ┌─────────────────────────────┼──────────────────────────────────────┐
   │                             ▼  ■2       IBM Z Performance and        │
   │                    ┌──────────────────┐  Capacity Analytics          │
   │                    │   IBM i log       │                              │
   │                    │   data set        │                              │
   │                    └──────────────────┘                              │
   │                             │                                         │
   │                             ▼                                         │
   │                    ┌──────────────────┐                              │
   │                    │ Log Definition:   │                              │
   │                    │  IBMi_JOURNAL     │                              │
   │                    │ Record definition:│                              │
   │                    │  OS400_ACCTOB     │                              │
   │                    │  OS400_ACCTPRT    │                              │
   │                    └──────────────────┘                              │
   │                             │              "Collect"                  │
   │                             ▼  ■3                                     │
   │          ┌──────────────────┐       ┌──────────────────────────┐    │
   │          │ Tables:          │       │ Control Tables:           │    │
   │          │  OS400_JOB_D     │◄──────│  SPECIAL_DAY              │    │
   │          │  OS400_JOB_M     │       │  DAY_OF_WEEK              │    │
   │          │  OS400_PRT_D     │       │  PERIOD_PLAN              │    │
   │          │  OS400_PRT_M     │       │ Lookup Tables:            │    │
   │          └──────────────────┘       │  OS400_DATE_FORMAT        │    │
   │                   │                  └──────────────────────────┘    │
   └───────────────────┼─────────────────────────────────────────────────┘
                       ▼  ■4
              ┌──────────────────┐
              │     Reports       │
              └──────────────────┘
```
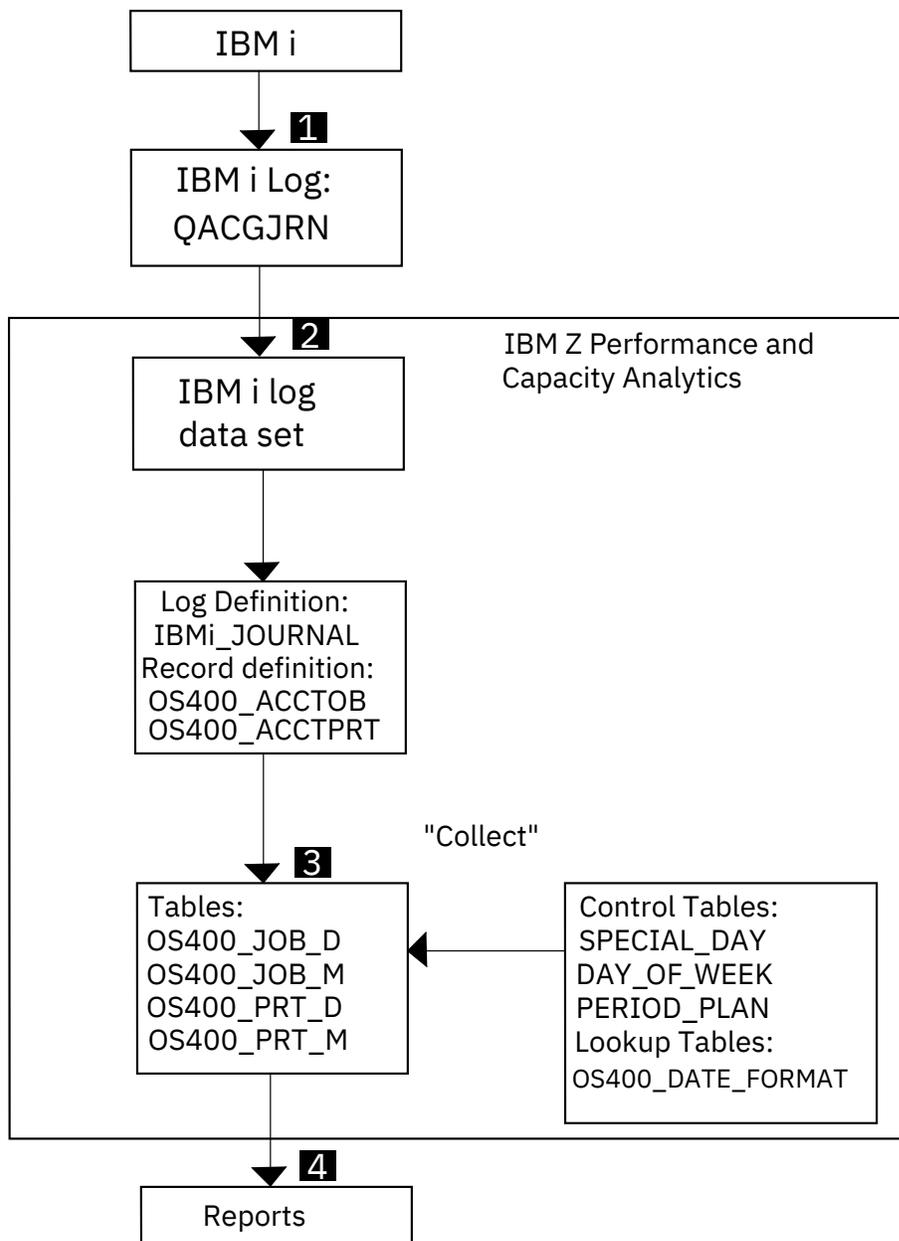
Figure 21. SP400 Feature accounting component data flow

The processing steps shown in the figure above are:

1

Log OS/400 job and/or printing accounting data.

2

Transmit OS/400 accounting data to IBM Z Performance and Capacity Analytics.

3

Collect the OS/400 log data into IBM Z Performance and Capacity Analytics tables, using information from the log definition, record definitions, control tables, and lookup table.

4

Create reports.

Where to look for further information

For details of:	Turn to:
A description of steps 1 , 2 , 3 , and 4	"SP400 Feature general data flow" on page 26
A description of the record definitions and OS/400 log	Description of record definitions and logs
OS400_ACCT_JOB_D and OS400_ACCT_JOB_M tables	OS400_ACCT_JOB_D, _M
OS400_ACCT_PRINT_D and OS400_ACCT_PRINT_M tables	OS400_ACCT_PRINT_D, _M
Accounting component reports	Reports in the accounting component

Note: Control tables are explained in the *Administration Guide and Reference*.

SP400 Feature configuration component data flow
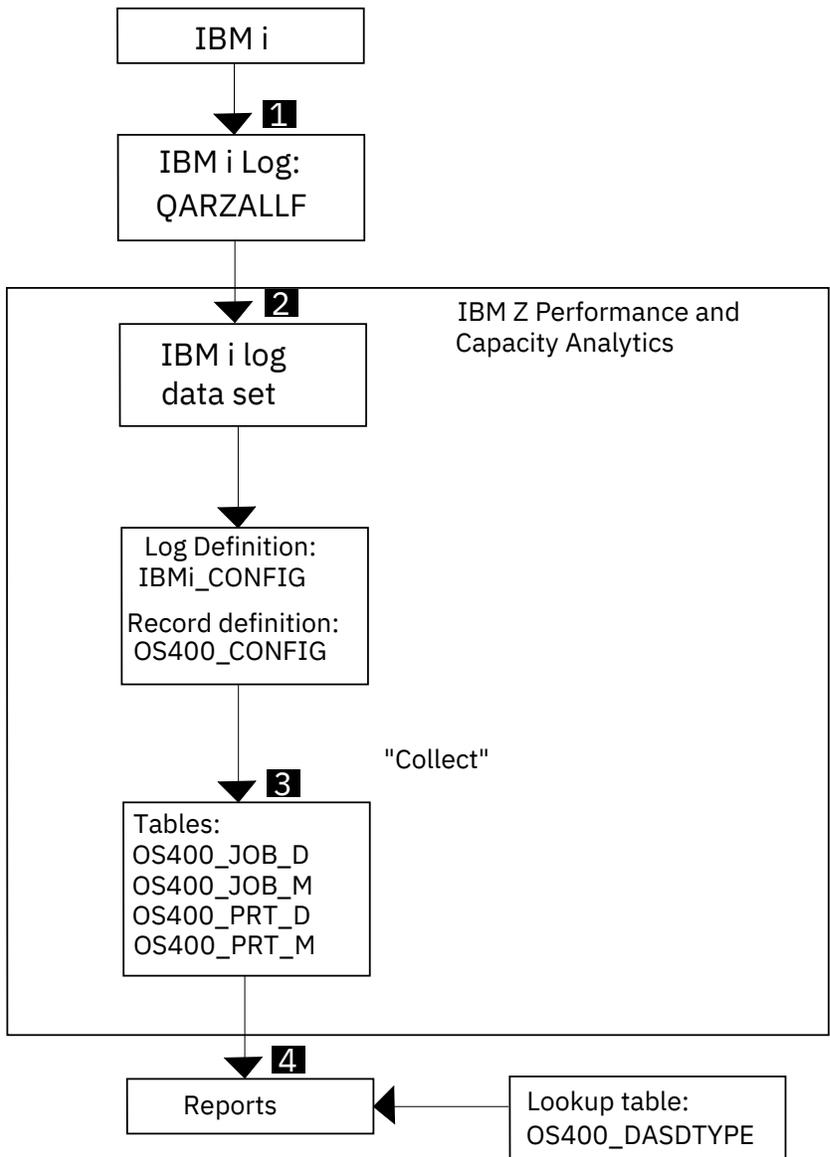
Figure 22. SP400 Feature configuration component data flow

The processing steps shown in the figure above are:

1

Log OS/400 configuration data.

2

Transmit OS/400 configuration data to IBM Z Performance and Capacity Analytics.

3

Collect the OS/400 log data into IBM Z Performance and Capacity Analytics tables, using information from the log definition and record definition.

4

Create reports, using lookup table information.

Where to look for further information

For details of:	Turn to:
A description of steps 1 , 2 , 3 , and 4	"SP400 Feature general data flow" on page 26
A description of the record definitions and OS/400 log	Description of record definitions and logs
OS400_CONFIG table	OS400_CONFIG
OS400_DASDTYPE lookup table	OS400_DASDTYPE
Configuration component reports	Reports in the configuration component

SP400 Feature job statistics component data flow
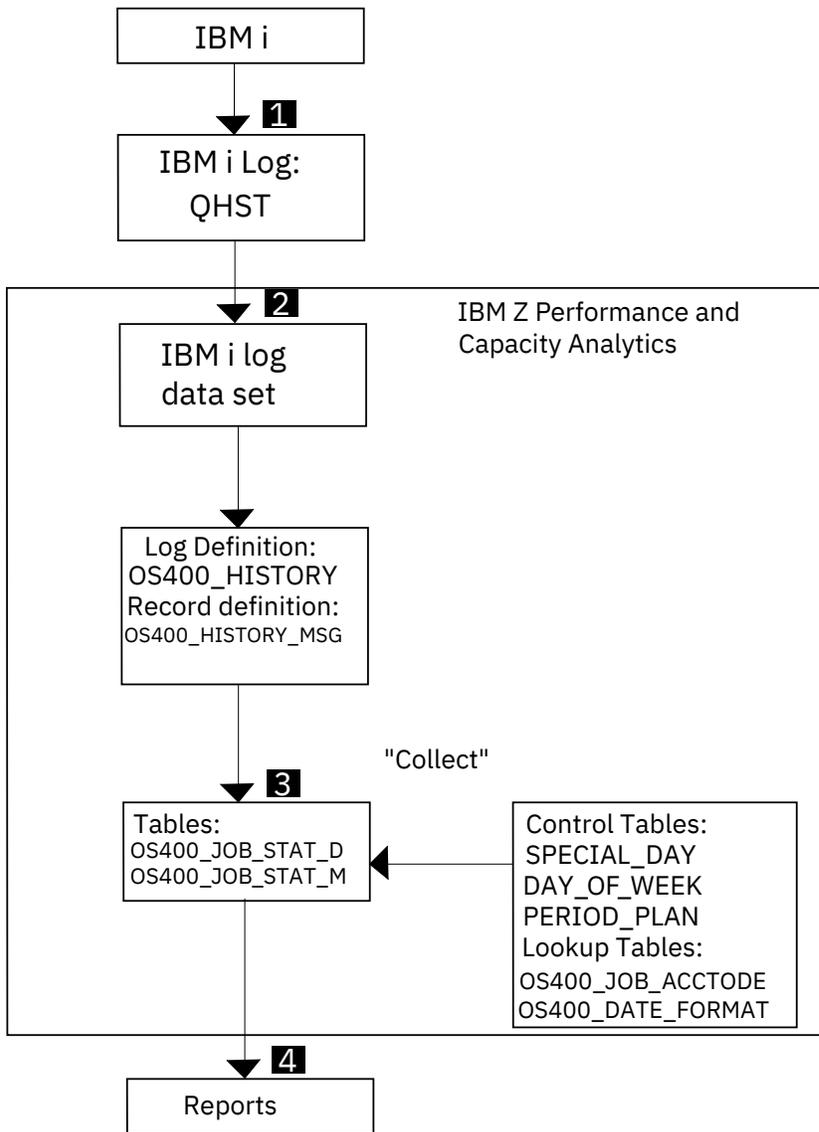
Figure 23. SP400 Feature job statistics component data flow

The processing steps shown in the figure above are:

1

Log OS/400 job history data.

2

Transmit OS/400 job history data to IBM Z Performance and Capacity Analytics.

3

Collect the OS/400 log data into IBM Z Performance and Capacity Analytics tables using information from the log definition, record definition, control tables, and lookup tables.

4

Create reports.

Where to look for further information

For details of:	Turn to:
A description of steps 1 , 2 , 3 , and 4	"SP400 Feature general data flow" on page 26
A description of the record definitions and OS/400 log	Description of record definitions and logs
OS400_JOB_STAT_D and OS400_JOB_STAT_M tables	OS400_JOB_STAT_D, _M
OS400_JOB_ACCTCODE lookup table	OS400_JOB_ACCTCODE
OS400_DATE_FORMAT lookup table	OS400_DATE_FORMAT
Job statistics component reports	Reports in the job statistics component

Note: Control tables are explained in the *Administration Guide and Reference*.

SP400 Feature messages component data flow

Figure 24. SP400 Feature messages component data flow

The processing steps shown in the figure above are:

1

Log OS/400 job history data.

2

Transmit OS/400 job history data to IBM Z Performance and Capacity Analytics.

3

Collect the OS/400 log data into IBM Z Performance and Capacity Analytics tables, using information from the log definition, record definition, and control tables.

4

Create reports.

Where to look for further information

For details of:	Turn to:
A description of steps 1 , 2 , 3 , and 4	"SP400 Feature general data flow" on page 26
A description of the record definitions and OS/400 log	Description of record definitions and logs
OS400_MSG_STAT_D and OS400_MSG_STAT_M tables	OS400_MSG_STAT_D, _M
Messages component reports	Reports in the messages component

Note: Control tables are explained in the *Administration Guide and Reference*.

SP400 Feature performance component data flow

