IBM IMS Administration Tool for z/OS 1.1

User's Guide and Reference

SC27-9011-06

Note:

Before using this information and the product it supports, read the information in “Notices” on page 347.

Seventh Edition (July 2021)

This edition applies to Version 1.1 of IBM IMS Administration Tool for z/OS (program number 5655-CAT) and to all subsequent releases and modifications until otherwise indicated in new editions.

This edition replaces SC27-9011-05.

Contents

About this information

IBM® IMS Administration Tool for z/OS® (also referred to as IMS Administration Tool) is an IMS Tools product that provides a comprehensive set of functions and features to assist IMS database administrators with managing IMS environments.

These topics provide instructions for installing, configuring, and using IMS Administration Tool.

To use these instructions, you must have already installed IMS Administration Tool by completing the instructions in the *Program Directory for IBM IMS Administration Tool for z/OS (GI13-4331)*, which is included with the product media and is also available on the IMS Tools Product Documentation page.

These topics are designed to help database administrators, system programmers, application programmers, and system operators perform the following tasks:

- Understand the capabilities of the functions that are associated with IMS Administration Tool
- Install and operate IMS Administration Tool
- Customize your IMS Administration Tool environment
- Diagnose and recover from IMS Administration Tool problems
- Use IMS Administration Tool with other IMS products

To use these topics, you should have a working knowledge of:

- The z/OS operating system
- ISPF
- SMP/E
- IMS

Always refer to the IMS Tools Product Documentation web page for complete product documentation resources:

https://www.ibm.com/support/pages/node/712955

The IMS Tools Product Documentation web page includes:

- Links to IBM Documentation for the user guides ("HTML")
- PDF versions of the user guides ("PDF")
- Program Directories for IMS Tools products
- Recent updates to the user guides, referred to as "Tech docs" ("See updates to this information!")
- Technical notes from IBM Software Support, referred to as "Tech notes"
- White papers that describe product business scenarios and solutions

Part 1. Overview and Roadmap

IBM IMS Administration Tool for z/OS (also referred to as IMS Administration Tool) is an IMS Tools product that provides a comprehensive set of functions and features to assist IMS database administrators with managing IMS environments.

The topics in this section provide you with overview information for IMS Administration Tool.

Topics:

Chapter 1. Quick start roadmap

The following checklist for IMS Administration Tool can help you understand how supporting information is organized and where it is located.

Background information:

- Product overview

  Refer to Chapter 2, “IMS Administration Tool overview,” on page 5.
- Architecture and process flow diagrams

  Refer to “IMS Administration Tool architecture and process flow” on page 10.

Product installation:

- Installation procedures

  IMS Administration Tool is installed by using SMP/E and standard RECEIVE, APPLY, and ACCEPT processing.

  Complete information about installation requirements, prerequisites, and procedures for IMS Administration Tool is located in the *Program Directory for IBM IMS Administration Tool for z/OS, GI13-4331*.

Product configuration:

- Configuration prerequisites and checklist

  Refer to Chapter 3, “Configuration prerequisites and checklist,” on page 19.
- Initial product customization using IMS Tools Setup

  Refer to Chapter 4, “Initial product customization using IMS Tools Setup,” on page 21.
- Additional and optional product configuration

  Refer to Chapter 5, “Additional and optional product configuration,” on page 23.

Setup and Administration:

- Global settings

  Refer to Chapter 6, “Global settings,” on page 51.
- Update product registry

  Refer to Chapter 7, “Updating the product registry,” on page 53.
- Register IMS systems

  Refer to Chapter 8, “Registering IMS systems,” on page 63.
- Manage IMS groups

  Refer to Chapter 9, “Managing IMS groups,” on page 69.
- Manage data sets and data set groups (ISPF only)

  Refer to Chapter 10, “Managing data sets and data set groups (ISPF only),” on page 71
- View audit log

  Refer to Chapter 11, “Viewing the audit log,” on page 75.
- Configuring message disposition

Refer to Chapter 12, “Configuring message disposition,” on page 79.

Using IMS Administration Tool:

- Database and Application Administration

  Refer to Part 4, “Database and application administration,” on page 83.
- IMS Catalog and ACB Library Management

  Refer to Part 5, “IMS catalog and ACB library management,” on page 111.
- Run IMS Utilities

  Refer to Part 6, “Run IMS utilities (JCL generation),” on page 147.
- IMS SPUFI

  Refer to Part 7, “IMS SPUFI (IMS SQL processing using file input),” on page 173.
- IMS Command Processor

  Refer to Part 8, “IMS command processing,” on page 183.

Troubleshooting:

- ATY0 - ATY9 messages

  Refer to “Messages (ATY0 - ATY9)” on page 229.
- IMS SPUFI messages (ATYE, ATYJ, ATYT) and product configuration messages (ATYZ)

  Refer to “Messages (ATYA - ATYZ)” on page 325.
- Abend codes

  Refer to “Abend codes” on page 338.

Chapter 2. IMS Administration Tool overview

IBM IMS Administration Tool for z/OS (also referred to as IMS Administration Tool) is an IMS Tools product that provides a comprehensive set of functions and features to assist IMS database administrators with managing IMS environments.

Topics:

What's new in IMS Administration Tool

This topic summarizes the technical changes for this edition.

New and changed information is indicated by a vertical bar (|) to the left of a change. Editorial changes that have no technical significance are not noted.

Revision markers follow these general conventions:

- Only technical changes are marked; style and grammatical changes are not marked.
- If part of an element, such as a paragraph, syntax diagram, list item, task step, or figure is changed, the entire element is marked with revision markers, even though only part of the element might have changed.
- If a topic is changed by more than 50%, the entire topic is marked with revision markers (so it might seem to be a new topic, even though it is not).

Revision markers do not necessarily indicate all the changes made to the information because deleted text and graphics cannot be marked with revision markers.

SC27-9011-06 (July 2021)

Description	Related APARs
The backup list, which is available in the DBD/PSB compare function for IMS directory data sets, is enhanced. In the DBD/PSB Compare IMS Directory Data Sets panel, new fields are introduced. You can select data sets from the backup list when selecting the source IMS directory and the target IMS directory. See "DBD/PSB compare reference—IMS directories" on page 126.	PH38430

SC27-9011-05 (June 2021)

Description	Related APARs
Enhancements related to IMS directory support. These enhancements are available only for the ISPF interface. • Before this enhancement, the DBD/PSB compare function could only compare DBD and PSB resources that are stored in one IMS directory (between active data sets and staging data set). This enhancement enables the DBD/PSB compare function to compare DBD and PSB resources that are stored in two IMS directories (one of the IMS directories to compare does not have to be defined to IMS). The function can also compare the IMS directory against a backup of the IMS directory. New and changed topics are as follows: – "What does IMS Administration Tool do?" on page 9 – Chapter 20, "DBD/PSB compare," on page 123 – "DBD/PSB compare reference—between IMS directory and ACB library" on page 124 – "DBD/PSB compare reference—IMS directories" on page 126 • Supports a new feature, IMS directory/BSDS backup and restore. You can use the backup function to back up the data sets of the IMS directory, and the restore function to restore the data sets of the IMS directory from a backup. New topics are added to Chapter 22, "IMS directory/BSDS backup and restore (ISPF only)," on page 141.	PH36741
IMS Administration Tool can decode DBD and PSB instances stored in the IMS catalog database. Changes are made to the following topics: • "What does IMS Administration Tool do?" on page 9 • Chapter 14, "Object explorer," on page 87 • "Object explorer reference" on page 87 • Chapter 19, "IMS catalog space analysis and summary reports," on page 117	PH31048
The Run IMS utilities (JCL generation) function supports a new JCL template for registering databases to DBRC. See "IMS maintenance tasks" on page 163 for a list of JCL templates available with the Run IMS utilities function.	PH29930

SC27-9011-04 (November 2020)

Description	Related APARs
Enhancements for the IMS Administration Tool ISPF interface. The ISPF interface has been enhanced to support the following capabilities: • Predefine data sets and use them in database and application administration functions and in IMS catalog and ACB library management functions. See the following topics: – Chapter 10, "Managing data sets and data set groups (ISPF only)," on page 71 – Chapter 13, "Database and application administration settings (ISPF only)," on page 85 – "Import objects settings (ISPF only)" on page 133 • Select which resource change tasks to perform. See Chapter 15, "IMS resource change," on page 91. • Merge multiple DBD libraries, PSB libraries, or ACB libraries into a single data set. See "Merge libraries (ISPF only)" on page 94. These new capabilities are available only with the ISPF interface. The web interface does not support these new capabilities. Step-by-step instructions to use these enhancements are provided in Technote: How to change DBDs and PSBs by using IBM IMS Administration Tool for z/OS.	PH28185

SC27-9011-03 (March 2020)

Description	Related APARs
• Compatibility with batch processing functions of IMS Command Control Facility. See "Migration from IBM IMS Command Control Facility for z/OS" on page 42. • A function to specify command job options for IMS command processor batch jobs. See Part 8, "IMS command processing," on page 183.	PH15400
IMS SPUFI (ISPUFI) function enhancement to support processing of SQL statements with an IMS Java™ application. See "Setting up a Java environment for IMS SPUFI JBP" on page 40 and Chapter 27, "IMS SPUFI overview," on page 175.	PH19835
Messages added to "Messages (ATY0 - ATY9)" on page 229 and "Messages (ATYA - ATYZ)" on page 325.	N/A

SC27-9011-02 (November 2019)

Description	Related APARs
PL/I copybook import support and compare functionality enhancement (IMS directory active and staging data sets). See the following topics: • Chapter 16, "Copybook import," on page 97 • Chapter 20, "DBD/PSB compare," on page 123	PI99608

Description	Related APARs
New option, ASMAOPT, for changing assembler options used for DBDGEN and PSBGEN. See the following topics: • Chapter 14, “Object explorer,” on page 87 • Chapter 15, “IMS resource change,” on page 91 • “Import objects reference” on page 135	PH08089
Command and Audit Log Archive (ATYARCH0) utility enhancement. See “Log data archiving: Configure the Command and Audit Log Archive (ATYARCH0) utility” on page 34.	PH12977
Support concatenation of load module library data sets. Before this APAR, IMS Administration Tool could refer to only one load module library data set. This APAR enhances the tool to support concatenation of data sets so that user customized load module library can be referred to in addition to the IMS Administration Tool product load module library. See the following topics: • “Configure VSAM options data set” on page 26 • “Command store/forward: Configure” on page 28	PH11257
Copybook import and other enhancements. See the following topics: • Chapter 14, “Object explorer,” on page 87 • Chapter 15, “IMS resource change,” on page 91 • Chapter 16, “Copybook import,” on page 97 • Chapter 17, “DBD and PSB update (ATY@OBJU) JCL,” on page 105 • Chapter 21, “Export objects and import objects,” on page 133	PH15100

SC27-9011-01 (May 2018)

Description	Related APARs
• "Job card" changed to "Job statement" throughout. • Remove "Job Options" references. • COBOL and PL/I (added) copybooks. • SPUFI: "MAX CHAR Field Width" option correction. • Catalog and non-catalog IMS environments summary. • IMS catalog management business scenarios. • Scenarios for "Overwrite existing objects". • Example database maintenance tasks for JCL generation. • New updated IMS catalog/directory overview. • New topic: The role of dynamic discovery	N/A
In database and application administration and IMS catalog management, use "IMS directory active and staging data set" terminology.	PI88592 (ATY ISPF), PI90728 (ATY MC) , PI90085 (ATY Discover)
Support for refreshable user exits for IMS AOI (IMS 14 or later required).	PI94129
New field designations and descriptions for Register an IMS Subsystem.	PI95345

What does IMS Administration Tool do?

IMS Administration Tool provides a comprehensive set of functions and features that can help you with the day-to-day tasks associated with managing IMS environments efficiently and effectively.

IMS Administration Tool is designed to operate as a centralized task management control center. The single user interface provides access to functions that can simplify complex tasks associated with managing IMS databases, applications, and IMS systems. The tool can increase the efficiency of data center resources and reduce the negative impact that data changes can have on your databases.

Core functions include:

- Assist in the administration of IMS databases and applications.
- Help manage the IMS catalog.
- Generate JCL to run IMS utilities.
- Query data interactively.
- Issue IMS commands and view responses.

IMS Administration Tool integrates with and enhances the entire IMS Tools family of products.

IMS Administration Tool provides a common look and feel using standard ISPF specifications. The tool also includes integration with the separately licensed IBM Management Console for IMS and Db2® for z/OS to allow real time management of IMS environments.

Database and application administration (Object management)

The database and application administration function provides a method for IMS DBAs to view, create, and change IMS databases (DBDs) and application views (PSBs). Capabilities include:

- View property, online status, and recovery status of IMS DBD and PSB objects.
- Create, alter, view, and model IMS DBD and PSB objects.
- Decode DBDs and PSBs in the IMS catalog database, IMS directory, DBD libraries, PSB libraries, and ACB libraries to DBD and PSB macro source codes.
- Import COBOL and PL/I copybook changes into DBD macro source.
- Run the DBDGEN, PSBGEN, ACBGEN, and IMS catalog populate utilities immediately, or generate JCL that can be run at a later time.

IMS catalog and ACB library management

IMS Administration Tool provides access to the IMS catalog and promotes the use of the IMS catalog by adding significant functionality beyond what is currently available with this IMS feature. Capabilities include:

- Copy objects between the IMS ACB library or IMS directory on one IMS system to the IMS ACB library or IMS directory on another IMS system.
- Compare versions of DBD and PSB resources in the IMS directory with those in the IMS ACB library, between the IMS directory active data sets and the IMS directory staging data set, or between two IMS directories.
- Generate reports to help analyze the databases (DBDs) and applications (PSBs) defined in the IMS catalog.
- Perform space utilization analysis and view the number of objects and instances in the IMS catalog.
- Include and update individual (or bulk) IMS database definitions (DBD) with schema from COBOL and PL/I copybooks during the import process to the IMS catalog.

  Adding or updating schema to individual databases or in bulk can be accomplished either interactively or schedule through a batch process.

- Create backups of the data sets used for the IMS directory, which include IMS directory active data sets, a staging data set, and a bootstrap data set, and restore these data sets from backups.

Run IMS utilities (JCL generation)

IMS Administration Tool can help IMS DBAs automate the process of generating the JCL required to run a sequence of IMS Tools utilities for specific resources in your IMS environment.

The "Run IMS utilities" feature helps automate the JCL generation process and enables you to set up recurring utility jobs for conditional and routine IMS maintenance tasks. Capabilities include:

- Use the ISPF or batch interfaces for generating utility JCL
- Register products and utilities so that these are available to assemble in a JCL job
- Use and modify JCL skeletons and variables to customize jobs

IMS SQL processing using file input (IMS SPUFI)

IMS SQL Processing Using File Input (SPUFI) function is a feature to query and update IMS data by SQL statements. This feature helps IMS DBAs develop interactive SQL commands, run the SQL commands, and review the resulting output from the SQL command. Capabilities include:

- Develop and issue interactive SQL statements through the web interface or the ISPF interface
- Run as a batch job
- Maintain persistence of complicated IMS SQL command sets from session to session (rather than being lost when you exit the program)
- Review the resulting output from the IMS SQL command

IMS command processing

IMS Administration Tool provides IMS DBAs the capability to issue IMS commands and review command responses. Capabilities include:

- Issue IMS type-1 and type-2 commands and view responses
- Distribute IMS commands to multiple IMS subsystems

IMS Administration Tool architecture and process flow

IMS Administration Tool features can function in a z/OS environment of data sharing IMS systems, and in a non-data sharing environment.

Technical notes for architecture and process flow diagrams

The following general notes apply to both functional and data-sharing diagrams in this section.

- Supported web browsers include Google Chrome and Mozilla Firefox.
- Supported web servers include WebSphere® Application Server (WAS) on z/OS and WAS on Windows.
- IMS Tools Base Distributed Access Infrastructure (DAI) is a set of software components that enable authenticated distributed clients access to configured IMS Tools through standard TCP/IP socket communication.
- The TCP server runs in its own z/OS address space and listens for client connections on a user-defined TCP/IP port.

  When a client connects, the client must first pass security system authentication with a valid user ID and password.

  If the authentication is successful, the TCP server acts as a gateway that passes incoming and outgoing messages between the client and the DAI Tools Access Server (TAS).

- Subordinate Tools Access Servers (SOT) are separate address spaces that provide an environment for hosting and running tools requested by a client.
- A single instance of IMS Tools Base Distributed Access Infrastructure (DAI) can support an environment of multiple IMS systems.

  Alternatively, multiple instances of DAI allow scalability and performance improvement while also eliminating a single point of failure.
- The subsystem interface (SSI) allows ISPF client requests to communicate with IMS Tools Base Distributed Access Infrastructure (DAI).
- IMS Operations Manager (OM) controls the operations of an IMSplex and provides an application programming interface through which commands can be issued to IMS and responses received from IMS.

Component descriptions for architecture and process flow diagrams

IMS Administration Tool environment consists of the following components:

IMS databases
Primary data storage for your organization.

IMS catalog
A system database that, when enabled, stores the definitions of your databases and program specification blocks (PSBs), as well as other metadata about your databases and application programs.

Allows IMS to participate in solutions that require the exchange of metadata, such as business impact analysis.

IMS control blocks: PSBs, DBDs, ACBs
Data sets containing:

- Program specification blocks (PSB)

  Application program description and use of logical terminals and logical data structures
- Database description block (DBD)

  Defines database characteristics and required for access to any IMS database
- Application control blocks (ACB)

  PSB and DBD combined and expanded before an application can be scheduled and run

IMS Tools Knowledge Base repositories
IMS Tools Knowledge Base (a component of IBM IMS Tools Base) provides a common information management service that allows the sharing of data generated and used by multiple tool products within a sysplex.

The IMS Tools Knowledge Base information management environment, operating within a sysplex, allows the storing, managing, and accessing of resources (such as reports, sensor data, policies, and rules) that are generated or used by any tool product that has been enabled and registered to participate in this environment.

Resources are handled and stored in central repositories by the IMS Tools Knowledge Base server.

Functional architecture and process flow

The following diagram illustrates the IMS Administration Tool functional architecture and overall process flow.

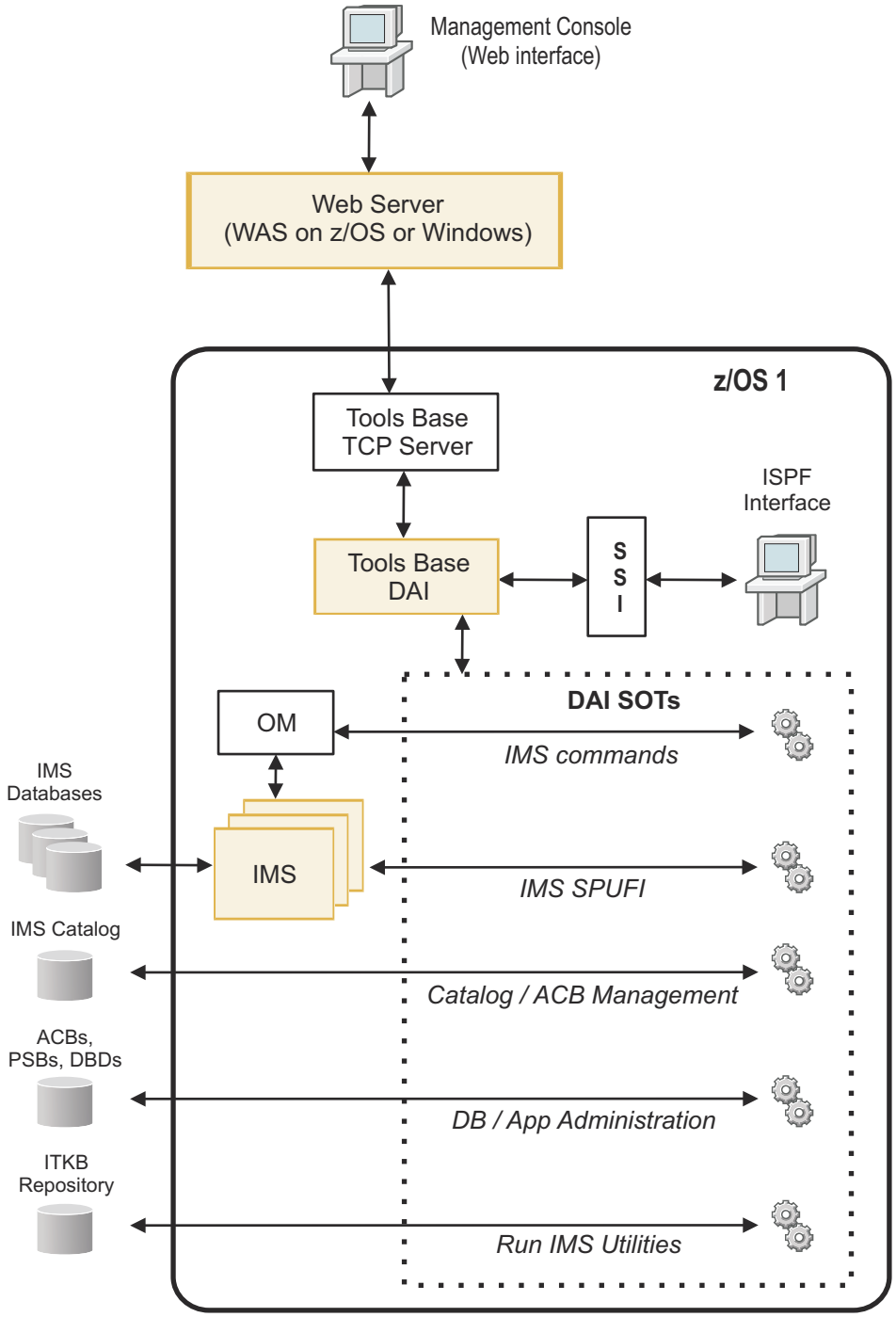

Figure 1. IMS Administration Tool functional architecture

What this diagram shows:

- Remote web client access from the Management Console.
- Remote client routing through web server (WebSphere Application Server (WAS) on z/OS and WAS on Windows).
- Web client requests handled through IMS Tools Base TCP server and Distributed Access Infrastructure (DAI).
- Local ISPF client access.

- ISPF client requests handled through subsystem interface (SSI) and Distributed Access Infrastructure (DAI).
- DAI Subordinate Tools Access Servers (SOT) handle client requests for specific IMS Administration Tool functions.
- Operations Manager (OM) is required for routing IMS commands.
- The configuration shows multiple instances of IMS.

Data sharing IMS environment architecture and process flow

The following diagram illustrates IMS Administration Tool architecture and overall process flow for a data sharing environment:

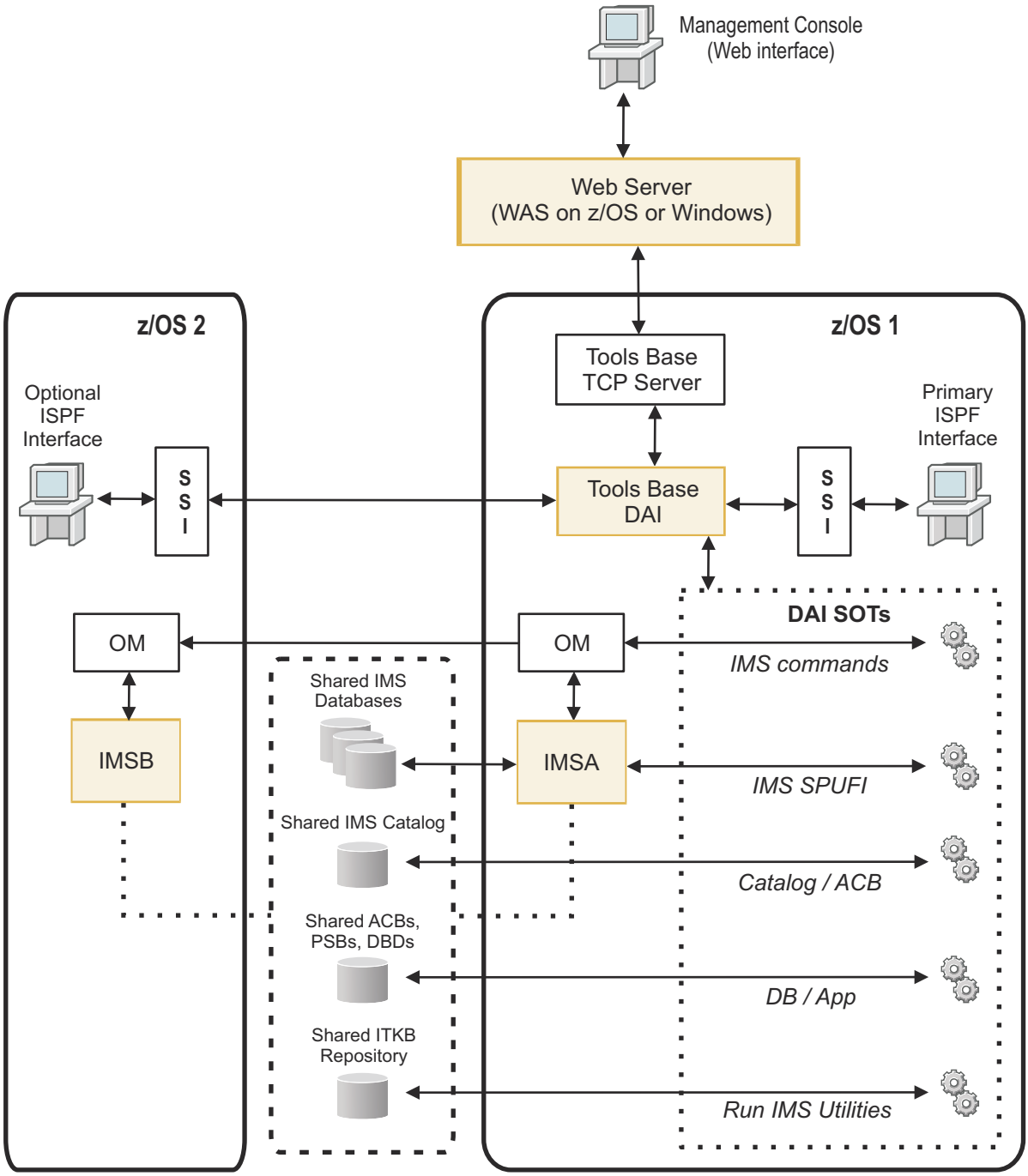

Figure 2. IMS Administration Tool in a data sharing environment

What this diagram shows:

- Remote web client access from the Management Console.
- Remote client routing through web server (WebSphere Application Server (WAS) on z/OS and WAS on Windows).
- Web client requests handled through IMS Tools Base TCP server and Distributed Access Infrastructure (DAI).
- Local ISPF client access from either z/OS environment.
- ISPF client requests handled through subsystem interface (SSI) and a single Distributed Access Infrastructure (DAI).

- DAI Subordinate Tools Access Servers (SOT) handle client requests for specific IMS Administration Tool functions.
- Operations Manager (OM) is required for routing IMS commands.
- IMSA and IMSB share the same resources.

Service updates and support information

Service updates and support information for this product, including software fix packs, PTFs, frequently asked questions (FAQs), technical notes, troubleshooting information, and downloads, are available from the web.

To find service updates and support information, see the following website:

IBM Support: IMS Administration Tool for z/OS

Product documentation and updates

IMS Tools information is available at multiple places on the web. You can receive updates to IMS Tools information automatically by registering with the IBM My Notifications service.

Information on the web

Always refer to the IMS Tools Product Documentation web page for complete product documentation resources:

https://www.ibm.com/support/pages/node/712955

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- Links to IBM Documentation for the user guides ("HTML")
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- White papers that describe product business scenarios and solutions

IBM Redbooks® publications that cover IMS Tools are available from the following web page:

http://www.redbooks.ibm.com

The IBM Information Management System website shows how IT organizations can maximize their investment in IMS databases while staying ahead of today's top data management challenges:

https://www.ibm.com/software/data/ims/

Receiving documentation updates automatically

To automatically receive emails that notify you when new technote documents are released, when existing product documentation is updated, and when new product documentation is available, you can register with the IBM My Notifications service. You can customize the service so that you receive information about only those IBM products that you specify.

To register with the My Notifications service:

1. Go to http://www.ibm.com/support/mysupport
2. Enter your IBM ID and password, or create one by clicking **register now**.
3. When the My Notifications page is displayed, click **Subscribe** to select those products that you want to receive information updates about. The IMS Tools option is located under **Software** > **Information Management**.
4. Click **Continue** to specify the types of updates that you want to receive.

5. Click **Submit** to save your profile.

How to send your comments

Your feedback helps IBM to provide quality information. Send any comments that you have about this book or other IMS Tools documentation to comments@us.ibm.com. Include the name and version number of the product and the title and number of the book. If you are commenting on specific text, list the location of the text (for example, a chapter, topic, or section title).

Accessibility features

Accessibility features help a user who has a physical disability, such as restricted mobility or limited vision, to use a software product successfully.

The major accessibility features in this product enable users to perform the following activities:

- Use assistive technologies such as screen readers and screen magnifier software. Consult the assistive technology documentation for specific information when using it to access z/OS interfaces.
- Customize display attributes such as color, contrast, and font size.
- Operate specific or equivalent features by using only the keyboard. Refer to the following publications for information about accessing ISPF interfaces:
  - *z/OS ISPF User's Guide, Volume 1*
  - *z/OS TSO/E Primer*
  - *z/OS TSO/E User's Guide*

  These guides describe how to use the ISPF interface, including the use of keyboard shortcuts or function keys (PF keys), include the default settings for the PF keys, and explain how to modify their functions.

Part 2. Product configuration

IBM IMS Administration Tool for z/OS (also referred to as IMS Administration Tool) is an IMS Tools product that provides a comprehensive set of functions and features to assist IMS database administrators with managing IMS environments.

The topics in this section provide you with guidelines for the configuration of IMS Administration Tool.

Topics:

Chapter 3. Configuration prerequisites and checklist

The information in this topic provides guidelines for the initial installation and configuration of IMS Administration Tool.

IMS Administration Tool requires enhanced product registration information in order to support all IMS Tools products that participate in the IMS Administration Tool environment.

The following checklists provide guidelines for the initial installation and configuration of IMS Administration Tool with either:

- New installations of IMS Tools products, or
- Pre-existing installations of IMS Tools products

Conditions and prerequisites for product configuration

The installation, configuration, and operation of IMS Administration Tool has the following conditions:

- Installation and configuration of IBM IMS Tools Base 1.6 (or later) with the latest maintenance updates (PTFs) is required
- Installation and configuration of IMS Library Integrity Utilities with the latest maintenance updates (PTFs) is required to enable the following functions of IMS Administration Tool:
  - View IMS databases (DBDs) and program views (PSBs) for database and application administration
  - IMS catalog management
  - Program view for IMS SPUFI
- Installation and configuration of other IMS Tools solution pack products is optional.

Configure a new installation of IMS Administration Tool and any IMS Tools solution packs

The following steps assume that you are performing configuration for an initial installation of IMS Administration Tool with new installations of other IMS Tools solution packs and/or stand-alone IMS Tools products.

Table 1. Configuration checklist for new product installations

Step	Task	Description
1	Install IBM IMS Tools Base	Install IBM IMS Tools Base 1.6 or later (SMP/E). Refer to the IMS Tools Base Program Directory for installation requirements and procedures.
2	Apply updates	Apply the latest maintenance updates (PTFs) for IBM IMS Tools Base 1.6.
3	Install IMS Administration Tool	Install IMS Administration Tool (SMP/E). Refer to the IMS Administration Tool Program Directory for installation requirements and procedures.
4	Apply updates	Apply the latest maintenance updates (PTFs) for IMS Administration Tool.
5	Install IMS Tools solution packs	(Optional) Install any IMS Tools solution packs (SMP/E). Refer to the appropriate product Program Directories.

Table 1. Configuration checklist for new product installations (continued)

Step	Task	Description
6	Apply updates	Apply the latest maintenance updates (PTFs) for the installed IMS Tools solution packs.
7	Run IMS Tools Setup	Run IMS Tools Setup to provide initial configuration for the installed IMS Administration Tool and the installed IMS Tools solution packs. From the initial IMS Tools Setup panels, be sure to select all products that you have installed.

Configure a new installation of IMS Administration Tool with any pre-existing IMS Tools solution packs

The following steps assume that you are performing configuration for an initial installation of IMS Administration Tool with pre-existing installations of other IMS Tools solution packs and/or stand-alone IMS Tools products.

The following steps assume that you have pre-existing installation and configuration of IBM IMS Tools Base 1.6 and any IMS Tools solution packs or stand-alone IMS Tools products.

Note: IMS Tools Base components must be installed and configured before IMS Administration Tool and IMS Tools solution pack configuration. When you run IMS Tools Setup to configure the new installation of IMS Administration Tool, IMS Tools Setup also makes any additional required modifications to the existing IMS Tools Base configuration.

Table 2. Configuration checklist for pre-existing product installations

Step	Task	Description
1	Apply updates for IBM IMS Tools Base	Apply the latest maintenance updates (PTFs) for IBM IMS Tools Base 1.6 (or later).
2	Apply updates for IMS Tools solution packs	Apply the latest maintenance updates (PTFs) for the installed IMS Tools solution packs.
3	Install IMS Administration Tool	Install IMS Administration Tool (SMP/E). Refer to the IMS Administration Tool Program Directory for installation requirements and procedures.
4	Apply updates for IMS Administration Tool	Apply the latest maintenance updates (PTFs) for IMS Administration Tool.
5	Run IMS Tools Setup	Run IMS Tools Setup to provide initial configuration for the newly installed IMS Administration Tool and the pre-existing IMS Tools solution packs. From the initial IMS Tools Setup panels, be sure to select only IMS Administration Tool to configure. IMS Tools Setup only configures IMS Administration Tool. IMS Tools Setup maintains the configuration of pre-existing IMS Tools products.

Chapter 4. Initial product customization using IMS Tools Setup

IMS Tools Setup is a function that helps you quickly and efficiently perform the required post-SMP/E-installation customization process for IMS Tools solution pack products. IMS Tools Setup is provided by IBM IMS Tools Base.

What does IMS Tools Setup do?

After the selected IMS Tools solution pack products have been installed into SMP/E data sets, IMS Tools Setup provides a process to simplify the initial configuration that is required to begin using the products. IMS Tools Setup generates JCL members that you then submit as jobs, or perform as tasks, to complete the customization process.

IBM IMS Tools Base components are also configured and customized during the IMS Tools Setup process. IBM IMS Tools Base provides important supporting components and infrastructure that are required for the operation of many IMS Tools functions, such as storage repositories, autonomics, and interaction with IMS.

The goal of IMS Tools Setup is to greatly ease the time and effort it takes to have IMS Tools products up and running in your environment.

IMS Tools Setup is intended only for initial product installations, first-time users, and product evaluations. IMS Tools Setup is not intended for maintenance purposes.

IMS Tools products that can use IMS Tools Setup

The following IMS Tools products and solution packs can use IMS Tools Setup for initial configuration:

- IBM IMS Tools Base
- IBM IMS Database Solution Pack for z/OS
- IBM IMS Fast Path Solution Pack for z/OS
- IBM IMS Recovery Solution Pack for z/OS
- IBM IMS Database Utility Solution for z/OS
- IBM IMS Administration Tool for z/OS
- IBM IMS Cloning Tool for z/OS
- IBM IMS Program Restart Facility for z/OS

Starting IMS Tools Setup

The IMS Tools Setup function (HKTQSETU) can be found in IBM IMS Tools Base. You can start the function by running the following REXX EXEC:

```
EXEC 'smpehlq.SHKTCEXE(HKTQSETU)' 'HLQ(smpehlq)'
```

Note: *smpehlq* is the high-level qualifier for the IMS Tools Base SMP/E data sets.

The IMS Tools Setup ISPF panels provide an organized and logical approach to the customization tasks. The panels explain the operation and sequence of each member that is generated in the CUSTJCL data set. The correct JCL job and task operation order is very important.

Each panel contains embedded panel-context and individual field-context Help information. All information about using IMS Tools Setup is contained in the embedded Help. There is no separate user guide.

While using the IMS Tools Setup function to install IMS Tools products or to migrate your products from an earlier release to a later release, you need to specify the names of the libraries, or data sets, that are required for each IMS Tools product. Use the worksheets in the topic "Data set names for IMS Tools Setup" in the *Tools Base Configuration Guide for IMS* to make a summary of the data set names that will be used in your environment.

Completing IMS Tools Setup

After you run the HKTQSETU REXX EXEC, you can refer to the $$READ member in the generated *hlq*.CUSTJCL data set to view summary information about the JCL members that were generated. Additionally, all individual *hlq*.CUSTJCL members contain detailed descriptions of the functions for each job.

Each of the generated JCL members begin with the number sign (#) and are named in the logical sequence of operation. Any members ending with the at sign (@) require manual steps. You must begin with the first *#xxxxx* member and submit the JCL job or perform the task. After that job or task completes, you continue on to the next member and submit that JCL job or perform that task, and so forth.

The first few members are all SYSPROG related (APF, LPA, SSN, MVSPPT), followed by security related members, TCP/IP administration, DBA related members, and others.

You must process all members in the correct order to complete the full customization task properly.

Each JCL member has its own descriptive comment section that explains what the member does and which group it might belong to.

Starting IMS Administration Tool ISPF dialog

Follow the instructions in member #D9ISPF@ or #T9ISPF@ in the *hlq*..CUSTJCL data set to start the IMS Administration Tool ISPF dialog.

Chapter 5. Additional and optional product configuration

The topics in this section provide information to perform additional and optional product customization for IMS Administration Tool.

After the selected IMS Tools solution pack products have been installed into SMP/E data sets, IMS Tools Setup provides an automated process to perform the initial configuration that is required to begin using the products. The configuration process provides each product with the necessary registration information required to successfully interact with other IMS Tools products. IMS Tools Setup generates JCL members that you then submit as jobs, or perform as tasks, to complete the customization process.

IMS Tools Setup is intended only for initial product installations, first-time users, and product evaluations. IMS Tools Setup is not intended for maintenance purposes.

The following topics include additional and optional configuration procedures that are not provided by IMS Tools Setup, but that might be required for your environment.

Topics:

Setting up IMS Library Integrity Utilities for IMS Administration Tool

The IMS Tools Setup process includes the configuration of IMS Library Integrity Utilities. However, if you do not configure IMS Library Integrity Utilities at initial installation of IMS Administration Tool and you need to configure IMS Library Integrity Utilities separately at a later time, complete the following steps.

About this task

If you have IMS Library Integrity Utilities installed, register IMS Library Integrity Utilities to the IMS Tools Knowledge Base server. Registering IMS Library Integrity Utilities enables the following IMS administrative functions in IMS Administration Tool:

- View IMS databases (DBDs) and program views (PSBs) for database and application administration
- IMS catalog management
- Program view for IMS SPUFI

Procedure

1. Apply the latest maintenance updates (PTFs) to IMS Library Integrity Utilities.
2. Browse the started task procedure JCL for the Distributed Access Infrastructure Subordinate Tools Access Server (SOT).
   a) Ensure that the IBM IMS Tools Base SGLXLOAD data set is in the //STEPLIB DD concatenation.
   b) Ensure that all the IMS Tools Base data sets that are concatenated to the //STEPLIB DD are APF authorized.
3. Register IMS Library Integrity Utilities to IMS Tools Knowledge Base by running the latest IMS Tools Knowledge Base registration job for IMS Library Integrity Utilities. For more information about the registration job and the procedure, refer to the *Tools Base Configuration Guide for IMS*.
4. APF authorize the data set that is specified on the //SHPSLMD0 DD statement of the registration job.

Implementing user exit routines

Beginning with IMS 14, you can implement the IMS automated operator interface (AOI) as a refreshable user exit. Refreshable user exits can call multiple exit routines of that type (for example, AOIE) at the same exit point.

For IMS Administration Tool, the IMS automated operator interface (AOI) uses:

- DFSAOE00, if you are implementing a non-refreshable user exit.
- ATYAOE00, if you are implementing a refreshable user exit.

  DFSAOE00 is not used if you are implementing a refreshable exit routine.

Implementing refreshable user exits

To support refreshable user exits in IMS Administration Tool, the following conditions apply:

- A refreshable user exit does not use a DFSAOE00 alias.
- A refreshable user exit can be installed in a PDS or PDSE library.
- ATYAOE00 must be added to the AOIE USER EXIT list of DFSDF*xxx* in the subsystem PROCLIB.
- The "User DFSAOE00 Name" field (Setup and Administration > Register an IMS Subsystem) must be left blank.