```
                  ┌─────────────────┐
                  │     IBM i       │
                  └─────────────────┘
                          │
                          ▼ ■1
                  ┌─────────────────┐
                  │ IBM i Log:      │
                  │ QHST            │
                  │ QAMPDISK        │
                  │ QAMPPOOL        │
                  │ QAMPSYS         │
                  └─────────────────┘
        ┌──────────────────┼──────────────────────────────────┐
        │                  ▼ ■2                                │
        │          ┌─────────────────┐   IBM Z Performance and │
        │          │ IBM i log       │   Capacity Analytics    │
        │          │ data set        │                         │
        │          └─────────────────┘                         │
        │                  │                                   │
        │                  ▼                                   │
        │          ┌─────────────────┐                         │
        │          │ Log Definition: │                         │
        │          │ OS400_HISTORY   │                         │
        │          │ OS400_PM_DISK   │                         │
        │          │ OS400_PM_POOL   │                         │
        │          │ OS400_PM_SYS    │                         │
        │          │                 │                         │
        │          │ Record definition:                        │
        │          │ OS400_HISTORY_MSG                          │
        │          │ OS400_PM_DISK   │                         │
        │          │ OS400_PM_POOL   │                         │
        │          │ OS400_PM_SYS    │                         │
        │          └─────────────────┘                         │
        │                  │       "Collect"                   │
        │                  ▼ ■3                                │
        │  ┌─────────────────────┐     ┌─────────────────┐     │
        │  │ Tables:             │     │ Control Tables: │     │
        │  │ OS400_PM_SYS_JGR_H  │◄────│ SPECIAL_DAY     │     │
        │  │ OS400_PM_SYS_JGR_D  │     │ DAY_OF_WEEK     │     │
        │  │ OS400_PERF_SUM_H    │     │ PERIOD_PLAN     │     │
        │  │ OS400_PERF_SUM_D    │     └─────────────────┘     │
        │  │ OS400_PM_DISK_H     │                             │
        │  │ OS400_PM_DISK_D     │                             │
        │  │ OS400_PM_POOL_H     │                             │
        │  │ OS400_PM_POOL_D     │                             │
        │  │ OS400_PM_SYS_H      │                             │
        │  │ OS400_PM_SYS_D      │                             │
        │  └─────────────────────┘                             │
        └──────────────────┼──────────────────────────────────┘
                           ▼ ■4
                  ┌─────────────────┐
                  │    Reports      │
                  └─────────────────┘
```

Figure 25. SP400 Feature performance component data flow

The processing steps shown in the above figure are:

1

Log OS/400 performance data.

2

Transmit OS/400 performance data to IBM Z Performance and Capacity Analytics.

3

Collect the OS/400 log data into IBM Z Performance and Capacity Analytics tables, using information from the log definitions, record definitions, and control tables.

4

Create reports, using lookup table information.

Where to look for further information

For details of:	Turn to:
A description of steps 1 , 2 , 3 , and 4	"SP400 Feature general data flow" on page 26
A description of the record definitions and OS/400 log	Description of record definitions and logs
OS400_PM_SYS_JGR_H and OS400_PM_SYS_JGR_D tables	OS400_PM_SYS_JGR_H, _D
OS400_PM_SYS_H and OS400_PM_SYS_D tables	OS400_PM_SYS_H, _D
OS400_PM_DISK_H and OS400_PM_DISK_D tables	OS400_PM_DISK_H, _D
OS400_PM_POOL_H and OS400_PM_POOL_D tables	OS400_PM_POOL_H, _D
OS400_PERF_SUM_H and OS400_PERF_SUM_D tables	OS400_PERF_SUM_H, _D
OS400_JOBGROUP lookup table	OS400_JOBGROUP
Performance component reports	Reports in the performance component

Note: Control tables are explained in the *Administration Guide and Reference*.

Chapter 6. Data tables and lookup tables

The IBM Z Performance and Capacity Analytics database is a collection of Db2® tables, where each table contains a fixed number of columns. The number of rows in each table varies with time, because of rows added by the collect function and because of database maintenance.

This chapter describes:

- Naming standard for defining SP400 Feature table names
- Table descriptions
- Tables used by the SP400 Feature accounting component
- Tables used by the SP400 Feature configuration component
- Tables used by the SP400 Feature job statistics component
- Tables use by the SP400 Feature messages component
- Tables used by the SP400 Feature performance component
- SP400 Feature lookup tables

Note: For descriptions of common data tables used by the SP400 Feature and other IBM Z Performance and Capacity Analytics features, refer to the *Administration Guide and Reference*.

Naming standard for defining SP400 Feature table names

The names of SP400 Feature tables use this format: OS400_prefix_content_suffix

where:

- prefix identifies the component (for example, PERF for the performance component).
- content is a description (for example, DISK for the performance component disk statistics).
- suffix indicates the summarization level of the data in the table (for example, PM_DISK_D for disk performance statistics summarized by day).

  A table name can have these summarization-level suffixes:

  _H
  > The table holds data summarized by hour (hourly data).

  _D
  > The table holds data summarized by day (daily data).

  _M
  > The table holds data summarized by month (monthly data).

  Note: Table names for the configuration component do not contain suffixes.

  Note: The configuration, lookup, and control tables do not have a prefix or suffix.

Table descriptions

Each description of a table includes information about the table, a description of each of the key columns, and a description of each of the data columns:

- Key columns are marked like this: K. They are sorted in the sequence they appear in the table.
- Data columns follow the last key column and are sorted in alphabetical order with the underscore ignored.

The descriptions of most key columns and data columns contain references to the fields from which they are derived in the record (for example, "From AC_UID"). For an explanation of such fields, refer to the applicable product documentation.

For each component, the columns in the tables are listed in alphabetical order, with underscores and suffixes ignored.

Tables with similar contents (that is, tables with the same name but with different suffixes) are described under one heading. For example, the heading "OS400_PM_DISK_H, _D" covers two similar tables: OS400_PM_DISK_H and OS400_PM_DISK_D. Except for the DATE column, the contents of these tables are identical. Differences that exist in the contents of similar tables are explained in the column descriptions.

Tables used by the SP400 Feature accounting component

This section describes the following accounting component tables:

- OS400_ACCT_JOB_D, _M.
- OS400_ACCT_PRINT_D, _M.

OS400_ACCT_JOB_D, _M

These tables contain daily and monthly OS/400 job accounting statistics. They contain data from OS400_ACCT_JOB records.

The default retention periods are:

- 30 days for OS400_ACCT_JOB_D
- 765 days for OS400_ACCT_JOB_M

Column name	Key	Data type	Description
DATE	K	DATE	Date when the record was written. For OS400_ACCT_JOB_M, this is the first day of the month.
PERIOD_NAME	K	CHAR(8)	Name of the period. This is derived using fields SYSTEMID, LOGDATE and LOGTIME as parameters in the PERIOD function.
OS400_SYSTEM_ID	K	CHAR(8)	System identification. From SYSTEMID.
USER_NAME	K	CHAR(10)	User name. From USERID.
JOB_NAME	K	CHAR(10)	Job name. From JOBNAME.
JOB_TYPE	K	CHAR(3)	Job type. From JATYPE.
ACCOUNT_CODE	K	CHAR(15)	Accounting code. From ACCTCODE.
COMPLETION_CODE	K	INTEGER	Job completion code. From JCCDE.
ACTIVE_SECONDS		FLOAT	Total job active time, in seconds. This is the sum of JAACT.
COMM_READ_COUNT		INTEGER	Number of communications read operations. This is the sum of JACMGT.
COMM_WRITE_COUNT		INTEGER	Number of communications write operations. This is the sum of JACMPT.
CPU_SECONDS		FLOAT	Total processor time, in seconds. This is the sum of JACPU.

Column name	Key	Data type	Description
DB_READ_COUNT		INTEGER	Number of database read operations. This is the sum of JADBGT.
DB_UPDATE_COUNT		INTEGER	Number of database update operations. This is the sum of JADBUP.
DB_WRITE_COUNT		INTEGER	Number of database write operations. This is the sum of JADBPT.
ELAPSED_SECONDS		INTEGER	Total elapsed time, in seconds. This is the sum of the interval from JASDTE, JASTME to LOGDATE, LOGTIME.
EXP_CPU		FLOAT	Expanded CPU time used. From JAXCPU.
EXP_SYNC_IO		FLOAT	Expanded synchronous auxiliary I/O operations. From JAXSIO.
EXP_ASYNC_IO		FLOAT	Expanded asynchronous auxiliary I/O operations. From JAXAIO.
EXP_DATABASE_PUTS		FLOAT	Expanded number of database puts. From JAXDBP.
EXP_DATABASE_GETS		FLOAT	Expanded number of database gets. From JAXDBG.
EXP_DATABASE_UD		FLOAT	Expanded number of database updates and deletes. From JAXDBU.
IO_ASYNC_COUNT		INTEGER	Number of synchronous auxiliary I/O operations and database operations. This is the sum of JAAUX.
IO_COUNT		INTEGER	Number of auxiliary I/O. This is the sum of JAAUX.
JOBS		INTEGER	Number of jobs. This is the count of JOBNAME.
PRINT_FILE_COUNT		INTEGER	Number of print files. This is the sum of JAPRTF.
PRINT_LINE_COUNT		INTEGER	Number of print lines. This is the sum of JALINE.
PRINT_PAGE_COUNT		INTEGER	Number of print pages. This is the sum of JAPAGE.
ROUTING_STEPS		INTEGER	Number of routing steps. This is the sum of JARTGS.
SUSPEND_SECONDS		FLOAT	Total job suspend time, in seconds. This is the sum of JASPN.
TRANSACTIONS		INTEGER	Number of transactions. This is the sum of JATRNS.
TRANSACTION_SEC		INTEGER	Total transaction time, in seconds. This is the sum of JATRNT.

OS400_ACCT_PRINT_D, _M

These tables contain daily and monthly OS/400 print accounting statistics. They contain data from OS400_ACCT_PRINT records.

The default retention periods are:

- 30 days for OS400_ACCT_PRINT_D
- 365 days for OS400_ACCT_PRINT_M

Column name	Key	Data type	Description
DATE	K	DATE	Date when the record was written. From LOGDATE. For OS400_ACCT_PRINT_M, this is the first day of the month.
PERIOD_NAME	K	CHAR(8)	Name of the period. This is derived using fields SYSTEMID, LOGDATE, and LOGTIME as parameters in the PERIOD function.
OS400_SYSTEM_ID	K	CHAR(8)	System identification. From SYSTEMID.
USER_NAME	K	CHAR(10)	User name. From USERID.
JOB_NAME	K	CHAR(10)	Job name. From JOBNAME.
FORM_TYPE	K	CHAR(10)	Print form type. From JAFMTP.
ACCOUNT_CODE	K	CHAR(15)	Accounting code. From ACCTCODE.
ASP_NAME_DFL		CHAR(10)	ASP name for device file library. From JADFASP.
JOBS		INTEGER	Number of jobs. This is the count of JOBNAME.
PRINT_BYTE_COUNT		INTEGER	Number of print bytes. This is the sum of JABYTE.
PRINT_LINE_COUNT		INTEGER	Number of print lines. This is the sum of JATLIN.
PRINT_PAGE_COUNT		INTEGER	Number of print pages. This is the sum of JATPAG.
SPOOLED_FILE_NAME		CHAR(10)	Spooled file name. From JASPFN.
SPOOLED_FILE_JSN		CHAR(8)	Spooled file job system name. From JASPSY.
SPOOLED_FILE_DT		DATE	Spooled file create date. From JASPDT.
SPOOLED_FILE_TM		TIME	Spooled file create time. From JASPTM.

Tables used by the SP400 Feature configuration component

This section describes the OS400_CONFIG configuration component table:

OS400_CONFIG

This table provides information about the hardware resources of IBM i systems. It contains data from the OS400_CONFIG record.

Column name	Key	Data type	Description
DATE	K	DATE	Date when the record was written. From DORDAT.
TIME	K	TIME	Time when the record was written. From DORTIM.
OS400_SYSTEM_ID	K	CHAR(8)	OS/400 system ID. From SYSTEMID.
RESOURCE_NAME	K	CHAR(10)	System defined resource name. From DORNAM.
RESOURCE_SERIAL_NO	K	CHAR(10)	System defined resource name. From DORNAM.

Column name	Key	Data type	Description
CARD_POSITION		CHAR(5)	Alternate card position. From DORACP.
COLOR_DISPLAY		CHAR(1)	Color-capable display: 0=No, 1=Yes. From DORCOL.
COMMUN_FUNCTION		CHAR(1)	Communications function: 0=No, 1=Yes. From DOCMNF.
CONFIG_OBJ_NAME		CHAR(10)	Configuration object name. From DOCFGO.
COUPLED_SYS_MODEL		CHAR(3)	Coupled system model. From DOSMDL.
COUPLED_SYS_NAME		CHAR(8)	Coupled system name. From DOSYTM.
COUPLED_SYS_SRL_NO		CHAR(10)	Coupled system serial number. From DOSSRN.
COUPLED_SYS_TYPE		CHAR(4)	Coupled system type. From DOSMTP.
CRYPT_FUNCTION		CHAR(1)	Cryptographic function: 0=No, 1=Yes. From DOCRPF.
CSA_FUNCTION		CHAR(1)	Coupled System Adapter function: 0=No, 1=Yes. From DOCSAF.
FRAME_ID		CHAR(4)	Alternate frame identification. From DORAFI.
KEYBOARD_CODE		CHAR(3)	Keyboard country code. From DORKBD.
LWS_FUNCTION		CHAR(1)	Local Work Station function: 0=No, 1=Yes. From DOLWSF.
MAIN_STRG_CAPACITY		INTEGER	Main storage card capacity in MB. From DORMSZ.
PORT_NUMBER		CHAR(2)	Port number: 00-06. From DORPOR.
PREV_LEVEL_CONFIG		CHAR(10)	Previous level configuration object name. From DOCFGP.
PREV_LEVEL_RESOURCE		CHAR(10)	System-defined previous level resource name. From DOCPAR.
PROC_FEAT_CODE		CHAR(4)	Processor Feature Code. From PRCFCD.
PROCESSOR_FUNCTION		CHAR(1)	Processor function: 0=No, 1=Yes. From DOPRCF.
PROGRAMMABLE_WS		CHAR(1)	Programmable workstation: 0=No, 1=Yes. From DORIWS.
RECORD_FORMAT_ID		CHAR(1)	Record format identifier. From DORECF.
RESOURCE_DESCR		CHAR(2)	Resource description. From DORDSC.
RESOURCE_FRAME_ID		CHAR(2)	Resource frame identification. From DORRID.
RESOURCE_LEVEL		CHAR(1)	Resource level. From DORLVL.
RESOURCE_MODEL		CHAR(3)	Resource model number. From DORMOD.
RESOURCE_PART_NO		CHAR(12)	Resource part number. From DORPRT.
RESOURCE_STATUS		CHAR(1)	Resource status. From DORSTS.
RESOURCE_TYPE		CHAR(4)	Resource type. From DORTYP.
RES_CARD_POSITION		CHAR(3)	Resource card position. From DORCSL.
RES_DEV_POSITION		CHAR(4)	Resource device position. From DORDSL.

Column name	Key	Data type	Description
RES_DIRECT_ADDRESS		CHAR(4)	Resource direct select address. From DORDSA.
RES_EIA_LOCATION		CHAR(2)	Resource EIA location. From DOREIA.
RES_EXTENDED_DESCR		CHAR(2)	Resource extended description. From DOREDS.
RES_UNIT_ADDRESS		CHAR(8)	Resource unit address. From DORUAA.
SCREEN_WIDTH		CHAR(1)	Screen width: 0=Standard, 1=Wide. From DORSWD.
STORAGE_FUNCTION		CHAR(1)	Storage function: 0=Standard, 1=Wide. From DOSTGF.
SWITCH_SETTING		CHAR(2)	Switch setting: 00-06 From DORSWT.
SYSTEM_HW_TYPE		CHAR(4)	System hardware type. From DOSTYP.
SYSTEM_MODEL_NO		CHAR(3)	System model number. From DOSMOD.
SYSTEM_SERIAL_NO		CHAR(10)	System serial number. From DOSSER.
TRANSPORT_TYPE_DEF		CHAR(2)	Transport type definition. From DORTTY.
TRANSP_LOC_FIELD1		CHAR(4)	Transport location field1. From DORTF1.
TRANSP_LOC_FIELD2		CHAR(4)	Transport location field2. From DORTF2.
TRANSP_LOC_FIELD3		CHAR(4)	Transport location field3. From DORTF3.
UNIT_ADDRESS_TYPE		CHAR(2)	Unit Address type. From DORUAT.
UNIT_ADDR_FIELD1		CHAR(4)	Unit Address field1. From DORUA1.
UNIT_ADDR_FIELD2		CHAR(4)	Unit Address field2. From DORUA2.
UNIT_ADDR_FIELD3		CHAR(4)	Unit Address field3. From DORUA3.
UNIT_ADDR_FIELD4		CHAR(4)	Unit Address field4. From DORUA4.
UNIT_ADDR_FIELD5		CHAR(4)	Unit Address field5. From DORUA5.
UNIT_POSITION		CHAR(5)	Alternate unit position. From DORADP.
VERS_RELEASE_MOD		CHAR(6)	Operating system level. From DOSVRM.

Tables used by the SP400 Feature job statistics component

This section describes the following job statistics component tables:

- OS400_JOB_STAT_D, _M.

OS400_JOB_STAT_D, _M

These tables provides daily and monthly statistics on OS400 jobs. They contain data from CPF1164 messages in the history file.

The default retention periods are:

- 30 days for OS400_JOB_STAT_D
- 365 days for OS400_JOB_STAT_M

Column name	Key	Data type	Description
DATE	K	DATE	Date when the job ended. From JDEND and JTEND. For OS400_JOB_STAT_M, this is the first day of the month.
PERIOD_NAME	K	CHAR(8)	Name of the period. This is derived using fields SYSTEMID, JDEND, and JTEND from the record as parameters in the PERIOD function.
OS400_SYSTEM_ID	K	CHAR(8)	System identification. From SYSTEMID.
USER_NAME	K	CHAR(10)	User name. From USERID.
JOB_NAME	K	CHAR(10)	Job name. From JOBNAME.
JOB_TYPE	K	CHAR(3)	Job type. From JOBTYPE.
ACCOUNT_CODE	K	CHAR(15)	Accounting code. From ACCOUNT_CODE in the OS400_JOB_ACCTCODE lookup table. This is derived using fields SYSTEMID, USERID, JOBNAME and JOBTYPE from the record as keys. If no match is found, this column is set to?.
COMPLETION_CODE	K	INTEGER	Job completion code. From JOBCC.
CPU_SECONDS		INTEGER	Total processor time, in seconds. This is the sum of CPUTIME.
ELAPSED_SECONDS		INTEGER	Total elapsed time, in seconds. This is the sum of the interval from JDSTR,JTSTR to JDEND,JTEND.
IO_COUNT		INTEGER	Total number of auxiliary I/O. This is the sum of JOBIO.
JOBS		INTEGER	Total number of jobs. This is the count of MSGID.
RESPONSE_SECONDS		INTEGER	Total response time, in seconds. This is the sum of JOBRT.
ROUTING_STEPS		INTEGER	Total number of routing steps. This is the sum of JOBRSTP.
TRANSACTIONS		INTEGER	Total number of transactions. This is the sum of JOBTR.

Tables used by the SP400 Feature messages component

This section describes the following message component tables:

- OS400_MSG_STAT_D, _M.
- OS400_MSG_STAT_DV, _MV.

OS400_MSG_STAT_D, _M

These tables contain daily and monthly message statistics from the history file. They contain data from messages in the history file.

The default retention periods are:

- 30 days for OS400_MSG_STAT_D
- 365 days for OS400_MSG_STAT_M

Column name	Key	Data type	Description
DATE	K	DATE	Date when the record was written. From LOGCENTURY and LOGDATE. For OS400_MSG_STAT_M, this is the first day of the month.
PERIOD_NAME	K	CHAR(8)	Name of the period. This is derived using fields SYSTEMID, LOGCENTURY, LOGDATE and LOGTIME from the record as parameters in the PERIOD function.
OS400_SYSTEM_ID	K	CHAR(8)	System identification. From SYSTEMID.
USER_NAME	K	CHAR(10)	User name. From USERID.
JOB_NAME	K	CHAR(10)	Job name. From JOBNAME.
MESSAGE_ID	K	CHAR(7)	Message identification. From MSGID.
MESSAGE_TYPE	K	CHAR(2)	Message type. From MSGTYPE.
MESSAGE_SEVERITY	K	CHAR(2)	Severity code. From SEVERITY.
MESSAGE_FILE	K	CHAR(10)	Name of message file. From MSGFILE.
DATA_BYTE_COUNT		INTEGER	Total number of bytes for data. This is the sum of MSGDATA.
LINE_COUNT		INTEGER	Total number of message lines. Calculated as the sum of (MSGTEXT+MSGDATA+132+132)/132.
MESSAGE_COUNT		INTEGER	Total number of messages. This is the count of MSGID.
TEXT_BYTE_COUNT		INTEGER	Total number of bytes for text. This is the sum of MSGTEXT.

OS400_MSG_STAT_DV, _MV

These views provide daily and monthly message statistics from the history file. They are based upon the OS400_MSG_STAT_D, _M tables.

The default retention periods are:

- 30 days for OS400_MSG_STAT_DV
- 365 days for OS400_MSG_STAT_MV

Column name	Key	Data type	Description
DATE	K	DATE	Date when the record was written. From LOGCENTURY and LOGDATE. For OS400_MSG_STAT_MV, this is the first day of the month.
PERIOD_NAME	K	CHAR(8)	Name of the period. This is derived using fields SYSTEMID, LOGCENTURY, LOGDATE and LOGTIME from the record as parameters in the PERIOD function.
OS400_SYSTEM_ID	K	CHAR(8)	System identification. From SYSTEMID.
DATA_BYTE_COUNT		INTEGER	Total number of bytes for data. This is the sum of MSGDATA.

Column name	Key	Data type	Description
LINE_COUNT		INTEGER	Total number of message lines. Calculated as the sum of (MSGTEXT+MSGDATA+132+132)/132.
MESSAGE_COUNT		INTEGER	Total number of messages. This is the count of MSGID.
TEXT_BYTE_COUNT		INTEGER	Total number of bytes for text. This is the sum of MSGTEXT.

Tables used by the SP400 Feature performance component

This section describes the following performance component tables:

- OS400_PM_DISK_H, _D.
- OS400_PM_POOL_H, _D.
- OS400_PM_SYS_H, _D.
- OS400_PM_SYS_JGR_H, _D.
- OS400_PERF_SUM_H, _D.

OS400_PM_DISK_H, _D

These tables contain hourly and daily disk performance statistics. They contain data from the performance data file QAPMDISK.

The default retention periods are:

- 30 days for OS400_PM_DISK_H
- 365 days for OS400_PM_DISK_D

Column name	Key	Data type	Description
DATE	K	DATE	Date when the record was written. From LDATE.
TIME	K	TIME	Time when the record was written (OS400_PM_DISK_H only). From LTIME.
PERIOD_NAME	K	CHAR(8)	Name of the period. This is derived using fields SYSTEMID, LDATE, and LTIME from the record as parameters in the PERIOD function.
OS400_SYSTEM_ID	K	CHAR(8)	System identification. From SYSTEMID.
IOP_ADDRESS	K	CHAR(2)	IOP address. From DIOPID.
DISKARM_NUMBER	K	CHAR(4)	Disk arm number. From DSARM.
ACCESS_RATE_AVG		FLOAT	Average arm access rate in I/O per second. Calculated as the average of (DSRDS+DSWRTS)/INTSEC.
ACCESS_RATE_MAX		FLOAT	Maximum arm access rate in I/O per second. Calculated as the maximum of (DSRDS+DSWRTS)/INTSEC.
ARM_NOTBUSY_CNT		INTEGER	Sum of times that arm was not busy. This is the sum of DSNBSY.
ARM_UTIL_AVG		FLOAT	Average arm utilization%. Calculated as the average of 100*(DSSMPL-DSNBSY)/DSSMPL.

Column name	Key	Data type	Description
ARM_UTIL_MAX		FLOAT	Maximum arm utilization%. Calculated as the maximum of 100*(DSSMPL-DSNBSY)/DSSMPL.
AVAILABLE_SPACE_MB		FLOAT	Average of drive available space in megabytes. Calculated as the average of DSAVL/1048576.
BACK_DIR_READ_CNT		INTEGER	Total number of device read operations on compression directory structures not immediately required to complete host commands. It is 0 for non-compressed units. Calculated as the sum of DSBGDR.
BACK_DIR_WRT_CNT		INTEGER	Total number of device write operations on compression directory structures not immediately required to complete host commands. It is 0 for non-compressed units. Calculated as the sum of DSBGDW.
BACK_SWEEPS_CNT		INTEGER	Total number of times a 1 MB compression group was required to be swept not immediately required to complete host system commands. It is 0 for non-compressed units. Calculated as the sum of DSBGS.
BFR_OVERRUN_CNT		INTEGER	Sum of buffer overruns. This is the sum of DSBUFO.
BFR_UNDERRUN_CNT		INTEGER	Sum of buffer underruns. This is the sum of DSBUFU.
BLOCK_READ_COUNT		INTEGER	Number of blocks read. This is the sum of DSBLKR.
BLOCK_WRITE_COUNT		INTEGER	Number of blocks written. This is the sum of DSBLKW.
COMP_UNIT_IND		CHAR(1)	Compressed unit indicator. It is 1 if the disk data is compressed, 0 if the disk data is not compressed. From DSCOMP.
CNTRL_RD_CACHE		INTEGER	Total number of times that the data requested by the read operation was obtained from a controller read cache. It is 0 when the extended cache simulator is not enabled. Calculated as the sum of DSCERC.
DISK_TYPE		CHAR(4)	Disk drive type. From DSTYPE.
DRIVE_CAPACITY_MB		FLOAT	Average of drive capacity in megabytes. Calculated as the average of DSCAP/1048576.
FOR_DIR_READ_CNT		INTEGER	Total number of device read operations on compression directory structures needed to complete host system commands. It is 0 for non-compressed units. Calculated as the sum of DSFGDR.

Column name	Key	Data type	Description
FOR_DIR_WRT_CNT		INTEGER	Total number of device write operations on compression directory structures needed to complete host system commands. It is 0 for non-compressed units. Calculated as the sum of DSFGDW.
FOR_EXC_READ_CNT		INTEGER	Total number of additional read operations on compression exception area needed to complete host system commands. It is 0 for non-compressed units. Calculated as the sum of DSFGRE.
FOR_EXC_WRT_CNT		INTEGER	Total number of additional write operations on compression exception area needed to complete host system commands. It is 0 for non-compressed units. Calculated as the sum of DSFGWE.
FOR_SWEEPS_CNT		INTEGER	Total number of times a 1 MB compression group was required to be swept to complete host system commands. It is 0 for non-compressed units. Calculated as the sum of DSFGS.
IOP_UTIL_AVG		FLOAT	Average IOP utilization%. Calculated as the average of 100 * (INTSEC-DSIDLC*DSIDLT / 100000000) / INTSEC.
IOP_UTIL_MAX		FLOAT	Maximum IOP utilization%. Calculated as the maximum of 100 * (INTSEC-DSIDLC*DSIDLT / 100000000) / INTSEC.
LOG_BLOCK_ALL_CNT		INTEGER	Total number of logical blocks contained in allocated compression groups. It is 0 for non-compressed units. Calculated as the sum of DLSBA.
LOG_BLOCK_WRT_CNT		INTEGER	Total number of logical blocks written in the device user data area. It is 0 for non-compressed units. Calculated as the sum of DLSBW.
MEASURED_SEC		INTEGER	Interval time, in seconds. This is the sum of INTSEC.
PERM_STOR_AVAIL_MB		FLOAT	Average of permanent storage available in megabytes. Calculated as the average of DSPAVL/1048576.
PERM_STOR_CAP_MB		FLOAT	Average of permanent storage capacity in megabytes. Calculated as the average of DSPCAP/1048576.
PHYS_BLOCK_ALL_CNT		INTEGER	Total number of physical blocks reserved in the device data area for DASD extents. It is 0 for non-compressed units. Calculated as the sum of DLPBA.

Data tables and lookup tables

Column name	Key	Data type	Description
PHYS_BLOCK_CPR_CNT		INTEGER	Total number of physical blocks used for compression overhead, that is, compression directory structures and other reserved areas. It is 0 for non-compressed units. Calculated as the sum of DSPBCO.
PHYS_BLOCK_USE_CNT		INTEGER	Total number of physical blocks reserved in the device user data area. It is 0 for non-compressed units. Calculated as the sum of DSPBU.
QUEUE_ELEMENT_CNT		INTEGER	Total queue elements. This is the sum of DSQUEL.
QUEUE_LENGTH_AVG		FLOAT	Average queue length. Calculated as the average of DSQUEL/DSSMPL.
QUEUE_LENGTH_MAX		FLOAT	Maximum queue length. Calculated as the maximum of DSQUEL/DSSMPL.
READ_DATA_CMD_CNT		INTEGER	Sum of read data commands. This is the sum of DSRDS.
SAMPLES		INTEGER	Number of intervals. This is the count of INTNUM.
SAMPLES_2PERSEC		INTEGER	Sum of samples taken at 2 per second. This is the sum of DSSMPL.
SEARCH_STRCMD_CNT		INTEGER	Number of search string commands. This is the sum of DSSCAN.
SEEK_EQ_0_CNT		INTEGER	Total number of zero seeks. This is the sum of DSSK6.
SEEK_GT_1_12_CNT		INTEGER	Total number of seeks arm traveled > 1/12 and < 1/6 on disk. This is the sum of DSSK4.
SEEK_GT_1_3_CNT		INTEGER	Total number of seeks arm traveled > 1/3 and < 2/3 on disk. This is the sum of DSSK2.
SEEK_GT_1_6_CNT		INTEGER	Total number of seeks arm traveled > 1/6 and < 1/3 on disk. This is the sum of DSSK3.
SEEK_GT_2_3_CNT		INTEGER	Total number of seeks arm traveled > 2/3 on disk. This is the sum of DSSK1.
SEEK_LT_1_12_CNT		INTEGER	Total number of seeks arm traveled < 1/12 on disk. This is the sum of DSSK5.
SERVICE_TIME_AVG		FLOAT	Average arm service time in seconds. Calculated as the average of ((DSSMPL-DSNBSY)/DSSMPL) / ((DSRDS+DSWRTS)/INTSEC).
SERVICE_TIME_MAX		FLOAT	Maximum arm service time in seconds. Calculated as the maximum of ((DSSMPL-DSNBSY)/DSSMPL) / ((DSRDS+DSWRTS)/INTSEC).
WRITE_DATA_CMD_CNT		INTEGER	Sum of write data commands. This is the sum of DSWRTS.

OS400_PM_POOL_H, _D

These tables provide hourly and daily storage pool performance statistics. They contain data from the performance data file QAPMPOOL.

The default retention periods are:

- 30 days for OS400_PM_POOL_H
- 365 days for OS400_PM_POOL_D

Column name	Key	Data type	Description
DATE	K	DATE	Date when the record was written. From LDATE.
TIME	K	TIME	Time when the record was written (for OS400_PM_POOL_H only). From LTIME.
PERIOD_NAME	K	CHAR(8)	Name of the period. This is derived using fields SYSTEMID, LDATE and LTIME from the record as parameters in the PERIOD function.
OS400_SYSTEM_ID	K	CHAR(8)	System identification. From SYSTEMID.
POOL_NUMBER	K	CHAR(2)	Pool number. From PONBR.
ACT_INEL_RTE_MAX		FLOAT	Maximum active to ineligible transitions rate. Calculated as the maximum of POAI/INTSEC.
ACT_INEL_SUM		INTEGER	Sum of active to ineligible transitions. From POAI.
ACT_LVL_SET_AVG		FLOAT	Average activity level setting. This is the average of POACTL.
ACT_LVL_SET_MAX		INTEGER	Maximum activity level setting. This is the maximum of POACTL.
ACT_LVL_SET_MIN		INTEGER	Minimum activity level setting. This is the minimum of POACTL.
ACT_WAIT_RTE_MAX		FLOAT	Maximum active to wait transitions rate. Calculated as the maximum of POAW/INTSEC.
ACT_WAIT_SUM		INTEGER	Sum of active to wait transitions. This is the sum of POAW.
DB_FAULTRTE_MAX		FLOAT	Maximum database fault rate. Calculated as the maximum of PODBF/INTSEC.
DB_FAULT_SUM		INTEGER	Sum of database faults. This is the sum of PODBF.
DBPG_READRTE_MAX		FLOAT	Maximum database page read rate. Calculated as the maximum of PODBPG/INTSEC.
DBPG_READ_SUM		INTEGER	Sum of database pages read. This is the sum of PODBPG.
MEASURED_SEC		INTEGER	Total interval seconds. This is the sum of INTSEC.
NDB_FAULTRTE_MAX		FLOAT	Maximum non-database fault rate. Calculated as the maximum of PONDBF/INTSEC.
NDB_FAULT_SUM		INTEGER	Sum of non-database faults. This is the sum of PONDBF.

Column name	Key	Data type	Description
NDBPG_READRTE_MAX		FLOAT	Maximum non-database page read rate. Calculated as the maximum of PONDPG/INTSEC.
NDBPG_READ_SUM		INTEGER	Sum of non-database pages read. This is the sum of PONDPG.
POOL_SIZE_AVG		FLOAT	Average pool size, in kilobytes. This is the average of POSIZ.
POOL_SIZE_MAX		INTEGER	Maximum pool size, in kilobytes. This is the maximum of POSIZ.
POOL_SIZE_MIN		INTEGER	Minimum pool size, in kilobytes. This is the minimum of POSIZ.
POOL_SIZE_RSV_AVG		FLOAT	Average reserved pool size, in kilobytes. This is the average of PORES.
POOL_SIZE_RSV_MAX		INTEGER	Maximum reserved pool size, in kilobytes. This is the maximum of PORES.
POOL_SIZE_RSV_MIN		INTEGER	Minimum reserved pool size, in kilobytes. This is the minimum of PORES.
SAMPLES		INTEGER	Total number of intervals. This is the count of INTNUM.
WAIT_INEL_RTE_MAX		FLOAT	Maximum wait to ineligible transitions rate. Calculated as the maximum of POWI/INTSEC.
WAIT_INEL_SUM		INTEGER	Sum of wait to ineligible transitions. This is the sum of POWI.

OS400_PM_SYS_H, _D

These tables contain hourly and daily OS/400 system performance statistics. They contain data from OS400_PM_SYS records in the OS/400 system performance monitor.

The default retention periods are:

- 30 days for OS400_PM_SYS_H
- 365 days for OS400_PM_SYS_D

Column name	Key	Data type	Description
DATE	K	DATE	Date when the record was written. From LDATE
TIME	K	TIME	Time when the record was written (for OS400_PM_SYS_H only). From LTIME.
PERIOD_NAME	K	CHAR(8)	Name of the period. This is derived using fields SYSTEMID, LDATE, and LTIME as parameters in the PERIOD function.
OS400_SYSTEM_ID	K	CHAR(8)	OS/400 system ID. From SYSTEMID
AGMPG_FAULT_CNT		INTEGER	Number of access group member page faults. This is the sum of SYAPGF.
ASYNCH_LOCK_CNT		INTEGER	Number of asynchronous lock conflicts. This is the sum of SYASYL.

Column name	Key	Data type	Description
AUTH_LOOKUP_CNT		INTEGER	Number of authority lookups. This is the sum of SYAUTH.
BND_WRT_INTSYS		INTEGER	Bundle writes to internal system journals. This is the sum of SYJOBD.
BND_WRT_USRJRN		INTEGER	Bundle writes to user-created journals. This is the sum of SYJOBJ.
BUSY_EXC_CNT		INTEGER	Number of busy exceptions. This is the sum of SYBSYC.
CHANNEL_BUSY_CNT		INTEGER	Number of channel busy occurrences. This is the sum of SYCHNB.
CPUH_MILLISEC		INTEGER	Number of microseconds of processor time used by microcode or system jobs, or both. This is the sum of SHCPU.
CPUH_UTIL_MAX_PCT		FLOAT	Maximum SHCPU utilization, in percent. Calculated as the maximum of SHCPU/INTSEC/10.
CPU1_MILLISEC		INTEGER	Processor time used by CPU1, in milliseconds. This is the sum of SYSCPU.
CPU1_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU utilization, in percent. Calculated as the maximum of SYSCPU/INTSEC/10.
CPU2_MILLISEC		INTEGER	Processor time used by CPU2, in milliseconds. This is the sum of SYSCPU2.
CPU2_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU2 utilization, in percent. Calculated as the maximum of SYSCPU2/INTSEC/10.
CPU3_MILLISEC		INTEGER	Processor time used by CPU3, in milliseconds. This is the sum of SYSCPU3.
CPU3_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU3 utilization, in percent. Calculated as the maximum of SYSCPU3/INTSEC/10.
CPU4_MILLISEC		INTEGER	Processor time used by CPU4, in milliseconds. This is the sum of SYSCPU4.
CPU4_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU4 utilization, in percent. Calculated as the maximum of SYSCPU4/INTSEC/10.
CPU5_MILLISEC		INTEGER	Processor time used by CPU5, in milliseconds. This is the sum of SYSCPU5.)
CPU5_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU5 utilization, in percent. Calculated as the maximum of SYSCPU5/INTSEC/10.
CPU6_MILLISEC		INTEGER	Processor time used by CPU6, in milliseconds. This is the sum of SYSCPU6.

Data tables and lookup tables

Column name	Key	Data type	Description
CPU6_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU6 utilization, in percent. Calculated as the maximum of SYSCPU6/INTSEC/10.
CPU7_MILLISEC		INTEGER	Processor time used by CPU7, in milliseconds. This is the sum of SYSCPU7.
CPU7_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU7 utilization, in percent. Calculated as the maximum of SYSCPU7/INTSEC/10.
CPU8_MILLISEC		INTEGER	Processor time used by CPU8, in milliseconds. This is the sum of SYSCPU8.
CPU8_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU8 utilization, in percent. Calculated as the maximum of SYSCPU8/INTSEC/10.
CPU9_MILLISEC		INTEGER	Processor time used by CPU9, in milliseconds. This is the sum of SYSCPU9.
CPU9_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU9 utilization, in percent. Calculated as the maximum of SYSCPU9/INTSEC/10.
CPU10_MILLISEC		INTEGER	Processor time used by CPU10, in milliseconds. This is the sum of SYSCPU10.
CPU10_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU10 utilization, in percent. Calculated as the maximum of SYSCPU10/INTSEC/10.
CPU11_MILLISEC		INTEGER	Processor time used by CPU11, in milliseconds. This is the sum of SYSCPU11.
CPU11_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU11 utilization, in percent. Calculated as the maximum of SYSCPU11/INTSEC/10.
CPU12_MILLISEC		INTEGER	Processor time used by CPU12, in milliseconds. This is the sum of SYSCPU12.
CPU12_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU12 utilization, in percent. Calculated as the maximum of SYSCPU12/INTSEC/10.
CPU13_MILLISEC		INTEGER	Processor time used by CPU13, in milliseconds. This is the sum of SYSCPU13.
CPU13_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU13 utilization, in percent. Calculated as the maximum of SYSCPU13/INTSEC/10.
CPU14_MILLISEC		INTEGER	Processor time used by CPU14, in milliseconds. This is the sum of SYSCPU14.
CPU14_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU14 utilization, in percent. Calculated as the maximum of SYSCPU14/INTSEC/10.
CPU15_MILLISEC		INTEGER	Processor time used by CPU15, in milliseconds. This is the sum of SYSCPU15.

Column name	Key	Data type	Description
CPU15_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU15 utilization, in percent. Calculated as the maximum of SYSCPU15/INTSEC/10.
CPU16_MILLISEC		INTEGER	Processor time used by CPU16, in milliseconds. This is the sum of SYSCPU16.
CPU16_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU16 utilization, in percent. Calculated as the maximum of SYSCPU16/INTSEC/10.
CPU17_MILLISEC		INTEGER	Processor time used by CPU17, in milliseconds. This is the sum of SYSCPU17.
CPU17_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU17 utilization, in percent. Calculated as the maximum of SYSCPU17/INTSEC/10.
CPU18_MILLISEC		INTEGER	Processor time used by CPU18, in milliseconds. This is the sum of SYSCPU18.
CPU18_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU18 utilization, in percent. Calculated as the maximum of SYSCPU18/INTSEC/10.
CPU19_MILLISEC		INTEGER	Processor time used by CPU19, in milliseconds. This is the sum of SYSCPU19.
CPU19_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU19 utilization, in percent. Calculated as the maximum of SYSCPU19/INTSEC/10.
CPU20_MILLISEC		INTEGER	Processor time used by CPU20, in milliseconds. This is the sum of SYSCPU20.
CPU20_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU20 utilization, in percent. Calculated as the maximum of SYSCPU20/INTSEC/10.
CPU21_MILLISEC		INTEGER	Processor time used by CPU21, in milliseconds. This is the sum of SYSCPU21.
CPU21_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU21 utilization, in percent. Calculated as the maximum of SYSCPU21/INTSEC/10.
CPU22_MILLISEC		INTEGER	Processor time used by CPU22, in milliseconds. This is the sum of SYSCPU22.
CPU22_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU22 utilization, in percent. Calculated as the maximum of SYSCPU22/INTSEC/10.
CPU23_MILLISEC		INTEGER	Processor time used by CPU23, in milliseconds. This is the sum of SYSCPU23.
CPU23_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU23 utilization, in percent. Calculated as the maximum of SYSCPU23/INTSEC/10.
CPU24_MILLISEC		INTEGER	Processor time used by CPU24, in milliseconds. This is the sum of SYSCPU24.

Column name	Key	Data type	Description
CPU24_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU24 utilization, in percent. Calculated as the maximum of SYSCPU24/INTSEC/10.
CPU25_MILLISEC		INTEGER	Processor time used by CPU25, in milliseconds. This is the sum of SYSCPU25.
CPU25_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU25 utilization, in percent. Calculated as the maximum of SYSCPU25/INTSEC/10.
CPU26_MILLISEC		INTEGER	Processor time used by CPU26, in milliseconds. This is the sum of SYSCPU26.
CPU26_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU26 utilization, in percent. Calculated as the maximum of SYSCPU26/INTSEC/10.
CPU27_MILLISEC		INTEGER	Processor time used by CPU27, in milliseconds. This is the sum of SYSCPU27.
CPU27_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU27 utilization, in percent. Calculated as the maximum of SYSCPU27/INTSEC/10.
CPU28_MILLISEC		INTEGER	Processor time used by CPU28, in milliseconds. This is the sum of SYSCPU28.
CPU28_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU28 utilization, in percent. Calculated as the maximum of SYSCPU28/INTSEC/10.
CPU29_MILLISEC		INTEGER	Processor time used by CPU29, in milliseconds. This is the sum of SYSCPU29.
CPU29_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU29 utilization, in percent. Calculated as the maximum of SYSCPU29/INTSEC/10.
CPU30_MILLISEC		INTEGER	Processor time used by CPU30, in milliseconds. This is the sum of SYSCPU30.
CPU30_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU30 utilization, in percent. Calculated as the maximum of SYSCPU30/INTSEC/10.
CPU31_MILLISEC		INTEGER	Processor time used by CPU31, in milliseconds. This is the sum of SYSCPU31.
CPU31_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU31 utilization, in percent. Calculated as the maximum of SYSCPU31/INTSEC/10.
CPU32_MILLISEC		INTEGER	Processor time used by CPU32, in milliseconds. This is the sum of SYSCPU32.
CPU32_UTIL_MAX_PCT		FLOAT	Maximum SYSCPU32 utilization, in percent. Calculated as the maximum of SYSCPU32/INTSEC/10.

Column name	Key	Data type	Description
DB_CPU_MSEC		FLOAT	Database CPU time in milliseconds. New with DSD/EWL support. Calculated as the sum of SYSDBC.
DECDATA_EXC_CNT		INTEGER	Number of decimal data exceptions. This is the sum of SYDECD.
DIRPG_FAULT_CNT		INTEGER	Number of directory page faults. This is the sum of SYDPGF.
DISK_UTIL_MAX		INTEGER	Sum of maximum disk utilization. This is the sum of SMXDU.
EADDR_LOFL_EXC_CNT		INTEGER	Number of effective address length overflow exceptions. This is the sum of SYEAOL.
EADDR_OFL_EXC_CNT		INTEGER	Number of effective address overflow exceptions. This is the sum of SYEAOT.
EXCEPTION_CNT		INTEGER	Number of exceptions. This is the sum of SYEXPN.
EXP_ACC_PATH_JRN		INTEGER	Exposed access paths currently being journalized by the system. This is the sum of STJOJY.
EXP_ACC_PATH_NOJRN		INTEGER	Exposed access paths currently not being journalized. This is the sum of STJOJN.
FALSE_TRAP_CNT		INTEGER	False traps, that is, the number of space address computations that required extra processing. It is the sum of SYHFTS.
IND_REBLD_CNT		INTEGER	Number of index rebuilds system wide. This is the sum of SYIXRB.
INTER_FEAT_MSEC		FLOAT	Time used on interactive feature. New with the support of interactive counters. Calculated as the sum of SYIFUS.
INT_THRS_EXCD_MSEC		FLOAT	Time used on exceeding the interactive threshold. New with the support of interactive counters. Calculated as the sum of SYIFTE.
JRNDEP_SYSJRN_TOT		INTEGER	Journal deposits resulting from system-journaled objects-total. This is the sum of SYJOID.
JRNDEP_SYS_TO_USR		INTEGER	Journal deposits resulting from system-journaled objects to user-created journals. This is the sum of SYJOJP.
JRNDEP_USRJRN		INTEGER	Journal deposits resulting from user-journaled objects. This is the sum of SYJOXD.
MCPG_FAULT_CNT		INTEGER	Number of microcode page faults. This is the sum of SYMPGF.
MEASURED_SEC		INTEGER	Total measurement time, in seconds. This is the sum of INTSEC.
MPOOL_PG_CNT		INTEGER	Number of machine pool paging operations. This is the sum of SMPLP.

Data tables and lookup tables

Column name	Key	Data type	Description
MPOOL_PG_MAX_CNT		INTEGER	Number of user pool paging operations for pool with highest paging. This is the sum of SMUPL.
MRT_MAX_SEC		INTEGER	Number of seconds spent at MRTMAX by all multi-requesting terminals. This is the sum of SMMMT.
MRT_REQ_CNT		INTEGER	Number of requests routed to a multi-requesting terminal. This is the sum of SMMME.
MTASK_READ_CNT		INTEGER	Number of microtask read operations. This is the sum of SYMCTR.
MTASK_WRITE_CNT		INTEGER	Number of microtask write operations. This is the sum of SYMCTW.
OPEN_SYST_CNT		INTEGER	Number of full opens system wide. This is the sum of SYFOPN.
PERM_TRANS_BLOCK		INTEGER	Number of 512-byte blocks of permanent data transferred from main storage. This is the sum of SYPRMW.
REDUND_TRANS_BLOCK		INTEGER	Number of 512-byte blocks of redundancy data transferred from main storage. This is the sum of SYXSRW.
SAMPLES		INTEGER	Total number of measurement intervals. This is the count of INTNUM.
SEC_WRKLD_CPU_MSEC		FLOAT	Secondary workload CPU in milliseconds. New with DSD/EWL support. Calculated as the sum of SYSSWC.
SEIZE_WAIT_EXC_CNT		INTEGER	Number of seize wait exceptions. This is the sum of SYSEZC.
SEIZE_WAIT_TIME		INTEGER	Seize/Wait time in milliseconds. This is the sum of SYSZWT.
SIZE_EXC_CNT		INTEGER	Number of size exceptions. This is the sum of SYSIZC.
STPJRN_OP_USR		INTEGER	Stop journal operations initiated by user. This is the sum of SYJOXP.
STRJRN_OP_USR		INTEGER	Start journal operations initiated by user. This is the sum of SYJOXR.
STPJRN_OP_SYS		INTEGER	Stop journal operations initiated by system. This is the sum of SYJOIP.
STRJRN_OP_SYS		INTEGER	Start journal operations initiated by system. This is the sum of SYJOIR.
SYNCH_LOCK_CNT		INTEGER	Number of synchronous lock conflicts. This is the sum of SYSYNL.
SYSAUX_AVAIL_MB		FLOAT	Number of megabytes of available system auxiliary storage pools space available. Calculated as the average of SYSASP/1048576.

Column name	Key	Data type	Description
SYS_EST_AP_REC_JRN		INTEGER	System-estimated access path recovery time exposure in milliseconds if no access paths were being journaled by the system. This is the sum of SYJOND.
SYS_EST_AP_RECOV		INTEGER	System-estimated access path recovery time exposure in milliseconds. This is the sum of SYJOSE.
SYS_MAN_AP_TADJ		INTEGER	System-managed access path tuning adjustments. This is the sum of SYJORT.
TRAN_RTM1_CNT		INTEGER	Number of transactions in the 1st RTM bracket. This is the sum of SYLRT1.
TRAN_RTM2_CNT		INTEGER	Number of transactions in the 2nd RTM bracket. This is the sum of SYLRT2.
TRAN_RTM3_CNT		INTEGER	Number of transactions in the 3rd RTM bracket. This is the sum of SYLRT3.
TRAN_RTM4_CNT		INTEGER	Number of transactions in the 4th RTM bracket. This is the sum of SYLRT4.
TRAN_RTM5_CNT		INTEGER	Number of transactions in the 5th RTM bracket. This is the sum of SYLRT5.
TR_EAO_EXCEPT_CNT		INTEGER	Teraspace EAO exceptions, that is, the number of tolerated crossings of a 16 MB boundary within any teraspace. It is the sum of SYHEAO.
TR_FALSE_TRAP_CNT		INTEGER	False traps addressing teraspace, that is, the number of teraspace address computations that required extra processing. It is the sum of SYHFTH.
VERIFY_COUNT		INTEGER	Number of verifies. This is the sum of SYVFYC.

OS400_PM_SYS_JGR_H, _D

These tables provides hourly and daily OS/400 system performance statistics for job groups. They contain data from OS400_PM_SYS records in the OS/400 system performance monitor.

The default retention periods are:

- 30 days for OS400_PM_SYS_JGR_H
- 365 days for OS400_PM_SYS_JGR_D

Column name	Key	Data type	Description
DATE	K	DATE	Date when the record was written. From LDATE.
TIME	K	TIME	Time when the record was written (for OS400_PM_SYS_JGR_H only). From LTIME.
PERIOD_NAME	K	CHAR(8)	Name of the period. This is derived using fields SYSTEMID, LDATE, and LTIME as parameters in the PERIOD function.
OS400_SYSTEM_ID	K	CHAR(8)	OS/400 system ID. From SYSTEMID.
JOB_GROUP_NUMBER	K	INTEGER	Job group number. From SECTNUM(GRP).

Data tables and lookup tables

Column name	Key	Data type	Description
BIN_OFL_CNT		INTEGER	Number of binary overflows. This is the sum of OBIN.
COMM_READ_COUNT		INTEGER	Number of communications reads. This is the sum of CMGT.
COMM_WRITE_COUNT		INTEGER	Number of communications writes. This is the sum of CMPT.
CPU_MILLISEC		INTEGER	Total processing unit time in milliseconds. This is the sum of CPU.
CPU_UTIL_MAX_PCT		FLOAT	Maximum processor utilization in percent. Calculated as the maximum of CPU/INTSEC/10.
DB_ASREAD_CNT		INTEGER	Number of asynchronous database reads. This is the sum of ADBR.
DB_ASWRITE_CNT		INTEGER	Number of asynchronous database writes. This is the sum of ADBW.
DB_LOG_READ_COUNT		INTEGER	Number of logical database reads. This is the sum of LDBR.
DB_LOG_WRITE_COUNT		INTEGER	Number of logical database writes. This is the sum of LDBW.
DB_MISC_OPER_COUNT		INTEGER	Number of miscellaneous database operations. This is the sum of LDBU.
DBNDB_PS_WRITE_CNT		INTEGER	Number of physical synchronous database and non-database writes. This is the sum of PWRT.
DB_PS_READ_COUNT		INTEGER	Number of physical synchronous database reads. This is the sum of PDBR.
DB_SWRITE_CNT		INTEGER	Number of synchronous database writes. This is the sum of DBW.
DECIMAL_OFL_CNT		INTEGER	Number of decimal overflows. This is the sum of ODEC.
EADDR_OFL_EXC_CNT		INTEGER	Number of effective address overflow exceptions. This is the sum of EAO.
EFS_REG_FILE_READS		INTEGER	Enhanced file system regular file reads. This is the sum of XRFR.
EFS_REG_FILE_WRTES		INTEGER	Enhanced file system regular file writes. This is the sum of XRFW.
EFS_SYM_DIR_READS		INTEGER	Enhanced file system directory reads. This is the sum of XDYR.
EFS_SYM_DR_LC_HITS		INTEGER	Enhanced file system directory lookup cache hits. This is the sum of DLCH.
EFS_SYM_DR_LC_MISS		INTEGER	Enhanced file system directory lookup cache misses. This is the sum of DLCM.
EFS_SYM_LINK_READS		INTEGER	Enhanced file system symbolic link reads. This is the sum of XSLR.

Column name	Key	Data type	Description
FLP_OFL_CNT		INTEGER	Number of floating point overflows. This is the sum of OFLP.
IO_CHECKSUM_CNT		INTEGER	Number of checksum I/Os. This is the sum of CS.
IO_WAIT_COUNT		INTEGER	Number of waits for asynchronous I/O operations. This is the sum of WIO.
JOB_END_COUNT		INTEGER	Number of ended jobs. This is the sum of JBTERM.
JOBS		INTEGER	Total number of jobs. This is the sum of JBCT.
JOB_START_COUNT		INTEGER	Number of started jobs. This is the sum of JBNEW.
MEASURED_SEC		INTEGER	Total measurement time in seconds. This is the sum of INTSEC.
NBD_PS_READ_COUNT		INTEGER	Number of physical synchronous non-database reads. This is the sum of PNDB.
NDB_ASREAD_CNT		INTEGER	Number of asynchronous non-database reads. This is the sum of ANDR.
NDB_ASWRITE_CNT		INTEGER	Number of asynchronous non-database writes. This is the sum of ANDW.
NDB_SWRITE_CNT		INTEGER	Number of synchronous non-database writes. This is the sum of NDW.
PAGE_FAULT_AUX_CNT		INTEGER	Number of page faults on an address currently part of an auxiliary I/O operation. This is the sum of IPF.
PAGE_FAULT_CNT		INTEGER	Number of program access group (PAG) faults. This is the sum of PAGF.
PRINT_LINE_COUNT		INTEGER	Number of print lines. This is the sum of PRTL.
PRINT_PAGE_COUNT		INTEGER	Number of print pages. This is the sum of PRTP.
REROUTE_WAIT_MS		INTEGER	Total time a job waited during rerouting in milliseconds. This is the sum of RRTT.
SAMPLES		INTEGER	Total number of measurement intervals. This is the sum of INTNUM.
SEIZE_WAIT_TIME		INTEGER	Seize/wait time in milliseconds. This is the sum of SZWT.
SOCKET_BS_REC_CNT		INTEGER	Number of socket bytes received. This is the sum of SKBR.
SOCKET_BS_SENT_CNT		INTEGER	Number of socket bytes sent. This is the sum of SKBS.
SOCKET_RECS_CNT		INTEGER	Number of socket receives. This is the sum of SKRC.
SOCKET_SENDS_CNT		INTEGER	Number of socket sends. This is the sum of SKSC.
SUSPEND_MILLISEC		INTEGER	Total job suspend time in milliseconds. This is the sum of SPDT.

Column name	Key	Data type	Description
TRAN_MILLISEC		INTEGER	Total transaction time in milliseconds. This is the sum of TRNT.
TRAN_PNO_COUNT		INTEGER	Number of DYNAMIC PURGE(*NO) transactions. This is the sum of PRG.
TRAN_PYES_COUNT		INTEGER	Number of PURGE(*YES) transactions. This is the sum of BRG.
TRAN_RATE_MAX		FLOAT	Maximum number of transactions per second. Calculated as the maximum of TRNT/INTSEC.
TRAN_RESP_MAX_SEC		FLOAT	Maximum transaction response time in seconds. Calculated as the maximum of TRNT/TRNS.
TRANSACTIONS		INTEGER	Number of transactions. This is the sum of TRNS.
WRITE_PERM_CNT		INTEGER	Number of permanent writes. This is the sum of PW.

OS400_PERF_SUM_H, _D

These tables provide hourly and daily summary performance statistics. They contain data from DRL8003 messages in the history file.

The default retention periods are:

- 30 days for OS400_PERF_SUM_H
- 365 days for OS400_PERF_SUM_D

Column name	Key	Data type	Description
DATE	K	DATE	Date when the record was written. From LOGDATE.
TIME	K	TIME	Time when the record was written (for OS400_PERF_SUM_H only). Calculated from LOGTIME and MINT.
PERIOD_NAME	K	CHAR(8)	Name of the period. This is derived using the field SYSTEMID and calculations from the fields LOGDATE, LOGTIME and MINT as parameters in the PERIOD function.
OS400_SYSTEM_ID	K	CHAR(8)	System identification. From SYSTEMID.
AUX_STOR_AVAIL_MB		FLOAT	Average of available auxiliary storage, in megabytes. This is the average of AAUX.
AUX_STOR_MB		FLOAT	Average of total auxiliary storage, in megabytes. This is the average of TAUX.
CPU_PCT_MAX		FLOAT	Maximum processor time used, in percent. Calculated as the maximum of 100*CPUU/MINT.
CPU_SECONDS		INTEGER	Total processor time used, in seconds. This is the sum of CPUU.
IO_COUNT		INTEGER	Sum of I/Os. This is the sum of IOS.
IO_MAX_RATE		FLOAT	Maximum I/O rate. Calculated as the maximum of IOS/MINT.

Column name	Key	Data type	Description
JOB_COUNT		INTEGER	Sum of jobs. This is the sum of TJOBS.
MEASURED_SEC		INTEGER	Total measurement time, in seconds. This is the sum of MSINT
PAGE_COUNT		INTEGER	Sum of pages. This is the sum of PAGES.
PAGE_MAX_RATE		FLOAT	Maximum page rate. Calculated as the maximum of PAGES/MINT.
SAMPLES		INTEGER	Total number of measurement intervals. This is the count of MSGID.

SP400 Feature lookup tables

This section describes the following lookup tables specific to the SP400 Feature:

- OS400_JOB_ACCTCODE.
- OS400_DASDTYPE.
- OS400_JOBGROUP.

For descriptions of common lookup tables used by the SP400 Feature and other IBM Z Performance and Capacity Analytics features, refer to the *Administration Guide and Reference*

OS400_JOB_ACCTCODE

This lookup table is used in the SP400 Feature job statistics component and contains account code information. It converts system identification, user name, job name and job type to an accounting code.

Column name	Key	Data type	Description
OS400_SYSTEM_ID	K	CHAR(8)	System identification. This field can contain global search characters.
USER_NAME	K	CHAR(10)	User name. This field can contain global search characters.
JOB_NAME	K	CHAR(10)	Job name. This field can contain global search characters.
JOB_TYPE	K	CHAR(3)	Job type. This field can contain global search characters.
ACCOUNT_CODE		CHAR(15)	Accounting code to be assigned to job

Example of table contents