  ATYAOE00 ignores any entered value if the SXPL_F1ENHSRV flag is on.

To implement refreshable user exits in IMS Administration Tool, use the following steps as guidelines:

1. Define refreshable user exit routines as values of the EXITDEF parameter in the USER_EXITS section of the IMS DFSDF*xxx* member of the IMS PROCLIB data set.

   Use ATYAOE00, if you are implementing a refreshable user exit.

   For example:

   ```
   <SECTION=USER_EXITS>
    EXITDEF=(TYPE=AOIE,
         EXITS=(ATYAOE00 ))
   ```

2. Remove the ATYAOE00 alias of DFSAOE00 from SATYLOAD.
3. Update the IMS control region started task JCL by adding the SATYLOAD library to the STEPLIB concatenation.
4. Use the IMS Administration Tool ISPF dialog "Setup and Administration > Register IMS Systems" to select the appropriate IMS system.
5. Ensure the "User DFSAOE00 Name" field is blank.

   DFSAOE00 is not used if you are implementing a refreshable user exit routine.
6. Restart the IMS system.

7. Verify the implementation of the user exit by reviewing IMS Administration Tool messages in the IMS control region z/OS log.

   If implementation is successful, message ATY8101I (ATYLOGR INITIALIZATION COMPLETE) should be present.

Implementing non-refreshable user exits

To support non-refreshable user exits in IMS Administration Tool, the following conditions apply:

- The non-refreshable user exit must be installed in a PDS library.

To implement a non-refreshable user exit in IMS Administration Tool, use the following steps as guidelines:

1. To determine whether the AOI exit has already been implemented, check to see if the STEPLIB concatenation contains a DFSAOE00 entry.

   If a DFSAOE00 entry exists, browse the module and search for a character string of ATYAOE00 (the exit provided by IMS Administration Tool).

   If the string ATYAOE00 is present, the AOI non-refreshable exit has already been implemented.
2. Copy ATYAOE00 and its shipped alias to a PDS library.

   Update the IMS control region started task JCL by adding this PDS library to the STEPLIB concatenation.
3. It is possible for DFSAOE00 to conflict with a user-defined DFSAOE00 or another vendor product user AOI exit.

   If you already have an existing DFSAOE00 exit in SDFSRESL, or another library in the STEPLIB concatenation of your IMS control region, you must rename that existing exit to another name that meets your requirements.

   The recommended name is DFSA0E01.

   (The IMS DFSAOE00 exit calls the renamed DFSAOE01 exit, if present.)
4. Perform this next step if you renamed an existing DFSAOE00 exit.

   (If there is no DFSAOE00 to rename in Step 3, there is no need to perform this step.)

   Use the IMS Administration Tool ISPF dialog (Setup and Administration > Register an IMS Subsystem) to specify the appropriate IMS system.

   In the "User DFSAOE00 Name" field, specify the renamed DFSAOE00 exit (for example: DFSA0E01).

   If you do not use a user-defined DFSAOE00 exit, then you can leave the "User DFSAOE00 Name" field blank.
5. Restart the IMS system.
6. Verify the implementation of the user exit by reviewing IMS Administration Tool messages in the IMS control region z/OS log.

   If implementation is successful, message ATY8101I (ATYLOGR INITIALIZATION COMPLETE) should be present.

If you intend to continue using an existing DFSAOUE0 exit, the following additional considerations apply:

- If IMS Administration Tool is being used to suppress a specific message, the existing DFSAOUE0 exit cannot handle the same message.
- If IMS Administration Tool is being used to create an AOI automation token for a specific message, the existing DFSAOUE0 exit cannot handle the same message.
- IMS Administration Tool cannot route command response messages to the AOI automation token if you are using your own DFSAOUE0 exit, or an exit from another vendor.

Configure VSAM options data set

The VSAM options data set is a required data set for IMS Administration Tool. It contains information about IMS systems, IMS command groups, global options and job options for the IMS command processor, and message option tables.

About this task

The following procedure explains step-by-step tasks to configure the VSAM options data set.

These tasks can be accomplished with JCL members in the CUSTJCL data set, which are generated by IMS Tools Setup. If you have executed CUSTJCL jobs, you do not need to go through the following steps.

Procedure

1. Allocate and initialize the VSAM options data set (ATYODINI)

   Customize and run the JCL located in member ATYODINI of the IMS Administration Tool sample library (SATYSAMP) to allocate and initialize the VSAM options data set.

   ```
   hlq.SATYSAMP(ATYODINI)
   ```

   The JCL contains descriptive comments to help you customize the job correctly.
2. Build the ATY#OPTS load module

   Customize and run the JCL located in member ATYASMOP of the IMS Administration Tool sample library (SATYSAMP) to build the ATY#OPTS load module that is used by IMS Administration Tool for dynamic allocation of the options data set.

   ```
   hlq.SATYSAMP(ATYASMOP)
   ```

   This module must reside in a STEPLIB library for all jobs that run IMS Administration Tool programs.

   The JCL contains descriptive comments to help you customize the job correctly.
3. Register the load library data set to DDNAME variable SYSLOAD

   Register the load library data set that contains the module to DDNAME variable SYSLOAD with scope=SYSTEM.

   To register a DDNAME variable, use the ISPF interface or the web interface:

   ISPF interface: **0 Setup and Administration** > **1 Update Product Registry** > **3 Variable Management**

   Web interface: **Setup and Admin** > **Variable Management**
4. Specify the load library to IMS

   Update the IMS control region JCL and the OM region JCL by adding the SYSLOAD library to the STEPLIB concatenation. Restart the IMS system.

Processing characteristics and environmental data

IMS command processing characteristics and environmental information are stored in the VSAM options data set.

IMS command batch job processing characteristics are generally stored in the IMS command global options records and IMS command job options records. Most information defined in these records can be overridden by using the ATYOPTS ddname input statement.

Environmental data is defined in the IMS records and IMS command group records in the VSAM options data set.

IMS command global options record

The IMS command global options record is used to store default processing options for IMS command processing.

The IMS command global options record contains two types of options:

- Options that are in effect for every batch job
- Options that are used unless a matching jobname record is found

Options used with every batch job

The following fields are used for every batch job:

- ddname
- /ATYMOD failure
- /ATYMOD COMMIT reversal
- Expand DATAGRP
- Treat DFS3466I as error
- Add NOFEOV to /DBD and /DBR

Options used for absent matching jobname record

The following fields are used in the absence of a matching jobname record:

- Command retry attempts
- Command retry interval
- Abend/return code values
- Error handling options
- Valid return codes from message DFS0488I
- Valid return codes from IMS Operations Manager
- Database ACCESS parameter determination option
- DBRC checking option
- WTO database command option

IMS command jobname options record

The IMS command jobname options record contains many fields that are same as the IMS command global options record.

Use the IMS command jobname options record to apply different processing options from the values set in the IMS command global options.

The following fields in this record override the options in the IMS command global options record:

- Command retry attempts
- Command retry interval
- Abend/return code values
- Error handling options
- Valid return codes from message DFS0488I
- Valid return codes from IMS Operations Manager
- Database ACCESS determination option
- DBRC checking option
- WTO database command option

IMS system record

The IMS system record contains information that IMS Administration Tool needs about each IMS to build and process commands.

Every IMS target of an IMS Administration Tool command must have an IMS system record defined.

The IMS system information (release, DFSVNUC suffix, and MODBLKS DSN) are used when a /STA DB ACCESS command is issued and the USE SYSGEN option is selected in the Global option.

The DFSAOE00 information (IMS Administration Tool logger name, user DFSAOE00 name, and message disposition table name) are used by the IMS Administration Tool message log and message disposition processing.

The IMS automated operator interface (AOI) exit is implemented as:

- DFSAOE00, if you are implementing a non-refreshable user exit.
- ATYAOE00, if you are implementing a refreshable user exit.

  DFSAOE00 is not used if you are implementing a refreshable exit routine.

Command group record

IMS Administration Tool requires a group record to route commands to more than one IMS system.

When a batch job issues DATABASE/AREA commands to a command group, IMS Administration Tool ensures that the command completes successfully for each member of the group.

When the command driver runs as an IMS BMP or IMS DL/I batch job, IMS Administration Tool obtains the group name from the APARM data, if present. If the group name is not present in the APARM data, the group is obtained from the default group name in the IMS system record.

When the command driver runs as a z/OS batch job, the group name is obtained from the PARM statement.

It is recommended that only IMS regions that share the same databases and the same IMS RECON data sets be defined in the same command group. All members of a command group must belong to the same IMSplex.

The following commands are not routed to all members of a command group:

- DATABASE/AREA commands with the GLOBAL parameter
- /RMx commands (EXCEPT "/RML DBRC=RECON STATUS")

Command store/forward: Configure

The command store/forward feature saves commands that fail because a member of a command group is unavailable. The retained commands are then reissued when the group member returns.

Technical notes for command store/forward

Command store/forward is an optional feature that can keep all members of a command group in synchronization.

You use command store/forward in an IMSplex to ensure that resources are in the same state (for example, stopped or started) across all members of the IMSplex.

Command store/forward consists of two components:

- Store/forward VSAM data set

  IMS Administration Tool batch jobs (IMS BMP, IMS DL/I batch, or standard z/OS batch) use this data set to store failed commands.
- REDO BMP

The REDO BMP reads the store/forward VSAM data set and issues all of the commands that failed for a particular IMS system. You should reschedule the REDO BMP immediately at IMS startup.

The REDO BMP uses the ICMD/RMCD AOI to issue the commands, which means that the user ID that is associated with this BMP needs authorization for all required commands.

Procedure

1. Allocate and initialize the VSAM command store/forward data set (ATYSTF)

   Customize and run the JCL located in member ATYSTF of the IMS Administration Tool sample library (SATYSAMP) to allocate and initialize the VSAM command store/forward data set.

   ```
   hlq.SATYSAMP(ATYSTF)
   ```

   The JCL contains descriptive comments to help you customize the job correctly.

2. Build the ATYSTFWD load module

   Customize and run the JCL located in member ATYASMSF of the IMS Administration Tool sample library (SATYSAMP) to build the ATYSTFWD load module that is used by IMS Administration Tool for dynamic allocation of the command store/forward data set.

   ```
   hlq.SATYSAMP(ATYASMSF)
   ```

   This module must reside in a STEPLIB library for all jobs that run IMS Administration Tool programs.

   The JCL contains descriptive comments to help you customize the job correctly.

3. Store the ATYSTFWD load module in the SYSLOAD data set

   When you configured the VSAM option data set (as described in "Configure VSAM options data set" on page 26), you registered the load library data set that contains module ATY#OPTS to variable SYSLOAD and specified the load library data set to IMS. You must store the ATYSTFWD load module in the same load library data set so that IMS Administration Tool can refer to the ATYSTFWD load module through the data set registered to variable SYSLOAD.

Command store/forward restrictions

The following restrictions apply to the command store/forward feature:

- Option for Routing errors must be set to ignore.
- Command store/forward is active only when there is more than one IMS in the command group.
- A command must be successful for at least one IMS in the command group.

  If the command fails for all systems in the command group, it is not written to the store/forward VSAM data set.

The following commands are not candidates for store/forward processing:

- Commands routed to a specific IMS.
- Commands with the GLOBAL parameter.
- DBRC commands (/RMx).
- /MOD commands.

Failed commands are saved in the store/forward VSAM data set only when IMS Administration Tool command driver runs as a batch job (IMS BMP, IMS DL/I batch, or standard z/OS batch).

Command store/forward: Activate (REDO BMP)

The REDO BMP reads the store/forward VSAM data set and issues all of the commands that failed for a particular IMS system.

You should reschedule the REDO BMP immediately at IMS startup.

The REDO BMP uses the ICMD/RMCD AOI to issue the commands, which means that the user ID that is associated with this BMP needs authorization for all required commands.

Technical notes for command store/forward

The ROUTING=IGNORE option must be set for all IMS Administration Tool batch jobs that can have their commands stored for later processing by the IMS Administration Tool REDO BMP.

Setting the routing error option to IGNORE can be performed from the IMS Administration Tool Global Options panel.

Alternatively, you can specify the ROUTING=IGNORE option in the IMS Administration Tool batch job JCL from the ATYOPTS DD statement.

Procedure

Perform the following steps to activate the REDO BMP:

1. Customize and run the JCL located in member ATYBMPR of the IMS Administration Tool sample library (SATYSAMP) to activate the REDO BMP for command store/forward.

   ```
   hlq.SATYSAMP(ATYBMPR)
   ```

   The JCL contains descriptive comments to help you customize the job correctly.
2. Specify any required commands in the ATYPRE and ATYPOST input data sets.

   The REDO BMP executes the commands in the ATYPRE data set before running the commands in the store/forward data set.

   The commands in the ATYPOST data set are run after all commands for the particular IMS system in the store/forward data set are run.
3. Ensure that the REDO BMP has proper authority:
   a. For IMS type-1 commands, REDO BMP issues commands to IMS by using the ICMD/RCMD AOI.

      Therefore, the user ID that is associated with this BMP needs authority to execute all required commands.
   b. For IMS type-2 commands, the REDO BMP issues commands to IMS by using the IMS Operations Manager.

      Therefore, the user ID that is associated with this BMP needs authority to execute all required commands.
   c. If the IMS uses AGN security, the user ID that is associated with the BMP will require authority to connect to the AGN.

The REDO BMP must be scheduled immediately when IMS is started and before the system is opened up for processing.

REDO BMP JCL specifications

Sample JCL for the REDO BMP can be found in SATYSAMP(ATYBMPR).

The following ddname statements are required for the REDO BMP JCL:

ATYPRINT DD

ATYPRINT is an output data set that lists the commands for which execution was attempted during BMP processing.

ATYPRINT is defined as LRECL=131 and RECFM=FBA.

The output can be sent to SYSOUT or a data set.

ATYPRE DD

ATYPRE is an input data set that contains commands to be executed before the commands in the store/forward data set.

ATYPRE is defined as LRECL=80 and RECFM=FB.

ATYPOST DD

ATYPOST is an input data set that contains commands to be executed after all of the commands for this particular IMS system are processed from the store/forward data set.

ATYPOST is defined as LRECL=80 and RECFM=FB.

Sample JCL for the REDO BMP:

```
//jobname JOB
//*
//STEP01   EXEC  PGM=DFSRRC00,
//    PARM=(BMP,ATYREDO0,ATYREDO0,,,,,,,,,,imsid)
//STEPLIB  DD   DISP=SHR,DSN=reslib
//                  DD DISP=SHR,DSN=ccf.loadlib
//ATYPRINT  DD  SYSOUT=*
//ATYPRE  DD  *
ims commands
/*
//ATYPOST  DD  *
ims commands
```

Command store/forward: Schedule (REDO BMP)

The REDO BMP must be scheduled immediately when IMS is started and before the system is opened up for processing.

About this task

The following steps describe the recommended procedure for scheduling the REDO BMP process:

Procedure

1. Start the IMS control region.
2. Use TCO to start REDO BMP immediately at IMS start up.
3. Add the following commands to the ATYPRE input data set:

   ```
   /STO CLASS ALL
   /STA REG  for all required message regions
   ```

4. Add the following commands to the ATYPOST input data set:

   ```
   /STA CLASS ALL
   /STA DC
   ```

What to do next

Once these actions are completed, command store/forward saves all commands that encounter routing errors in the store/forward VSAM data set.

For commands that are routed using the IMS OM, a routing error is identified as a member of the IMS Administration Tool group being not active in the IMSplex.

A timestamp is added to the commands when they are written to the store/forward VSAM data set. The timestamp ensures the commands are subsequently executed in the proper sequence.

Command log: Configure a DASD-only log stream

An IMS command log provides a single point of reference for reviewing IMS messages, commands, and command responses. A command log can be used for an individual IMS region or multiple IMS regions within a sysplex.

You must choose the type of log stream that you want to use to store all eligible commands and messages. You can define the System Logger log stream either as DASD-only or to the coupling facility:

- Define the log stream as DASD

  If you do not have a coupling facility, you must define the log stream as DASD-only.
- Define the log stream to the coupling facility if the log stream needs to be shared across multiple z/OS LPARs

Consider the following information when you define the command log as a DASD-only log stream:

- DASD-only log streams are single-system in scope.

  You must consider the implications of moving an IMS system from one z/OS image to another because DASD-only log streams cannot be shared across z/OS images.
- You can define separate log streams for each IMS system running on a particular z/OS image.
- To use the ISPF message log viewer, you must log on to the TSO running on the same z/OS image where the DASD-only log stream is defined.
- IMS Administration Tool archive jobs need to run on the same z/OS image where the log stream is defined.
- If an IMS system is being moved from one z/OS image to another, a IMS Administration Tool archive job might need to be run on the original z/OS image before running an archive on the new image (archive data set naming convention, GDG sequencing).

See “Defining a DASD-only log stream” on page 32.

Defining a DASD-only log stream

You can define the DASD-only log stream for the command log by using the z/OS administrative data utility IXCMIAPU.

Before you begin

To use the command log feature, you must have storage management subsystem (SMS) active at your installation and the z/OS System Logger (LOGR) must be implemented. Most z/OS installations already have the LOGR policy set up.

Restriction: If the log stream is shared across z/OS images, it must be defined to the coupling facility. It cannot be defined as a DASD-only log stream. See “Defining a coupling facility log stream” on page 34.

About this task

You can name a command log stream to be the same as the global IMS Administration Tool audit log stream (recommended), or alternatively, you can specify a separate command log stream for each individual IMS subsystem.

The JCL provided in member ATYLOGR1 in the SATYSAMP sample library (*hlq*.SATYSAMP(ATYLOGR1)) can be used as a model for defining this log stream. Before submitting the JCL, make any necessary changes after considering the following information:

Procedure

1. Chose a value for the high-level qualifier (HLQ) based on your installation requirements for SMS data set naming conventions.

   Many environments default to IXGLOGR. Consult with your z/OS system programmer before making this selection.
2. Chose any valid 1- to 26-character name for the log stream name.
3. If you will be using the IMS Administration Tool archive utility to delete unneeded messages that are stored in the message log, specify AUTODELETE(NO).

   Otherwise the system logger might delete log records before you have had a chance to archive them.

   ```
   ATY8108I - ATYAOE00 ANCHOR ESTABLISHED AT 1DF99000
   ATY8406I - ATY LOGSTREAM CONNECTED
   ATY8106I - ATY USING MAXBUFSIZE   560 LOGSTREAM SYSLOG.IEA1.ATY.LOGGER
   ATY8101I - ATYLOGR INITIALIZATION COMPLETE
   ATY0310I - INITIALIZATION COMPLETED
   ```

   Note: Log stream connect messages need to appear in both the Control Region and the Operations Manager region.
4. Consult *MVS Setting Up a Sysplex* for additional information about using the administrative data utility (IXCMIAPU) for SMS-related parameters and any of the other additional parameters that might be necessary to define log streams at your installation.

Command log: Configure a coupling facility log stream

An IMS command log provides a single point of reference for reviewing IMS messages, commands, and command responses. A command log can be used for an individual IMS region or multiple IMS regions within a sysplex.

You must choose the type of log stream that you want to use to store all eligible commands and messages. You can define the System Logger log stream either as DASD-only or to the coupling facility:

- Define the log stream as DASD

  If you do not have a coupling facility, you must define the log stream as DASD-only.
- Define the log stream to the coupling facility if the log stream needs to be shared across multiple z/OS LPARs

A coupling facility is a special logical partition that provides high-speed caching, list processing, and locking functions in a sysplex. IMS saves global information in the coupling facility. Therefore, all of the IMS systems in the IMSplex have access to the global information.

Consider the following information when you define the message log as a coupling facility log stream:

- Coupling facility log streams can be shared across an entire sysplex.
- The same coupling facility log streams can be used by multiple IMS systems running on any z/OS image in the sysplex.
- Moving an IMS system from one z/OS image to another in the same sysplex does not require any additional setup.
- To use the ISPF message log viewer, you can log on to TSO on any z/OS image in the sysplex.
- IMS Administration Tool archive jobs can run on any z/OS image in the sysplex.

See “Defining a coupling facility log stream” on page 34.

Defining a coupling facility log stream

You can define the coupling facility log stream for the command log by using the z/OS administrative data utility IXCMIAPU.