```
OS400_SYSTEM_ID    USER_NAME    JOB_NAME    JOB_TYPE    ACCOUNT_CODE
---------------    ---------    --------    --------    ---------------
S44A0061           LENNART      %           %           100000000000000
S44A0061           ALMOS        %           %           100000000000000
S44A0061           RAYNER       %           %           400000000000000
S44A0061           DAVIS        %           B           400000000000000
S44A0061           DAVIS        %           I           406600000000000
%                  %            %           %           999999999999999
```

These six table entries are explained as follows:

1. The user LENNART is given the account code 100000000000000 for all job names and all job types in the system S44A0061

2. The user ALMOS is also given the account code 100000000000000 for all job names and all job types in the system S44A0061

3. The user RAYNER is given the account code 400000000000000 for all job names and all job types in the system S44A0061

4. The user DAVIS is given the account code 400000000000000 for all job names with job type B in the system S44A0061

5. The user DAVIS is given the account code 406600000000000 for all job names with job type I in the system S44A0061

6. The default account code 999999999999999 is given for all other jobs in all other systems.

OS400_DASDTYPE

This lookup table is used in the SP400 Feature configuration component to calculate DASD capacity for a device type and model.

Column name	Key	Data type	Description
DEVICE_TYPE	K	CHAR(4)	Device type
DEVICE_MODEL	K	CHAR(3)	Device model
MEGABYTE_COUNT		INTEGER	Number of megabytes per actuator

Example of table contents

```
DEVICE_TYPE     DEVICE_MODEL     MEGABYTE_COUNT
-----------     ------------     --------------
2800            001                 320
2801                                988
2802                               1031
6100                                315
6102                                320
6103                                400
6104                                988
6105                                320
6107                                400
6109                                988
6601                               1031
6602                               1031
6602            050                1031
6602            070                1031
6603                               1967
6603            050                1967
6603            070                1967
6605                               1031
6605            050                1031
6605            070                1031
6606                               1967
6606            030                1967
6606            050                1967
6606            070                1967
6607                               4194
6607            050                4194
6607            070                4194
6713                               8589
6713            050                8589
6713            070                8589
6906                               8589
6906            050                8589
6906            070                8589
6907                               8589
6907            050                8589
6907            070                8589
9332            400                 400
9332            600                 600
9335                                855
9335            B01                 427
9336            010                 471
```

OS400_DATE_FORMAT

This lookup table is used in the SP400 Feature job statistics component and accounting component. It defines the format of the job start and job completion message dates in the QHST file (QDATFMT column) and the format of the date for the journal entry that is generated in the QACGJRN file (DATFMT column).

Column name	Key	Data type	Description
SYSTEMID	K	CHAR(8)	IBM i system ID
QDATFMT		CHAR(3)	System date format
DATFMT		CHAR(3)	Job date format

Example of table contents

```
SYSTEMID    QDATFMT     DATFMT
--------    -------     ------
S44A0061    YMD         DMY
S4415996    DMY         MDY
S4440400    JUL         JUL
```

OS400_JOBGROUP

This lookup table is used in the SP400 Feature performance component, and converts job group number to job group name.

Column name	Key	Data type	Description
JOB_GROUP_NUMBER	K	INTEGER	Job group number
JOB_GROUP_NAME		CHAR(6)	Job group name

Example of table contents

```
JOB_GROUP_NUMBER     JOB_GROUP_NAME
----------------     --------------
1                    A-DDM
2                    A-PCS
3                    A-PTT
4                    B-MRT
5                    B-S/36
6                    B-COMM
7                    B-AUTO
8                    B-BTCH
9                    A-INT
10                   B-CPF
```

You can find an explanation of the job groups, and see how these job groups are used in the performance component, by referring to the report OS/400 Perf CPU by Job Group, Hourly Trend.

Chapter 7. Reports

The reporting function produces reports based on the data in the IBM Z Performance and Capacity Analytics database. Reports can show data from tables or from views. You can request reports online or by submitting batch jobs. Typically, you use online reporting for reports that you use once, and batch reporting for regularly required reports.

This chapter describes:

- Report format and general information

  This topic describes the format of the names used to define each report, and how source tables, attributes, and variables are used.

- Reports in the accounting component
- Reports in the configuration component
- Reports in the job statistics component
- Reports in the messages component
- Reports in the performance component

Report format and general information

IBM Z Performance and Capacity Analytics presents reports in tables or graphs. All reports have the same basic report layout. This section describes the elements that are common among IBM Z Performance and Capacity Analytics feature reports:

- Report ID
- Report group
- Source
- Attributes
- Variables

Report ID

IBM Z Performance and Capacity Analytics assigns each report a unique identifier. The SP400 Feature uses the following format for report IDs:

- OS400*yxx*

where:

y

    Can be one of the following:

    A

        The accounting component

    C

        The configuration component

    J

        The job statistics component

    M

        The messages component

    P

        The performance component

> ***xx***
>> A sequential number identifying the report.
>
> Examples:
>
> - OS400A01
> - OS400P11

Report group

> IBM Z Performance and Capacity Analytics uses several predefined report groups. For SP400 Feature, each component has one group. For a description of the five SP400 Feature report groups, see "Collecting performance data" on page 1.

Source tables

> Each report contains information from one or more source tables. The report descriptions in this chapter list source tables. Refer to these tables to learn where certain data originates.

Attributes

> Each report has certain attributes associated with it. Use these attributes as *keywords* to search for specific reports in the dialogs.
>
> You can specify any number of attributes for a report, but these attributes are always present for predefined reports:
>
> - The area to which the report belongs (for example, AS400)
> - The task that the report supports:
>
> **Performance**
>> Performance control task
>
> **Service**
>> Service-level planning task
>
> **Capacity**
>> Capacity planning task
>
> **Security**
>> Security control task
>
> **Configuration**
>> Configuration management discipline
>
> **Operation**
>> Operations management discipline
>
> **Change**
>> Change management discipline
>
> **Problem**
>> Problem management discipline
>
> You can also specify these attributes, when appropriate:
>
> - Resource types, such as storage or processor time
> - Performance issues, such as availability or response
> - Presentation forms, such as detail, overview, or trend
> - Time resolutions, such as hourly, daily, or monthly

Variables

> Each report has variables associated with it. You specify the values for these variables when you generate the report using the reporting dialog.

Note: When you specify a date for a monthly report, specify the first day of the month. Otherwise, there is no match in the data table.

Note: If a character variable has only numeric characters, enclose it in single quotation marks, otherwise it will not match the data. For example, if you have a system ID of 1234, specify it as '1234' in the Variables window.

Reports in the accounting component

This section describes the following accounting component reports:

- OS/400 Acct Job Accounting, Monthly Overview.
- OS/400 Acct Print Accounting, Monthly Overview.

The data flow for the accounting component (including the names of OS/400 logs, IBM Z Performance and Capacity Analytics records and tables) is given in SP400 Feature accounting component data flow.

OS/400 Acct Job Accounting, Monthly Overview report

For a specific OS/400 system in the network, this report (see the figure below) provides monthly overview information about how much of the resources each user and department has used, summarized by account code. The report can be used as a guide for charging users and departments for the system resources they have used, and is produced by period name (for example, PRIME or NIGHT).

This information identifies the report:

Report ID
OS400A01

Report group
OS/400 Accounting Component Reports

Source table
OS400_ACCT_JOB_M (see "OS400_ACCT_JOB_D, _M" on page 38)

Attributes
OS400, Acct, Accounting, Job, Monthly, Overview,

Variables
Month, Period name, OS400 system ID

```
                OS/400 Acct Job Accounting, Monthly Overview
                          System: 'S44A0001'
                  Month: '2006-03-01'   Period: 'PRIME'


                                     CPU
   Account           User          Jobs      time      I/O
    code             name         (count)   (hours)   (1000s)
 ---------------    ----------    --------  ---------  ---------
                    AURELL             34     0.46         15
                    CHRISTIN          312     0.43        240
                    FAXADMIN           62     0.16          1
                    IBM                18     0.05          2
                    JAN400             11     0.25          2
                    JIVE               74     0.07          2
                    LENNART            48     0.09          2
                    QPGMR              12     0.03          1
                    QSECOFR            21     0.12         14
                    QSNADS             19     0.04          1
                    QSYSOPR            80     0.28          9
                    QUSER              21     0.02          1
                    SVEN               62     0.24          4
                                  --------  ---------  ---------
                    Total             774     2.24        294

   *SYS             QSNADS             32     0.11          5
                    QSPLJOB            56     0.21         12
                                  --------  ---------  ---------
                    Total              88     0.32         17


                                  ========  =========  =========
                    Total             862     2.56        311


              IBM Z Performance and Capacity Analytics Report: OS400A01
```

Figure 26. Example of OS/400 Acct Job Accounting, Monthly Overview report

The report contains this information:

Account code
   The accounting code.

User name
   The user name.

Jobs (count)
   The number of jobs.

CPU time (hours)
   The total processor time, in hours. This is calculated as SUM(CPU_SECONDS)/3600.

I/O (1000s)
   The total number of auxiliary I/Os, in thousands. This is calculated as SUM(IO_COUNT)/1000.

OS/400 Acct Print Accounting, Monthly Overview report

For a specific OS/400 system in the network, this report (see the figure below) provides monthly overview information about how much of the printing resources each user and department has used. The report is produced by period name (for example, PRIME or NIGHT), and can be used as a guide for charging users and departments for the printing resources they have used.

This information identifies the report:

Report ID
   OS400A02

Report group
   OS/400 Accounting Component Reports

Source table
   OS400_ACCT_PRINT_M (see "OS400_ACCT_PRINT_D, _M" on page 39)

Attributes
OS400, Acct, Accounting, Print, Monthly, Overview

Variables
Month, Period name, OS400 system ID

```
                  OS/400 Acct Print Accounting, Monthly Overview
                              System: 'S44A0001'
                        Month: '2006-03-01'   Period: 'PRIME'

                                                        Print      Print
        Account          User          Form       Jobs  lines      pages
         code            name          type     (count) (count)   (count)
        --------------- ----------  ----------  -------- --------  --------
                        CHRISTIN    *STD              47     4520       248
                        FAXADMIN    *STD               2      157         5
                        JIVE        *STD               1       17         1
                                                -------- --------  --------
                                    Total             50     4694       254

        NI3             CPOPGMR     *STD               1       12         1
                                                -------- --------  --------
                                    Total              1       12         1

                                                ======== ========  ========
                                    Total             51     4706       255

                  IBM Z Performance and Capacity Analytics Report: OS400A02
```

Figure 27. Example of OS/400 Acct Print Accounting, Monthly Overview report

The report contains this information:

Account code
The accounting code.

User name
The user name.

Form type
The print form type.

Jobs (count)
The number of jobs.

Print lines (count)
The number of print lines.

Print pages (count)
The number of print pages.

Reports in the configuration component

This section describes the following configuration component reports:

- OS/400 Config all devices, Overview.
- OS/400 Config DASD Capacity Overview.
- OS/400 Config Main Storage Overview.
- OS/400 Config Device Count Type/Model, Overview.
- OS/400 Config Device for Specific Type, Overview.

The data flow for the configuration component (including the names of OS/400 logs, IBM Z Performance and Capacity Analytics records, and tables) is given in SP400 Feature configuration component data flow.

OS/400 Config all devices, Overview report

For a specific OS/400 system in the network, this report (see the figure below) provides overview information about the hardware resources the system uses.

Reports

The following information identifies the report:

Report ID
OS436C01

Report group
OS/400 Configuration Component Reports

Source
OS400_CONFIG (see "OS400_CONFIG" on page 40)

Attributes
OS400, Configuration, HW, Hardware, Device, Overview

Variables
Date, OS/400 system ID

```
                    OS/400 Config all devices, Overview
                            System: 'S44R6067'
                            Date: 2006-04-22

                    Resource            Resource
        Resource    Resource  serial    Resource  part          Resource
        name        type      no        model     no            status
        ----------  --------  ----------  --------  ------------  --------
        BCC01                 00-0000000                          3
        CC01        2617      53-6872005  001       0000085F9107  3
        CC02        2619      53-6859004  001       0000085F9089  3
        CC02        2619      53-6859004  001       0000085F9089  3
        CEC01       9402      44-R6067    40S                     3
        CMB01       918B      53-6868135  001       0000074G9702  3
        CMB01       918B      53-6868135  001       0000074G9702  3
        CMN01       2609      53-6818562  001       0000021F4867  3
        CMN02       2609      53-6818562  001       0000021F4867  3
        CMN03       2617      53-6872005  001       0000085F9107  3
        CMN04       2619      53-6859004  001       0000085F9089  3
        CTL01       2661      53-6868135  001       0000074G9701  3
        CTL02       6055      53-6859004  001       0000085F9089  3
        DC01        6606      00-0C18815  030                     3
        DC02        6606      00-0D14721  030                     3
        DC03        6606      00-0D25034  030                     3
        DC04        6380      00-4231503  001                     3
        DC05        6320      00-00000    002                     3
        DD001       6606      00-0D25034  030                     3
        DD002       6606      00-0D14721  030                     3
        DD003       6606      00-0C18815  030                     3
        DSP002      5292      00-00000    001                     3
        LIN01       2609      53-6818562  001       0000021F4867  3
        LIN02       2617      53-6872005  001       0000085F9107  3
        LIN03       2619      53-6859004  001       0000085F9089  3
        LIN04       605A      53-6859004  001       0000085F9089  3
        MP01        2110      53-6875021  000       0000021H8384  3
        MS01                  00-00000                            3
        MS02                  00-00000                            3
        OPT01       6320      00-00000    002                     3
        PN01        2468      00-0000000  001       0000021F5772  3
        SP01        918B      53-6868135  001                     3
        TAP01       6380      00-4231503  001                     3
        WS01        2661      53-6868135  001       0000074G9701  3

            IBM Z Performance and Capacity Analytics Report: OS436C01
```

Figure 28. Example of OS/400 Config all Devices, Overview report

The report contains the following information:

Resource Name
The resource name.

Resource Type
The resource type.

Resource Serial number
The resource serial number.

Resource Model
The resource model.

Resource Part number
The resource part number.

Resource Status
The resource status.

OS/400 Config DASD Capacity Overview report

For each OS/400 system in the network, this report (see the figure below) provides overview information about the disk devices the system contains. You might use this report when considering disk device changes (replacing, removing, or adding capacity).

The following information identifies the report:

Report ID
OS436C02

Report group
OS/400 Configuration Component Reports

Source tables
OS400_CONFIG (see "OS400_CONFIG" on page 40) and OS400_DASDTYPE (see "OS400_DASDTYPE" on page 62)

Attributes
OS400, Configuration, HW, Hardware, Disk, DASD, Overview

Variables
Date

```
                    OS/400 Config DASD Capacity, Overview
                             Date: 2006-04-22


        OS/400     Resource  Resource   Device   Capacity
        system ID  type      model      (count)     (MB)
        ---------  --------  --------   -------  --------
        S44R6067   6606      030              6     11802
                                         -------  --------
                                   *             6     11802

                                         =======  ========
        Total                                6     11802


            IBM Z Performance and Capacity Analytics Report: OS436C02
```

Figure 29. Example of OS/400 Config DASD Capacity, Overview report

The report contains the following information:

OS/400 system ID
The system identification.

Resource Type
The resource type.

Resource Model
The resource model.

Device (count)
The number of devices.

Capacity (MB)
The sum of drive capacity, in MB.

OS/400 Config Main Storage Overview report

For each OS/400 system in the network, this report (see the figure below) provides overview information about the main storage the system contains. The report also contains the total main storage of all OS/400 systems. You might use this report to control the currently available main storage and, therefore, the number of concurrently active jobs that can run on each OS/400 system.

The following information identifies the report:

Report ID
OS436C03

Report group
OS/400 Configuration Component Reports

Source table
OS400_CONFIG (see "OS400_CONFIG" on page 40)

Attributes
OS400, Configuration, HW, Hardware, Storage, Overview

Variables
Date

```
                      OS/400 Config Main Storage, Overview
                                Date: 2006-04-22


         OS/400      Resource     Resource  Storage
         system ID   name         type         (MB)
         ---------   ----------   --------  -------
         S44R6067    MS01                        815
                     MS02                        815
                                              -------
                                        *      1630

                                              =======
         Total                                 1630


              IBM Z Performance and Capacity Analytics Report: OS436C03
```

Figure 30. Example of OS/400 Config Main Storage, Overview report

The report contains the following information:

OS/400 system ID
The system identification.

Resource Name
The resource name.

Resource Type
The resource type.

Storage (MB)
The number of megabytes of main storage.

OS/400 Config Device Count Type/Model, Overview report

For each OS/400 system in the network, this report (see the figure below) provides overview information about their resource types (resource models and number of hardware devices). Detailed information about each resource type is provided in the report OS/400 Config Device for Specific Type, Overview, which contains an example of resource type 2619).

The following information identifies the report:

Report ID
OS436C04

Report group
OS/400 Configuration Component Reports

Source table
OS400_CONFIG (see "OS400_CONFIG" on page 40)

Attributes
OS400, Configuration, HW, Hardware, Device, Overview

Variables
Date

```
              OS/400 Config Dev Count Type/Model, Overview
                         Date: 2006-04-22


OS/400      Resource  Resource   Device
system ID   type      model      (count)
---------   --------  --------   -------
S44R6067                            3
            2110      000           1
            2468      001           1
            2609      001           3
            2617      001           3
            2619      001           4
            2661      001           2
            5292      001           1
            605A      001           1
            6055      001           1
            6320      002           2
            6380      001           2
            6606      030           6
            918B      001           3
            9402      40S           1



            IBM Z Performance and Capacity Analytics Report: OS436C04
```

Figure 31. Example of OS/400 Config Device Count Type/Model, Overview report

The report contains the following information:

OS/400 system ID
The system identification.

Resource Type
The resource type.

Resource Model
The resource model

Device (count)
The number of devices.

OS/400 Config Device for Specific Type, Overview report

For a specific OS/400 system in the network, this report (see the figure below) provides overview information about the hardware resources that are contained within a resource type.

The following information identifies the report:

Report ID
OS436C05

Report group
OS/400 Configuration Component Reports

Source table
OS400_CONFIG (see "OS400_CONFIG" on page 40)

Attributes
OS400, Configuration, HW, Hardware, Device, Overview

Variables

Date, OS400 system ID, Resource type

```
            OS/400 Config Dev for Specific Type, Overview
              System: 'S44R6067'  Resource type: '2619'
                         Date: 2006-04-22


            Version                Prev      System    Config    Prev
   Resource release  Resource  resource  serial    obj       level
   name     mod      level     level     no        name      config
   -------- -------- -------- -------- ---------- -------- ------
   CC02     V3R6M0   1         BUS01     44-R6067
   CC02     V3R6M0   1         BUS01     44-R6067
   CMN04    V3R6M0   3         LIN03     44-R6067   TRLINE
   LIN03    V3R6M0   2         CC02      44-R6067


            IBM Z Performance and Capacity Analytics Report: OS436C05
```

Figure 32. Example of OS/400 Config Device for Specific Type, Overview report

The report contains the following information:

Resource Name

The resource name.

Version Release Modification

The version, release, and modification of the OS/400 system.

Resource Level

The resource level.

Previous Resource Level

The system-defined previous level resource name.

System Serial Number

The serial number of the system.

Configuration Object Name

The configuration object name.

Previous Level Configuration

The previous level configuration object name.

Reports in the job statistics component

This section describes the following job statistics component reports:

- OS/400 Job Statistics by User, Monthly Overview.
- OS/400 Job CPU Usage by User, Monthly Overview.
- OS/400 Job Statistics All Systems, Daily Trend.
- OS/400 Job Statistics all Systems, Monthly Trend.
- OS/400 Job Statistics for a User, Monthly Overview.
- OS/400 Job Type Statistics, Monthly Overview.
- OS/400 Job Acct from History Log, Monthly Overview.

The data flow for the job statistics component (including the names of OS/400 logs, IBM Z Performance and Capacity Analytics records and tables) is given in SP400 Feature job statistics component data flow.

If the SP400 Feature accounting component is not installed, these reports can also guide you in deciding how much to charge users for the resources they have used.

OS/400 Job Statistics by User, Monthly Overview report

For a specific OS/400 system in the network, this report (see the figure below) provides monthly overview information about how much of the resources each user has used. The report is summarized by user name and produced by period name (for example, PRIME or NIGHT). A graphical representation of this report's "user name" and "CPU time" information is provided in OS/400 Job CPU Usage by User, Monthly Overview.

This information identifies the report:

Report ID
 OS400J01

Report group
 OS/400 Job Statistics Reports

Source table
 OS400_JOB_STAT_M (see "OS400_JOB_STAT_D, _M" on page 42)

Attributes
 OS400, Job, User, Monthly, Overview

Variables
 Month, Period name, OS400 system id,

```
            OS/400 Job Statistics by User, Monthly Overview
                     System: 'S44A0001'
                 Month: '2006-03-01'  Period: 'PRIME'


                      Elapsed      CPU
    User        Jobs      time     time       I/O     Trans
    name      (count)  (hours)  (hours)   (1000s)   (count)
    ----------  -------  --------  ---------  --------  -------
    AURELL            9      77.3       0.33        99     2836
    LENNART           2       1.9       0.00         1        0
    QPGMR             6       0.2       0.03        11        0
    QSECOFR           1       8.5       0.11        39      723
                =======  ========  =========  ========  =======
        Total        18      87.8       0.48       150     3559



            IBM Z Performance and Capacity Analytics Report: OS400J01
```

Figure 33. Example of OS/400 Job Statistics by User, Monthly Overview report

The report contains this information:

User name
 The user name.

Jobs (count)
 The number of jobs.

Elapsed time (hour)
 The total elapsed time. This is calculated as SUM(ELAPSED_SECONDS)/3600.

CPU time (hours)
 The processor time, in hours. This is calculated as SUM(CPU_SECONDS)/3600.

I/O (1000s)
 The total number of auxiliary I/O, in thousands. This is calculated as SUM(IO_COUNT)/1000.

Trans (count)
 The number of transactions.

OS/400 Job CPU Usage by User, Monthly Overview report

For a specific OS/400 system in the network, this graphical display (see the figure below) shows the processor utilization by a user, during a given month. The display is produced by period name (for

example, PRIME or NIGHT). The information used in this display is also included in the report OS/400 Job Statistics by User, Monthly Overview.

This information identifies the report:

Report ID
OS400J02

Report group
OS/400 Job Statistics Reports

Source table
OS400_JOB_STAT_M (see "OS400_JOB_STAT_D, _M" on page 42)

Chart format
DRLG4J02

Attributes
OS400, Job, User, CPU, Monthly, Overview

Variables
Month, Period name, OS400 system ID, MAXROWS

IBM i Job CPU Usage by User, Monthly Overview
System 'S44A0002'
Month: '2000-07-05' Period 'PRIME'
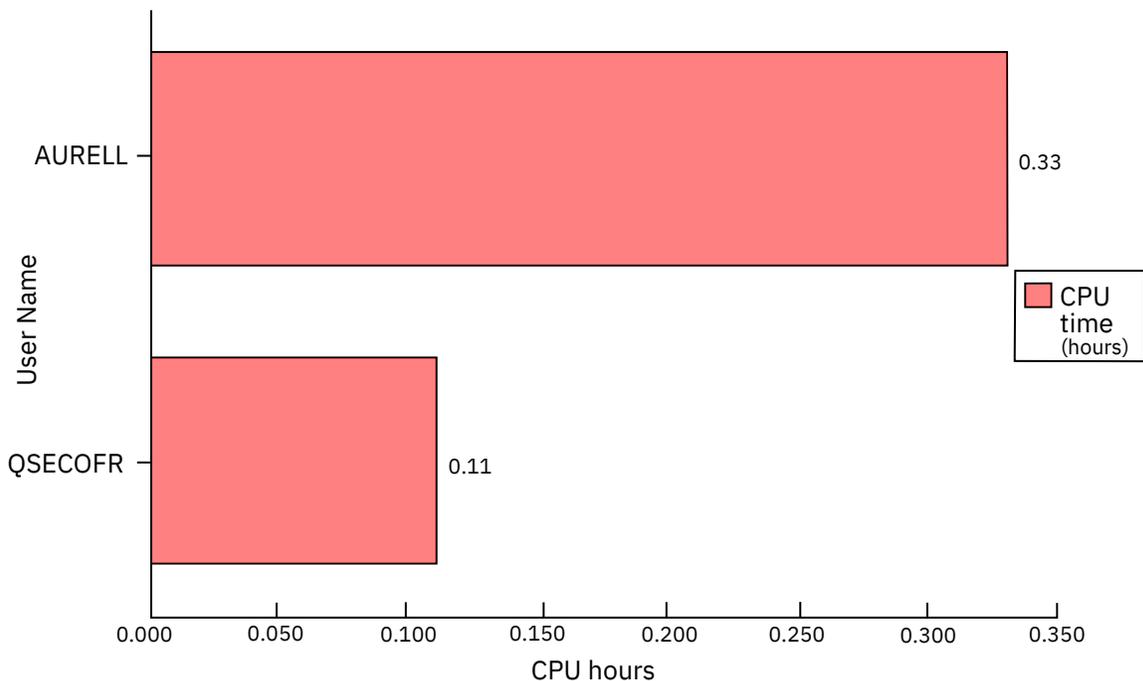
Figure 34. Example of OS/400 Job CPU Usage by User, Monthly Overview report

The report contains this information:

User name
The user name.

CPU Time (hours)
The processor time, in hours. This is calculated as SUM(CPU_SECONDS)/3600.

OS/400 Job Statistics All Systems, Daily Trend

For each OS/400 system in the network, this report (see the figure below) provides daily trend information about how much of the system resources are being used. The report is produced by period name (for example, PRIME or NIGHT). You might use the report (for example) to determine when batch

jobs can be scheduled. The same information over a monthly trend period, is provided in OS/400 Job Statistics all Systems, Monthly Trend.

This information identifies the report:

Report ID
OS400J03

Report group
OS/400 Job Statistics Reports

Source table
OS400_JOB_STAT_D (see "OS400_JOB_STAT_D, _M" on page 42)

Attributes
OS400, Job, Daily, Trend

Variables
From date, To date, Period name

```
              OS/400 Job statistics All Systems, Daily Trend
                    Date: '2006-03-01'  to  '2006-05-01'
                          Period: 'PRIME'


                                   Elapsed      CPU
   OS/400                    Jobs     time      time     I/O     Trans
   system ID  Date         (count)  (hours)   (hours)  (1000s)  (count)
   ---------  ----------   -------  --------  --------- -------- -------
   S44A0001   2006-03-10        11      85.8      0.45      139     3559
                           -------  --------  --------- -------- -------
                 Total           11      85.8      0.45      139     3559

   S44A0002   2006-03-10        19     162.9      3.42     1020    29029
                           -------  --------  --------- -------- -------
                 Total           19     162.9      3.42     1020    29029

                           =======  ========  ========= ======== =======
                 Total           30     248.7      3.87     1159    32588


              IBM Z Performance and Capacity Analytics Report: OS400J03
```

Figure 35. Example of OS/400 Job Statistics all Systems, Daily Trend report

The report contains this information:

Date
The date.

Jobs (count)
The number of jobs.

Elapsed time (hour)
The elapsed time, in hours. This is calculated as SUM(ELAPSED_SECONDS)/3600.

CPU time (hours)
The processor time, in hours. This is calculated as SUM(CPU_SECONDS)/3600.

I/O (1000s)
The total number of auxiliary I/Os, in thousands. This is calculated as SUM(IO_COUNT)/1000.

Trans (count)
The number of transactions.

OS/400 Job Statistics all Systems, Monthly Trend

For each OS/400 system in the network, this report (see the figure below) provides monthly trend information about how much of the system resources are being used. The report is summarized by OS/400 system. and is produced by period name (for example, PRIME or NIGHT). You might use the report to anticipate potential resource constraints (for example, if processor usage is increasing over the

time-period). The same information over a daily trend period is provided in OS/400 Job Statistics All Systems, Daily Trend.

This information identifies the report:

Report ID
　　OS400J04

Report group
　　OS/400 Job Statistics Reports

Source table
　　OS400_JOB_STAT_M (see "OS400_JOB_STAT_D, _M" on page 42)

Attributes
　　OS400, Job, Monthly, Trend

Variables
　　From month, To month, Period name

```
                  OS/400 Job Statistics all Systems, Monthly Trend
                      Month: '2006-03-01' to '2006-05-01'
                               Period: 'PRIME'


                                   Elapsed      CPU
      OS/400                  Jobs    time       time       I/O      Trans
    system ID  Month         (count) (hours)   (hours)    (1000s)   (count)
    ---------  ----------    ------- --------  ---------  --------   -------
    S44A0001   2006-03-01        11     85.8       0.45       139      3559
                              ------- --------  ---------  --------
                  Total          11     85.8       0.45       139

    S44A0002   2006-03-01        19    162.9       3.42      1020     29029
               2006-05-01        10     85.7       0.45       138      3559
                              ------- --------  ---------  --------
                  Total          29    248.6       3.87      1158


                              ======= ========  =========  ========
                  Total          40    334.4       4.32      1297


              IBM Z Performance and Capacity Analytics Report: OS400J04
```

Figure 36. Example of OS/400 Job Statistics all Systems, Monthly Trend report

The report contains this information:

OS/400 system ID
　　The system identification.

Month
　　The month.

Jobs (count)
　　The number of jobs.

Elapsed time (hour)
　　The elapsed time, in hours. This is calculated as SUM(ELAPSED_SECONDS)/3600.

CPU time (hours)
　　The processor time, in hours. This is calculated as SUM(CPU_SECONDS)/3600.

I/O (1000s)
　　The total number of auxiliary I/O, in thousands. This is calculated as SUM(IO_COUNT)/1000.

OS/400 Job Statistics for a User, Monthly Overview report

For a specific OS/400 system in the network, this report (see the figure below) provides monthly overview information about how much of the system resources a specific user has used. The report is produced by period name (for example, PRIME or NIGHT).

This information identifies the report:

Report ID
OS400J05

Report group
OS/400 Job Statistics Reports

Source table
OS400_JOB_STAT_M (see "OS400_JOB_STAT_D, _M" on page 42)

Attributes
OS400, Job, User, Type, Monthly, Overview

Variables
Month, Period name, OS400 system id, User name

```
                OS/400 Job Statistics for a User, Monthly Overview
                   System: 'S44A0001'  Month: '2006-03-01'
                      Period: 'PRIME'    User: 'AURELL'


                 Elapsed      CPU                              Total     Average
      Job    Jobs   time      time       I/O     Trans    response   response
      type  (count) (hours)  (hours)   (1000s)  (count)  (seconds)  (seconds)
      ----  ------- -------- --------- -------- ------- --------- ---------
      B        52     43.0      0.52      272        0         0      0.00
      I       106     34.3      0.33       99     2836      3159      1.11
            ======= ======== ========= ======== ======= =========
      Total   158     77.3      0.85      371     2836      3159


                IBM Z Performance and Capacity Analytics Report: OS400J05
```

Figure 37. Example of OS/400 Jobs Statistics for a User, Monthly Overview report

The report contains this information:

Job Type
The job type.

Jobs (count)
The number of jobs.

Elapsed time (hour)
The elapsed time, in hours. This is calculated as SUM(ELAPSED_SECONDS)/3600.

CPU time (hours)
The processor time, in hours. This is calculated as SUM(CPU_SECONDS)/3600.

I/O (1000s)
The total number of auxiliary I/Os, in thousands. This is calculated as SUM(IO_COUNT)/1000.

Trans (count)
The number of transactions.

Total resp (seconds)
The total response time, in seconds.

Average resp (seconds)
The average response time, in seconds. This is calculated as SUM(RESPONSE_SECONDS)/ SUM(TRANSACTIONS).

OS/400 Job Type Statistics, Monthly Overview report

For a specific OS/400 system in the network, this report (see the figure below) provides monthly overview information about how much resources have been used. The report is produced by period name (for example, PRIME or NIGHT). You might use this report to determine if resources can be re-allocated between processing types batch and online (by increasing or decreasing the main storage pool for a processing type).

This information identifies the report:

Report ID
OS400J06

Report group
OS/400 Job Statistics Reports

Source table
OS400_JOB_STAT_M (see "OS400_JOB_STAT_D, _M" on page 42)

Attributes
OS400, Job, Type, Monthly, Overview

Variables
Month, Period name, OS400 system ID

```
              OS/400 Job Type Statistics, Monthly Overview
                      System: 'S44A0004'
                  Month: '2006-03-01'  Period: 'PRIME'


            Elapsed      CPU
  Job   Jobs    time     time      I/O     Trans
  Type  (count) (hours)  (hours)   (1000s) (count)
  ----  ------- -------- --------- -------- -------
  B          12    45.0      0.04       12       0
  I           6    42.8      0.45      138    3559
            ======= ======== ========= ======== =======
  Total      18    87.8      0.48      150    3559


            IBM Z Performance and Capacity Analytics Report: OS400J06
```

Figure 38. Example of OS/400 Job Type Statistics, Monthly Overview report

The report contains this information:

Job Type
The job type.

Jobs (count)
The number of jobs.

Elapsed time (hours)
The elapsed time, in hours. This is calculated as SUM(ELAPSED_SECONDS)/3600.

CPU time (hours)
The processor time, in hours. This is calculated as SUM(CPU_SECONDS)/3600.

I/O (1000s)
The total number of auxiliary I/Os, in thousands. This is calculated as SUM(IO_COUNT)/1000.

Trans (count)
The number of transactions.

OS/400 Job Acct from History Log, Monthly Overview report

For a specific OS/400 system in the network, this report (see the figure below) provides monthly overview information about how much resources have been used by each account code. The report is produced by period name (for example, PRIME or NIGHT).

This information identifies the report:

Report ID
OS400J07

Report group
OS/400 Job Statistics Reports

Source table
OS400_JOB_STAT_M (see "OS400_JOB_STAT_D, _M" on page 42)

Attributes
OS400, Acct, Accounting, Job, Monthly, Overview

Variables
Month, Period name, OS400 system ID

```
            OS/400 Job Acct from History Log, Monthly Overview
                       System: 'S44A0003'
             Month: '2006-03-01'   Period: 'PRIME'


                                    CPU
    Account         User      Jobs      time        I/O
     code           name     (count)  (hours)     (1000s)
   ---------------  ---------- -------- --------- ---------
   999999999999999  AURELL         51      0.22        19
                    LENNART        19      0.01         8
                    QPGMR          67      0.35        11
                    QSECOFR        10      0.11        39
                               -------- --------- ---------
                      Total       147      0.69        77

                               ======== ========= =========
                      Total       147      0.69        77


             IBM Z Performance and Capacity Analytics Report: OS400J07
```

Figure 39. Example of OS/400 Job Acct from History Log, Monthly Overview report

The report contains this information:

Account code
The accounting code, taken from the account code lookup table.

User name
The user name.

Jobs (count)
The number of jobs.

CPU time (hours)
The total processor time, in hours. This is calculated as SUM(CPU_SECONDS)/3600.

I/O (count)
The total number of auxiliary I/O, in thousands. This is calculated as SUM(IO_COUNT)/1000.

Reports in the messages component

This section describes the following messages component reports:

- OS/400 Messages All Systems, Monthly Overview.
- OS/400 Messages Most Frequent, Daily Overview.
- OS/400 Messages Most Frequent, Monthly Overview.
- OS/400 Messages by Severity. Codes, Monthly Overview.
- OS/400 Messages for a User, Monthly Overview.
- OS/400 Messages by Type, Monthly Overview.
- OS/400 Messages by User Name, Monthly Overview.

The data flow for the messages component (including the names of OS/400 logs, IBM Z Performance and Capacity Analytics records and tables) is given in SP400 Feature messages component data flow.

OS/400 Messages All Systems, Monthly Overview report

For each OS/400 system in the network, this report (see the image below) provides monthly overview information about the messages generated. The report is produced by period name (for example, PRIME

or NIGHT). Although mainly reference information is given here, you may also use the report to check the amount of data being generated into the OS/400 history log.

This information identifies the report:

Report ID
  OS400M01

Report group
  OS/400 Messages Component Reports

Source table
  OS400_MSG_STAT_M (see "OS400_JOB_STAT_D, _M" on page 42)

Attributes
  OS400, Message, Monthly, Overview

Variables
  From month, To month, Period name

```
                OS/400 Messages all Systems, Monthly Overview
                     Month: '2006-03-01' to '2006-05-01'
                            Period: 'PRIME'


   OS/400                    Messages     Lines    Text bytes  Data bytes
 system ID   Month            (count)   (/message)  (/message)  (/message)
 ---------  ----------      ----------  ----------  ----------  ----------
 S44A0001   2006-03-01             77        2.79       94.01       81.29
                            ----------  ----------  ----------  ----------
            Total/average          77        2.79       94.01       81.29

 S44A0002   2006-03-01             77        2.87       98.61       92.49
            2006-05-01             68        2.72       94.19       71.51
                            ----------  ----------  ----------  ----------
            Total/average         145        2.80       96.40       82.00


                            ==========  ==========  ==========  ==========
            Total/average         222        2.79       95.60       81.76



              IBM Z Performance and Capacity Analytics Report: OS400M01
```

Figure 40. Example of OS/400 Messages All Systems, Monthly Overview report

The report contains this information:

OS/400 system ID
  The system identification.

Month
  The month.

Messages (count)
  The number of messages.

Lines (/message)
  The number of print lines per message. This is calculated as SUM(LINE_COUNT)/ SUM(MESSAGE_COUNT).

Text bytes (/message)
  The number of bytes of text per message. This is calculated as SUM(TEXT_BYTE_COUNT)/ SUM(MESSAGE_COUNT).

Data bytes (/message)
  The number of bytes of data per message. This is calculated as SUM(DATA_BYTE_COUNT)/ SUM(MESSAGE_COUNT).

OS/400 Messages Most Frequent, Daily Overview report

For a specific OS/400 system in the network, this report (see the figure below) provides daily overview information about the messages generated. The report is produced by period name (for example, PRIME

or NIGHT). You may use this report to identify potential problems within an application, since the message ID allows you to differentiate between errors caused by software applications, operational errors, and so on. A monthly summary of the information in this report is provided in OS/400 Messages Most Frequent, Monthly Overview.

This information identifies the report:

Report ID
OS400M02

Report group
OS/400 Messages Component Reports

Source table
OS400_MSG_STAT_D (see "OS400_MSG_STAT_D, _M" on page 43)

Attributes
OS400, Message, Daily, Overview

Variables
Date, Period name, OS400 system id, Maxrows

```
              OS/400 Messages Most Frequent, Daily Overview
                         System: 'S44A0001'
                  Date: '2006-10-13'  Period: 'PRIME'

     Message    Message     Messages     Messages
      file        ID        (count)        (%)
     --------   --------   ----------   ----------
     AMOMSGF    AMO8001           24        31.17
     QCPFMSG    CPF8B41           15        19.48
     QCPFMSG    CPF1164           11        14.29
     QCPFMSG    CPF590A            5         6.49
     QCPFMSG    CPF4058            4         5.19
     QCPFMSG    CPA4067            3         3.90
     QCPFMSG    CPC3722            3         3.90
     QCPFMSG    CPF1124            2         2.60
     QCPFMSG    CPF2758            2         2.60
     QCPFMSG    CPF1269            2         2.60


              IBM Z Performance and Capacity Analytics Report: OS400M02
```

Figure 41. Example of OS/400 Messages Most Frequent, Daily Overview report

The report contains this information:

Date
The date.

Message file
The name of the message file.

Message ID
The message identification.

Messages (count)
The number of messages.

Messages (%)
The percentage occurrence of a message.

OS/400 Messages Most Frequent, Monthly Overview report

For a specific OS/400 system in the network, this report (see the figure below) provides monthly overview information about the messages generated. The report is produced by period name (for example, PRIME or NIGHT). You can use this report to identify potential problems within an application since the message ID allows you to differentiate between errors caused by software applications, operational errors, and so on. For a daily summary of some of the information in this report, see OS/400 Messages Most Frequent, Daily Overview.

This information identifies the report:

Report ID
  OS400M03

Report group
  OS/400 Messages Component Reports

Source table
  OS400_MSG_STAT_M (see "OS400_MSG_STAT_D, _M" on page 43)

Attributes
  OS400, Message, Monthly, Overview

Variables
  Month, Period name, OS400 system id, Maxrows

```
                OS/400 Messages Most Frequent, Monthly Overview
                             System: 'S44A0001'
                    Month: '2006-10-01'  Period: 'PRIME '