Before you begin

To use the IMS Administration Tool message log feature, you must have storage management subsystem (SMS) active at your installation and the z/OS System Logger (LOGR) must be implemented. Most z/OS installations already have the LOGR policy set up.

About this task

You can use the JCL that is provided in member ATYLOGR2 in the SATYSAMP sample library (*hlq*.SATYSAMP(ATYLOGR2)) as a model for defining this log stream. Before submitting the JCL, make any necessary changes after considering the following information:

Required settings for ATYLOGR2:

```
AVGBUFSIZE(560)
MAXBUFSIZE(560)
```

Procedure

1. Choose a value for the high-level qualifier based on your installation requirements for SMS data set naming conventions.

   Many environments default to IXGLOGR. Consult with your z/OS system programmer before making this selection.
2. Chose any valid 1- to 26-character name for the log stream name.
3. If you will be using the IMS Administration Tool archive utility to delete unneeded messages that are stored in the message log, specify AUTODELETE(NO).

   Otherwise the system logger might delete log records before you have had a chance to archive them.

   ```
   ATY8108I - ATYAOE00 ANCHOR ESTABLISHED AT 1DF99000
   ATY8406I - ATY LOGSTREAM CONNECTED
   ATY8106I - ATY USING MAXBUFSIZE   560 LOGSTREAM SYSLOG.IEA1.ATY.LOGGER
   ATY8101I - ATYLOGR INITIALIZATION COMPLETE
   ATY0310I - INITIALIZATION COMPLETED
   ```
4. Consult *MVS Setting Up a Sysplex* for additional information about using the administrative data utility (IXCMIAPU) for SMS-related parameters and any of the other additional parameters that might be necessary to define log streams at your installation.

Log data archiving: Configure the Command and Audit Log Archive (ATYARCH0) utility

IMS Administration Tool provides the Command and Audit Log Archive (ATYARCH0) utility that copies old log data to a DSORG=PS data set, and simultaneously marks it eligible for deletion. The ATYARCH0 utility supports both command log data and audit log data. You can select the log records to archive; command log records, audit log records, or both.

The ATYARCH0 utility provides several options for determining what log records are considered old, and therefore subject to archiving/deletion. Most of the archiving options archive only log records that were written prior to the current date. Use the MAX control card if you must archive log records from the current date.

If the log data needs to be kept for historical purposes, the retention period must be high enough so that the z/OS System Logger will not delete the log data before it is off-loaded by the ATYARCH0 utility.

The output log data is displayed in the same format as the log of "View Audit Log". To check the format, use either the IMS Administration Tool web interface or the ISPF interface: **Setup and Administration** > **View Audit Log**.

Subsections:

ATYARCH0 JCL

Sample JCL for archiving log data can be found in the SATYSAMP sample library, member ATYARCH0.

```
//ATYARCH0  JOB  (TECH),ATYARCH0,CLASS=A,MSGCLASS=H,
//      REGION=4M,NOTIFY=&SYSUID,COND=(0,NE)
//*
//*--------------------------------------------------------------------*
//* IBM*
//* ROCKET**
//* LICENSED MATERIALS - PROPERTY OF IBM
//* 5655-CAT
//* COPYRIGHT IBM CORPORATION 2019  ALL RIGHTS RESERVED.
//* COPYRIGHT ROCKET SOFTWARE, INC. 2019 ALL RIGHTS RESERVED.
//* *TRADEMARK OF INTERNATIONAL BUSINESS MACHINES
//* **TRADEMARK OF ROCKET SOFTWARE, INC.
//*--------------------------------------------------------------------*
//*--------------------------------------------------------------------*
//* CHANGES:
//*
//* YY-MM-DD REL APAR    DESCRIPTION
//* -------- --- ------- ---------------------------------------------
//* 19-06-06 110 PH12977 ARCHIVE AUDIT LOG SUPPORT
//*
//*--------------------------------------------------------------------*
//*
//*      THIS SAMPLE JCL IS FOR ARCHIVING THE ATY COMBINED
//*   MESSAGE LOG.
//*
//*      THE FOLLOWING CHARACTER STRINGS MUST BE TAILORED:
//*   ##SATYLOAD -  MUST BE THE NAME OF THE ATY LOAD DATASET.
//*   ##LOGOUT   -  MUST PROVIDE ALL DATA SET INFORMATION.
//*                 THE DATA SET MUST BE LRECL=1024 AND RECFM=VB.
//*                 ALL OTHER PARAMETERS ARE INSTALLATION SPECIFIC.
//*   ##LOGGER   -  MUST BE THE 1-26 BYTE Z/OS LOGSTREAM NAME.
//*
//*   -  ADDITIONAL SYSIN CONTROL CARDS CAN BE FOUND IN
//*      THE ATY USERS GUIDE.  (SYSIN CONTROL CARDS MUST
//*      START IN COLUMN 1 OR 2).
//*
//STEP01   EXEC PGM=ATYARCH0
//STEPLIB   DD  DISP=SHR,DSN=##SATYLOAD
//LOGOUT    DD  ##LOGOUT
//SYSABEND  DD  SYSOUT=*
//SYSPRINT  DD  SYSOUT=*
//SYSIN     DD  *
 LSN=##LOGGER
```

Figure 3. Sample JCL to archive log data (ATYARCH0)

EXEC statement

Specify PGM=ATYARCH0 for the EXEC statement.

DD statements

The following DD statements define the data sets that are required by the ATYARCH0 utility.

STEPLIB DD
Specify the IMS Administration Tool product load library.

LOGOUT DD
Describes the output data set where the command and log data is written.

The data set is defined as LRECL=1024 and RECFM=VB.

The size of the data set is determined by the amount of data that is being archived.

SYSPRINT DD
An output data set that provides informational messages about the utility.

SYSPRINT is defined as LRECL=80 and RECFM=FB.

The output can be written to SYSOUT or a data set.

SYSIN DD
An input data set that contains control statements that specify archiving parameters.

SYSIN is defined as LRECL=80 and RECFM=FB.

SYSIN control statements

The SYSIN data set contains your description of the processing to be done by the ATYARCH0 utility.

Follow these coding conventions when you write control statements in the SYSIN data set:

- Keywords and keyword values must be coded within column 1 and column 71. Keywords must start on column 1 or 2.
- The column 72 must be blank.
- A keyword and its value must be joined with an equal sign (=) and they must be coded on the same line.
- More than one keyword can be coded on one line. Keywords must be separated by blank space.
- Keywords are not positional parameters; they can be specified in any order.
- A comment line must begin with an asterisk (*) in column 1.
- Blank lines are ignored.

The following tables list the control statements.

Table 3. ATYARCH0 SYSIN control statements

Definition	Value
LSN=*name*	Required. Specify the 1- to 26-byte log stream name.
FILTER=[A | C | X]	Optional. Specify the type of log records to archive. **A** Audit log records are archived. **C** Command log records are archived. **X** Both command log records and audit log records are archived. This is the default value.

To control the size of the archived log data set, the utility provides the following statements for controlling what information is archived:

Table 4. ATYARCH0 SYSIN control statements to narrow the time range

Definition	Value
DATE	Default. The utility starts archiving from the oldest record in the message log and continues until it encounters a log record with a different date.
HOURS=*nn*	The utility starts archiving from the oldest record in the message log and continues until *nn* number of hours of log records has been archived, or a log record with the current date is encountered. Valid values for *nn* are 1-24. When the HOURS definition is specified in conjunction with DATE, archiving continues until *nn* hours of records have been archived, or a log record with a date change has been encountered.
RECS=*nnnnnn*	The utility starts archiving with the oldest record in the message log, and continues until *nnnnnn* records have been archived, or a log record with the current date has been encountered. Valid values for *nnnnnn* are 1-999999. This control statement is not valid with any other control statements listed in this table.
ALL	The utility starts archiving with the oldest record in the message log and continues until a log record with the current date has been encountered. This control statement is not valid with any other control statements listed in this table.
MAX	The utility starts with the oldest record in the message log and continues until a log record with the current date and hour has been encountered. If using this option, it is recommended that the archive job (ATYARCH0) be scheduled at 15 minutes past the hour. This ensures at least 15 minutes of log data is always present in the message log. This control statement is not valid with any other control statements listed in this table.

SYSIN control statement examples

The following SYSIN control statement example is for archiving both command log records and audit log records. Because ALL is specified, the utility starts archiving with the oldest record and continues until it encounters a log record with the current date.

```
//SYSIN DD *
LSN=Logger data set name
FILTER=X
ALL
/*
```

The following SYSIN control statement example is for archiving command log records.

- The first line is a comment line because the first column has an asterisk.
- The second line has keyword LSN starting from the second column. This is valid because keywords must start in column 1 or 2.
- The third line is a blank line. The utility skips this line.

- The forth line has multiple keywords in one line.

```
//SYSIN DD *
*  Comment line
 LSN=Logger data set name

 FILTER=C MAX
/*
```

Log stream security

The security that is required to define and use the log streams that were created for the command log can vary from installation to installation.

The following considerations apply to the security of the command log:

- The logger and storage management subsystem (SMS) address spaces need RACF ALTER access to the data sets that are allocated for the log streams that you define.

  Consult with your z/OS system programmer and RACF administrator for more information.
- The LOGSTRM class is used to protect log streams.

  Consult with your RACF administrator for more details.

Secure the IMS Administration Tool functions

IMS Administration Tool provides access controls using RACF or some other compatible security product.

IMS Administration Tool uses the MVS™ RACROUTE call to determine the access authority of a user who attempts to use the IMS commands function.

IMS Administration Tool specifies the FACILITY resource class on the RACROUTE call, as well as the entity names that are described in this section. The entity names relate to the IMS Administration Tool option that is being protected.

Tip: To control FACILITY class resources with one class, define and permit FACILITY class ATYADMIN.**.

Restriction: The sample commands in this section must be issued by the security administrator.

Restricting access to IMS Administration Tool ISPF and web user interfaces

FACILITY class ATYADMIN.ACCESS is a required class that controls the access to IMS Administration Tool ISPF and web user interfaces. This class is defined and permitted in the member #A5RACF2 in the CUSTJCL data set, which is generated by IMS Tools Setup.

If you have not yet submitted member #A5RACF2, issue RACF commands through TSO by modeling the following sample commands:

```
RDEFINE FACILITY CLASS ATYADMIN.ACCESS
PERMIT ATYADMIN.ACCESS CLASS(FACILITY) ID(atyuserid/groupid) ACCESS(READ)
SETROPTS RACLIST(FACILITY) REFRESH
```

Restricting access to using a ATY Group or IMS ID for issuing commands

You can use RACF to define the entity name that restricts users from using an IMS Administration Tool Group or IMS subsystem ID from being the target of any command issued through IMS Administration Tool.

Issue RACF commands through TSO by modeling the following sample commands:

```
RDEF FACILITY ATYADMIN.EXEGRP.[ATYGroup|IMSID] UACC(NONE) OWNER(securitygroup)
```

and / or

```
RDEF FACILITY ATYADMIN.EXEGRP.* UACC(NONE) OWNER(securitygroup)
PE ATYADMIN.EXEGRP.[ATYGroup|IMSID] CLASS(FACILITY) ACCESS(READ)
     ID(atyuserid/groupid)
SETR REFRESH RACLIST(FACILITY)
```

Setting up IMS Administration Tool in an IMS system

For each IMS system, IMS Administration Tool must be configured so you can use IMS Administration Tool functions on that IMS system. The configuration tasks are done by the JCL members that IMS Tools Setup generates. If you want to add more IMS systems after you have configured IMS Administration with IMS Tools Setup, you must complete the following tasks.

About this task

The following steps are explained in the #C6IMS1@ member in the CUSTJCL data set that IMS Tools Setup generated.

Member #C6IMS1@ covers configuration tasks for IMS Administration Tool and other products. The following procedure explains only the configuration tasks for IMS Administration Tool.

Procedure

1. Add the customized load libraries and product load libraries of IMS Administration Tool to the STEPLIB concatenation of the IMS control region and OM region JCL.

   When you initially configured IMS Administration Tool with CUSTJCL jobs, they created the following data sets. You must add these data sets to the STEPLIB concatenation.

   - CUSTLOAD, which contains IMS exit routine modules
   - SYSLOAD, which contains ATY#OPTS and ATYSTFWD modules
   - COMBLOAD and COMPLOAD.PDSE (or SATYLOAD if you did not select "combine libraries" during IMS Tools Setup.), which contain the product load libraries of IMS Administration Tool
2. Set up the IMS AO exit routine.

   Follow the instructions in “Implementing user exit routines” on page 24.
3. Set up the z/OS System logger (LOGR) log stream.
   a) If you want to use a different LOGR log stream for the added IMS system, define a log stream. Refer to CUSTJCL(#A7ATY5).
   b) Specify the BPE OM exit routines to the PROCLIB member of IMS OM region procedure. Refer to CUSTJCL(#A7ATY6@).
      i) Locate or specify the BPECFG=*BPE configuration parameter member* in the IMS OM region parameter list.
      ii) Specify the following EXITMBR statement in the BPECFG member in the OM PROCLIB data set.

      ```
      EXITMBR=(BPE exit list member,OM)
      ```

      iii) Specify the following two statements to the BPE exit list member in the OM PROCLIB data set.

      ```
      EXITDEF (TYPE=INITTERM,EXITS=(ATYOINI0),ABLIM=0,COMP=OM)
      EXITDEF (TYPE=OUTPUT,EXITS=(ATYOPST0),ABLIM=0,COMP=OM)
      ```

   c) Specify the name of the z/OS System Logger log stream in the ATYPARMS member of the IMS OM region PROCLIB data set. Refer to CUSTPARM(ATYPARMS).

   ```
   ATYLOGR=log stream name
   ```
4. Specify a partner product user exit.

Complete either of the following steps:

- Define ATYPPUE0 as a partner product user exit to the IMS DFSDF member as follows:

```
<SECTION=USER_EXITS>
 EXITDEF=(TYPE=PPUE,EXITS=(ATYPPUE0))
```

- If your IMS system uses the IMS Tools Base generic partner exit routine, add the following statements to the GPR*xxxx*0 member in the IMS PROCLIB, where *xxxx* is the IMS ID.

```
EXITDEF(TYPE(PARTNER) EXITNAME(ATYPPUE0)  LOADLIB(CUSTLOAD loadlib data set name))
```

  A sample is provided in CUSTPARM(GPRIFI80).

  For more information, see the *Tools Base IMS Tools Common Services User's Guide and Reference*.

5. Prepare IMS command processor JCLs for the IMS system.

   If you want to submit IMS command batch jobs (IMS BMP batch job, IMS DL/I batch job, and z/OS standard batch job) and IMS command REDO BMP jobs, prepare JCLs for the IMS system.

   You can refer to the following batch job samples:

   - BMP region: Member ATYBMP
   - DL/I region: Member ATYDLI
   - Standard batch: Member ATYBATCH

   For REDO BMP JCL samples, refer to CUSTJCL(#A7ATY4@) or SATYSAMP(ATYBMPR).

   For more information, see Part 8, “IMS command processing,” on page 183.
6. Register the IMS system to IMS Administration Tool.

   Start the IMS Administration Tool web interface or the ISPF interface and register the IMS system to IMS Administration Tool:

   - Web interface: **Setup and Admin** > **IMS Management** > **Register IMS System**
   - ISPF interface: **Setup and Administration** > **Register IMS System**

   For details, see Chapter 8, “Registering IMS systems,” on page 63.

Setting up a Java environment for IMS SPUFI JBP

The IMS SPUFI function of IMS Administration Tool enables you to issue IMS SQL statements to IMS databases. SQL statements are executed in a COBOL application (IMS BMP application) or Java application (IMS JBP application). To execute SQL statements in a Java application, you must set up a Java environment.

Before you begin

Before you set up a Java environment for the IMS SPUFI Java application, you must ensure that the following prerequisite tasks are completed:

1. IMS system is configured so that it can start the IMS JBP region. IMS requires the following procedures to start the IMS JBP region:

   - DFSJBP PROCLIB member
   - DFSJVMEV PROCLIB member
   - DFSJVMMS PROCLIB member

   These IMS procedures do not require IMS Administration Tool libraries nor path information.
2. Complete initial product customization with IMS Tools Setup. If you have not yet completed the customization, see Chapter 3, “Configuration prerequisites and checklist,” on page 19.

Note: If you have applied PTF for APAR PH19926 to IMS Tools Base before using IMS Tools Setup, all the steps described in this topic are included in the CUSTJCL data set. In this case, you do not need to complete the following steps.

About this task

The following customization steps are required only if you want to execute IMS SQL using the Java application, which runs as an IMS JBP application using type-2 IMS universal drivers. If you plan to use IMS SPUFI with the COBOL application, you do not need to perform the following customization steps.

For more information about the IMS SPUFI function, language environments, and SQL statements, see Chapter 27, “IMS SPUFI overview,” on page 175.

Procedure

IMS Administration Tool provides a collection of sample JCLs to configure a Java environment. These sample JCLs are provided in the SATYSAMP data set.

Table 5. Configuring a Java environment for IMS SPUFI JBP

Step	Description	Sample member in SATYSAMP
1. Decide the path name	IMS Administration Tool provides Java programs through a jar file (also referred to as ATY jar file). The ATY jar file must be placed in the z/OS UNIX System Services (z/OS UNIX) file system (You will be instructed to do so in Step 4). Before placing the ATY jar file in the z/OS UNIX file system, decide the location to place the ATY jar file. The path for the ATY jar file is: `-PathPrefix-usr/lpp/imstools/admintool/lib` • *-PathPrefix-*: Path name must be an absolute path name, begin and end with a slash (/), and must not include a plus sign (+) nor a blank. The maximum length is 900 characters. • usr/lpp/imstools/admintool/lib: Do not change this path. Use as is.	None.
2. (optional) Allocate and mount a new zFS file system	If you want to create a new file system to place the ATY jar file, create and mount a new zFS file system. If you use an existing file system, skip this step. To create and mount a new zFS file system, modify the ATYJZFS JCL for your environment by following the instructions in the ATYJZFS JCL. For the file path, specify the *-PathPrefix-* that you have decided in Step 1. Submit the job and verify that it completes with condition code of 0. **Note:** The new file system will not be mounted at the next IPL time. Consider adding the file system to the BPXPRM*xx* member in the z/OS system parmlib data sets (SYS1.PARMLIB or the concatenated data sets) so that the file system is automatically mounted at IPL time.	ATYJZFS

Table 5. Configuring a Java environment for IMS SPUFI JBP (continued)

Step	Description	Sample member in SATYSAMP
3. Create a z/OS UNIX path	To create a z/OS UNIX path for the ATY jar file, modify the ATYJMKD JCL for your environment by following the instructions in the ATYJMKD JCL. For the file path, specify the *-PathPrefix-* that you have decided in Step 1. Submit the job and verify that it completes with condition code of 0.	ATYJMKD
4. Copy the jar file to the appropriate z/OS UNIX path	To copy the ATY jar file from the SMP/E target library to the z/OS UNIX file system using the z/OS UNIX path, modify the ATYJCOPY JCL for your environment by following the instructions in the ATYJCOPY JCL. Submit the job and verify that it completes with condition code of 0.	ATYJCOPY
5. Register variables to the IMS Tools Knowledge Base repository	To run the IMS Administration Tool java application as JBP, you must register variables to the IMS Tools Knowledge Base repository. ATYJPREF job registers the following keyword variables to the IMS Tools Knowledge Base repository: • Registers "JBP" for variable SQLLANG. • Registers the path prefix for the ATY jar file (*-PathPrefix-*) for variable ATYJPRE1. • Registers the path prefix for the ATY jar file (*-PathPrefix-*) for variable ATYJPRE2, 3, ... 9, A, ... G. These variables are registered only when the path prefix is more than 65 characters. For example, if the path prefix is 150 characters, the first 65 characters are registered to ATYJPRE1, 66 to 130 characters are registered to ATYJPRE2, 131 to 150 characters are registered to ATYJPRE3. Modify the ATYJPREF JCL for your environment by following the instructions in the ATYJPREF JCL. Submit the job and verify that it completes with condition code of 0.	ATYJPREF

Migration from IBM IMS Command Control Facility for z/OS

You can use batch JCLs and application programs of IMS Command Control Facility (CCF) with IMS Administration Tool after you complete the migration task.