     Message    Message    Messages    Messages   Text bytes  Data bytes
      file         ID       (count)       (%)      (/message)  (/message)
     --------   --------   ----------   ----------  ----------  ----------
     AMOMSGF    AMO8001         24        31.17       132.00       38.00
     QCPFMSG    CPF8B41         15        19.48        64.00       34.00
     QCPFMSG    CPF1164         11        14.29       132.00      251.00
     QCPFMSG    CPF590A          5         6.49        42.00       10.00
     QCPFMSG    CPF4058          4         5.19        45.00       46.00
     QCPFMSG    CPC3722          3         3.90        45.67      217.00
     QCPFMSG    CPA4067          3         3.90        58.00       40.00
     QCPFMSG    CPF1124          2         2.60       132.00      266.00
     QCPFMSG    CPF2758          2         2.60        39.00       10.00
     QCPFMSG    CPF1269          2         2.60       106.00       93.00



          IBM Z Performance and Capacity Analytics Report: OS400M03
```

Figure 42. Example of OS/400 Messages Most Frequent, Monthly Overview report

The report contains this information:

Message file
  The name of the message file.

Message ID
  The message identification.

Messages (count)
  The number of messages.

Messages (%)
  The percentage occurrence of a message.

Text bytes (/message)
  The number of bytes of text per message. This is calculated as SUM(TEXT_BYTE_COUNT)/
  SUM(MESSAGE_COUNT).

Data bytes (/message)
  The number of bytes of data per message. This is calculated as SUM(DATA_BYTE_COUNT)/
  SUM(MESSAGE_COUNT).

OS/400 Messages by Severity. Codes, Monthly Overview report

For a specific OS/400 system in the network, this report (see the figure belowm) provides monthly overview information about the severity codes of messages generated. The report is produced by period name (for example, PRIME or NIGHT). You can use this report and change the message filter to reduce the numbers of low severity messages that are sent to users.

This information identifies the report:

Report ID
OS400M04

Report group
OS/400 Messages Component Reports

Source table
OS400_MSG_STAT_M (see "OS400_MSG_STAT_D, _M" on page 43)

Attributes
OS400, Message, Code, Monthly, Overview

Variables
Month, Period name, OS400 system ID

```
              OS/400 Messages by Sev. Codes, Monthly Overview
                             System: 'S44A0001'
                     Month: '2006-03-01'   Period: 'PRIME'


   Messages
   severity        Messages      Messages
     code          (count)         (%)
   ----------     ----------    ----------
   00                     68         88.31
   40                      5          6.49
   99                      3          3.90
   30                      1          1.30


                   IBM Z Performance and Capacity Analytics Report: OS400M04
```

Figure 43. Example of OS/400 Messages by Sev. Codes, Monthly Overview report

The report contains this information:

Messages severity code
The message severity code.

Messages (count)
The number of messages.

Messages (%)
The percentage occurrence of a message.

OS/400 Messages for a User, Monthly Overview report

For a specific OS/400 system in the network, this report (see the figure below) provides monthly overview information about the messages generated for a system user. The report is produced by period name (for example, PRIME or NIGHT). You can use this report to identify problems caused by a user. The message ID allows you to differentiate between errors caused by software applications, operational errors, and so on.

This information identifies the report:

Report ID
OS400M05

Report group
OS/400 Messages Component Reports

Source tables
OS400_MSG_STAT_M, OS400_MSG_STAT_MV (View) (see "OS400_MSG_STAT_D, _M" on page 43 and "OS400_MSG_STAT_DV, _MV" on page 44 respectively)

Attributes
OS400, Message, User, Monthly, Overview

Variables
Month, Period name, OS400 system id, User, Maxrows

```
                  OS/400 Messages for  a User, Monthly Overview
                      System: 'S44A0001'  User: 'AURELL '
                       Month: 2006-03-01  Period: 'PRIME'


                                                       Message
         Message       Message      Messages     Messages      lines
           file          ID         (count)        (%)        (count)
         ----------    --------    ----------   ----------   ----------
         QCPFMSG       CPF1164             9        11.69           36
         QCPFMSG       CPF2240             1         1.30            3
         QCPFMSG       CPF4058             1         1.30            2


                   IBM Z Performance and Capacity Analytics Report: OS400M05
```

Figure 44. Example of OS/400 Messages for a User, Monthly Overview report

The report contains this information:

Message file
    The name of the message file.

Message ID
    The message identification.

Messages (count)
    The number of messages with the message ID.

Messages (%)
    The percentage of messages in the message file with the message ID.

Message lines (count)
    The number of message lines.

OS/400 Messages by Type, Monthly Overview report

For a specific OS/400 system in the network, this report (see the figure below) provides monthly overview information about the message types generated. The report is produced by period name (for example, PRIME or NIGHT). You can use this report, for example, to check if the system operator is spending too much time replying to inquiry messages.

This information identifies the report:

Report ID
    OS400M06

Report group
    OS/400 Messages Component Reports

Source table
    OS400_MSG_STAT_M (see "OS400_MSG_STAT_D, _M" on page 43)

Attributes
    OS400, Message, Type, Monthly, Overview

Variables
    Month, Period name, OS400 system ID

```
               OS/400 Messages by Type, Monthly Overview
                          System: 'S44A0001'
                    Month: '2006-03-01'   Period: 'PRIME'


   Message       Messages      Messages
    Type         (count)        (%)
   --------     ----------    ----------
   04                   63        81.82
   01                   14        18.18



               IBM Z Performance and Capacity Analytics Report: OS400M06
```

Figure 45. Example of OS/400 Messages by Type, Monthly Overview report

The report contains this information:

Message type
    The message type.

Messages (count)
    The number of messages.

Messages (%)
    The percentage of messages with the message type.

OS/400 Messages by User Name, Monthly Overview report

For a specific OS/400 system in the network, this report (see the figure below) provides monthly overview information about the messages generated by the system users. The report is produced by period name (for example, PRIME or NIGHT). You can use this report to identify problems caused by certain users (together with the information from OS/400 Messages for a User, Monthly Overview.

This information identifies the report:

Report ID
    OS400M07

Report group
    OS/400 Messages Component Reports

Source table
    OS400_MSG_STAT_M (see "OS400_MSG_STAT_D, _M" on page 43)

Attributes
    OS400, Message, User, Monthly, Overview

Variables
    Month, Period name, OS400 system id, Maxrows

```
               OS/400 Messages by User Name, Monthly Overview
                          System: 'S44A0001'
                    Month: '2006-03-01'   Period: 'PRIME'

                                          Message
   User          Messages      Messages    lines
   name          (count)        (%)       (count)
   ----------   ----------    ----------  ----------
   QSYS                 28        36.36          60
   SMA0400              24        31.17          72
   AURELL               11        14.29          41
   QSECOFR              10        12.99          25
   LENNART               4         5.19          17



               IBM Z Performance and Capacity Analytics Report: OS400M07
```

Figure 46. Example of OS/400 Messages by User Name, Monthly Overview report

The report contains this information:

User name
    The user name.

Messages (count)
    The number of messages.

Messages (%)
    The percentage occurrence of the message type.

Message lines (count)
    The number of message lines for this user.

Reports in the performance component

This section describes the following performance component reports:

- OS/400 Perf CPU and RTM Statistics, Hourly Trend.
- OS/400 Perf Exception and Lock Stat, Hourly Trend.
- OS/400 Perf Disk I/O Statistics, Hourly Trend.
- OS/400 Perf Disk Capacity Statistics, Hourly Trend.
- OS/400 Perf Disk Arm Movements, Hourly Trend.
- OS/400 Perf CPU and Trans by Job Group, Hourly Trend.
- OS/400 Perf CPU by Job Group, Hourly Trend.
- OS/400 Perf Paging Statistics, Hourly Trend.
- OS/400 Perf Storage Pool & Act Level, Hourly Trend.
- OS/400 Perf Transition Statistics, Hourly Trend.
- OS/400 Perf Max & Avg CPU Usage, Hourly Trend.
- OS/400 Perf CPU Usage all Systems, Daily Overview.
- OS/400 Perf Summary all Systems, Daily Overview.
- OS/400 Perf Summary for a System, Daily Trend.
- OS/400 Perf Summary for a System, Hourly Trend.

The data flow for the performance component (including the names of OS/400 logs, IBM Z Performance and Capacity Analytics records and tables) is given in SP400 Feature performance component data flow.

OS/400 Perf CPU and RTM Statistics, Hourly Trend report

For a specific OS/400 system in the network, this report (see the figure below) provides hourly trend information about the average and maximum percentage processor time used, and the percentage of transactions falling within five response time (RTM) brackets. You can use the report to determine the times of peak processor load, and (for interactive processing) how response time varies during the hourly periods, and how many users have bad response times.

```
              OS/400 Perf CPU and RTM Statistics, Hourly Trend
                   System: 'S44A0001'  Date: 2006-05-12


                                            Trans Trans Trans Trans Trans
           CPU1  CPU1  CPU2  CPU2  CPUH  CPUH  1st   2nd   3rd   4th   5th
           avg   max   avg   max   avg   max   RTM   RTM   RTM   RTM   RTM
    Hour   (%)   (%)   (%)   (%)   (%)   (%)   (%)   (%)   (%)   (%)   (%)
    ----  ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----
       9   25.5  59.2   0.0   0.0   3.3   5.8  78.1   9.5   4.5   1.5   6.5
      10   29.1  42.5   0.0   0.0   5.1   8.2  72.7   6.7   2.9   1.4  16.3
      11   22.8  40.2   0.0   0.0   5.3  10.2  66.5   2.7   7.6   4.3  18.9
      12   14.0  31.8   0.0   0.0   2.0   4.2  69.6   0.9   4.5   2.7  22.3
      13    6.8  12.4   0.0   0.0   1.5   3.7   0.0   0.0   0.0   0.0   0.0
      14    9.6  22.1   0.0   0.0   2.3   9.5   0.0   0.0   0.0   0.0   0.0
      15   27.1  58.9   0.0   0.0   4.6  12.2  57.1  21.4   7.1   7.1   7.1



              IBM Z Performance and Capacity Analytics Report: OS400P01
```

Figure 47. Example of OS/400 Perf CPU and RTM Statistics, Hourly Trend report

This information identifies the report:

Report ID
OS400P01

Report group
OS/400 Performance Component Reports

Source table
OS400_PM_SYS_H (see "OS400_PM_SYS_H, _D" on page 50)

Attributes
OS400, Performance, CPU, Utilization, Usage, Hourly, Trend

Variables
Date, OS400 system ID

The report contains this information:

Hour
The hour.

CPU1 avg (%)
The average percentage CPU1. This is calculated as CPU1_MILLISEC/MEASURED_SEC/10.

CPU1 max (%)
The maximum percentage CPU1.

CPU2 avg (%)
The average percentage CPU2. This is calculated as CPU2_MILLISEC/MEASURED_SEC/10.

CPU2 max (%)
The maximum percentage CPU2.

CPUH avg (%)
The average percentage CPUH. This is calculated as CPUH_MILLISEC/MEASURED_SEC/10.

CPUH max (%)
The maximum percentage CPUH.

Trans 1st RTM (%)
The percentage of transactions in the first RTM bracket. This is calculated as TRAN_RTM1_CNT*100/ (TRAN_RTM1_CNT + TRAN_RTM2_CNT + TRAN_RTM3_CNT + TRAN_RTM4_CNT + TRAN_RTM5_CNT).

Trans 2nd RTM (%)
The percentage of transactions in the second RTM bracket. This is calculated as TRAN_RTM2_CNT*100/ (TRAN_RTM1_CNT + TRAN_RTM2_CNT + TRAN_RTM3_CNT + TRAN_RTM4_CNT + TRAN_RTM5_CNT).

Trans 3rd RTM (%)
>The percentage of transactions in the third RTM bracket. This is calculated as TRAN_RTM3_CNT*100/ (TRAN_RTM1_CNT + TRAN_RTM2_CNT + TRAN_RTM3_CNT + TRAN_RTM4_CNT + TRAN_RTM5_CNT).

Trans 4th RTM (%)
>The percentage of transactions in the fourth RTM bracket. This is calculated as TRAN_RTM4_CNT*100/ (TRAN_RTM1_CNT + TRAN_RTM2_CNT + TRAN_RTM3_CNT + TRAN_RTM4_CNT + TRAN_RTM5_CNT).

Trans 5th RTM (%)
>The percentage of transactions in the fifth RTM bracket. This is calculated as TRAN_RTM5_CNT*100/ (TRAN_RTM1_CNT + TRAN_RTM2_CNT + TRAN_RTM3_CNT + TRAN_RTM4_CNT + TRAN_RTM5_CNT).

OS/400 Perf Exception and Lock Stat, Hourly Trend report

For a specific OS/400 system in the network, this report (see the figure below) provides hourly trend information about exceptions and locks on the system.

This information identifies the report:

Report ID
>OS400P02

Report group
>OS/400 Performance Component Reports

Source table
>OS400_PM_SYS_H (see "OS400_PM_SYS_H, _D" on page 50)

Attributes
>OS400, Performance, Exception, Lock, Hourly, Trend

Variables
>Date, OS400 system ID

```
              OS/400 Perf Exception and Lock Stat, Hourly Trend
                   System: 'S44A0001'   Date: 2006-05-12


         EXPNR     EAOLR     EAOTR     BSYCR     SEZCR     SIZCR     ASYLR     SYNLR
  Hour   (/sec)    (/sec)    (/sec)    (/sec)    (/sec)    (/sec)    (/sec)    (/sec)
  ----  --------  --------  --------  --------  --------  --------  --------  --------
   16     0.58      0.02      0.07      0.35      0.02      0.00      0.00      0.01
   17     0.58      0.03      0.16      0.08      0.01      0.00      0.00      0.01
   18     0.38      0.04      0.20      0.06      0.01      0.00      0.00      0.00



             IBM Z Performance and Capacity Analytics Report: OS400P02
```

Figure 48. Example of OS/400 Perf Exception and Lock Stat, Hourly Trend report

The report contains this information:

Hour
>The hour.

EXPNR (/second)
>The number of exceptions, per second. This is calculated as EXCEPTION_CNT/MEASURED_SEC.

EAOLR (/second)
>The number of effective address length overflow exceptions, per second. This is calculated as EADDR_LOFL_EXC_CNT/MEASURED_SEC.

EAOTR (/second)
>The number of effective address overflow exceptions, per second. This is calculated as EADDR_OFL_EXC_CNT/MEASURED_SEC.

BSYCR (/second)
The number of busy exceptions, per second. This is calculated as BUSY_EXC_CNT/MEASURED_SEC.

SEZCR (/second)
The number of seize wait exceptions, per second. This is calculated as SEIZE_WAIT_EXC_CNT/ MEASURED_SEC.

SIZCR (/second)
The number of size exceptions, per second. This is calculated as SIZE_EXC_CNT/MEASURED_SEC.

ASYLR (/second)
The number of asynchronous lock conflicts, per second. This is calculated as ASYNCH_LOCK_CNT/ MEASURED_SEC.

SYNLR (/second)
The number of synchronous lock conflicts, per second. This is calculated as SYNCH_LOCK_CNT/ MEASURED_SEC.

OS/400 Perf Disk I/O Statistics, Hourly Trend report

For a specific OS/400 system in the network, this report (see the figure below) provides hourly trend information about disk arm utilization. For guidelines on how to interpret this information, refer to the *IBM i Performance Tools/400 Guide.*

This information identifies the report:

Report ID
OS400P03

Report group
OS/400 Performance Component Reports

Source table
OS400_PM_DISK_H (see "OS400_PM_DISK_H, _D" on page 45)

Attributes
OS400, Performance, Disk, DASD, I/O, Hourly, Trend

Variables
Date, OS400 system ID

```
                    OS/400 Perf Disk I/O Statistics, Hourly Trend
                          System: 'S44A0001'   Date: 2006-05-12


                                Avg      Max     Avg     Max     Avg     Max     Avg     Max
                       Disk    Avg     Max   service service diskarm diskarm  queue   queue    IOP     IOP
               IOP     arm   access  access   time    time    util    util   length  length   util    util
     Hour   address  number (/sec)  (/sec)  (sec)   (sec)    (%)     (%)   (count) (count)   (%)     (%)
     ----   -------  ------  ------  ------  ------  ------  ------- ------- ------- ------- ------- -------
       9 02          0001     0.5     1.1    0.035   0.055    1.5     3.2     0.0     0.0     5.0     7.2
         02          0002     1.4     3.1    0.029   0.056    3.5     8.0     0.0     0.1     6.9    13.9
         02          0003     2.3     5.6    0.029   0.035    6.6    17.0     0.1     0.2    11.9    26.1
         02          0004     1.6     3.8    0.023   0.033    4.1    10.1     0.0     0.1     6.9    13.9
         02          0005     2.0     4.2    0.027   0.031    5.4    11.7     0.1     0.2     9.3    16.8
         02          0006     1.5     3.0    0.029   0.042    3.9     6.9     0.0     0.1     5.0     7.2
         02          0007     1.9     4.8    0.032   0.045    6.8    16.1     0.1     0.2    11.9    26.1
         02          0008     1.9     4.5    0.022   0.028    4.3    10.4     0.0     0.1     9.3    16.8

                                                                                                    *

      10 02          0001     0.6     1.3    0.035   0.056    2.1     5.1     0.0     0.1     6.3    15.4
         02          0002     2.2     4.0    0.027   0.034    5.7    11.5     0.1     0.1     9.0    12.1
         02          0003     3.1     6.9    0.030   0.039    9.5    20.5     0.1     0.2    16.3    28.5
         02          0004     1.8     3.0    0.028   0.038    5.2     8.7     0.1     0.1     9.0    12.1
         02          0005     1.8     2.7    0.028   0.038    5.1     9.5     0.1     0.1     9.5    14.6
         02          0006     1.9     5.7    0.025   0.032    4.9    13.8     0.1     0.2     6.3    15.5
         02          0007     2.6     4.3    0.033   0.041    8.4    13.0     0.1     0.2    16.3    28.5
         02          0008     2.0     3.2    0.025   0.033    5.2     9.8     0.1     0.1     9.5    14.6

                                                                                                    *

      11 02          0001     0.3     0.6    0.028   0.056    0.8     1.5     0.0     0.0     4.3     8.2
         02          0002     1.3     3.2    0.027   0.037    3.4     8.3     0.0     0.1     6.2    12.3
         02          0003     1.9     4.2    0.029   0.035    5.8    14.4     0.1     0.2    11.2    24.6
         02          0004     1.4     2.9    0.024   0.043    3.2     7.2     0.0     0.1     6.2    12.3
         02          0005     2.1     4.6    0.027   0.034    5.8    12.6     0.1     0.2    10.3    23.6
         02          0006     1.3     3.1    0.025   0.043    3.4     8.0     0.0     0.1     4.3     8.3
         02          0007     1.9     4.2    0.030   0.042    6.3    13.8     0.1     0.1    11.2    24.6
         02          0008     2.3     5.7    0.027   0.039    6.4    17.2     0.1     0.2    10.3    23.6

                                                                                                    *

                    IBM Z Performance and Capacity Analytics Report: OS400P03
```

Figure 49. Example of OS/400 Perf Disk I/O Statistics, Hourly Trend report

The report contains this information:

Hour
> The hour.

IOP address
> The IOP address.

Disk arm number
> The disk arm number.

Average access (/second)
> The average access time, per second. This is calculated as (READ_DATA_CMD_CNT +WRITE_DATA_CMD_ CNT)/MEASURED_SEC.

Maximum access (/second)
> The maximum access time, in seconds.

Average service time (seconds)
> The average service time, in seconds. This is calculated as ((SAMPLES_2PERSEC - ARM_NOTBUSY_CNT)/ SAMPLES_2PERSEC) / ((READ_DATA_CMD_CNT + WRITE_DATA_CMD_CNT) / MEASURED_SEC).

Maximum service time (seconds)
> The maximum service time, in seconds.

Average diskarm util (%)
> The average percentage disk arm utilization. This is calculated as (100*(SAMPLES_2PERSEC - ARM_NOTBUSY_CNT)/ SAMPLES_2PERSEC).

Maximum diskarm util (%)
The maximum percentage disk arm utilization.

Average queue length (count)
The average queue length. This is calculated as (QUEUE_ELEMENT_CNT/SAMPLES_2PERSEC).

Maximum queue length (count)
The maximum queue length.

Average IOP util (%)
The average percentage IOP utilization. This is calculated as (100*(MEASURED_SEC-((PROC_IDLELOOP_CNT/ SAMPLES* PROC_IDLELOOP_HMS)/100000000)/ MEASURED_SEC).

Maximum IOP util (%)
The maximum percentage IOP utilization.

OS/400 Perf Disk Capacity Statistics, Hourly Trend report

For a specific OS/400 system in the network, this report (see the figure below) provides hourly trend information about the amount of data on each disk. Normally, disk drive capacity will not vary (since disks are not usually added or removed during the day). However the available space will change as the result of files being restored or deleted.

This information identifies the report:

Report ID
OS400P04

Report group
OS/400 Performance Component Reports

Source table
OS400_PM_DISK_H (see "OS400_PM_DISK_H, _D" on page 45)

Attributes
OS400, Performance, Disk, DASD, Usage, Hourly, Trend

Variables
Date, OS400 system ID

```
                  OS/400 Perf Disk Capacity Statistics, Hourly Trend
                       System: 'S44A0001'  Date: 2006-05-12


                   Disk    Disk   Available   Drive   Permanent   Permanent
              IOP   arm    drive    space    capacity availspace  drivecap
        Hour address number type    (MB)      (MB)      (MB)       (MB)
        ---- ------- ------ -----  --------- -------- ---------- ---------
           9 02      0001   9332          0      191          0         0
             02      0002   9332         26      191          0         0
             02      0003   9332         26      191          0         0
             02      0004   9332         26      191          0         0
             02      0005   9332         26      191          0         0
             02      0006   9332         26      191          0         0
             02      0007   9332         26      191          0         0
             02      0008   9332         26      191          0         0

                                                                    *

          10 02      0001   9332          0      191          0         0
             02      0002   9332         24      191          0         0
             02      0003   9332         24      191          0         0
             02      0004   9332         24      191          0         0
             02      0005   9332         24      191          0         0
             02      0006   9332         24      191          0         0
             02      0007   9332         24      191          0         0
             02      0008   9332         24      191          0         0

                                                                    *

          11 02      0001   9332          0      191          0         0
             02      0002   9332         22      191          0         0
             02      0003   9332         22      191          0         0
             02      0004   9332         22      191          0         0
             02      0005   9332         22      191          0         0
             02      0006   9332         22      191          0         0
             02      0007   9332         22      191          0         0
             02      0008   9332         22      191          0         0

                                                                    *

                 IBM Z Performance and Capacity Analytics Report: OS400P04
```

Figure 50. Example of OS/400 Perf Disk Capacity Statistics, Hourly Trend report

The report contains this information:

Hour
The hour.

IOP address
The IOP address.

Disk arm number
The disk arm number.

Disk drive type
The disk drive type.

Available space (MB)
The drive available space, in megabytes. This is calculated as AVAILABLE_SPACE_MB/SAMPLES.

Drive capacity (MB)
The drive capacity, in megabytes. This is calculated as DRIVE_CAPACITY_MB/SAMPLES.

Permanent availspace (MB)
The permanent storage available, in megabytes. This is calculated as PERM_STOR_AVAIL_MB/
SAMPLES.

Permanent drivecap (MB)
The permanent storage capacity, in megabytes. This is calculated as PERM_STOR_CAP_MB/SAMPLES.

OS/400 Perf Disk Arm Movements, Hourly Trend report

For a specific OS/400 system in the network, this report (see the figure below) provides hourly trend information about the seek (disk arm) movements, total seeks, and the average seek service time. The disk arm movements are divided into six categories of seek movements: from zero seek movement, to seek movements greater than two-thirds of the disk space. For guidelines on how to interpret this information, refer to the *IBM i Performance Tools/400 Guide*.

This information identifies the report:

Report ID
OS400P05

Report group
OS/400 Performance Component Reports

Source table
OS400_PM_DISK_H (see "OS400_PM_DISK_H, _D" on page 45)

Attributes
OS400, Performance, Disk, DASD, Hourly, Trend

Variables
Date, OS400 system ID

```
                OS/400 Perf DISK Arm Movements, Hourly Trend
                  System: 'S44A0001'  Date: 2006-05-12

                                                         Average
         Disk  Disk  Zero Seeks Seeks Seeks Seeks Seeks            service
         arm   drive seek <1/12 < 1/6 < 1/3 < 2/3 > 2/3  Seeks     time
    Hour number type (%)  (%)   (%)   (%)   (%)   (%)   (count)  (seconds)
    ---- ------ ------ ---- ----- ----- ----- ----- ----- ------- ---------
      16 0001   2800    13   27    13     9    13    24    1753     0.023
         0002   2800    20   27    12    19    22     0    1126     0.020
         0003   2800    16   29    20    15    20     0    1019     0.020
         0004   2800    13   31    13    18    24     0     961     0.018

                                                           *

      17 0001   2800    20   25    12     6    19    18   12600     0.020
         0002   2800    22   25    11    18    24     0    9826     0.020
         0003   2800    19   27    16    20    18     0    9997     0.019
         0004   2800    17   28    14    17    24     0    9668     0.015

                                                           *

      18 0001   2800    18   27    12     6    16    21    8445     0.020
         0002   2800    21   27    11    18    22     0    6680     0.019
         0003   2800    22   25    15    21    17     0    7386     0.018
         0004   2800    21   26    14    16    23     0    7390     0.017

                                                           *

            IBM Z Performance and Capacity Analytics Report: OS400P05
```

Figure 51. Example of OS/400 Perf Disk Arm Movements, Hourly Trend report

The report contains this information:

Hour
The hour.

Disk arm number
The disk arm number.

Disk drive type
The disk drive type.

Zero seeks (%)
The percentage of zero seeks. This is calculated as SEEK_EQ_0_CNT*100/ (SEEK_GT_2_3_CNT +SEEK_GT_1_3_CNT+SEEK_GT_1_6_CNT + SEEK_GT_1_12_CNT+SEEK_LT_1_12_CNT +SEEK_EQ_0_CNT).

Seeks <1/12 (%)
The percentage of seeks less than 1/12. This is calculated as SEEK_LT_1_12_CNT*100/ (SEEK_GT_2_3_CNT+SEEK_GT_1_3_CNT+ SEEK_GT_1_6_CNT + SEEK_GT_1_12_CNT+ SEEK_LT_1_12_CNT+SEEK_EQ_0_CNT).

Seeks < 1/6 (%)
The percentage of seeks less than 1/6. This is calculated as SEEK_LT_1_6_CNT*100/ (SEEK_GT_2_3_CNT+SEEK_GT_1_3_CNT+ SEEK_GT_1_6_CNT + SEEK_GT_1_12_CNT +SEEK_LT_1_12_CNT+ SEEK_EQ_0_CNT).

Seeks < 1/3 (%)
The percentage of seeks less than 1/3. This is calculated as SEEK_LT_1_3_CNT*100/ (SEEK_GT_2_3_CNT+SEEK_GT_1_3_CNT+ SEEK_GT_1_6_CNT + SEEK_GT_1_12_CNT +SEEK_LT_1_12_CNT+ SEEK_EQ_0_CNT).

Seeks < 2/3 (%)
The percentage of seeks less than 2/3. This is calculated as SEEK_LT_2_3_CNT*100/ (SEEK_GT_2_3_CNT+SEEK_GT_1_3_CNT+ SEEK_GT_1_6_CNT + SEEK_GT_1_12_CNT +SEEK_LT_1_12_CNT+ SEEK_EQ_0_CNT).

Seeks > 2/3 (%)
The percentage of seeks greater than 2/3. This is calculated as SEEK_GT_2_3_CNT*100/ (SEEK_GT_2_3_CNT+SEEK_GT_1_3_CNT+ SEEK_GT_1_6_CNT + SEEK_GT_1_12_CNT +SEEK_LT_1_12_CNT+ SEEK_EQ_0_CNT).

Seeks (count)
The total number of seeks. (SEEK_GT_2_3_CNT+SEEK_GT_1_3_CNT+SEEK_GT_1_6_CNT+ SEEK_GT_1_12_CNT + SEEK_LT_1_12_CNT+SEEK_EQ_0_CNT).

OS/400 Perf CPU and Trans by Job Group, Hourly Trend report

For a specific OS/400 system in the network, this report (see the figure below) provides the following hourly trend information about job groups on the OS/400 system:

- Processor utilization
- Average and maximum response times
- Average and maximum transaction rates
- Total number of transactions

The information shows how the system is being used, and what type of jobs are being run over a specified time period. A graphical representation of the processor utilization for job groups, together with an explanation of job group types, are given in OS/400 Perf CPU by Job Group, Hourly Trend.

This information identifies the report:

Report ID
OS400P06

Report group
OS/400 Performance Component Reports

Source tables
OS400_PM_SYS_JGR_H, OS400_JOBGROUP (see "OS400_PM_SYS_JGR_H, _D" on page 57, and "OS400_JOBGROUP" on page 63 respectively)

Attributes
OS400, Performance, CPU, Transaction, Hourly, Trend

Variables
Date, OS400 system ID

```
            OS/400 Perf CPU and Trans by Job Group, Hourly Trend
                   System: 'S44A0001'   Date: 2006-05-12


                            Resp        Resp       Trans      Trans
                    CPU  CPU  time        time       rate       rate
              Job   Avg  Max   Avg         Max        Avg        Max     Trans
    Hour    group   (%)  (%) (seconds) (seconds) (/second) (/second) (count)
    ----    ------ ----- ---- --------- --------- --------- --------- -------
      16    A-PCS   1.3  5.1     1.6       3.7       0.2       0.5      142
            B-AUTO  0.0  0.0     0.0       0.0       0.0       0.0        0
            B-BTCH  2.6  2.6     0.0       0.0       0.0       0.0        0
            B-COMM  0.4  0.4     0.0       0.0       0.0       0.0        0
            B-CPF   0.2  0.2     0.0       0.0       0.0       0.0        0

                                                                        *

      17    A-PCS   2.9 13.1     1.2       4.7       0.3       0.7      248
            B-AUTO  0.1  1.2     0.0       0.0       0.0       0.0        0
            B-BTCH  3.1  6.1     0.0       0.0       0.0       0.0        0
            B-COMM  0.3  1.3     0.0       0.0       0.0       0.0        0
            B-CPF   0.1  0.3     0.0       0.0       0.0       0.0        0

                                                                        *

      18    A-PCS   2.4 13.9     2.8       6.6       0.1       0.3       67
            B-BTCH  2.6  3.4     0.0       0.0       0.0       0.0        0
            B-COMM  0.1  1.4     0.0       0.0       0.0       0.0        0
            B-CPF   0.0  0.3     0.0       0.0       0.0       0.0        0

                                                                        *


            IBM Z Performance and Capacity Analytics Report: OS400P06
```

Figure 52. Example of OS/400 Perf CPU and Trans by Job Group, Hourly Trend report

The report contains this information:

Hour
The hour.

Job group
The job group.

CPU Avg (%)
The average processor time used, as a percentage. This is calculated as CPU.MILLISEC/ MEASURED.SEC/10.

CPU Max (%)
The maximum processor time used, as a percentage.

Resp time Avg (seconds)
The average response time, in seconds. This is calculated as TRAN.MILLISEC/TRANSACTIONS.

Resp time Max (seconds)
The maximum response time, in seconds.

Trans rate Avg (/second)
The average transaction rate, in seconds. This is calculated as TRANSACTIONS/MEASURED.SEC.

Trans rate Max (/second)
The maximum number of transaction per seconds.

Trans (count)
The number of transactions.

OS/400 Perf CPU by Job Group, Hourly Trend report

For a specific OS/400 system in the network, this graphical display (see the figure below) shows the processor utilization by job group, over a specified time period. The information used in this display is also included in the report OS/400 Perf CPU and Trans by Job Group, Hourly Trend.

This information identifies the report:

Report ID
OS400P07

Report group
OS/400 Performance Component Reports

Source tables
OS400_PM_SYS_JGR_H, OS400_JOBGROUP (see "OS400_PM_SYS_JGR_H, _D" on page 57, and "OS400_JOBGROUP" on page 63 respectively)

Chart format
DRLG4P07

Attributes
OS400, Performance, CPU, Utilization, Hourly, Trend

Variables
Date, OS400 system ID

IBM i Perf CPU by job group, Hourly Trend
System: 'S44A001' Date: 2000-05-12
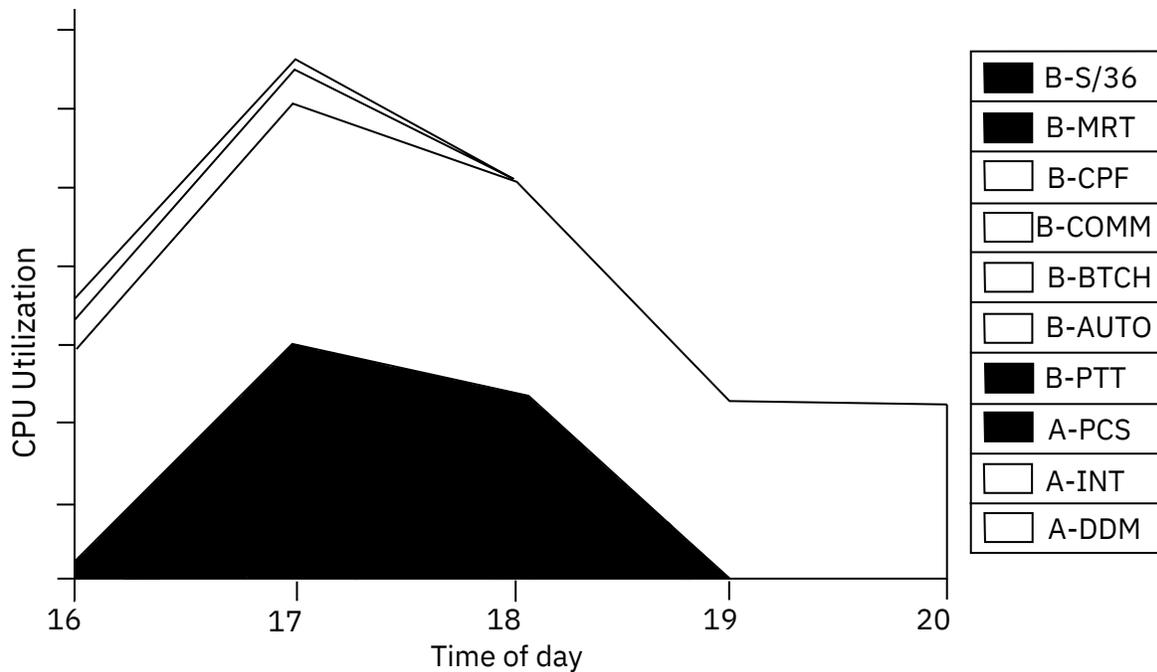
Figure 53. Example of OS/400 Perf CPU by Job Group, Hourly Trend report

The report contains this information:

Hour
The hour.

CPU Avg (%)
The average percentage processor time used. This is calculated as (CPU.MILLISEC/MEASURED.SEC/10).

Job group
The job group.

Explanation of job group types

Jobs are assigned to one of the job groups under the following circumstances:

B-S/36
A System/36™ job runs on the IBM i.

B-MRT
  A Multiple Terminal Request job is run.

B-CPF
  A Control Program Facility job (one that is "owned" by the OS/400 system) is run.

B-COMM
  A session is started between a workstation and an IBM i.

B-BTCH
  An OS/400 batch job is submitted.

B-AUTO
  A job is automatically started by a action on the system (for example, an IPL).

A-PCS
  A workstation supported function is started (for example, terminal emulation, shared folder, or virtual printer).

A-INT
  An interactive session is started.

A-DDM
  A Distributed Data Management job is started.

A-PTT
  A passthrough target job is started.

OS/400 Perf Paging Statistics, Hourly Trend report

For a specific OS/400 system in the network, this report (see the figure below) provides hourly trend information about the system paging. For each of the five main storage pools (operating system, base, interactive, batch, and spool), information is given about:

- Total number of faults

- Database and non-database fault rates (maximum and average)

- Database and non-database paging rates (maximum and average)

For guidelines on how to interpret this information, refer to the *IBM i Performance Tools/400 Guide*.

This information identifies the report:

Report ID
  OS400P08

Report group
  OS/400 Performance Component Reports

Source table
  OS400_PM_POOL_H (see)

Attributes
  OS400, Performance, Page, Paging, Hourly, Trend

Variables
  Date, OS400 system ID

```
                        OS/400 Perf Paging Statistics, Hourly Trend
                              System: 'S44A0001'  Date: 2006-05-12

                    Maximum   Average   Maximum   Average   Maximum   Average   Maximum   Average
                      db        db       nondb     nondb      db        db       nondb     nondb
          Pool  Faults  faults   faults   faults   faults  pg reads  pg reads  pg reads  pg reads
     Hour  nbr  (/second) (/second) (/second) (/second) (/second) (/second) (/second) (/second) (/second)
     ----  ----  --------- --------- --------- --------- --------- --------- --------- --------- ---------
       16  01      3.2       0.0       0.0       3.2       3.2       0.0       0.0       7.6       7.6
           02      7.2       0.5       0.5       6.7       6.7       0.9       0.9      29.0      29.0
           03      0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
           04      0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.1       0.1
           05      0.9       0.0       0.0       0.9       0.9       0.1       0.1       6.0       6.0

                                                                                          *

       17  01      0.9       0.0       0.0       2.3       0.9       0.0       0.0       5.6       2.7
           02      4.5       1.2       0.8       5.7       3.7       2.5       1.3      27.8      14.3
           03      0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
           04      1.5       0.2       0.0       4.9       1.4       2.7       0.4      29.8       7.2
           05      1.1       0.3       0.0       8.0       1.0       1.0       0.1      40.5       5.4

                                                                                          *

       18  01      0.6       0.0       0.0       2.6       0.6       0.0       0.0       5.9       1.5
           02      4.0       1.5       0.8       9.5       3.2       3.0       1.2      41.1      13.2
           03      0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
           04      1.1       0.2       0.0       5.5       1.0       1.4       0.2      34.2       6.2
           05      0.1       0.0       0.0       0.5       0.1       0.0       0.0       2.6       0.3

                             IBM Z Performance and Capacity Analytics Report: OS400P08
```

Figure 54. Example of OS/400 Perf Paging Statistics, Hourly Trend report

The report contains this information:

Hour
> The hour.

Pool nbr
> The pool number.

Faults (/second)
> The number of database faults, per second. This is calculated as DB_FAULT_SUM+NDB_FAULT_SUM/ MEASURED_SEC.

Maximum db faults (/second)
> The maximum number of database faults, per second.

Average db faults (/second)
> The average number of database faults, per second. This is calculated as DB_FAULT_SUM/ MEASURED_SEC.

Maximum nondb faults (/second)
> The maximum number of non-database faults, per second.

Average nondb faults (/second)
> The average number of non-database faults, per second. This is calculated as NDB_FAULT_SUM/ MEASURED_SEC.

Maximum db pg reads (/second)
> The maximum database page read rate, per second.

Average db pg reads (/second)
> The average database page read rate, per second. This is calculated as DBPG_READ_SUM/ MEASURED_SEC.

Maximum nondb pg reads (/second)
> The maximum non-database page read rate, per second.

Average nondb pg reads (/second)
> The average non-database page read rate, per second. This is calculated as NDBPG_READ_SUM/ MEASURED_SEC.

OS/400 Perf Storage Pool & Act Level, Hourly Trend report

For a specific OS/400 system in the network, this report (see the figure below) provides hourly trend information about the OS/400 storage pools. For each of the five main storage pools (operating system, base, interactive, batch, and spool), information is given about:

- Activity levels (maximum, average, minimum)
- Pool sizes (maximum, average, minimum)
- Reserved pool sizes (maximum, average, minimum)

For guidelines on how to interpret this information, refer to the *IBM i Performance Tools/400 Guide*.

This information identifies the report:

Report ID
OS400P09

Report group
OS/400 Performance Component Reports

Source table
OS400_PM_POOL_H (see "OS400_PM_POOL_H, _D" on page 49)

Attributes
OS400, Performance, Storage, Hourly, Trend

Variables
Date, OS400 system ID

```
                    OS/400 Perf Storage Pool & Act Level, Hourly Trend
                        System: 'S44A0001'   Date: 2006-05-12


               Maximum  Average  Minimum                              Maximum  Average  Minimum
               activity activity activity Maximum  Average  Minimum   reserved reserved reserved
          Pool level    level    level    poolsize poolsize poolsize  poolsize poolsize poolsize
    Hour  nbr  (count)  (count)  (count)  (KB)     (KB)     (KB)      (KB)     (KB)     (KB)
    ----  ---- -------- -------- -------- -------- -------- --------  -------- -------- --------
     16   01          0        0        0     3500     3500     3500      1828     1828     1828
          02          4        4        4     1112     1112     1112         0        0        0
          03          1        1        1       80       80       80         0        0        0
          04          4        4        4     3000     3000     3000         0        0        0
          05          5        5        5      500      500      500         0        0        0


                                                                                             *

     17   01          0        0        0     3500     3500     3500      1844     1830     1827
          02          4        4        4     1112     1112     1112         0        0        0
          03          1        1        1       80       80       80         0        0        0
          04          4        4        4     3000     3000     3000         0        0        0
          05          5        5        5      500      500      500         0        0        0


                                                                                             *

     18   01          0        0        0     3500     3500     3500      1839     1825     1817
          02          4        4        4     1112     1112     1112         0        0        0
          03          1        1        1       80       80       80         0        0        0
          04          4        4        4     3000     3000     3000         0        0        0
          05          5        5        5      500      500      500         0        0        0


                                                                                             *



                       IBM Z Performance and Capacity Analytics Report: OS400P09
```

Figure 55. Example of OS/400 Perf Storage Pool & Act Level, Hourly Trend report

The report contains this information:

Hour
The hour.

Pool nbr
The pool number.

Maximum activity level (count)
The number of maximum activity levels.

Average activity level (count)
The average number of maximum activity levels. This is calculated as ACT_LVL_SET_SUM/SAMPLES.

Minimum activity level (count)
The number of minimum activity levels.

Maximum poolsize (KB)
The maximum pool size, in kilobytes.

Average poolsize (KB)
The average pool size, in kilobytes. This is calculated as POOL_SIZE_SUM/SAMPLES.

Minimum poolsize (KB)
The minimum pool size, in kilobytes.

Maximum reserved poolsize (KB)
The maximum reserved pool size, in kilobytes.

Average reserved poolsize (KB)
The average reserved pool size, in kilobytes. This is calculated as POOL_SIZE_RSV_SUM/SAMPLES.

Minimum reserved poolsize (KB)
The minimum reserved pool size, in kilobytes.

OS/400 Perf Transition Statistics, Hourly Trend report

For a specific OS/400 system in the network, this report (see the figure below) provides hourly trend information about the activity that is taking place within each OS/400 storage pool. For each of the five main storage pools (operating system, base, interactive, batch, and spool), information is given about:

- Active-to-Wait (maximum and average)
- Wait-to-Ineligible (maximum and average)
- Active-to-Ineligible (maximum and average)

For guidelines on how to interpret this information, refer to the *IBM i Performance Tools/400 Guide*.

This information identifies the report:

Report ID
OS400P10

Report group
OS/400 Performance Component Reports

Source table
OS400_PM_POOL_H (see "OS400_PM_POOL_H, _D" on page 49)

Attributes
OS400, Performance, Transition, Hourly, Trend

Variables
Date, OS400 system ID

```
              OS/400 Perf Transition Statistics, Hourly Trend
                 System: 'S44A0001'  Date: 2006-05-12


             Maximum    Average    Maximum    Average    Maximum    Average
       Pool  A to W     A to W     W to I     W to I     A to I     A to I
  Hour nbr   (/second)  (/second)  (/second)  (/second)  (/second)  (/second)
  ---- ----  ---------  ---------  ---------  ---------  ---------  ---------
    16 01         0.1        0.1        0.0        0.0        0.0        0.0
       02         3.4        1.2        0.3        0.1        0.2        0.1
       03         0.0        0.0        0.0        0.0        0.0        0.0
       04         0.0        0.0        0.0        0.0        0.0        0.0
       05         2.0        1.0        0.2        0.1        0.0        0.0

                                                                       *

    17 01         0.2        0.1        0.0        0.0        0.0        0.0
       02         3.5        1.3        0.2        0.1        0.3        0.2
       03         0.0        0.0        0.0        0.0        0.0        0.0
       04         0.2        0.1        0.0        0.0        0.0        0.0
       05         1.0        0.9        0.0        0.0        0.0        0.0

                                                                       *

    18 01         2.1        1.1        0.1        0.1        0.5        0.2
       02         2.2        1.1        0.1        0.1        0.2        0.1
       03         0.0        0.0        0.0        0.0        0.0        0.0
       04         0.1        0.0        0.0        0.0        0.0        0.0
       05         1.0        0.9        0.0        0.0        0.0        0.0

                                                                       *


              IBM Z Performance and Capacity Analytics Report: OS400P10
```

Figure 56. Example of OS/400 Perf Transition Statistics, Hourly Trend report

The report contains this information:

Hour
　　The hour.

Pool nbr
　　The pool number.

Maximum A to W (/second)
　　The maximum active-to-wait transitions rate, in seconds.

Average A to W (/second)
　　The average active-to-wait transitions rate, in seconds. This is calculated as ACT_WAIT_SUM/
　　MEASURED_SEC.

Maximum W to I (/second)
　　The maximum wait-to-ineligible transitions rate, in seconds.

Average W to I (/second)
　　The average wait-to-ineligible transitions rate, in seconds. This is calculated as WAIT_INEL_SUM/
　　MEASURED_SEC.

Maximum A to I (/second)
　　The maximum active-to-ineligible transition rate, in seconds.

Average A to I (/second)
　　The average active-to-ineligible transition rate, in seconds. This is calculated as ACT_INEL_SUM/
　　MEASURED_SEC.

OS/400 Perf Max & Avg CPU Usage, Hourly Trend report

For a specific OS/400 system in the network, this graphical representation (see the figure below) shows
the hourly trend of processor utilization, over a specified time period. A graphical display of average
processor usage for all OS/400 systems in the network, is given in OS/400 Perf CPU Usage all Systems,
Daily Overview.

This information identifies the report:

Report ID
OS400P11

Report group
OS/400 Performance Component Reports

Source table
OS400_PERF_SUM_H (see "OS400_PERF_SUM_H, _D" on page 60)

Chart format
DRLG4P11

Attributes
OS400, Performance, CPU, Utilization, Hourly, Trend

Variables
Date, OS400 system ID

IBM i Perf Max & Avg. CPU Usage, Hourly Trend
System: 'S44A0001' Date: 2000-05-12
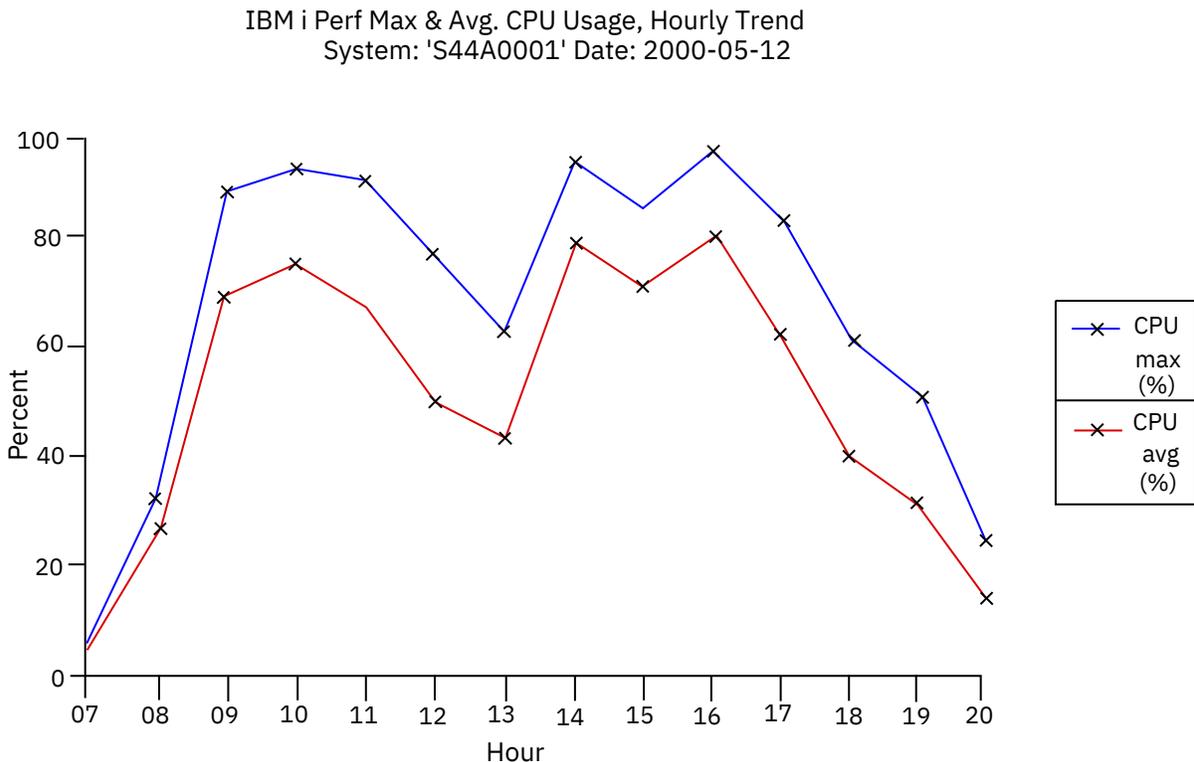
Figure 57. Example of OS/400 Perf Max & Avg CPU Usage, Hourly Trend report

The report contains this information:

Hour
The hour.

CPU Avg (%)
The average percentage processor usage. This is calculated as 100*CPU_SECONDS/MEASURED_SEC.

CPU Max (%)
The maximum percentage processor usage. This is calculated as
100*SAMPLES*CPU_SECONDS_MAX/ MEASURED_SEC.

OS/400 Perf CPU Usage all Systems, Daily Overview report

For all OS/400 systems in the network, this graphical representation (see the figure below) shows a daily overview of average processor utilization. Such information is useful as an entry point when investigating system performance. The display is produced by period name (for example, PRIME or NIGHT). If you

require an hourly graphical display of the processor utilization for a specific OS/400 system, you can proceed to the report OS/400 Perf Max & Avg CPU Usage, Hourly Trend.

This information identifies the report:

Report ID
OS400P12

Report group
OS/400 Performance Component Reports

Source table
OS400_PERF_SUM_D (see "OS400_PERF_SUM_H, _D" on page 60)

Chart format
DRLG4P12

Attributes
OS400, Performance, CPU, Utilization, Daily, Overview

Variables
Date, Period name
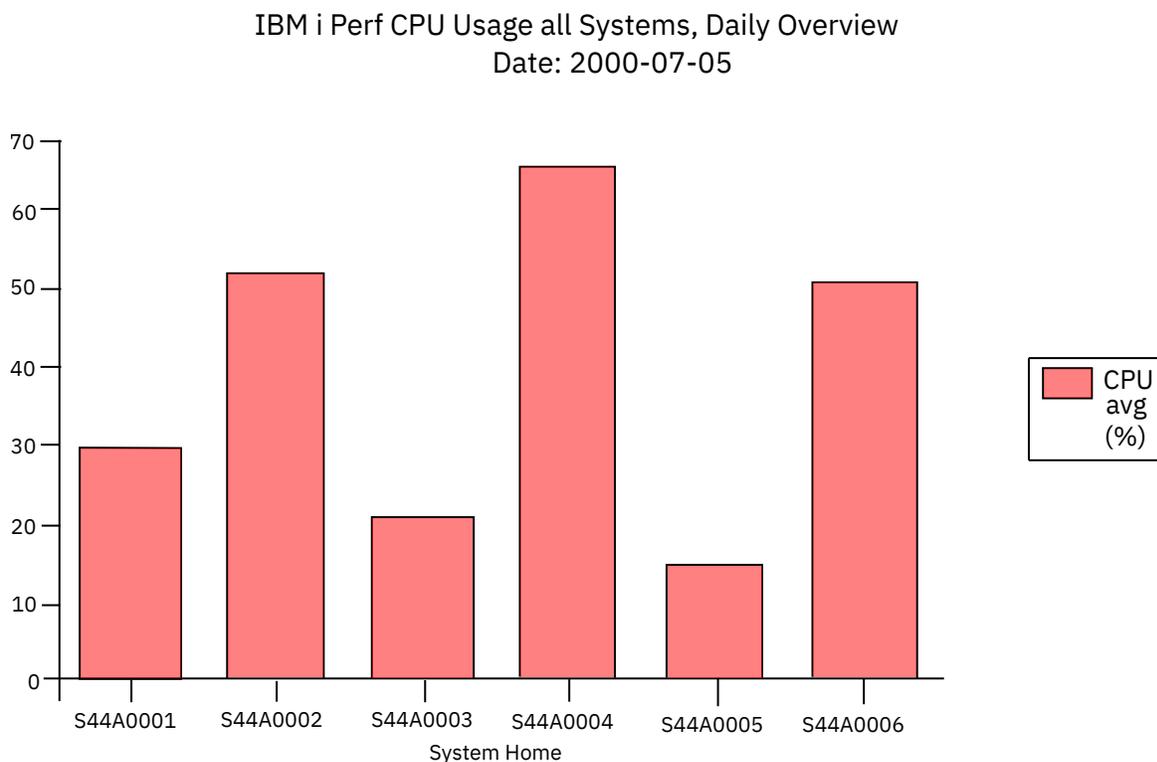
Figure 58. Example of OS/400 Perf CPU Usage all Systems, Daily Overview report

The report contains this information:

OS/400 system ID
The system identification.

CPU Avg (%)
The average percentage processor usage. This is calculated as 100*CPU_SECONDS/MEASURED_SEC.

OS/400 Perf Summary all Systems, Daily Overview report

For each OS/400 system in the network, this report (see the figure below) provides daily overview information about:

• Processor usage (average and maximum)

• The number of I/Os (average and maximum)

- The amount of paging per second (average and maximum)
- The average number of jobs
- The total auxiliary storage used
- The percentage of auxiliary storage used

The report is produced by period name (for example, PRIME or NIGHT). For guidelines on how to interpret this information, refer to the *IBM i Performance Tools/400 Guide*. If you require more detail about a specific OS/400 system, you can proceed to the report OS/400 Perf Summary for a System, Daily Trend.

This information identifies the report:

Report ID
OS400P13

Report group
OS/400 Performance Component Reports

Source table
OS400_PERF_SUM_D (see "OS400_PERF_SUM_H, _D" on page 60)

Attributes
OS400, Performance, Summary, Daily, Overview

Variables
Date, Period name

```
               OS/400 Perf Summary all Systems, Daily Overview
                   Date: 2006-03-10   Period: 'PRIME'


                                                        Total   Used
            CPU    CPU    I/O     I/O   Paging  Paging   Avg     aux    aux
  OS/400    avg    max    avg     max    avg     max    jobs   storage storage
 system ID  (%)    (%)  (/sec)  (/sec) (/sec)  (/sec)  (count)  (MB)    (%)
 --------- ----- ----- ------- ------- ------- ------- ------- ------- -------
 S44A0001   9.4  32.9     6.3    15.0    25.7    71.8    71.2    1221    66.8
 S44A0002  15.2  45.8    12.1    28.0    15.1    53.7   122.1    2012    52.3



               IBM Z Performance and Capacity Analytics Report: OS400P13
```

Figure 59. Example of OS/400 Perf Summary all Systems, Daily Overview report

The report contains this information:

OS/400 system ID
The system identification.

CPU Avg (%)
The average percentage processor usage. This is calculated as 100*CPU_SECONDS/MEASURED_SEC.

CPU Max (%)
The maximum percentage processor usage. This is calculated as 100*SAMPLES*CPU_SECONDS_MAX/MEASURED_SEC.

I/O Avg (/second)
The average number of I/O, per second. This is calculated as IO_COUNT/MEASURED_SEC.

I/O Max (/second)
The maximum number of I/O, per second. This is calculated as SAMPLES*IO_COUNT_MAX/MEASURED_SEC.

Paging Avg (/second)
The average number of pages per second. This is calculated as PAGE_COUNT/MEASURED_SEC.

Paging Max (/second)
The maximum number of pages per second. This is calculated as SAMPLES*PAGE_COUNT_MAX/MEASURED_SEC.

Avg Jobs (count)
> The average number of jobs. This is calculated as JOB_COUNT/SAMPLES.

Total AIX storage (MB)
> The total auxiliary storage, in megabytes. This is calculated as AUX_STOR_MB/SAMPLES.

Used AIX storage (%)
> The total used auxiliary storage, in megabytes. This is calculated as (100*(AUX_STOR_MB-AUX_STOR_ AVAIL_MB)/SAMPLES)/(AUX_STOR_MB/SAMPLES).

OS/400 Perf Summary for a System, Daily Trend report

For a specific OS/400 system in the network, this report (see the figure below) provides daily trend information about:

- Processor usage (average and maximum)
- The number of I/Os (average and maximum)
- The amount of paging per second (average and maximum)
- The average number of jobs
- The total auxiliary storage used
- The percentage of auxiliary storage used

The report is produced by period name (for example, PRIME or NIGHT). For guidelines on how to interpret this information, refer to the *IBM i Performance Tools/400 Guide.* If you require hourly trend information about a specific OS/400 system, you can proceed to the report OS/400 Perf Summary for a System, Hourly Trend.

This information identifies the report:

Report ID
> OS400P14

Report group
> OS/400 Performance Component Reports

Source table
> OS400_PERF_SUM_D (see "OS400_PERF_SUM_H, _D" on page 60)

Attributes
> OS400, Performance, Summary, Daily, Trend

Variables
> From date, To date, Period name, OS400 system ID