During the migration task, you define alias names of IMS Command Control Facility modules to IMS Administration Tool. By defining alias names, you can run batch jobs and application programs of IMS Command Control Facility using the load modules of IMS Administration Tool.

To use IMS Command Control Facility modules with IMS Administration Tool, you must modify the STEPLIB concatenation to include the load module libraries of IMS Administration Tool instead of load module libraries of IMS Command Control Facility.

In addition to defining alias names, you must also set up VSAM data sets and the IMS system. To use batch JCLs and application programs of IMS Command Control Facility with IMS Administration Tool, complete the steps in “Migrating from IMS Command Control Facility” on page 45.

Compatibility between IMS Administration Tool and IMS Command Control Facility

This topic describes compatibility between IMS Administration Tool and IMS Command Control Facility.

IMS Command Control Facility resources that can be used with IMS Administration Tool

After you complete the migration steps in “Migrating from IMS Command Control Facility” on page 45, you can use the following resources of IMS Command Control Facility with IMS Administration Tool.

CCF callable API

- The STEPLIB concatenation of the batch JCL of the CCF callable API must be changed to include the load module libraries of IMS Administration Tool instead of load module libraries of IMS Command Control Facility.
- Application programs that call the CCF callable API (CCFCAPI0) can be used without modification or re-compilation. When you migrate from IMS Command Control Facility to IMS Administration Tool, you define alias name CCFCAPI0 to module ATYCAPI0. This step makes module ATYCAPI0 compatible with module CCFCAPI0.
- /CCFDEADQ command can be used.

Batch JCLs

- The STEPLIB concatenation of the JCL must be changed to include the load module libraries of IMS Administration Tool instead of load module libraries of IMS Command Control Facility.
- Parameters and resource names used in of IMS Command Control Facility batch JCLs (IMS BMP batch JCL, IMS DL/I batch JCL, and z/OS standard batch JCL) require no modification.
  - PGM= and PARM= in the EXEC statement
  - CCFSYSIN, CCFLIST, CCFOPTS, and CCFJOPRT DD names
  - CCFDDTBL module, which is a ddname table that defines input and output DD names
  - CCFOPTS ddname input statements

REDO BMP batch JCLs

- The STEPLIB concatenation of the JCL must be changed to include the load module libraries of IMS Administration Tool instead of load module libraries of IMS Command Control Facility.
- Parameters and resource names used in IMS Command Control Facility REDO batch JCLs require no modification.
  - PGM= and PARM= in the EXEC statement
  - CCFPRE, CCFPRINT, and CCFPOST DD names

CCF commands

- /CCFMOD,/CCFWAIT, and /CCFDEADQ commands
- /LOG CCFREFRESH | CCFCONNECT | CCFDISCONN commands

Resources of IMS Administration Tool start with "ATY". However, to keep the compatibility between IMS Command Control Facility and IMS Administration Tool, IMS Administration Tool also supports resources that start with "CCF" (only those introduced in this topic). If both resources are supplied, IMS Administration Tool uses the resource that starts with ATY and ignores the resource that starts with CCF. For example, if both CCFOPTS and ATYOPTS are supplied, IMS Administration Tool uses ATYOPTS.

For a list of resource names of IMS Administration Tool and IMS Command Control Facility, see “IMS Administration Tool and IMS Command Control Facility resource names” on page 47.

IMS Command Control Facility resources that cannot be used with IMS Administration Tool

The following resources of IMS Command Control Facility are not supported by IMS Administration Tool. These resources must be redefined during migration. Migration steps in “Migrating from IMS Command Control Facility” on page 45 cover redefinition of these resources.

- IMS exit routines and definitions in IMS PROCLIB
- CCFPARMS
- VSAM option data set
- Command store/forward VSAM data set

Log record compatibility considerations

Log records that IMS Command Control Facility generates are not compatible with log records that IMS Administration Tool generates.

You can continue to use the same log stream that you have been using with IMS Command Control Facility with IMS Administration Tool. However, because the format of log records is different between IMS Administration Tool and IMS Command Control Facility, IMS Administration Tool does not support the following operations on the log records generated by IMS Command Control Facility:

- You cannot view command log records generated by IMS Command Control Facility.
- Log records of IMS Command Control Facility cannot be archived using the Command and Audit Log Archive (ATYARCH0) utility of IMS Administration Tool. If you want to archive log records of IMS Command Control Facility, you must submit the archive log utility (CCFARCH0) using the IMS Command Control Facility product load library before you start the migration task.

After you complete the migration task described in “Migrating from IMS Command Control Facility” on page 45, the Command and Audit Log Archive (ATYARCH0) utility of IMS Administration Tool has the alias name of CCFARCH0. You can submit the archive log utility (CCFARCH0) to archive log records generated by IMS Administration Tool. In order to do so, you must modify the STEPLIB concatenation to include the load module libraries of IMS Administration Tool instead of the load module libraries of IMS Command Control Facility.

IMS Command Control Facility functions that are not supported by IMS Administration Tool

IMS Administration Tool does not support the following functions of IMS Command Control Facility:

- The Command processor list
- APPC/MVS and APPC/IMS

The following global options, which are for APPC/MVS and APPC/IMS, are not supported by IMS Administration Tool:

- APPC/STC Tpname
- Use DB pre-scan for remote STC
- Use GENERAL option for syntax error

Global option "Add NOFEOV to ISPF command" is not supported with IMS Administration Tool. Use "Add NOFEOV to /DBD and /DBR" option instead.

Migrating from IMS Command Control Facility

Complete the migration steps summarized in the following table. These steps must be completed to use batch JCLs of IMS Command Control Facility with IMS Administration Tool.

About this task

Before migrating from IMS Command Control Facility, ensure that you have completed initial product customization with IMS Tools Setup. If you have not yet completed the customization, see Chapter 3, “Configuration prerequisites and checklist,” on page 19.

After you complete these migration steps, it is recommended that you keep all the IMS Command Control Facility resources. You might need these resources in case you want to fallback to IMS Command Control Facility.

Procedure

Table 6. Migration tasks to migrate from IMS Command Control Facility to IMS Administration Tool

Step	Description	Sample member in SATYSAMP
1. Run the IMS Command Control Facility archive utility	The archive utility of IMS Administration Tool cannot archive the log records generated by IMS Command Control Facility. If you want to archive the log records of IMS Command Control Facility, submit the IMS Command Control Facility archive utility.	
2. Remove IMS Command Control Facility resources	If the load module members of IMS Command Control Facility (CCF prefix) and IMS Administration Tool (ATY prefix) reside in the same data set, move the IMS Command Control Facility load module members to a different data set.	
3. Define alias names	**Note:** If you have applied PTF UI66761 of APAR PH16255 to IMS Tools Base before using IMS Tools Setup, the alias definition step is included in the member #A7ATY8 of CUSTJCL. In this case, the alias names are already defined and you can skip this step. Define alias names to the load modules of IMS Administration Tool. The alias names start with "CCF.".	ATYALSC

Table 6. Migration tasks to migrate from IMS Command Control Facility to IMS Administration Tool (continued)

Step	Description	Sample member in SATYSAMP
4. Copy VSAM option data set	**Note:** If you have applied PTF UI66761 of APAR PH16255 to IMS Tools Base before using IMS Tools Setup, the copy step is included in the member #A7ATY8 of CUSTJCL. In this case, the VSAM option data set is already copied so you can skip this step. The CCF VSAM option data set and CCF#OPTS cannot be used with IMS Administration Tool. Copy the following VSAM option records from IMS Command Control Facility to IMS Administration Tool: • Global options • Job options • Message disposition table **Notes:** • Member ATYCPYV in the SATYSAMP data set is JCL to copy VSAM option records by using IDCAMS. The global option records and job options records are copied with the replace option in the first job step, and the message disposition table records are copied without the replace option in the second job step. You can enable or disable the replace option. • Some global options are not supported by IMS Administration Tool. See "IMS Command Control Facility functions that are not supported by IMS Administration Tool" on page 44. • IMS system and IMS command group records are not copied by the ATYCPYV job. You must register IMS systems and IMS command groups using the web interface or the ISPF interface of IMS Administration Tool. This is because some information that is required by IMS Administration Tool user interface is defined during initial registration. • If the message disposition table record is not defined in IMS Command Control Facility, you will receive return code 12 in the second job step.	ATYCPYV
5. Modify CCF batch JCLs	In each CCF batch JCL, you must modify the STEPLIB DD statement. Specify the following IMS Administration Tool customized and product load library data sets. These load library data sets are created by IMS Tools Setup jobs: • SYSLOAD, which contains ATY#OPTS and ATYSTFWD modules Locate the data set that is defined to the SYSLOAD variable of IMS Administration Tool and also in CUSTLOAD (if a different name is used in SYSLOAD). • COMBLOAD and COMBLOAD.PDSE (or SATYLOAD if you did not select "Combine libraries" during IMS Tools Setup.)	

Table 6. Migration tasks to migrate from IMS Command Control Facility to IMS Administration Tool (continued)

Step	Description	Sample member in SATYSAMP
6. Modify the IMS system	The exit routines and the PROCLIB members of IMS Command Control Facility cannot be used with IMS Administration Tool. Remove all IMS Command Control Facility resources (load libraries, PROCLIB members) from the IMS control region, OM region, dependent regions, and PROCLIB. Then set up IMS Administration Tool in the IMS systems. For details, see "Setting up IMS Administration Tool in an IMS system" on page 39.	

IMS Administration Tool and IMS Command Control Facility resource names

IMS Administration Tool supports IMS Command Control Facility resources that you have been using with IMS Command Control Facility.

Note: To enable IMS Command Control Facility resources with IMS Administration Tool, you must complete the migration steps described in "Migrating from IMS Command Control Facility" on page 45.

The following table provides a mapping of IMS Command Control Facility resources and IMS Administration Tool resources used by the features that both products support.

At run time, IMS Administration Tool generally searches for IMS Administration Tool resources (starts with "ATY") first. When it cannot find the resource, it looks for IMS Command Control Facility resources (starts with "CCF").

IMS Command Control Facility resource	IMS Administration Tool resource	Description
CCFCMD00	ATYCMD00	Program name used in IMS command batch jobs
CCFJOPRT	ATYJOPRT	DD name used in IMS command batch jobs
CCFOPTS	ATYOPTS	DD name to override IMS command job options and global options in IMS command batch jobs
CCFODSET	ATYODSET	DD name for the VSAM options data set used in IMS command batch jobs **Note:** If both ATYODSET and CCFODSET DD statements are not specified, IMS Administration Tool dynamically allocates (DYNALLOC) the data set that is defined in the ATY#OPTS customized module.
CCFDDTBL	ATYDDTBL	The load module name for the ddname table used in IMS command batch jobs
CCFSYSIN	ATYSYSIN	DD name used in IMS command batch jobs (z/OS standard batch, IMS DL/I batch, and IMS BMP batch) **Note:** IMS Administration Tool does not actually use DD statements CCFSYSIN, ATYSYSIN, CCFLIST, and ATYLIST. It uses the DD statements that are overridden at run time. For more information, see "Runtime options for IMS command batch jobs" on page 207.

IMS Command Control Facility resource	IMS Administration Tool resource	Description
CCFLIST	ATYLIST	DD name used in IMS command batch jobs **Note:** IMS Administration Tool does not actually use DD statements CCFSYSIN, ATYSYSIN, CCFLIST, and ATYLIST. It uses the DD statements that are overridden at run time. For more information, see "Runtime options for IMS command batch jobs" on page 207.
CCFREDO0	ATYREDO0	Program name used in REDO batch jobs
CCFPRE	ATYPRE	DD name used in REDO batch jobs
CCFPRINT	ATYPRINT	DD name used in REDO batch jobs
CCFPOST	ATYPOST	DD name used in REDO batch jobs
CCFSTFWD	ATYSTFWD	DD name for the store/forward VSAM data set used in REDO batch jobs **Note:** If both ATYSTFWD and CCFSTFWD DD statements are not specified, IMS Administration Tool dynamically allocates (DYNALLOC) the data set that is defined in the ATYSTFWD customized module.
/LOG [CCFREFRESH| CCFCONNECT| CCFDISCONN]	/LOG [ATYREFRESH| ATYCONNECT| ATYDISCONN]	Commands provided by IMS Administration Tool
/CCFWAIT	/ATYWAIT	Command provided by IMS Administration Tool
/CCFMOD	/ATYMOD	Command provided by IMS Administration Tool
/CCFDEADQ	/ATYDEADQ	Command provided by IMS Administration Tool
CCFCAPI0	ATYCAPI0	Program name for the IMS command callable API
CCFARCH0	ATYARCH0	Program name for the archive utility. In IMS Administration Tool, the utility name is Command and Audit Log Archive (ATYARCH0) utility.

Part 3. Setup and Administration

IBM IMS Administration Tool for z/OS (also referred to as IMS Administration Tool) is an IMS Tools product that provides a comprehensive set of functions and features to assist IMS database administrators with managing IMS environments.

The IMS Administration Tool setup and administration options allow you to specify and validate required product configuration and IMS environmental information.

The IMS Tools Knowledge Base repository is used to maintain IMS Administration Tool configuration and IMS environment information. The repository is created and initialized during initial IBM IMS Tools Base installation.

ISPF and Management Console user interfaces, that are used by IMS Administration Tool, access the same repository. Therefore, configuration data and IMS environment information is consistent across both user interfaces.

The topics in this section provide you with information about the setup and administration options for IMS Administration Tool.

Topics:

Chapter 6. Global settings

IMS Administration Tool requires two global settings to be defined.

Global Settings reference

Table 7. Global settings

Option	Description
ITKB Repository	The name of the IMS Tools Knowledge Base repository server for the XCF Group that operates in the same environment as IMS Administration Tool. **Note:** IMS Tools Knowledge Base is a component of IBM IMS Tools Base. IMS Administration Tool uses the IMS Tools Knowledge Base repository to store enhanced product registry information and product processing output such as reports, command logs, and audit logs. This value is provided during product startup, and is not configurable from this field.
Audit Log	Enter the name of the single global predefined IMS Administration Tool audit log stream that captures processing information for the entire IMS Administration Tool environment. • The audit log is initially created during z/OS configuration and is defined as a z/OS System Logger log stream data set. System Logger is a z/OS component that provides a logging facility for applications that run in a single-system or multi-system sysplex. Refer to the appropriate z/OS documentation for information and syntax. • Only one audit log serves the entire IMS Administration Tool environment. • The audit log is optional. You must define and specify the audit log stream to enable logging. **Using the audit log stream to log IMS commands** • By default, IMS commands and responses are not logged to the audit log, unless the audit log is specified as an IMS command log stream. • Command log streams for IMS command logging are configured when you register individual IMS subsystems: **Setup and Administration > Register IMS Systems > Create > Register an IMS Subsystem > Command Processor Settings > Command Log Stream** • You can name a command log stream to be the same as the global IMS Administration Tool audit log stream (recommended), or alternatively, you can specify a separate command log stream for each individual IMS subsystem. • If the global audit log is also specified as a command log stream for an IMS subsystem, command logging is activated and the audit log additionally captures IMS command records for the associated IMS subsystem.

Chapter 7. Updating the product registry

IMS Tools products that participate in the IMS Administration Tool environment must be registered to the IMS Tools Knowledge Base repository and must define to IMS Administration Tool what functions they can perform.

Topics:

Product registration overview

IMS Tools products that participate in the IMS environment with IMS Administration Tool are required to register information to the central IMS Tools Knowledge Base repository.

This product information is used by the IMS Administration Tool "Run IMS utilities" feature to help automate and support the JCL generation process.

Product registration includes:

- Register to the IMS Tools Knowledge Base repository for general data storage.
- Register to the IMS Tools Knowledge Base report service for storage of generated product reports.
- Register to the IMS Tools Knowledge Base product registry:
  - Product version and release
  - Product library names and locations
  - Initial assignment of product "scope=GLOBAL"
- Register specific *functions* provided by the IMS Tool products.
- Register *templates* for each function that represent the JCL code used to perform that function.

  Initial assignment of template "scope=GLOBAL".
- Register a list of *variable* expressions used in the template code that are later populated with values appropriate to the IMS environment.

  Initial assignment of variable "scope=GLOBAL".
- Enhanced initial setup and customization of IMS Administration Tool through IMS Tools Setup.

Product registration process flow

The following diagram shows the IMS Administration Tool product registration process flow.

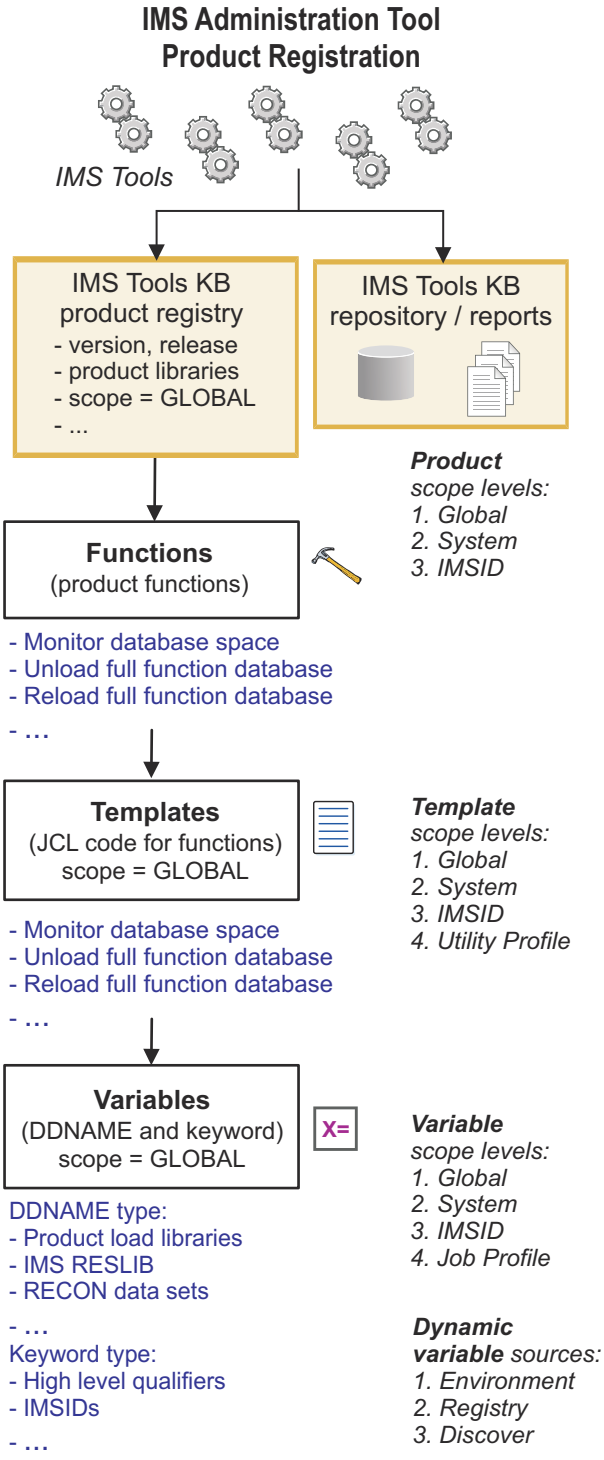

Figure 4. Product registration process flow

Product functions, templates, and variables

To support the Run IMS Utilities feature of IMS Administration Tool, IMS Tools product *functions* are registered and made available to the JCL generation process.

The code to run a specific function is provided in the form of a *template*. The template is JCL code and includes *variable* expressions that are populated with appropriate values before and during the final build process of an actual job JCL.

Functions

Functions are the specific capabilities provided by IMS Tools products.

A sequence of specific functions can be assembled together to define a simple or complex database maintenance task.

Example functions:

- Image copy with pointer check
- Build indexes for full function databases
- Pointer check full function databases
- Unload a full function database
- Reload a full function database
- Prefix resolution and update

Templates

A template is the JCL code containing variables and commands that is used to run a function. Templates are created during the registration of the product functions.

The Run IMS Utilities *utility profile* defines a database maintenance task by specifying the required functions in the correct sequence.

The Run IMS Utilities *job profile* accesses a utility profile and combines the function templates specified by that utility profile into a single master JCL job. The job profile then applies this JCL job to an IMS environment that is defined in an *object profile*.

Variables

Variables are place-holder expressions in template JCL code that require the substitution of specific values when the single master JCL is generated.