```
                OS/400 Perf Summary for A System, Daily Trend
           System: 'S44A0001'  Date: '2006-03-01' to '2006-05-01'
                          Period: 'PRIME'


                                                     Total   Used
                CPU   CPU  I/O    I/O  Paging Paging  Avg    aux    aux
                avg   max  avg    max   avg    max   jobs  storage storage
   Date         (%)   (%) (/sec) (/sec) (/sec) (/sec) (count) (MB)    (%)
   ---------- ----- ----- ------ ------ ------ ------ ------- ------- -------
   2006-03-10   9.4  32.9    6.0   15.0   25.3   71.8    71.1    1221    66.8
   2006-05-10   9.4  32.9    6.0   15.0   25.3   71.8    71.1    1221    66.8


                IBM Z Performance and Capacity Analytics Report: OS400P14
```
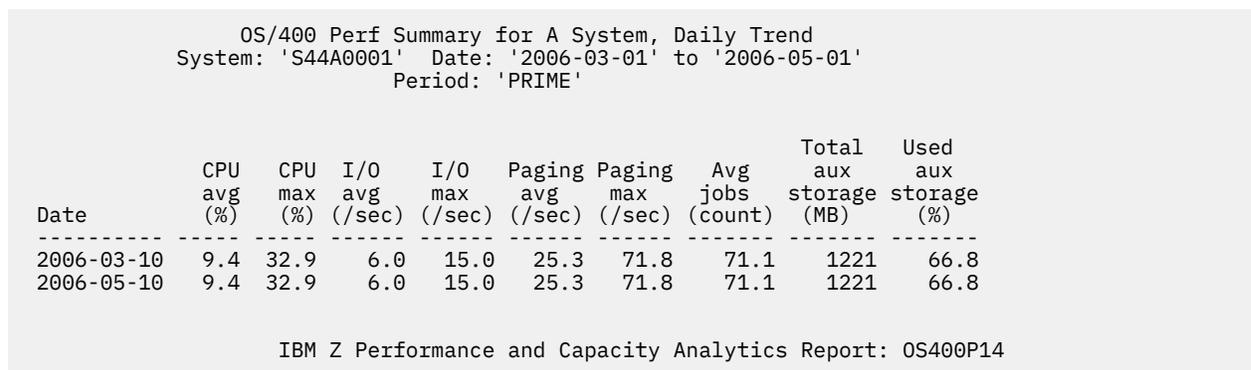
Figure 60. Example of OS/400 Perf Summary for a System, Daily Trend report

The report contains this information:

CPU Avg (%)
> The average percentage processor usage. This is calculated as 100*CPU_SECONDS/MEASURED_SEC.

CPU Max (%)
The maximum percentage processor usage. This is calculated as
100*SAMPLES*CPU_SECONDS_MAX/MEASURED_SEC.

I/O Avg (/second)
The average number of I/O, per second. This is calculated as IO_COUNT/MEASURED_SEC.

I/O Max (/second)
The maximum number of I/O, per second. This is calculated as SAMPLES*IO_COUNT_MAX/
MEASURED_SEC.

Paging Avg (/second)
The average number of pages per second. This is calculated as PAGE_COUNT/MEASURED_SEC.

Paging Max (/second)
The maximum number of pages per second. This is calculated as SAMPLES*PAGE_COUNT_MAX/
MEASURED_SEC.

Avg Jobs (count)
The average number of jobs. This is calculated as JOB_COUNT/SAMPLES.

Total Aux storage (MB)
The total auxiliary storage, in megabytes. This is calculated as AUX_STOR_MB/SAMPLES.

Used Aux storage (%)
The total used auxiliary storage, in megabytes. This is calculated as (100*(AUX_STOR_MB-
AUX_STOR_ AVAIL_MB)/SAMPLES)/(AUX_STOR_MB/SAMPLES).

OS/400 Perf Summary for a System, Hourly Trend report

For a specific OS/400 system in the network, this report (see the figure below) provides hourly trend information about:

- Processor usage (average and maximum)
- The number of I/Os (average and maximum)
- The amount of paging per second (average and maximum)
- The average number of jobs
- The total auxiliary storage used
- The percentage of auxiliary storage used

The report is produced by period name (for example, PRIME or NIGHT). For guidelines on how to interpret this information, refer to the *IBM i Performance Tools/400 Guide*.

This information identifies the report:

Report ID
OS400P15

Report group
OS/400 Performance Component Reports

Source table
OS400_PERF_SUM_H (see "OS400_PERF_SUM_H, _D" on page 60)

Attributes
OS400, Performance, Summary, Hourly, Trend

Variables
Date, OS400 system ID

```
                OS/400 Perf Summary for a System, Hourly Trend
                     System: 'S44A0001' Date: '2006-03-10'


                                                        Total    Used
           CPU   CPU   I/O    I/O   Paging  Paging  Avg   Aux     Aux
           Avg   Max   Avg    Max    Avg     Max   Jobs storage storage
     Hour   (%)   (%) (/sec) (/sec) (/sec)  (/sec) (count) (MB)   (%)
     ----  ----- ----- ------ ------ ------- ------- ------- ------- -------
       14  13.0  13.1    6.7    6.7    27.3    27.3   72.0    1221    67.2
       15  14.9  32.9    9.1   15.0    38.8    71.8   72.4    1221    67.0
       16   3.6   8.2    3.4   12.2    12.6    43.0   70.0    1221    66.6
       17   0.6   2.0    0.4    3.2     1.5    11.8   64.0    1221    66.4
       18   0.4   0.8    0.1    0.5     0.5     2.2   64.0    1221    66.4
       19   0.4   1.0    0.1    0.6     0.4     2.3   64.0    1221    66.4
       20   0.4   0.8    0.1    0.5     0.3     2.2   64.0    1221    66.4
       21   0.4   1.0    0.1    0.5     0.4     2.3   64.0    1221    66.4
       22   6.5  30.8    5.2   25.6    20.2    98.3   64.1    1221    66.7



             IBM Z Performance and Capacity Analytics Report: OS400P15
```

Figure 61. Example of OS/400 Perf Summary for a System, Hourly Trend report

The report contains this information:

Hour
   The hour.

CPU Avg (%)
   The average percentage processor usage. This is calculated as 100*CPU_SECONDS/MEASURED_SEC.

CPU Max (%)
   The maximum percentage processor usage. This is calculated as
   100*SAMPLES*CPU_SECONDS_MAX/ MEASURED_SEC.

I/O Avg (/second)
   The average number of I/O, per second. This is calculated as IO_COUNT/MEASURED_SEC.

I/O Max (/second)
   The maximum number of I/O, per second. This is calculated as SAMPLES*IO_COUNT_MAX/
   MEASURED_SEC.

Paging Avg (/second)
   The average number of pages per second. This is calculated as PAGE_COUNT/MEASURED_SEC.

Paging Max (/second)
   The maximum number of pages per second. This is calculated as SAMPLES*PAGE_COUNT_MAX/
   MEASURED_SEC.

Avg Jobs (count)
   The average number of jobs. This is calculated as JOB_COUNT/SAMPLES.

Total Aux storage (MB)
   The total auxiliary storage, in megabytes. This is calculated as AUX_STOR_MB/SAMPLES.

Used Aux storage (%)
   The total used auxiliary storage, in megabytes. This is calculated as (100*(AUX_STOR_MB-
   AUX_STOR_AVAIL_ MB)/SAMPLES)/(AUX_STOR_MB/SAMPLES).

Chapter 8. OS/400 system commands

This chapter explains how to read and understand the syntax diagrams that are used to describe the OS/400 commands. The same syntax is used to describe the following commands:

- Chapter 9, "SP400 Feature commands," on page 115
- Chapter 10, "INZTAP (Initialize Tape) command," on page 123

How to read syntax diagrams

Syntax diagrams graphically illustrate the coding options available for commands and their parameters. These diagrams give you a quick visual method for determining whether:

- An element is a required, optional, or default element.
- A word or value is repeatable.
- An element is a constant or a variable.

The lines and arrows in a diagram symbolize the way these elements are combined to form a valid function or statement.

Reading syntax diagrams

The syntax diagrams start with double arrowheads on the left (>>) and move along the main line until you end with two arrowheads facing each other (><). To use a syntax diagram, follow any path from left to right. When you reach the end of a line (>), go to the beginning of the next line (>), if there is one. For whatever path you choose, code every item that is on the path. All spaces, commas, and other characters are significant.

Abbreviating keywords

In a syntax diagram, keywords are all or partly in uppercase. Where an abbreviation is possible, the abbreviation is shown in uppercase and the rest of the keyword is shown in lowercase. Variable values that you provide are shown in *italics*.

▶▶─ SEnd *'message text'* ─▶◀

The previous diagram shows that you can code the SEND command in either of the following ways:

```
SE 'message text'
SEND 'message text'
```

Parameters

The following are types of parameters used in syntax diagrams:

Parameter
  Description

Required
  Required parameters are displayed on the main path.

Optional
  Optional parameters are displayed below the main path.

Default
Default parameters are displayed above the main path.

Parameters are classified as keywords or variables. Keywords are displayed in uppercase letters and can be typed in uppercase or lowercase. For example, a command is a keyword.

Variables are italicized, are displayed in lowercase letters, and represent names or values you supply. For example, a file name is a variable.

In the following example, NSASOLCT is a command, the variable parameter is *ncp_name*, the keyword is CLOCK, and CLOCK's variable is *time*. You replace the variables with your own values.

```
►►─ NSASOLCT  ncp_name ──┬──────────────────┬──►◄
                         └─ ,CLOCK=  time ──┘
```
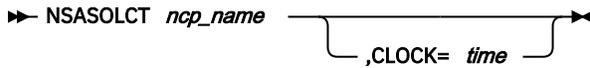
Required parameters

A stack of parameters with the first parameter on the main path means that you must choose only one from the stack.

In the following example, the choice of required parameters are LU, GROUP, CDRM, or APPL.

```
►►─ SESSCOLL ──┬── LU=  luname ───┬──►◄
               ├── GROUP=  gname ─┤
               ├── CDRM=  cname ──┤
               └── APPL=  applname ┘
```
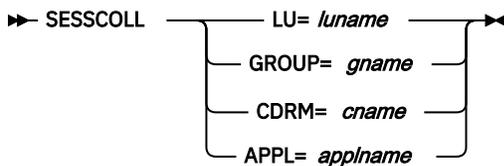
Default and optional parameters

Items shown above the main line are defaults. Items shown below the main line are optional.

```
                    ┌──── ,HOST=LOCAL ────┐
►►─ SEnd 'message text' ──┼──────────────────┼──►◄
                    └── ,HOST=  hostname ──┘
```
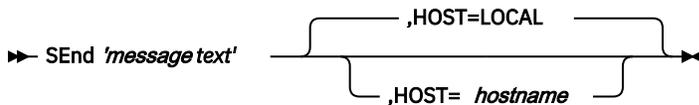
The previous diagram shows that if you do not specify a host, HOST=LOCAL is used. To send a message to a different host, for example NYC, code the SEND command as follows:

```
SEND 'message text',HOST=NYC
```

Repeating parameters

Items that can be repeated are shown as follows:

```
              ┌──── , ◄────┐
►►─ CRITERIA ─┴── 'expression' ──┴──►◄
```
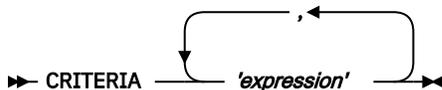
The previous diagram shows that the following are all valid ways of coding the CRITERIA statement:

```
CRITERIA
CRITERIA 'expression'
CRITERIA 'expression1','expression2'
CRITERIA 'expression1','expression2','expression3'
CRITERIA 'expression1','expression2','expression3','expression4'
```

and so on.

Reading fragments

Syntax diagrams can contain fragments. A fragment is indicated by vertical bars with the name of the fragment between the bars. The fragment comes after the main diagram, as shown in the following example.

▶▶─ SEnd *'message text'* ──│ Route │─▶◀

Route:

```
                    ,ROUTE=GLOBAL
▶▶──┬──────────────────────────────────┬──▶◀
    └─ ,ROUTE= ──┬── ALL ──────┬────────┘
                 ├── CONSOLE ───┤
                 └── EXTERNAL ──┘
```
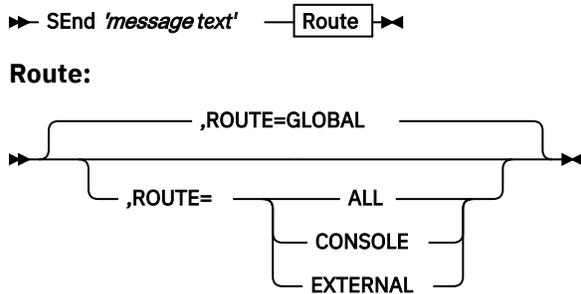
The previous diagram shows that the following are all valid ways of coding the SEND command:

```
SE 'message text'
SE 'message text',ROUTE=GLOBAL
SE 'message text',ROUTE=ALL
SE 'message text',ROUTE=CONSOLE
SE 'message text',ROUTE=EXTERNAL
```

Long syntax diagrams

When more than one row is needed for a syntax diagram, the continued line ends with a single arrowhead (>) and following line begins with a single arrowhead (>), as shown in the following example.

```
                    DATES=(50-01-01,49-12-31)
▶▶─ SELECT ──┬────────────────────────────────────┬──▶
             └─ DATES=( ──┬── start ──────┬── ) ───┘
                          ├── start ,end ─┤
                          └── ,end ───────┘

              ,TIMES=(00:00:00,24:00:00)         ,DAILY=Yes
▶──┬────────────────────────────────────┬──┬──────────────┬──▶◀
   └─ ,TIMES=( ──┬── start ──────┬── ) ──┘  └─ ,DAILY=No ──┘
                 ├── start ,end ─┤
                 └── ,end ───────┘
```
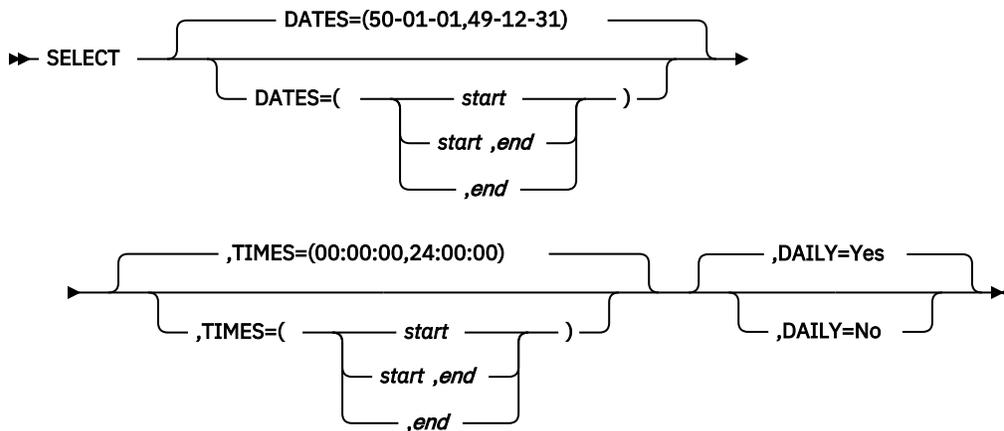
Chapter 9. SP400 Feature commands

The following commands can be used with IBM Z Performance and Capacity Analytics. Instructions on how to interpret the syntax of these commands can be found in How to read syntax diagrams.

SAVSPDTA (Save SP400 Data) command
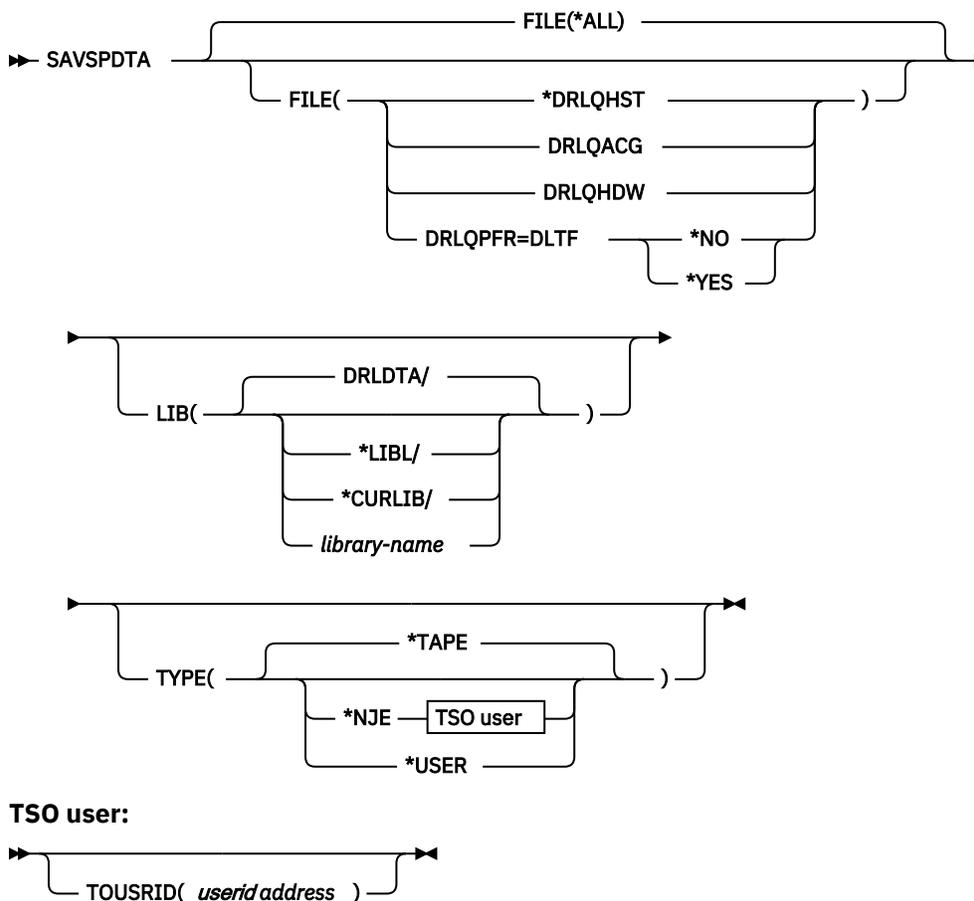
Note: All parameters preceding MBR can be specified in positional form.

Purpose

The Save SP400 Data (SAVSPDTA) command saves the data captured with the Start SP400 Data Capturing (STRSP400) command and provides the file transfer of this data from the IBM i system to the z/OS host system, where the data collecting will take place.

Optional Parameters

FILE
> Specifies the data to be saved and transferred.

> ***ALL**
>> The following database files in the library specified in the LIB parameter will be saved and will be candidates for the file transfer: DRLQHST, DRLQACG, DRLQHDW, DRLQSYS, DRLQDSK, and DRLQPOL.

DRLQHST

The DRLQHST database file, filled in with history logged data captured with the STRSP400 FILE(DRLQHST) command, is selected for the file transfer.

DRLQACG

The DRLQACG database file, filled in with job accounting data captured with the STRSP400 FILE(DRLQACG) command, is selected for the file transfer.

DRLQHDW

The DRLQHDW database file, filled in with system resource data captured with the STRSP400 FILE(DRLQHDW) command, is selected for the file transfer.

DRLQPFR

The DRLQSYS, DRLQDSK, and DRLQPOL database files are saved with the contents of the QAPMSYS, QAPMDISK, and QAPMPOOL system-supplied database files captured with the STRSP400 FILE(DRLQPFR) command, and are candidates for the file transfer.

DLTF

DRLQPFR has an additional parameter, DLTF (delete performance files). The default value is *NO, which means that the unused performance files are not deleted from the data library. If you specify a value of *YES, the unused performance files are deleted from the data library.

LIB

Specifies the library containing the files being saved and transferred. It has to be the same library where the files have been captured with the STRSP400 command.

DRLDTA

The DRLDTA library, delivered with the product, is searched for the files being saved and transferred.

*LIBL

All libraries in the job's library list are searched until the first match is found.

*CURLIB

The current library for the job is searched.

library-name

Specify the name of the library to be searched.

TYPE

Specifies the file transfer method to transfer the saved files to the z/OS host side.

*TAPE

The saved files are transferred to tape.

*NJE

The saved files are transferred through Network Job Entry. The selected database files will be sent to the TSO user at the host site specified in the TOUSRID parameter.

*USER

The saved files are sent with a file transfer method other than *TAPE or *NJE. When you use the *USER value, you must have created a user exit program and a data area. The user exit program must reside in a library of the library list. It must define two parameters: LIBRARY and FILE, since it will be called from the SP400 Feature with the different qualified file names selected for transferring. The user data area must have the name DRLDTA/USERDTAARA and the program name must reside in the first 10 characters of the user data area. However, executing the SAVSPDTA command the first time with *USER will create the DRLDTA/USERDTAARA. Since it is blank, the program name must be added.

TOUSRID

This parameter is only prompted when *NJE is selected for TYPE parameter. Specify the userid and address of the TSO user to which the data is being sent.

Examples

```
SAVSPDTA FILE(DRLQPFR) TYPE(*NJE) TOUSRID(user-id system-name)
```

This command saves the performance files captured with the STRSP400 FILE(DRLQPFR) command into the database files DRLQSYS, DRLQDSK, and DRLQPOL in the DRLDTA library delivered with the product. The command then sends them through the network to the TSO user *user-id* at *system-name*.

```
SAVSPDTA FILE(DRLQHST) LIB(MYLIB) DEV(TAP01)
```

This command transfers the DRLQHST database file of the MYLIB library, captured with the STRSP400 FILE(DRLQHST) command, to the tape TAP01. The database file can later be transferred from tape to the host z/OS system, where the collecting will take place.

STRCSSRV (Start Collections Services) command

▶▶─ STRCSSRV ──┬─────────────────────────────────────┬──▶◀
              │   ┌─ *START [Options] ─┐   │
              └─ TYPE(──┴──── *END ──────────┴─)────┘

Options:

▶▶─┬──────────────────────────────────────┬──▶
   │   ┌─ 15 ───────┐   │
   └─ INTERVAL(──┴─ *num-of-minutes* ─┴─) ┘
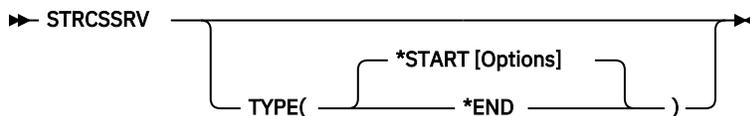
▶─┬──────────────────────────────────────┬──▶◀
  │   ┌─ 0 ──────────┐   │
  └─ RETENTION(──┴─ *retention-hours* ─┴─) ┘
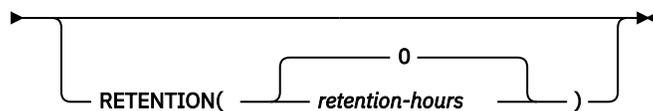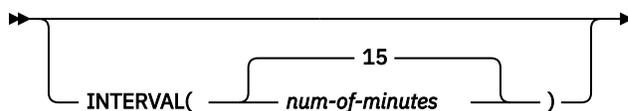
Purpose

The Start Collection Services (STRCSSRV) command starts and ends Collection Services to create collections of performance data.

Optional Parameters

TYPE
Determines the action to perform. Possible values are:

*START
Runs QYPSCSCA and QYPSSTRC APIs to change the*PFR system collector attribute and Start *PFR collector by using information from the INTERVAL and RETENTION parameters.

*END
Runs QYPSENDC API and ends *PFR collector.

INTERVAL
This parameter is only prompted for the *START value of the TYPE parameter. It is specified in minutes and can be 1, 5, 15, 30, or 60. The default value is 15 minutes.

RETENTION
This parameter is only prompted for the *START value of the TYPE parameter. The retention period is used to determine how long the collection data is to exist. Collection data older than the retention period is deleted. The retention period is specified in hours. You can specify a value from 1 to 720, or the following special value:

0
Permanent.

STRSPSRV (Start SP400 Server) command
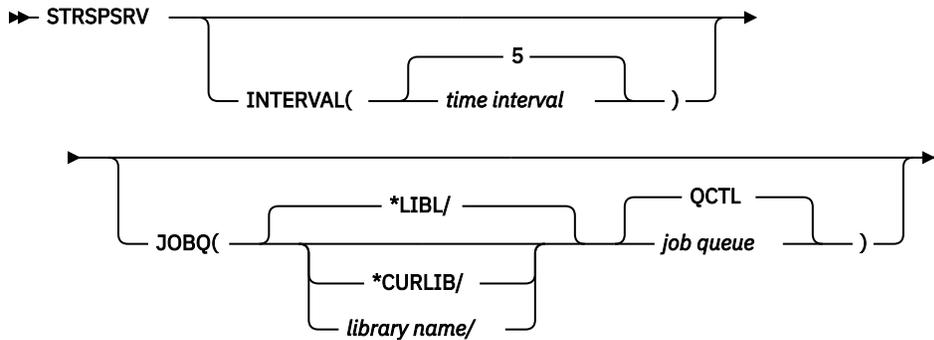
Note: You can specify all the parameters in positional form.

Purpose

The Start SP400 Server (STRSPSRV) command is used to start the SP400 monitoring job. The SP400 job sends the DRL8003 message to the system history log. The DRL8003 message includes performance information on the system, such as CPU utilization, auxiliary storage available, I/O, and paging.

Optional Parameters

INTERVAL
Specifies the time interval, in minutes, between two consecutive retrievals of performance data and, therefore, two consecutive sendings of the message DRL8003. Performance data is computed as the average values for the specified time interval.

5
A time interval of 5 minutes is assumed by default.

time-interval
Specify an integer between 1 to 3600.

JOBQ
Specifies the job queue to which the SP400 server job is submitted. The name of the job queue can be qualified by one of the following library values:

*LIBL
All libraries in the job's library list are searched until the first match is found.

*CURLIB
The current library for the job is searched.

library-name
Specify the name of the library to be searched.

QCTL
The job queue to which the SP400 job is submitted by default.

job-queue
Specify the name of the job queue to which you want the SP400 job to be submitted.

Example