There are two types of variables used:

- **DDNAME** (DDNAME parameter and data set names)

  Examples: product load library locations, IMS RESLIB, RECON data set names
- **Keywords**

  Examples: high level qualifiers, IMSID, RECONID, LPAR, USERID, ITKBSRVR

Additionally, some variables and values are dynamically provided during the final JCL build process. Sources for these dynamic variables include:

- **Environment** (z/OS system information)

  Examples: SORTLIB, SYSMAC, USERID, UNIT
- **Registry** (IMS Tools product information)

  Examples: library names (*MENU, *PENU, *SENU, *LOAD)
- **Discovery** (IMS system information)

  Examples: DBDLIB, PROCLIB, RECON1

Rules for DDNAME variables

Values for DDNAME variables can include data set names and the DDNAME parameter itself.

Because JCL code often contains concatenated data set names, all DDNAME variables must be assigned a rule that specifies how the variable values are substituted in the code during a final JCL job build:

- **Before**

  The value for this variable is applied at the beginning of any existing DDNAME concatenation.
- **Replace**

  The value for this variable replaces any existing value or values.
- **After**

  The value for this variable is applied at the end of any existing DDNAME concatenation.

Example:

- DDNAME variable name = DD1, with a data set name value of A.B.C
- Existing JCL code, which includes a DDNAME of DD1:

```
//STEP1  EXEC PGM=IEFBR14
//DD1     DD DSN=FIRST.DSN,DISP=SHR
//         DD DSN=SECOND.DSN,DISP=SHR
//DD2     DD DSN=THIRD.DSN,DISP=SHR
```

- Rule=B (Before) concatenates the variable value **before** any existing allocations of DD1:

```
//STEP1  EXEC PGM=IEFBR14
//DD1     DD DSN=A.B.C,DISP=SHR
//         DD DSN=FIRST.DSN,DISP=SHR
//         DD DSN=SECOND.DSN,DISP=SHR
//DD2     DD DSN=THIRD.DSN,DISP=SHR
```

- Rule=R (Replace) **replaces** any existing allocations of DD1:

```
//STEP1  EXEC PGM=IEFBR14
//DD1     DD DSN=A.B.C,DISP=SHR
//DD2     DD DSN=THIRD.DSN,DISP=SHR
```

- Rule=A (After) concatenates the variable value **after** any existing allocations of DD1:

```
//STEP1  EXEC PGM=IEFBR14
//DD1     DD DSN=FIRST.DSN,DISP=SHR
//         DD DSN=SECOND.DSN,DISP=SHR
//         DD DSN=A.B.C,DISP=SHR
//DD2     DD DSN=THIRD.DSN,DISP=SHR
```

Scope designations for products

The registration for each IMS Tools product includes a categorization called "scope".

The primary purpose of product scope designations is to allow you to distinguish products according to different product version/release levels and maintenance levels. Product scope designation allows you to apply different versions of the same product to specific regions of your environment.

GLOBAL
The initial default scope designation for all products registered to the IMS Administration Tool environment.

Interpretation: A scope=GLOBAL product is available for use to the entire environment, when:

- There is no duplicate of this product with a scope=*IMSID* representing the IMSID of a specific IMS environment, or
- There is no duplicate of this product with a scope=SYSTEM.

Purpose/usage: A product with scope=GLOBAL means the production SMP/E libraries for the product have not been modified or updated since initial installation. A scope=GLOBAL product represents the production product libraries with no maintenance applied since installation.

SYSTEM
A default scope=GLOBAL product that has been customized (modeled) using the product management interface.

Interpretation: A scope=SYSTEM product is available for use to the entire environment, when:

- There is no duplicate of this product with a scope=*IMSID* representing the IMSID of a specific IMS environment.

Purpose/usage: A product with scope=SYSTEM means the production SMP/E libraries for the product have been modified or updated since initial installation. A scope=SYSTEM product represents the production product libraries with maintenance applied since installation.

IMSID
A default scope=GLOBAL or SYSTEM product that has been customized (modeled or updated) using the product management interface.

Interpretation: A product with scope=*IMSID* is available for use only for the specified IMS environment (IMSID).

Purpose/usage: A product with scope=*IMSID* means the production SMP/E libraries for the product have been modified or updated since initial installation. The modification or update is made to be appropriate for use in a specific IMS environment (IMSID).

Best practice scenario

1. When an IMS Tools product is registered through IMS Tools Setup, original SMP/E libraries (registered for a test IMS environment as scope=*IMSID*) are maintained separately from copied libraries (registered as scope=GLOBAL) that are used for the production environment
2. Maintenance updates (APAR/PTF) are applied to the original SMP/E libraries (scope=*IMSID*) and tested on the test IMS environment.
3. When testing has been validated, the maintenance update is applied to the copied libraries used in production. The scope for the production libraries is changed to scope=SYSTEM.

Scope designations for templates

The configuration for each function template includes a categorization called "scope".

The primary purpose of scope designations for templates is to allow the JCL code for functions to be modified to meet the specific requirements of the environment. The Run IMS Utilities job profile assembles templates at the appropriate scope levels to generate the correct JCL for the target databases and environment.

GLOBAL
The initial default scope designation when templates are created for all product functions that are registered to the IMS Administration Tool environment.

Interpretation: The scope=GLOBAL template is applicable to all job profiles, when:

- There is no equivalent template with a scope=*IMSID* for the IMSID that the job profile belongs to, or
- There is no equivalent template with a scope=SYSTEM.

Purpose/usage: The scope=GLOBAL template represents the JCL code to run the function as originally provided with no modifications.

SYSTEM
A scope=GLOBAL template that has been modified (modeled) using the function and template management interface.

Interpretation: The scope=SYSTEM template is applicable to all job profiles, when:

- There is no equivalent template with a scope=*IMSID* for the IMSID that the job profile belongs to.

Purpose/usage: The scope=SYSTEM template represents JCL code that has been modified to run a customized version of the function for the particular environment or environments.

IMSID
A scope=SYSTEM or GLOBAL template that has been modified (modeled or updated) using the function and template management interface.

Interpretation: The scope=*IMSID* template is applicable only to those job profiles belonging to the specified IMS environment (IMSID).

Purpose/usage: The scope=*IMSID* template represents the JCL code that has been modified to run a customized version of the function for the specified IMS environment (IMSID).

PROFILE
A scope=GLOBAL or SYSTEM or IMSID template that has been modified (modeled or updated) using the manage utility profile interface.

Interpretation: The scope=PROFILE template is created within a specific utility profile itself, and is applicable only to that utility profile and the IMSID associated with the utility profile.

Purpose: The scope=PROFILE template represents the JCL code that has been modified to run a customized version of the function that is appropriate for use only when the job profile uses that utility profile.

Scope designations for variables

The configuration for variables used in templates includes a categorization called "scope".

Variable expressions often occur in the template JCL code as place-holders for actual values. Appropriate values are substituted for the variable expressions when the job profile builds the final JCL.

The primary purpose of scope designations for variables is to allow you to modify the JCL code for functions to meet the specific requirements of the environment. The Run IMS Utilities job profile substitutes values for variable expressions at the appropriate scope levels to generate the correct JCL for the target databases and environment.

GLOBAL
The initial default scope designation for all product variables and values when they are initially registered to the IMS Administration Tool environment.

Interpretation: The scope=GLOBAL variable and value is applicable to all job profiles during variable substitution, when:

- There is no equivalent variable and value with a scope=PROFILE for the specific job profile, or
- There is no equivalent variable and value with a scope=*IMSID* for the IMSID that the job profile belongs to, or
- There is no equivalent variable and value with a scope=SYSTEM.

Purpose/usage: The scope=GLOBAL variable uses the value provided at initial product registration.

SYSTEM
A scope=GLOBAL variable and value that has been modified (modeled) using the variable management interface.

Interpretation: The scope=SYSTEM variable and value is applicable to all job profiles during variable substitution, when:

- There is no equivalent variable and value with a scope=PROFILE for the specific job profile, or
- There is no equivalent variable and value with a scope=*IMSID* for the IMSID that the job profile belongs to.

Purpose/usage: The scope=SYSTEM variable uses a customized value (modified from the scope=GLOBAL value).

IMSID

A scope=GLOBAL or SYSTEM variable and value that has been modified (modeled or updated) using the variable management interface.

Interpretation: The scope=*IMSID* variable and value is applicable during variable substitution only to job profiles created for the specified IMS environment (IMSID).

Purpose: The scope=*IMSID* variable uses a customized value that is appropriate for use only by a job profile created for the specified IMS environment (IMSID).

PROFILE

A scope=GLOBAL or SYSTEM or IMSID variable and value that has been modified (modeled or updated) using the manage job profile interface.

Interpretation: The scope=PROFILE variable and value is created within a specific job profile itself, and is applicable during variable substitution only to that job profile.

Purpose: The scope=PROFILE variable uses a customized value that is appropriate for use only by the job profile where the value was defined.

Dynamically generated variables

Some variables and values are dynamically provided during the final JCL build process. Sources for these dynamic variables include:

ENVIRONMENT

z/OS system information

Examples: SORTLIB, SYSMAC, USERID, UNIT

REGISTRY

IMS Tools product information

Examples: library names (*MENU, *PENU, *SENU, *LOAD)

DISCOVERED

IMS system information

Examples: DBDLIB, PROCLIB, RECON1

Product Management reference

The Product Management interface displays the status of all IMS Tools products that have registered to participate in the IMS Administration Tool environment.

Product scope designations can be used to identify and control different product version/release levels and maintenance levels.

Table 8. Product Management

Option	Description
D (delete)	Delete a SYSTEM or IMSID scope level product. Products with a GLOBAL scope level cannot be updated or deleted. Products with a GLOBAL scope level can only be viewed or modeled.

Table 8. Product Management (continued)

Option	Description
M (model)	Using the selected product as a model and create a new product registry entry that contains a different scope level and/or library designations. Suffixes for SMP/E library members: **LOAD** Product load library **PENU** ISPF panel library for the product **MENU** ISPF message library for the product **SLIB** ISPF skeleton library
U (update)	Update product library designations for SYSTEM and IMSID scope level products. Products with a GLOBAL scope level cannot be updated or deleted. Products with a GLOBAL scope level can only be viewed or modeled.
V (view)	Display product information. No modifications to the product information can be made in this view.

Function and Template Management reference

The Function and Template Management interface displays the list of IMS Tools product functions that have been registered in the IMS Administration Tool environment.

Each function has a template associated with it. The template is the JCL code that runs that function.

Prior to accessing the function list, you must indicate the range of scope level to display:

- By default, all GLOBAL scope level functions display.
- Scope=SYSTEM results in the display of all functions with GLOBAL or SYSTEM scope level.
- Scope=IMSID results in the display of all functions with GLOBAL or SYSTEM or the selected IMSID scope level.

Table 9. Function and Template Management

Option	Description
C (create)	Create a new function and template.
D (delete)	Delete a SYSTEM or IMSID scope level function. Functions and templates with a GLOBAL scope level cannot be updated or deleted. Functions and templates with a GLOBAL scope level can only be viewed or modeled.
M (model)	Using the selected existing function and template as a model, create a new function that contains a new name, a new scope level, and modified template JCL code.

Table 9. Function and Template Management (continued)

Option	Description
U (update)	Update the template JCL code for SYSTEM and IMSID scope level functions. Functions and templates with a GLOBAL scope level cannot be updated or deleted. Functions and templates with a GLOBAL scope level can only be viewed or modeled.
V (view)	Display the template JCL code for the selected function. No modifications to the template code can be made in this view.

Variable Management reference

The Variable Management interface displays the list of IMS Tools product variables and values that have been registered in the IMS Administration Tool environment.

Variables are organized into two categories:

- DDNAME (DDNAME parameter and data set names)
- Keyword

Prior to the variable list display, you must indicate the required scope level to include:

- By default, all GLOBAL scope level variables display.
- Scope=SYSTEM results in the display of all variables with GLOBAL or SYSTEM scope level.
- Scope=IMSID results in the display of all variables with GLOBAL or SYSTEM or the selected IMSID scope level.

Table 10. Variable Management

Option	Description
DDname variables	Add, override, delete DDNAME type variable. DDNAME variables represent data set names such as product load library locations, IMS RESLIB, and RECON data sets.
Keyword variables	Add, override, delete keyword type variable. Keyword variables represent single value information such as high level qualifiers and IMSIDs.
C (create)	Create a new variable and value that can be used in function templates. • New variable name • Type (preset for either DDNAME or KEYWORD • Scope level (SYSTEM or IMSID) • Rule (for placement of variable in an existing concatenation) (DDNAME variables only) – Before (B) – Replace (R) – After (A) • Variable value or values

Table 10. Variable Management (continued)

Option	Description
D (delete)	Delete a SYSTEM or IMSID scope level variable. Variables with a GLOBAL scope level cannot be updated or deleted. Variables with a GLOBAL scope level can only be viewed or modeled.
M (model)	Using the selected existing variable as a model, create a new variable with a new name, a new type, a new scope level, and new value.
U (update)	Update the attributes for SYSTEM and IMSID scope level variables. Variables with a GLOBAL scope level cannot be updated or deleted. Variables with a GLOBAL scope level can only be viewed or modeled.
V (view)	Display the attributes for the selected variable. No modifications to the variable and its value can be made in this view.

Chapter 8. Registering IMS systems

You must initially register all IMS subsystems that participate in the IMS Administration Tool environment.

When registering IMS subsystems, you must provide certain IMS system parameters so that IMS Administration Tool can identify ("discover") IMS resources for that system as needed.

Topics:

Technical notes for registering IMS systems

The following technical notes apply for registering IMS systems to the IMS Administration Tool environment.

APF authorization required for IMS instances on different LPARs

When you use IMS Administration Tool to administer multiple IMS systems, you must APF-authorize all data sets in the STEPLIBs for the IMS Control Region, DLISAS, and DBRC regions of any IMS instance that operates on a different LPAR than the LPAR where IMS Administration Tool is located.

Perform this task on the LPAR where IMS Administration Tool is running.

The role of dynamic discovery

IMS Administration Tool is designed to operate as a centralized task management control center for an IMS and IMS Tools environment.

The single user interface provides access to functions that can simplify complex tasks associated with managing IMS databases, applications, and IMS systems.

When registering IMS subsystems, certain IMS system parameters are provided so that IMS Administration Tool can identify ("discover") IMS resources for that system as needed.

IMS Administration Tool dynamic discovery supports the product functions by finding current information and settings about an IMS system. The specific information required varies based on which IMS Administration Tool function is being performed.

The dynamic discovery process is powerful and extensive in order to obtain the information required for any function run by IMS Administration Tool. Some examples of dynamically discovered information include:

- Whether the IMS catalog is enabled or not.
- Whether the IMS system is configured for IMS-managed ACBs.
- The DBDLIB, PSBLIB, ACBLIB, and RECON1 data sets.
- The databases defined to the IMS environment.
- The characteristics, data set names, and other information about the defined databases.

Dynamic discovery assumes the major responsibility of searching for and acquiring the IMS system information required by an IMS Administration Tool function, at the time the function runs. Two ease-of-use goals are achieved because of the discovery process:

- Initial IMS subsystem registration to the IMS Administration Tool environment is minimal.
- User knowledge and maintenance of system information (as needed by IMS Administration Tool) is not required because the discovery process runs dynamically.

IMS settings can change as necessary with system operation, and dynamic discovery detects the current settings at the time the function needs to run.

Register IMS Systems management reference

The Register IMS Systems management interface displays the list IMS subsystems that have been registered to the IMS Administration Tool environment.

Table 11. Register IMS Systems management

Option	Description
C (Create)	Create and register a new IMS subsystem. Opens the Register an IMS Subsystem panel.
S (Sort)	Sort the IMS subsystem display. Opens the Sort Columns panel. You can specify the sequence order (values: 1-6) for each field to be sorted and the sort orders for each field (A-Ascending or D-Descending).
IMSID Filter	Limits the displayed IMSID list according to the characters and wildcards specified as filter criteria. For example: `ims1, ims*, *`
D (delete)	Delete a currently registered IMS subsystem from the IMS Administration Tool environment. IMS subsystems that are registered to IMS Administration Tool become recognized by IMS Administration Tool, and are enabled to participate in the IMS Administration Tool environment. This delete operation only removes the IMS subsystem from the view of IMS Administration Tool. It does not remove the installation of the IMS subsystem from the overall IMS environment. **Note:** When an IMS subsystem (IMSID) is deleted from the IMS Administration Tool registry, IMSIDs from the VSAM options file are not deleted. Many server environments could have the same IMSIDs registered and the same VSAM options file is used by the different servers. If an IMSID is deleted from the VSAM options file, then the VSAM options file might not be usable by the other servers.
M (model)	Create and register a new IMS subsystem using the selected IMS subsystem as a model.
U (update)	Update any system information for the selected IMS subsystem.
V (view)	Display system information for the selected IMS subsystem. No changes to the subsystem information can be made in this view.

Table 11. Register IMS Systems management (continued)

Option	Description
I (show discovered IMS system information)	Display a report of IMS system information that is gathered in real-time upon request. The IMS system report includes information dynamically gathered from the following IMS regions: • IMS Subsystem details • IMS Control Region The IMS control region automatically starts the remaining regions as part of its initialization. To complete initialization, the remaining regions must start and then connect to the IMS control region. • DBRC region The DBRC region provides all access to the DBRC recovery control (RECON). Every IMS control region must have a DBRC region, for managing the IMS logs. • DL/I region The DL/I separate address space (DLISAS) performs most data set access functions for IMS databases (except DEDB DB). • IRLM region The internal resource lock manager (IRLM) allows you to perform block-level or sysplex data sharing. • CQS region Common Queue Server (CQS) is a generalized server that manages data objects on a z/OS coupling facility. CQS is used by IMS shared queues and the Resource Manager as part of the Common Service Layer (CSL). The CSL simplifies the administration and operation of multiple IMS systems that share resources or message queues. • JES2 region The job entry subsystem (JES) receives jobs into the operating system, schedules jobs for processing by z/OS, and controls job output processing. **Note:** In the IMS Control Region: Data Set Information section of the system report, the DFSCX000 ddname, and sometimes the DFSCD000 ddname, do not display the respective data set names.

Register an IMS Subsystem reference

The Register an IMS Subsystem interface allows you to register a new IMS subsystem to the IMS Administration Tool environment.

Table 12. Register an IMS Subsystem

Option	Description
IMS Subsystem ID	The 1-4 character name of the IMS subsystem. Required.

Table 12. Register an IMS Subsystem (continued)

Option	Description
User Description	A 1-24 character informative description for the IMS subsystem that indicates its role and function, and is useful to users.
IMS PROC/JOB DSN	The data set name (up to 44 characters) of a JES PROCLIB or PDS that contains the member of the IMS control region procedure or job JCL. Required. Example: `IMS.COMMON.PROCLIB`
Control Region Member	The 1 to 8 character member name that contains the procedure or job JCL used to start the IMS control region. Required. This member name is required so that IMS Administration Tool can dynamically discover information about the IMS environment when needed. Example: `IEB8CTL`
IRLM PROC/JOB Member	The 1 to 8 character member name that contains the procedure or job JCL used to start the Internal Resource Lock Manager (IRLM). IRLM is a global lock manager and is required if you are performing block-level or sysplex data-sharing. Typically, one IRLM address space runs on each z/OS system to service all IMS subsystems that share the same set of databases. Example: `IEB8IRLM`
Control Region User Parms	Additional parameters (up to 60 characters), or overrides to existing parameters (up to 60 characters), that are specified when starting the IMS control region. IMS Administration Tool needs to know what these parameters are in order to dynamically discover information about the IMS environment when needed. Example: `RGSUF=IE2`

Table 12. Register an IMS Subsystem (continued)

Option	Description
Command Log Stream	IMS command processor setting. Specifies the name of the log stream that captures IMS command and response activity for that IMS subsystem. Command logging is activated only when a command log stream is specified in this field. The command log stream that is specified can be the single global IMS Administration Tool audit log stream (recommended) or a separately configured command log stream associated with this IMS subsystem. Any log stream used as an audit or command log is initially created during z/OS configuration and is defined as a z/OS System Logger log stream data set. System Logger is a z/OS component that provides a logging facility for applications that run in a single-system or multi-system sysplex. The z/OS System Logger log stream data set is defined using the z/OS IXCMIAPU utility program. Example: `SYSLOG.IDQ8.ATY.LOGGER`
User DFSAOE00 Name **Note:** Valid only for non-refreshable user exit implementation.	IMS command processor setting. The custom name of a user-defined (or vendor-provided) IMS AOI type 2 non-refreshable DFSAOE00 exit that IMS Administration Tool uses to capture IMS commands and command responses and write them to the log stream. The IMS AOI DFSAOE00 exit, upon completion, passes control to this exit. This exit is not called for any messages that are configured to be suppressed. **Note:** Beginning with IMS 14, the AOI exit can be implemented as a refreshable exit: • The "User DFSAOE00 Name" field is appropriate only for specifying a non-refreshable user exit. • If you implement a refreshable user exit, leave this field blank. Refer to: “Implementing user exit routines” on page 24.