```
STRSPSRV INTERVAL(10) JOBQ(*LIBL/QCTL)
```

This command starts the SP400 monitoring job in the QCTL job queue of the first matching library in the job's library list. The SP400 job retrieves performance data from the system and computes average values for the time interval of 10 minutes. The DRL8003 message is sent every 10 minutes to the system history log.

STRSP400 (Start SP400 data capturing) command
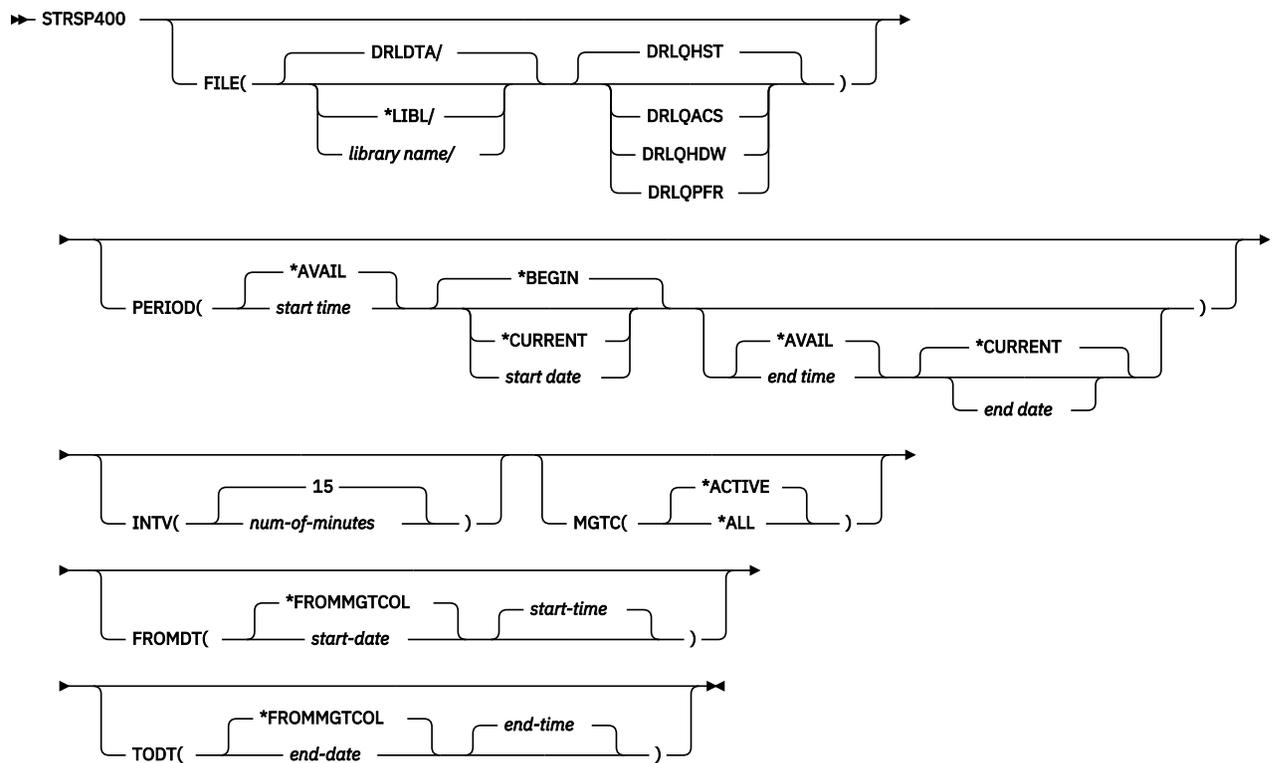
Note: All parameters preceding INTV can be specified in positional form.

Purpose

The Start SP400 Data Capturing (STRSP400) command starts the data capturing process. The way in which the STRSP400 command works depends on the value selected for FILE parameter. See the FILE parameter for an explanation.

Optional Parameters

FILE

Specifies the qualified name of the physical file that will contain the data being captured (except for FILE(DRLQPFR)). The physical files need to be already existing. Note that if you select the default library DRLDTA, you will have those physical files delivered with the product.

The name of the file can be qualified by one of the following library values:

DRLDTA

The DRLDTA library, delivered with the product, is searched.

*LIBL

All libraries in the job's library list are searched until the first match is found.

library-name

Specify the name of the library to be searched.

DRLQHST

Leave the default value DRLQHST, to capture data from the system history log. DRLQHST file is cleaned up and filled in with the output of capturing.

DRLQACG

Select DRLQACG to capture data from the Job Accounting journal receivers. DRLQACG file is cleaned up and filled in with the output of capturing.

DRLQHDW

Select DRLQHDW to capture System Resource data. The DRLQHDW file is cleaned up and filled in with the output of capturing. Note that when selecting the DRLQHDW value you are not prompted to select any other parameter values.

DRLQPFR

Select DRLQPFR to start the performance monitoring job and capture performance data into system-supplied database files (such as QAPMSYS, QAPMDISK, QAPMPOOL) in the library specified with the LIB parameter. Note that STRSP400 FILE(DRLQPFR) only starts the performance monitoring job and produces system-supplied database files. Later you are allowed to capture such performance data into the physical files DRLQSYS, DRLQDSK, DRLQPOL by using the Save SP400 Data (SAVSPDTA) command. Unlike the other choices, no physical file DRLQPFR is produced.

PERIOD

This parameter is only prompted for DRLQHST and DRLQACG values of the FILE parameter. It specifies the time period covered by the logged message data, if FILE(DRLQHST), or by the Job Accounting data, if FILE(DRLQACG), being captured. The values that can be coded for this parameter are specified as a list of three elements, the last of which is a list of two elements. If PERIOD is not specified, the following values are assumed:

```
PERIOD((*AVAIL *BEGIN (*AVAIL *CURRENT)))
```

Note that if the defaults are used, the command will go back to the last time it was run and start there to capture data to the present. The first time the command is executed with the defaults, data will be collected from the beginning of all of the history files if FILE(DRLQHST), or from the beginning of all of the Job Accounting journal receivers if FILE(DRLQACG).

Element 1: Starting Time

One of the following is used to specify the starting time at which or after which the history data must have been logged or the accounting data must have been journaled. Entries logged or journaled before the specified time and date are not captured.

The logged or journaled data that is available starting from the specified starting date and since the last time this command was run is captured. The first time this command is run the data that is available since the specified starting date is captured.

starting-time

Specify the starting time on the specified starting date that indicates the logged or journaled data to start to be captured. The time is specified in 24-hour format with or without a time separator as follows:

- With a time separator, specify a string of 5 or 8 digits where the time separator separates the hours, minutes and seconds. If this command is entered from the command line, the string must be enclosed in apostrophes. If a time separator other than the separator specified for your job is used, this command fails.

- Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where hh = hours, mm = minutes and ss = seconds. Valid values for hh range from 00 through 23. Valid values for mm and ss range from 00 through 59.

Element 2: Starting Date

One of the following is used to specify the starting date on which or after which the history data must have been logged or the accounting data must have been journaled. Entries logged or journaled before the specified date are not captured.

*BEGIN

The logged or journaled data that is available since the last date this command was ran is captured. The first time the capture is ran the data that is available since the beginning of all of the history files, if FILE(DRLQHST), or the beginning of all of the Job Accounting journal receivers, if FILE(DRLQACG), is captured.

*CURRENT

The logged or journaled data for the current day and between the specified starting and ending times is captured.

start-date

Specify the date that indicates the logged or journaled data to start to be captured. The date must be entered in the format specified by the system values QDATFMT and, if separators are used, QDATSEP.

Element 3: Ending Time

One of the following is used to specify the ending time before which, or at which, the history data must have been logged or the accounting data must have been journaled. Entries logged or journaled after the specified time and date are not captured.

*AVAIL

The logged or journaled data that is available until the specified ending date is captured.

ending-time

Specify the ending time for the specified ending date that determines the time by which the data has to be captured. See "starting-time" of Element 1 for the time format.

Element 4: Ending Date

One of the following is used to specify the ending date before which or on which the history data must have been logged or the accounting data must have been journaled. Entries logged or journaled after the specified date are not captured.

*CURRENT

The current day is the last day for which the data is captured.

ending-date

Specify the ending date by which logged or journaled data has to be captured. See "starting-date" of Element 2 for the date format.

INTV

This parameter is only prompted for the DRLQPFR value of the FILE parameter. It specifies the time interval, in minutes, between each collection of system performance data.

15

Performance data is collected every 15 minutes by default.

number-of-minutes

Specify a collection interval value between 5 and 60 minutes. This value must be a multiple of 5.

MGTC

This parameter is only prompted for the DRLQPFR value of the FILE parameter. It specifies the management collect objects to be processed into database files.

*ALL

All the available management objects are processed.

*ACTIVE

Only the active management object is processed.

FROMDT

This parameter is only prompted for the DRLQPFR value of the FILE parameter. It specifies the starting date and time of the performance data in the management collection object that will be used to create the performance database files. This time, combined with the interval value, determines the date and time for each database interval.

Element 1 Starting Date

*FROMMGTCOL

The starting date and time is the date and time when the management collection object was created.

starting-date

Specify the starting date for which collection data is generated. The date must be entered in the format specified by the system QDATFMT and, if separators are used, QDATSEP.

Element 2: Starting Time

starting-time
> Specify the starting time on the specified starting date for generating the database intervals.
>
> If the starting date is specified and the starting time is not, the starting time defaults as follows:
>
> - If the starting date specifies the first day of the collection, the starting time is set to the start time of the collection.
> - If the starting date does not specify the first day of the collection, the starting time is set to midnight (00:00:00).

TODT
> Specifies the starting date and time of the last performance data in the management collection object that will be used to create the performance database files.

Element 1 Ending Date

*FROMMGTCOL
> The ending date and time is the date and time when the management collection object was created.

ending-date
> Specify the starting date for which collection data is generated. The date must be entered in the format specified by the system QDATFMT and, if separators are used, QDATSEP.

Element 2: Ending Time

ending-time
> Specify the ending time on the specified starting time for generating the database intervals.
>
> If the ending date is specified and the ending time is not, the ending time defaults as follows:
>
> - If the ending date specifies the first day of the collection, the ending time is set to the start time of the collection.
> - If the ending date does not specify the first day of the collection, the ending time is set to 23:59:59).

Examples

```
STRSP400 PERIOD((000000 990101))
```

This command captures data from the history logged data available from the midnight of 1999 January 1st until the current date and time. The data is captured into the DRLQHST physical file of the DRLDTA library.

```
STRSP400 FILE(DRLQPFR) LIB(MYLIB) HOUR(0) MIN(30)
```

This command starts the Performance Monitor job. It will run for 30 minutes and will produce database files with system-supplied names, such as QAPMSYS, QAPMDISK, and QAPMPOOL, into the MYLIB library. Members with names Qyydddhhmm will be created into these files every 15 minutes.

Chapter 10. INZTAP (Initialize Tape) command

Note: This information is supplied for reference purposes only. If you require the latest information regarding the INZTAP command, then refer to the Control Language Topics in the Programming section of the online version of the iSeries® Information Center. Ensure that you access the version of the manual that is compatible with your version of the OS/400 operating system.

```
                      TAP01
 ►►─ INZTAP ── DEV( ──┬─ device name ─┬─ ) ─►

                         SP400
 ├─ NEWVOL( ──┬──────────────────┬─ ) ─┤
              ├─ *NONE ─┤
              ├─ *CTGID ─┤
              └─ new vol id ─┘

                         *DEVTYPE
 ├─ DENSITY( ──┬──────────────────┬─ ) ─►◄
              ├─ *QIC120 ─┤
              ├─ 10000 ─┤
              ├─ *QIC525 ─┤
              ├─ 16000 ─┤
              ├─ *QIC1000 ─┤
              ├─ *QIC2GB ─┤
              ├─ *QIC3040 ─┤
              ├─ *QIC5010 ─┤
              ├─ *FMT3480 ─┤
              ├─ 38000 ─┤
              ├─ *FMT3490E ─┤
              ├─ *FMT3570 ─┤
              ├─ *FMT3570E ─┤
              ├─ *FMT3590 ─┤
              ├─ *FMT3590E ─┤
              ├─ 1600 ─┤
              ├─ 3200 ─┤
              ├─ 6250 ─┤
              ├─ *FMT2GB ─┤
              ├─ 43200 ─┤
              ├─ *FMT5GB ─┤
              └─ *FMT7GB ─┘
```
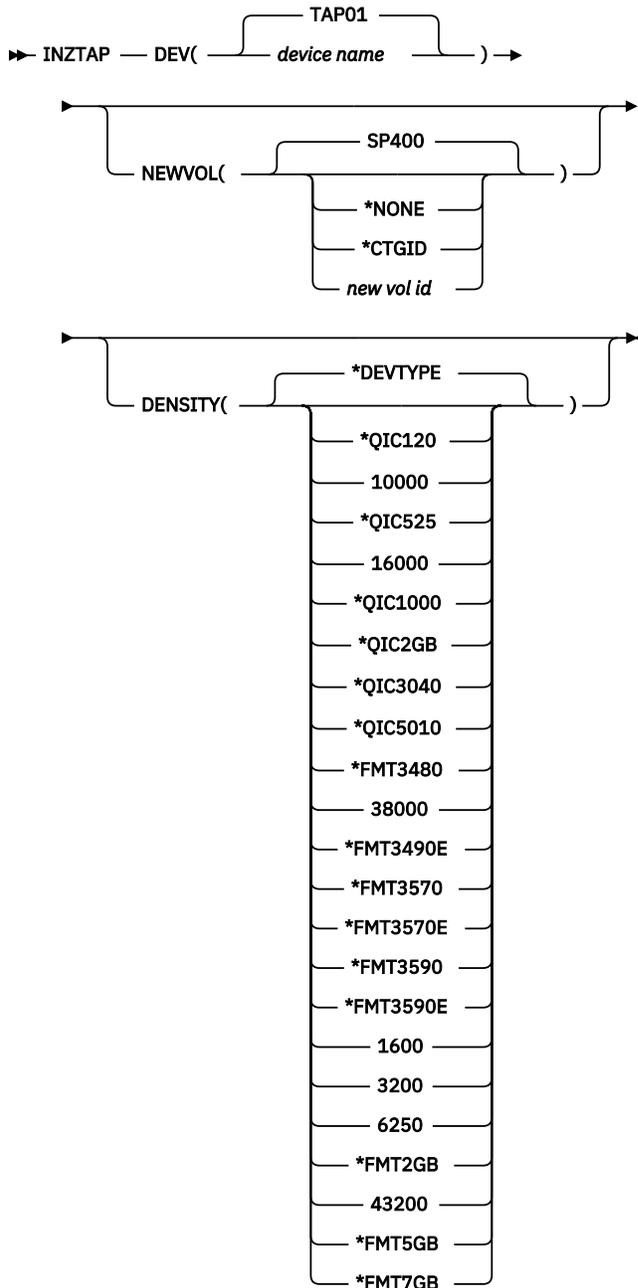
Note: All parameters preceding DENSITY can be specified in positional form.

Purpose

The Initialize Tape (INZTAP) command prepares magnetic tapes for later use of saving captured data, by means of the Save Collection Services Data (SAVSPDTA) command. This command is used to write volume labels on standard-labeled magnetic tapes so the tape device support can do standard-label processing. Unlabeled tapes must also be initialized by this command or by a similar process on another system before these tapes can be used on the IBM i system.

Required parameter

DEV

Specifies the name of the device in which the volume being initialized is placed. TAP01 has been set as default value.

Optional Parameters

NEWVOL

Specifies the volume identifier for a tape being initialized for use as a standard labeled tape.

SP400

This is the default value.

*NONE

The tape is initialized for use as an unlabeled tape. Only tape marks are used to indicate the beginning and the end of the volume itself.

*CTGID

The tape is initialized as a standard labeled tape. The new logical volume identifier is the same as the external identifier of the tape cartridge. Each tape within a library device must have a unique external identifier.

new-volume-identifier

Specify no more than 6 characters to identify the new volume. The identifier must contain only alphanumeric characters (A through Z, $, #, @, and 0 through 9), and cannot have a prefix or contain blanks.

DENSITY

Specifies the recording format in which to write the data on the tape.

*DEVTYPE

The data that is written on the tape volume is based on the type of tape unit being used.

Tape Device Default Density

```
2440        6250
3422        6250
3430        6250
3480        *FMT3480
3490E       *FMT3490E
3570-BXX    *FMT3570
3570-CXX    *FMT3570E
3590        *FMT3590
6335        *QIC3040
6341        *QIC120
6342        *QIC525
6343        *QIC1000
6344        *QIC2GB
6346        *QIC120
6347        *QIC525
6348        *QIC1000
6349        *QIC2GB
6366        *QIC120
6368        *QIC1000
6369        *QIC2GB
6378        *QIC525
```

```
6379        *QIC1000
6380        *QIC2GB
6385        *QIC5010
6390        *FMT7GB
7208-002    *FMT2GB
7208-012    *FMT5GB
7208-222    *FMT7GB
9346        *QIC120
9347        3200
9348        6250
```

1600

The data density on this tape volume is 1,600 bits per inch. This density is used for 1/2 inch reel tapes.

3200

The data density on this tape volume is 3,200 bits per inch. This density is used for 1/2 inch reel tapes on devices that support this density.

6250

The data density on this tape volume is 6,250 bits per inch. This density is used for 1/2 inch reel tapes on devices that support this density.

*FMT3480

The format of this tape is FMT3480. The data density on this tape volume is formatted to support a 3480 device. This density is used for 1/2 inch cartridge tapes.

*FMT3490E

The format of this tape is FMT3490E. The data density on this tape volume is formatted to support a 3490E device. This density is used for 1/2 inch cartridge tapes.

*FMT3570

The format of this tape is FMT3570. The data format is written on the tape volume with a 3570-BXX device.

*FMT3570E

The format of this tape is FMT3570E. The data format is written on the tape volume with a 3570-CXX device.

*FMT3590

The format of this tape is FMT3590. The data format is written on the tape volume with a 3590 device. This density is used for 1/2 inch cartridge tapes.

*QIC120

The format of this tape is QIC120. This density is used for 1/4 inch cartridge tapes that can hold 120 megabyte of data.

*QIC525

The format of this tape is QIC525. This density is used for 1/4 inch cartridge tapes that can hold 525 megabytes of data.

*QIC1000

The format of this tape is QIC1000. This density is used for 1/4 inch cartridge tapes that can hold 1200 megabytes of data.

*QIC2GB

The format of this tape is QIC2GB, which is used for 1/4 inch cartridge tapes that can hold 2.5 gigabytes of data.

*QIC3040

The format of this tape is QIC3040, which is used for 1/4 inch cartridge tapes that can hold 840 megabytes of data.

*QIC5010

The format of this tape is QIC5010, which is used for 1/4 inch cartridge tapes that can hold 13.5 gigabytes of data.

*FMT2GB

The format of this tape is FMT2GB, which is used for 8 millimeter cartridge tapes that can hold 2 gigabytes of data.

*FMT5GB
> The format of this tape is FMT5GB, which is used for 8 millimeter cartridge tapes that can hold 5 gigabytes of data.

*FMT7GB
> The format of this tape is FMT7GB, which is used for 8 millimeter cartridge tapes that can hold 7 gigabytes of data.

Example

```
INZTAP DEV(TAP01) NEWVOL(SP400) DENSITY(*DEVTYPE)
```

This command initializes the volume on the tape device named TAP01 with new volume identifier SP400 with a density based on the device type.

Appendix A. Support information

If you have a problem with your IBM software, you want to resolve it quickly. IBM provides a number of ways for you to obtain the support you need.

- Searching knowledge bases: You can search across a large collection of known problems and workarounds, Technotes, and other information.
- Obtaining fixes: You can locate the latest fixes that are already available for your product.
- Contacting IBM Software Support: If you still cannot solve your problem, and you need to work with someone from IBM, you can use a variety of ways to contact IBM Support. See "Contacting IBM Support" on page 127 for more information.

Contacting IBM Support

This section describes how to contact IBM Support if you have been unable to resolve a problem with IBM Z Performance and Capacity Analytics.

Before contacting IBM Support, your company must have an active IBM software maintenance contract, and you must be authorized to submit problems to IBM. The type of software maintenance contract that you need depends on the type of product you have. For more information, refer to the IBM Support website at the following links:

IBM Support
    https://www.ibm.com/mysupport/s/

IBM Z Support
    https://www.ibm.com/support/pages/ibm-enterprise-support-and-preferred-care-options-ibm-z

To contact IBM Support to report a problem (*open a case*), follow these steps:

1. Determine the business impact.
2. Describe the problem and gather information.
3. Submit the problem report.

Determining the business impact

When you report a problem to IBM, you are asked to supply a severity level. Therefore, you need to understand and assess the business impact of the problem that you are reporting. Use the following criteria:

Severity 1
    The problem has a *critical* business impact. You are unable to use the program, resulting in a critical impact on operations. This condition requires an immediate solution.

Severity 2
    The problem has a *significant* business impact. The program is usable, but it is severely limited.

Severity 3
    The problem has *some* business impact. The program is usable, but less significant features (not critical to operations) are unavailable.

Severity 4
    The problem has *minimal* business impact. The problem causes little impact on operations, or a reasonable circumvention to the problem was implemented.

Describing the problem and gathering information

When describing a problem to IBM, be as specific as possible. Include all relevant background information so that IBM Support specialists can help you solve the problem efficiently. To save time, know the answers to the following questions:

- What software versions were you running when the problem occurred?
- Do you have logs, traces, and messages that are related to the problem symptoms? IBM Support is likely to ask for this information.
- Can you re-create the problem? If so, what steps were performed to re-create the problem?
- Did you make any changes to the system? For example, did you make changes to the hardware, operating system, networking software, product-specific customization, and so on.
- Are you currently using a workaround for the problem? If so, be prepared to explain the workaround when you report the problem.

Submitting the problem

You can submit your problem to IBM Support in either of the following ways:

Online
Go to https://www.ibm.com/mysupport/s/, click on **Open a case**, and enter the relevant details into the online form.

By email or phone
For the contact details in your country, go to the IBM Support website at https://www.ibm.com/support/. Look for the tab on the right and click **Contact and feedback** > **Directory of worldwide contacts** for a list of countries by geographic region. Select your country to find the contact details for general inquiries, technical support, and customer support.

If the problem you submit is for a software defect or for missing or inaccurate documentation, IBM Support creates an Authorized Program Analysis Report (APAR). The APAR describes the problem in detail. Whenever possible, IBM Support provides a workaround that you can implement until the APAR is resolved and a fix is delivered. IBM publishes resolved APARs on the IBM Support website, so that other users who experience the same problem can benefit from the same resolution.

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Bibliography

IBM Z Performance and Capacity Analytics publications

The IBM Z Performance and Capacity Analytics library contains the following publications and related documents.

The publications are available online in the IBM Knowledge Center at the following link, from where you can also download the associated PDF:

https://www.ibm.com/support/knowledgecenter/SSPNK7_3.1.0

- *Administration Guide and Reference*, SC28-3211

  Provides information about initializing the IBM Z Performance and Capacity Analytics database and customizing and administering IBM Z Performance and Capacity Analytics.

- *Capacity Planning Guide and Reference*, SC28-3213

  Provides information about the capacity planning, forecasting, and modeling feature of IBM Z Performance and Capacity Analytics, intended for those who are responsible for monitoring system capacity and key performance metrics to help ensure that sufficient resources are available to run the business and meet expected service levels.

- *CICS Performance Feature Guide and Reference*, SC28-3214

  Provides information for administrators and users about collecting and reporting performance data generated by Customer Information Control System (CICS®).

- *Distributed Systems Performance Feature Guide and Reference*, SC28-3215

  Provides information for administrators and users about collecting and reporting performance data generated by operating systems and applications running on a workstation.

- *Guide to Reporting*, SC28-3216

  Provides information for users who display existing reports, for users who create and modify reports, and for administrators who control reporting dialog default functions and capabilities.

- *IBM i System Performance Feature Guide and Reference*, SC28-3212

  Provides information for administrators and users about collecting and reporting performance data generated by IBM i systems.

- *IMS Performance Feature Guide and Reference*, SC28-3217

  Provides information for administrators and users about collecting and reporting performance data generated by Information Management System (IMS).

- *Language Guide and Reference*, SC28-3218

  Provides information for administrators, performance analysts, and programmers who are responsible for maintaining system log data and reports.

- *Messages and Problem Determination*, GC28-3219

  Provides information to help operators and system programmers understand, interpret, and respond to IBM Z Performance and Capacity Analytics messages and codes.

- *Network Performance Feature Installation and Administration*, SC28-3221

  Provides information for network analysts or programmers who are responsible for setting up the network reporting environment.

- *Network Performance Feature Reference*, SC28-3222

  Provides reference information for network analysts or programmers who use the Network Performance Feature.

- *Network Performance Feature Reports*, SC28-3223

  Provides information for network analysts or programmers who use the Network Performance Feature reports.
- *Resource Accounting for z/OS*, SC28-3224

  Provides information for users who want to use IBM Z Performance and Capacity Analytics to collect and report performance data generated by Resource Accounting.
- *System Performance Feature Guide*, SC28-3225

  Provides information for performance analysts and system programmers who are responsible for meeting the service-level objectives established in your organization.
- *System Performance Feature Reference Volume I*, SC28-3226

  Provides information for administrators and users with a variety of backgrounds who want to use IBM Z Performance and Capacity Analytics to analyze z/OS, z/VM®, zLinux, and their subsystems, performance data.
- *System Performance Feature Reference Volume II*, SC28-3227

  Provides information for administrators and users with a variety of backgrounds who want to use IBM Z Performance and Capacity Analytics to analyze z/OS, z/VM, zLinux, and their subsystems, performance data.
- *Usage and Accounting Collector User Guide*, SC28-3228

  Provides information about the functions and features of the Usage and Accounting Collector.

iSeries publications

- *iSeries CL Programming Version 5* SC41-5721-06
- *iSeries Performance Tools for iSeries Version 5* SC41-5340-01

Additional manuals can be obtained from the IBM iSeries Information Center CD or from the web site http://publib.boulder.ibm.com/infocenter/iseries/v6r1m0/index.jsp?topic=/rzahg/icmain.htm

Glossary

A

administration

An IBM Z Performance and Capacity Analytics task that includes maintaining the database, updating environment information, and ensuring the accuracy of data collected.

administration dialog

The set of host windows used to administer IBM Z Performance and Capacity Analytics.

C

COLLECT

A process used by IBM Z Performance and Capacity Analytics to read data from input log data sets, interpret records in the data set, and store the data in Db2 tables in the IBM Z Performance and Capacity Analytics database.

command

A statement used to initiate an action or start a service. A command consists of the command name abbreviation, and its parameters and flags if applicable.

component

An optionally installable part of an IBM Z Performance and Capacity Analytics feature. Specifically in IBM Z Performance and Capacity Analytics, a component refers to a logical group of objects used to collect log data from a specific source, to update the IBM Z Performance and Capacity Analytics database using that data, and to create reports from data in the database.

control table

A predefined IBM Z Performance and Capacity Analytics table that controls results returned by some log collector functions.

D

Data Language/I (DL/I)

An IBM database-management facility.

data table

An IBM Z Performance and Capacity Analytics table that contains performance data used to create reports.

distributed transaction processing

The distribution of processing among transactions that communicate synchronously with each other over intersystem or interregion links.

E

environment information

All of the information that is added to the log data to create reports. This information can include data such as performance groups, shift periods, installation definitions, and so on.

H

help topics

An online table of contents for the IBM Z Performance and Capacity Analytics online help information.

I

IBM Z Performance and Capacity Analytics database

A set of Db2 tables that includes data tables, lookup tables, system tables, and control tables.

K

key columns
The columns of a Db2 table that together constitute the key.

key value
Value used to sort records into groups.

L

library
An OS/400 system object that serves as a directory to other objects. A library groups related objects, and allows users to find objects by name. All user libraries reside in the QSYS library and no user library can be created in another user library.

log
Any sequential data set used as input to IBM Z Performance and Capacity Analytics.

log collector
An IBM Z Performance and Capacity Analytics program that processes log data sets and provides other IBM Z Performance and Capacity Analytics services.

log collector language
IBM Z Performance and Capacity Analytics statements used to supply definitions to and invoke services of the log collector.

log data set
Any sequential data set used as input to IBM Z Performance and Capacity Analytics.

log definition
The description of a log data set processed by the log collector.

log procedure
A program module that is used to process all record types in certain log data sets.

logical unit (LU)
A port through which a user gains access to the services of a network.

lookup expression
An expression that specifies how a value is obtained from a lookup table.

lookup table
An IBM Z Performance and Capacity Analytics Db2 table that contains grouping, translation, or substitution information.

O

object
An integral part of a feature component needed for data collection (for example, record definitions, record procedures, and update definitions).

P

purge condition
Instruction for purging unneeded data from the IBM Z Performance and Capacity Analytics database.

R

record definition
The description of a record type contained in the log data sets used by IBM Z Performance and Capacity Analytics, including detailed record layout and data formats.

record procedure
A program module that is called to process some types of log records.

record type
The classification of records in a log data set.

region
A section of the dynamic area that is allocated to a job step or system task.

report definition language
IBM Z Performance and Capacity Analytics statements used to define reports and report groups.

report group
A collection of IBM Z Performance and Capacity Analytics reports that can be referred to by a single name.

reporting dialog
A set of host or workstation windows used to request reports.

resource
Any facility of the computing system or operating system required by a job or task, including central storage, input/output devices, the processing unit, data sets, and control or processing programs.

resource group
A collection of resources identified as belonging to a particular department or division. Resources are organized into groups to reflect the structure of an organization.

resource information
Environment information that describes the elements in a system (for example, a network).

S

save file
A file allocated in auxiliary storage that can be used to store saved data on disk (without requiring diskettes or tapes), to do I/O operations from a high-level language program, or to receive objects sent through the network. The system-recognized identifier for the object type is *FILE.

section
A structure within a record that contains one or more fields and might contain other sections.

source
In an update definition, the record or Db2 table that contains the data used to update an IBM Z Performance and Capacity Analytics Db2 table.

subcomponent
An optionally installable part of an IBM Z Performance and Capacity Analytics feature component.

system table
A Db2 table that stores information for controlling log collector processing, IBM Z Performance and Capacity Analytics dialogs, and reporting.

T

target
In an update definition, the Db2 table in which IBM Z Performance and Capacity Analytics stores data from the source record or table.

threshold
The maximum or minimum acceptable level of usage. Usage measurements are compared with threshold levels.

Transmission Control Protocol/Internet Protocol (TCP/IP)
A non-proprietary communications protocol for linking workstations to host computers and to other hardware.

U

update definition
Instructions for entering data into Db2 tables from records of different types or from other Db2 tables.

updates
Instructions in IBM Z Performance and Capacity Analytics on how to process data from log data sets to Db2 tables.

V

view
An alternative representation of data from one or more tables. A view can include all or some of the columns contained in the table on which it is defined.

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