Table 12. Register an IMS Subsystem (continued)

Option	Description
Message Disposition Table	IMS command processor setting. The 1 to 8 character name of a message disposition table. You can use message disposition to suppress messages from the IMS master terminal, the IMS Administration Tool command log, or the IMS secondary master. You can also use message disposition to route messages to an automated operator interface (AOI) token. User-developed AOI exits are sometimes written to suppress messages that would otherwise be sent to the IMS master terminal, or to route the messages to an alternate destination. Message disposition processing is intended to help eliminate the need for users to develop and maintain this exit to suppress unwanted messages. The message disposition table name is user-defined and is not referred to by any other function. For example, the following name might relate to the message disposition table for IMS1: `IMS1MSGD`

Chapter 9. Managing IMS groups

IMS groups consist of multiple IMS subsystems with similar processing characteristics.

Managing IMS groups overview

You can use IMS groups to manage database processing tasks more efficiently and logically across large numbers of IMS subsystems.

IMS Administration Tool supports two types of IMS groups:

- IMS command groups

  IMS Administration Tool can issue IMS commands synchronously to all of the grouped IMS subsystems.
- IMS data sharing groups

  Members of data sharing groups share common IMS databases, IMS IMS catalog, ACBs, PSBs, DBDs, and IMS Tools Knowledge Base repositories.

  Data sharing groups are equivalent to RECON.

An IMS group can consist of up to 64 IMS subsystems, logically related to benefit the management of your environment. Because an IMS subsystem can be a member of multiple groups, processing by IMS group name can be as flexible as required.

Topics:

Manage IMS groups reference

The Manage IMS Groups interface lists the existing IMS groups that can function in the IMS Administration Tool environment.

Table 13. Manage IMS groups

Option	Description
C (Create)	Create (define) a new IMS group. Opens the Define a Group panel.
S (Sort)	Sort the group list display. Opens the Sort Columns panel. You can specify the sequence order (values: 1-3) for each field to be sorted and the sort orders for each field (A-Ascending or D-Descending).
Group Filter	Limits the displayed group list according to the characters and wildcards specified as filter criteria. For example: `imsgrp01, imsgrp*, *`
D (Delete)	Delete a previously created IMS group. Opens the Delete Group Confirmation panel.

Table 13. Manage IMS groups (continued)

Option	Description
M (Model)	Create (define) a new IMS group based on (modeled after) the attributes of the selected IMS group. Opens the Define a Group panel and indicates the need to enter a name for the new IMS group that is being created from the model IMS group.
U (Update)	Modify (update) the attributes of the selected IMS group. Opens the Define a Group panel and shows the existing attributes of the IMS group. You can now add or remove attributes to change the IMS group definition.
V (View)	Display (view) the attributes of the selected IMS group. No changes to IMS group attributes can be made in this view.

Define an IMS group reference

The Define an IMS Group interface allows you to specify a new IMS group for the IMS Administration Tool environment.

Table 14. Define an IMS group

Option	Description
Group Name	User-provided custom name for the new IMS group.
Type	Two types of IMS groups are supported: • CMD (IMS command group) • DSHR (IMS data sharing group)
Description	Informative description of the IMS group.
Primary IMSID	Required for the IMS data sharing group type (DSHR). Not required (leave empty) for the IMS command group type (CMD).
IMSIDs	• IMS command group 1 - 64 IMSIDs allowed for this IMS group type. IMSIDs must share the same RECON for IMS command groups. • IMS data sharing group In addition to the primary IMSID, 0 - 63 additional non-primary IMSIDs are allowed for this IMS group type.

Chapter 10. Managing data sets and data set groups (ISPF only)

You can register and manage the data sets that you want to use with database (DBD) and application (PSB) update tasks of the database and application administration function and the IMS catalog and ACB library management function.

Notes:

- The capability to manage data sets and data set groups is available for the ISPF interface. The web interface does not support this capability.
- Registered data sets and data set groups can be used for DBD and PSB update tasks of the following functions:
  - IMS resource change function (database and application administration)
  - Import objects function (IMS catalog and ACB library management)

Registering data sets allows you to easily select the data sets that you want to work with. Registered data sets are managed by the unit of data set group. To enable a specific group of data sets for DBD and PSB update tasks, you must register data sets first, then create a data set group and include the registered data sets in the data set group.

When you register a data set or data set group, you associate it with an IMS subsystem. If you want to use the same data set or data set group with multiple IMS subsystems, you must register them for each IMS subsystem.

Registering data sets and creating data set groups are optional tasks. If no data set groups are registered for the IMS subsystem ID that you select, IMS Administration Tool discovers data sets from the IMS control region JCL and IMS PROCLIB members.

Step-by-step instructions for registering data sets and creating data set groups are provided in Technote: How to change DBDs and PSBs by using IBM IMS Administration Tool for z/OS.

Topics:

Data set types

You can register the following types of data sets.

DBD statement source and PSB statement source
Data sets into which DBD or PSB statement source (in readable format) is generated. These data sets are used as input during DBDGEN and PSBGEN of the IMS resource change function (database and application administration).

Note: The import objects function (IMS catalog and ACB library management) does not use DBD statement source data sets and PSB statement source data sets as input. Instead, it uses exported data sets as input. For more information, see "Import objects reference" on page 135.

COBOL copybook and PL/I copybook
Data sets that contain COBOL or PL/I copybooks. These data sets are used as input during copybook import to import copybooks to DBD.

Copybook cross reference
Data sets that contain cross reference information defining linkage between segments and copybooks. These data sets are used as input during copybook import.

DBD statements with copybook
Data sets into which DBD statement source with updates from copybook applied is generated. These data sets are used as output during copybook import, and used as input during DBDGEN.

DBD libraries and PSB libraries
Data sets into which DBDs and PSBs (in binary format) are generated. These data sets are used as output during DBDGEN or PSBGEN, and used as input for ACBGEN.

ACB libraries
Data sets into which ACBs (in binary format) are generated. These data sets are used as output during ACBGEN, and used as input for IMS catalog population.

IMS bootstrap data sets, IMS directory data sets, and IMS catalog database data sets are also updated during the IMS catalog populate process. However, these data sets cannot be registered to IMS Administration Tool. IMS Administration Tool uses discovered data sets.

Manage data sets reference

After you select a data set type, create a data set ID to register a data set. You can also update the data set name and comment fields of registered data sets.

Table 15. Manage data sets reference

Option	Description
DSN ID	The identifier for the data set. IMS Administration Tool uses this identifier to manage the data set. The identifier is one to eight characters in length and can consist of alphanumeric characters as well as the @, #, and $ characters. The first character must be an alphabetic character or the @, #, or $ character.
Data Set Name	Data set name.
Comment	Comment. Up to 24 characters can be used.

Manage data set groups reference

Create a new data set group or manage existing data set groups. Only registered data sets can be included in data set groups.

Table 16. Manage data set groups reference

Option	Description
DS Group ID	Identifier for the data set group. The identifier is one to eight characters in length and can consist of alphanumeric characters as well as the @, #, and $ characters. The first character must be an alphabetic character or the @, #, or $ character.
Default Use	Y indicates that this data set group is used as the default data set group for the associated IMS subsystem ID. **Tip:** If you do not want to set Default Use to Y, you can alternatively enable the data set group by selecting the data set group in **Settings**. • **Database and Application Administration** > **0. Settings** • **IMS Catalog and ACBLIB Management** > **3. Import Objects** > **0. Settings**

Table 16. Manage data set groups reference (continued)

Option	Description
Comment	Comment. Up to 24 characters can be used.
Data Set Type	List of data set types. Select the type of the data set that you want to manage.

After you select a data set type, you select the data sets to include in the data set group by entering a sequence number for each data set you want to include.

You can select only from registered data sets. If no data sets are displayed, it means no data sets are registered for this data set type. You must register data sets before adding them to a data set group.

Table 17. Manage data set groups reference - managing data sets in a data set group

Option	Description
E (Exclude all)	Remove all the data sets from the data set group.
Sequence number	For each data set that you want to include in the group, specify a sequence number. The sequence numbers are used to determine the concatenation order in DBD and PSB update tasks. If you want to include only one data set, the number can be any positive integer.

Chapter 11. Viewing the audit log

IMS Administration Tool uses a single global audit log to capture processing information for the entire IMS Administration Tool environment.

Viewing the audit log overview

- The audit log is optional.
- Specifying an audit log activates IMS Administration Tool logging.
- The audit log is initially created during z/OS configuration and is defined as a z/OS System Logger log stream data set.

  System Logger is a z/OS component that provides a logging facility for applications that run in a single-system or multi-system sysplex.
- The audit log can be used for recording additional diagnostic information.

  Each function provides a way to allow you to dynamically enable and disable additional diagnostic or tracing information to be written to the audit log.

  The purpose of this capability is to diagnose problems more easily in your environment.

Topics:

View Audit Log reference

The View Audit Log interface allows you to specify display options for the IMS Administration Tool audit log file.

Table 18. View Audit Log

Option	Description
Audit Log	The audit log name displayed is the single global IMS Administration Tool audit log stream predefined in: **Setup and Administration > Global Settings > Audit Log**

Table 18. View Audit Log (continued)

Option	Description
View Options	The IMS Administration Tool audit log captures records of processing activity. You can limit the view results with the following choices: • Audit Records (*only*) • Command Records (*only*) • Audit and Command Records By default, the audit log does not capture IMS commands and responses, unless the audit log is additionally specified as an IMS command log stream. If also specified as a command log stream, command logging is activated and the audit log additionally captures IMS command records. Alternatively, a dedicated IMS command log stream can be created during IMS subsystem registration. In this case, the audit log does not capture command and response activity. Command log stream configuration: **Setup and Administration > Register IMS Systems > Create > Register an IMS Subsystem > Command Processor Settings > Command Log Stream**
IMSID	Audit Log Filter Limits the view results to the specified IMS subsystem.
User	Audit Log Filter Limits the view results to the specified TSO user ID.
Start Date / Time End Date / Time	Audit Log Filter Limits the view results to the specified start and end time and dates. Date format: `yyyy/mm/dd` • *yyyy* is expressed as a 4-digit year. • *mm* is expressed as a 2-digit month between 01 and 12. • *dd* is expressed as a 2-digit day between 01 and 31. Time format: `hh:mm:ss` • *hh* is expressed as a 2-digit value for hours between 00 and 23. • *mm* is expressed as a 2-digit value for minutes between 00 and 59. • *ss* is expressed as a 2-digit value for seconds between 00 and 59.

Audit log fields and sample

This topic provides the list of information fields that are included in each audit log record.

Log record fields

The audit log captures a variety of product activity.

Each record includes:

- Audit log indicator

  A = audit, C = command
- Date / Timestamp
- IMSID
- IMS Tools Knowledge Base server name
- Action
- Jobname of Distributed Access Infrastructure SOT (Subordinate Tools Access Servers) address space
- TSO user ID
- Return code, reason code, error message

Audit log sample

```
A 2020/11/19 11:06:37 IDQ8       ADNSRV16 ADD     ADN#0001TSSMD         RC=00000000 RSN=0000000
A 2020/11/21 17:20:11            ADNSRV16 UPDATE  ADN#0003PDBISC        Update Configuration options
A 2020/11/21 17:20:11            ADNSRV16 UPDATE  ADN#0003PDBISC        RC=00000000 RSN=0000000
A 2020/11/21 17:21:24 IEI1       ADNSRV16 ADD     ADN#0003PDBISC        Update/add IMS Information
A 2020/11/21 17:21:25 IEI1       ADNSRV16 ADD     ADN#0003PDBISC        RC=00000000 RSN=0000000
A 2020/11/28 19:11:42            JYDSRV16 UPDATE  JYD#0001TSJYDA        Update Configuration options
A 2020/11/28 19:11:42            JYDSRV16 UPDATE  JYD#0001TSJYDA        RC=00000000 RSN=0000000
A 2020/11/30 18:08:30 IEB8       LHCSRV16 UPDATE  LHC#0002TSLHCA        Update/add IMS Information
A 2020/11/30 18:08:31 IEB8       LHCSRV16 UPDATE  LHC#0002TSLHCA        RC=00000000 RSN=0000000
A 2020/11/30 18:08:44 IEI8       LHCSRV16 UPDATE  LHC#0001TSLHCA        Update/add IMS Information
A 2020/11/30 18:08:44 IEI8       LHCSRV16 UPDATE  LHC#0001TSLHCA        RC=00000000 RSN=0000000
A 2020/11/30 18:08:55 IEQ8       LHCSRV16 UPDATE  LHC#0001TSLHCA        Update/add IMS Information
A 2020/11/30 18:08:56 IEQ8       LHCSRV16 UPDATE  LHC#0001TSLHCA        RC=00000000 RSN=0000000
A 2020/12/06 12:26:32            LHCSRV16 UPDATE  LHC#0002TSLHCA        Update Configuration options
A 2020/12/06 12:26:32            LHCSRV16 UPDATE  LHC#0002TSLHCA        RC=00000000 RSN=0000000
A 2020/12/06 12:27:23            LHCSRV16 UPDATE  LHC#0002TSLHCA        RC=00000000 RSN=0000000
A 2020/12/06 12:27:27 IDC7       ADNSRV16 ADD     ADN#0002TSADN         Update/add IMS Information
A 2020/12/06 12:27:27 IDC7       ADNSRV16 ADD     ADN#0002TSADN         RC=00000008 RSN=0000044
A 2020/12/06 12:27:27 IDC7       ADNSRV16 ADD     ADN#0002TSADN         Environment discover fail
A 2020/12/06 12:27:27 IDC7       ADNSRV16 ADD     ADN#0002TSADN         ATY3113E - CTLRGN
                                                                         Started Task name IDC7CTL  was
A 2020/12/06 15:00:37            LHCSRV16 UPDATE  LHC#0002TSLHC         Update Configuration options
A 2020/12/06 15:00:37            LHCSRV16 UPDATE  LHC#0002TSLHC         RC=00000000 RSN=0000000
A 2020/12/06 16:04:09 IEIW       LHCSRV16 ADD     LHC#0002TSLHC         Update/add IMS Information
A 2020/12/06 16:06:02 ICQ        LHCSRV16 ADD     LHC#0002TSLHC         Update/add IMS Information
```

Chapter 12. Configuring message disposition

You can use message disposition to suppress messages from the IMS master terminal (MTO), the IMS Administration Tool message log, or the IMS secondary master. You can also use message disposition to route messages to an automated operator interface (AOI) token.

Note: Suppressing messages from the IMS secondary master is valid only for IMS 10.1 and later.

Message disposition overview

IMS Administration Tool message disposition processing is controlled by user-defined tables that are stored in the options data set and that are loaded into storage at IMS start up. Multiple IMS systems can be defined to load the same tables from the options data set, but they do not share the tables after the tables loaded into memory.

You use the IMS Administration Tool user interface to add message IDs to the message tables and specify their disposition. The messages can be suppressed from the IMS master terminal or the IMS Administration Tool combined message log.

Message disposition tables can be updated without requiring an IMS startup.

Message disposition is invoked as part of the IMS automated operator interface (AOI) exit:

- DFSAOE00, if you are implementing a non-refreshable user exit.
- ATYAOE00, if you are implementing a refreshable user exit.

  DFSAOE00 is not used if you are implementing a refreshable exit routine.

You can also write your own AOI exit to suppress messages that would otherwise be sent to the IMS master terminal, or to route the messages to an alternate destination.

You can use message disposition to:

- Suppress messages from the IMS master terminal.
- Suppress messages from the IMS Administration Tool message log.
- Suppress messages from the IMS secondary master terminal (IMS 12 and later).
- Route messages to an AOI token.
- Manage message disposition tables and the list of messages designated for disposition.
- Dynamically refresh the list of messages without an IMS restart.
- Help control or eliminate messages from user-developed code.

Topics:

Configure Message Disposition management reference

The Configure Message Disposition management interface allows you to specify new message disposition configuration and manage existing message disposition configuration.

Table 19. Configure Message Disposition

Option	Description
C (Create)	Create (define) a new message disposition table and message ID.

Table 19. Configure Message Disposition (continued)

Option	Description
D (Delete)	Delete a message ID from a message disposition table.
M (Model)	• Add a new message ID to an existing message disposition table, or • Create a new message disposition table with the same message ID or a new message ID.
U (Update)	Modify (update) the message disposition configuration for the selected message ID in the selected message disposition table.
V (View)	Display (view) the message disposition configuration for the selected message ID in the selected message disposition table. No changes to message disposition configuration can be made in this view.

Create, Update, View Message Disposition reference

The Create, Update, View Message Disposition interface allows you to view, create, or change message disposition configuration.

Table 20. Create, Update, View Message Disposition

Option	Description
Message Table	User-defined message disposition table name. The message table name can be unique to an individual IMS subsystem, or all IMS subsystems can share the same table.
Message ID	Message ID to configure for disposition.
Suppress Messages	Message disposition configuration: **IMS Master Terminal (MTO)** Suppress this message ID if it comes from the IMS master terminal (MTO). Y-Yes, N-No **IMS Secondary Master** Suppress this message ID if it comes from the IMS secondary master. **Note:** Suppressing messages from the IMS secondary master is valid only for IMS 10.1 and later. Y-Yes, N-No **IMS Administration Tool Logger** Suppress this message ID if it comes from the IMS Administration Tool logger. Y-Yes, N-No

Table 20. Create, Update, View Message Disposition (continued)

Option	Description
AOITOKEN	Route the message ID to a valid AOI token for any user-written or vendor-provided automated operations (AO) application that can process the specified message ID. The AO application informs IMS what messages it is interested in receiving based on the AOITOKEN name.

Refreshing message disposition table configuration

IMS Administration Tool message disposition tables and message ID configuration are stored in the options data set and are loaded into storage at IMS start up.

Any changes made to message disposition configuration after IMS startup are not implemented until you:

- Stop and restart IMS, or
- Dynamically refresh the message disposition tables

You can dynamically refresh the message disposition tables by issuing the following command from any 3270 terminal that is connected to an IMS system:

```
/LOG ATYREFRESH
```

After a successful table refresh, message ATY8301I displays in the IMS control region z/OS log.

Part 4. Database and application administration

The database and application administration function in IMS Administration Tool provides a way for you to view, create, and change IMS databases (DBDs) and application views (PSBs).

Topics:

Chapter 13. Database and application administration settings (ISPF only)

Settings allow you to register data sets and define runtime options for database (DBD) and application (PSB) update tasks.

Note: The **Settings** menu is available only with the ISPF interface. If you are using the web interface and you want to set runtime options, you can do so by registering DDname and keyword variables.

Data set selection method

Change the data set selection method for IMS resource change sessions. Two methods are available; select data sets from a group of data sets that IMS Administration Tool identifies or from a predefined data set group.

- **Discovered Data Sets:** Use data sets that IMS Administration Tool identifies from the IMS control region JCL and IMS PROCLIB members.
- **Data Set Group:** Use data sets included in a predefined data set group. Data set groups can be predefined from **Setup and Administration** > **Manage Data Sets and Groups**.

Runtime options

The runtime options are applied when copybook import, DBDGEN, PSBGEN, ACBGEN, or IMS Catalog Populate (DFS3PU00) is performed in the following functions:

- IMS resource change function of database and application administration
- Import objects function of IMS catalog and ACB library management

Runtime options include IMS MACLIB, Assemble and COBOL compile options, PL/I and COBOL compiler libraries, and copybook options.

For each runtime option, specify the scope to apply the option (either IMS subsystem ID or system) and a value.

Table 21. Runtime options for DBD/PSB change tasks

Option	Description
IMS Macro Library	IMS macro library data set. Used during DBDGEN and PSBGEN.
Assemble Option	Data set (and member if it is partitioned) that contains assemble options. Used during DBDGEN and PSBGEN.
COBOL Compiler	COBOL compiler library data set. Used during copybook import.
COBOL Compile Option	Data set that contains the COBOL compile option IGYCDOPT module.
PL/I Compiler	PL/I compiler library data set. Used during copybook import.
Copybook Default Lang	Copybook language, either PLI or COBOL. The default is COBOL. Used during copybook import.
Copybook XREF Format	Format of the copybook XREF file, either TYPE1 or TYPE0. The default is TYPE0. Used during copybook import.

Chapter 14. Object explorer

The object explorer function provides you the ability to browse the property, online status, and recovery status of IMS databases (DBDs) and application views (PSBs), as well as view, create, and update DBD statements and PSB statements.

The function extracts IMS control blocks (DBDs and PSBs) from either the DBDLIB, PSBLIB, ACBLIB, or IMS directory depending on how IMS is configured. Then it decodes the extracted control blocks to readable DBD or PSB statement source code enabling you to edit the source code through the ISPF interface or the web interface. If you use the ISPF interface, you can also decode DBDs and PSBs in the IMS catalog database.

After editing the DBD or PSB source code, you can execute the DBD or PSB resource change function or the IMS resource change function to update the IMS environment to reflect changes made to the IMS control blocks, or build JCL to reflect changes at a later time.

When the resource change function is executed, it reads the updated DBD and PSB source code and calls the DBDGEN, PSBGEN, ACBGEN utilities, and, if the IMS catalog is defined in the IMS system, the IMS Catalog Populate utility (DFS3PU00).

Topic:

Object explorer reference

You must select a DBD or a PSB to work with. The function extracts the selected control block from either the DBDLIB, PSBLIB, ACBLIB, or IMS directory and decodes the control block to readable DBD or PSB macro source.

Table 22. Object explorer DBD and PSB selection reference

Option	Description
IMSID	The 1-4 character name of the IMS subsystem.
Resource Type	DBD or PSB object type.
DBD or PSB Filter	Specify a wildcard expression to control the number of DBD or PSB objects that display.
Decoded Source Data Set	The name of the master working data set where DBD- and PSB-related information from a DBDLIB, PSBLIB, ACB library, or the IMS directory is translated into DBD and PSB source code. **For ISPF interface users:** If you are selecting data sets from a data set group, you can enter ? to display a list of data sets registered to the data set group.
Updated Source Data Set	The name of the working data set that contains a duplicate of the decode source data set. Modifications to DBDs or PSBs can be made to the contents of the update source data set.

Table 22. Object explorer DBD and PSB selection reference (continued)

Option	Description
From Library	Library information and status for the selected IMS subsystem: Discovered indicates that the library is determined from the parameters and the PROCLIB libraries of the IMS subsystem. N/A indicates that the library is not registered or could not be determined from the PROCLIB libraries of the IMS subsystem. **For ISPF interface users:** Data Set Group ID indicates that the library is determined from the data sets that are registered to the selected data set group. • DBD or PSB Library in Data Set Group (ISPF interface only) Data Set Group ID • ACB Library in Data Set Group (ISPF interface only) Data Set Group ID • DBD or PSB Library Discovered or N/A (not available) • ACB Active Library Discovered or N/A (not available) • ACB Inactive Library Discovered or N/A (not available) • ACB Staging Library Discovered or N/A (not available) • IMS Directory Active Data Sets Discovered or N/A (not available) Available if the IMS management of ACBs is enabled. • IMS Directory Staging Data Set Discovered or N/A (not available) Available if the IMS management of ACBs is enabled. • IMS Catalog Database (ISPF interface only) Discovered or N/A (not available) Available if the IMS catalog is defined to IMS. • Specify other DBDLIB data set names or PSBLIB data set names Specify DBD or PSB library data set names to select different libraries • Specify other ACBLIB data set names Specify ACB library data set names to select different libraries
Library Information	Libraries enabled on this IMS subsystem. ISPF interface only: A list of data sets included in the selected data set group.

The following table summarizes the options available after you select a DBD or a PSB. If you select create, alter, or model, you can edit the DBD or the PSB macro source code.

Table 23. Object explorer DBD and PSB list option reference

Option	Description
Create	Create a new DBD or PSB.
Alter	Update an existing DBD or PSB. Alter uses the DBD or PSB copy in the update source data set.
Model	Create a new DBD or PSB that is based on (modeled after) the selected DBD or PSB. The new DBD or PSB can then be imported.
Source	View the DBD or PSB code. When working with copybooks, the source view can provide detailed DBD segment information.
Expand Info from IMS	Select an object from an active library (ACB active library or IMS directory active data sets) to view detailed (expanded) object information. The detailed information provides a convenient single view of object attributes gathered from multiple sources. For example: • Database level properties • Online status • Data set level properties • Recovery state The expand option is available only through the ISPF interface. If you are using the web interface, detailed (expanded) object information is displayed by default.

After you edit all the DBDs and PSBs that you want to edit, go to the IMS Resource Change panel to process all the edited resources.

Chapter 15. IMS resource change

IMS resource change supports two functions; DBD/PSB resource change and merge libraries.

DBD/PSB resource change
Perform DBD and PSB change tasks. During DBD/PSB resource change, IMS Administration Tool calls the DBDGEN, PSBGEN, ACBGEN utilities, and, if the IMS catalog is defined in the IMS subsystem, populates the IMS catalog by calling the IMS Catalog Populate utility (DFS3PU00).

Merge libraries
Merge multiple DBD libraries, PSB libraries, or ACB libraries into a single data set.

Topics:

DBD and PSB resource change

Use DBD/PSB resource change to apply changes made to DBD and PSB statement source to the IMS system. For example, you can use it after you update DBD or PSB statement source with object explorer.

Supported resource change tasks are DBDGEN, PSBGEN, ACBGEN, and IMS Catalog Populate (DFS3PU00). You can optionally import COBOL or PL/I copybooks to DBD before DBDGEN.

IMS Administration Tool automatically determines the target DBD library, PSB library, ACB library, IMS directory, and IMS catalog from the parameters and the PROCLIB libraries of the IMS subsystem.

For ISPF interface users:
If the name of a data set group is displayed in the Data Set Selection field, it means that the data set group is selected for your resource change session. The following resources can be selected only from the data sets that belong to the selected data set group.

- DBD and PSB statement source data sets
- Copybook and cross reference data sets.
- DBD statement source updated with copybook import
- DBD/PSB/ACB libraries

IMS catalog, directory, and staging data sets are automatically discovered from IMS subsystem even if a data set group is selected.

You can select a data set group from **Database and Application Administration** > **0. Settings**.

Step-by-step instructions for changing DBDs and PSBs are provided in Technote: How to change DBDs and PSBs by using IBM IMS Administration Tool for z/OS.

IMS catalog populate can be performed only if IMS catalog is defined in the IMS system.

If the IMS catalog is defined in the IMS system, an online IMS system must be active while the IMS Resource Change function is running.

The IMS resource change function updates the ACB library (the ACB staging library if "discovered data sets" are used) or the IMS directory staging data set.

After the IMS resource change completes, you must perform the IMS online change (OLC) or the IMPORT DEFN SOURCE(CATALOG) command to activate DBDs and PSBs in the online IMS system.

Requirement: When the IMS management of ACBs is enabled, the IMS system does not require ACB libraries. However, you must create an ACB library to perform ACBGEN and IMS Catalog Populate. In addition, when you use discovered data sets, you must allocate it to the IMS control region with DD name IMSACB or create a DFSMDA member for the IMSACB.

Tip: Runtime options for resource change tasks

You can predefine runtime options for resource change tasks.

Web interface

The following variables can be predefined.

- IMSMAC DDname variable. IMS macro library data set. If it is not specified, the data set is discovered from the IMS PROCLIB data set.
- ASMAOPT DDname variable. Data set (and member if it is partitioned) that contains assemble options for the assemble step of DBDGEN and PSBGEN.
- CBLLIB, PLILIB, and CBLOPT. Variables for copybook import. For more information, see "Runtime options for copybook import" on page 99.

ISPF interface

Runtime options can be predefined from **Database and Application Administration** > **0. Settings**.

Table 24. DBD and PSB resource change reference

Option	Description
Object Selection Criteria	Specify the DBDs and PSBs to process.
Object Type	Specify the type of the resources. DBD, PSB, or both.
DBD Source Data Set	Specify the data set that contains the DBD source codes to process. **For ISPF interface users:** If a data set group is selected, you cannot specify this field. IMS Administration Tool uses the DBD source data set found in the selected data set group.
Select DBDs	Two methods to select DBDs from the DBD update data set: • By filter Specify a wildcard expression to control the number of DBDs that display. • From list View and select DBDs to be updated. DBDs selected here are not applicable to IMS Catalog Populate (DFS3PU00) processing. The IMS Catalog Populate utility determines the objects to process.
PSB Source Data Set	Specify the data set that contains the PSB source codes to process. **For ISPF interface users:** If a data set group is selected, you cannot specify this field. IMS Administration Tool uses the PSB source data set found in the selected data set group.

Table 24. DBD and PSB resource change reference (continued)

Option	Description
Select PSBs	Two methods to select PSBs from the PSB update data set: • By filter Specify a wildcard expression to control the number of PSBs that display. • From list View and select PSBs to be updated. PSBs selected here are not applicable to IMS Catalog Populate (DFS3PU00) processing. The IMS Catalog Populate utility determines the objects to process.
Resource Change Tasks (ISPF interface only) Select one or more tasks to perform. The tasks are performed in the order listed.	
DBDGEN	Specify 1 or 2 to perform DBDGEN. If you specify 2, IMS Resource Change imports copybooks before DBDGEN. For details about using copybook, see Chapter 16, “Copybook import,” on page 97. • Input: DBD statement source data sets. Additionally, copybooks and copybook cross reference data sets if 2 is selected. • Output: The DBD library concatenated first in the data set group.
PSBGEN	Specify 1 to perform PSBGEN. • Input: PSB statement source data sets. • Output: The PSB library concatenated first in the data set group.
ACBGEN	Specify 1 to perform ACBGEN. If IMS Library Integrity Utilities is registered to IMS Tools Knowledge Base, the Advanced ACBGEN utility of IMS Library Integrity Utilities is used. • Input: DBD and PSB library data sets. • Output: The ACB library concatenated first in the data set group.
IMS Catalog Populate	Specify 1 to populate the IMS catalog with the IMS Catalog Populate utility (DFS3PU00). It can be selected only if IMS catalog is defined in the IMS system. An online IMS system must be active while it is running. • Input: ACB libraries. • Output: IMS catalog database and IMS directory staging data set. IMS Administration Tool discovers these resources from IMS control region JCL and IMS PROCLIB.
Resource Change Options	
Execute (run) or Build JCL	Specify to execute the IMS resource change or to generate IMS resource change JCL. For details about the JCL it generates, see Chapter 17, “DBD and PSB update (ATY@OBJU) JCL,” on page 105.
Save JCL when Exec ? (ISPF interface only)	If you select E for Exec or Build JCL, IMS resource change tasks are performed but no JCL is saved. Enter Y to save the JCL for later use.

Table 24. DBD and PSB resource change reference (continued)

Option	Description
Use COPYBOOK (Web interface only)	Specify Y to import copybook information to the DBD source code. If you specify Y, the function analyzes the copybook and inserts corresponding metadata statements into the DBD source for DBDGEN.
Copybook Data Sets Displayed only when "discovered data sets" is selected.	
COPYBOOK Cross Reference (XREF) Data Sets	The name of the data set that pairs the DBD with the copybook. You can specify up to 10 data sets. If you are using the ISPF interface, specify Y to view, change, or add data set names. For the format of COPYBOOK XREF files and examples, see “Copybook XREF file” on page 100.
COBOL or PL/I COPYBOOK Data Sets	The names of the data sets where the copybook resides. You can specify up to 120 data sets, maximum of 60 for COBOL copybook data sets and 60 for PL/I copybook data sets. If you are using the ISPF interface, specify Y to view, change, or add data set names.
DBD Source with COPYBOOK	Specify the name of the output data set for storing the updated DBD source.
JCL Output Options	
JCL Output Data Set	The name of the partitioned data set where the generated JCL is stored. The data set must be pre-allocated before you can generate the JCL
Member	The name of the member in the partitioned data set where the generated JCL is stored.
Job Statements	Specification of the JOB statement of the JCL.
Allocate JCL Output Data Set?	Allocate the data set where the generated JCL is stored.

Merge libraries (ISPF only)

Use the merge libraries function to merge multiple DBD libraries, PSB libraries, or ACB libraries into a single data set.

The libraries to merge must be selected from a predefined data set group. Before you use this function, ensure that one or more data set groups are created and that those data set groups contain the libraries that you want to merge. If no data set groups exist or the libraries that you want to merge do not belong to any data set group, create or modify data set groups from **Setup and Administration** > **Manage Data Sets and Groups**.

Table 25. Merge libraries reference

Option	Description
Merge Data Sets	

Table 25. Merge libraries reference (continued)

Option	Description
Input DBD/PSB/ACB Libraries	Select input data sets. • Y - Select from DS Groups Select data sets. In the subsequent panels, you will select data set groups and then data sets. • N - Done Indicates that the data sets are already selected. • V - View View selected data sets. • *n* selected The number of data sets currently selected.
Output DBD/PSB/ACB Libraries	Select an output data set.
Merge Libraries Options	
Execute or Build JCL Only	Select to execute merge libraries immediately in TSO/ISPF or build JCL for batch job. • E - Execute Execute the function in TSO/ISPF immediately. • B - Build JCL only Build JCL. You can run the JCL at a later time.
JCL Output Options	
JCL Output Data Set	Specify the data set and member to store the JCL.
Job Statements	Specify the JOB statements to add to the JCL.

Chapter 16. Copybook import

The copybook import function imports metadata in COBOL or PL/I copybooks to DBD source. Copybook import is supported as a part of the database and application administration function and the IMS catalog and ACB library management function.

The copybook import function can be called from the following functions:

- IMS resource change function
- DBD resource change function
- Import objects (IMS catalog and ACB library management)

After importing metadata from copybooks to the DBD source, the function that called the copybook import function uses the updated DBD source and calls the DBDGEN utility, the PSBGEN utility, the ACBGEN utility, and the IMS Catalog Populate utility (DFS3PU00) to update relevant IMS control blocks in your IMS environment.

The copybook import function uses the following information to import metadata from copybooks to the DBD. You supply the location of the resources through the ISPF interface or the web interface.

DBD
The DBD to update.

COBOL or PL/I copybook
One or more copybooks to import.

Copybook cross reference (XREF) file
A file that defines linkage between segments and copybooks.

Output data sets
Output data sets such as for storing updated DBD source and generated DBD resource change JCL.

Subsections:

- "Data attribute mapping" on page 97
- "Considerations for importing PL/I copybooks" on page 99

Data attribute mapping

The copybook import function inserts FIELD statements with EXTERNALNAME parameters based on data definitions in the copybook. The copybook import function calculates the start position and the length, and adds START and BYTES parameters. It also adds DATATYPE parameters based on the mapping rules summarized in the following tables:

Table 26. Data attribute mapping from COBOL copybook to DBD DATATYPE

COBOL data type	DBD DATATYPE
PIC S9(4) BINARY	SHORT
PIC S9(9) BINARY	INT
PIC S9(18) BINARY	LONG
PIC 9(4) BINARY	USHORT
PIC 9(9) BINARY	UINT
PIC 9(18) BINARY	ULONG
COMP-1	FLOAT
COMP-2	DOUBLE

Table 26. Data attribute mapping from COBOL copybook to DBD DATATYPE (continued)

COBOL data type	DBD DATATYPE
PIC S9(*n*) COMP-3	DECIMAL(*n*,*p*) INTERNALTYPECONVERTER=PACKEDDECIMAL DFSMARSH statement is added to define data marshaling characteristics.
PIC X(*n*)	CHAR
PIC G(*n*)	BINARY(2*n*)
PIC N(*n*) DISPLAY-1	BINARY(2*n*)
PIC N(*n*) NATIONAL	BINARY(2*n*)
PIC 9(*n*) DISPLAY	DECIMAL(*n*,*p*) INTERNALTYPECONVERTER=ZONEDDECIMAL DFSMARSH statement is added to define data marshaling characteristics.
Field with OCCURS attribute	ARRAY
First element of group items	STRUCT

Table 27. Data attribute mapping from PL/I copybook to DBD DATATYPE

PL/I data type	DBD DATATYPE
REAL FIXED BINARY(15,0)	SHORT
REAL FIXED BINARY(31,0)	INT
REAL FIXED BINARY(63,0)	LONG
REAL FIXED BINARY(16,0) UNSIGNED	USHORT
REAL FIXED BINARY(32,0) UNSIGNED	UINT
REAL FIXED BINARY(64,0) UNSIGNED	ULONG
REAL FLOAT DECIMAL(6)	FLOAT
REAL FLOAT DECIMAL(16)	DOUBLE
FIXED DECIMAL(*n*,*p*)	DECIMAL(*n*,*p*) INTERNALTYPECONVERTER=PACKEDDECIMAL DFSMARSH statement is added to define data marshaling characteristics.
CHAR(*n*)	CHAR
GRAPHIC(*n*)	BINARY(2*n*)
WIDECHAR(*n*)	BINARY(2*n*)
PICTURE '(*n*)9'	CHAR(*n*)
WIDEPIC '(*n*)9'	CHAR(2*n*)
CHAR(*n*) VAR	CHAR(*n*)+2
CHAR(*n*) VARYING4	CHAR(*n*)+4
CHAR(*n*) VARYINGZ	CHAR(*n*)+1

Table 27. Data attribute mapping from PL/I copybook to DBD DATATYPE (continued)

PL/I data type	DBD DATATYPE
Field with array attribute	ARRAY
First element of structure	STRUCT

Considerations for importing PL/I copybooks

The following considerations apply when you import copybooks written in PL/I.

- The length of variable names specified in a PL/I copybook must be equal to or less than 30. Otherwise, the variable names will be truncated.
- When a structure in a PL/I copybook contains an array with the REFER option (variable for declared length), the PL/I compiler does not provide sufficient information about that structure. This may result in having an incorrect length in the DBD source.

  In the following PL/I copybook example, Y is an array with 20 bytes. However, when this structure is imported, the length is changed to 2 bytes in the DBD source.

```
DECLARE 1 STR BASED(P),
            2 X FIXED BINARY(31,0),
            2 Y (10 REFER (X)),
              3 DATA CHAR(2);
```

  To prevent this, review and remove all REFER options in the PL/I copybook before you import or update from the PL/I copybook.

Topics:

- "Runtime options for copybook import" on page 99
- "Copybook XREF file" on page 100
- "Examples for copybook import" on page 102

Runtime options for copybook import

Before you import metadata from copybooks, you must register runtime options using the ISPF interface or the web interface.

ISPF interface

1. Database and Application Administration > **0. Settings** > **2. View and update runtime options**

For more information, see the following topics:

- Chapter 13, "Database and application administration settings (ISPF only)," on page 85
- "Import objects settings (ISPF only)" on page 133

Web interface

Register the DDname and keyword variables described in this topic from **Setup and Admin** > **Variable Management**.

The following list provides DDname variables and keyword variables.

COBOL and PL/I compiler library

Required DDname variable. Register the language compiler library for COBOL, PL/I, or both.

Variable name	Description
CBLLIB	Specify the name of the COBOL compiler library data set.
PLILIB	Specify the name of the PL/I compiler library data set.

Copybook XREF format

Optional keyword variable. The copybook XREF file has two formats, type-0 and type-1. Type-0 is supported for both COBOL and PL/I. Type-1 is supported only for COBOL. Type-0 is the default. If you want to use type-1, you must register this keyword variable.

Variable name	Description
XREFFORM	Specify the format of the copybook XREF file, TYPE1 or TYPE0. If omitted, the default is TYPE0.

For more information about the format of copybook XREF files, see “Copybook XREF file” on page 100.

Copybook language

Optional keyword variable. If the copybook XREF file has type-0 format, XREF statements contain the copybook language, either COBOL or PL/I. This keyword variable overrides the language specified on the XREF statements. The default is COBOL. If you mainly use PL/I, you can change the value to PLI.

Variable name	Description
COPYLANG	Specify the language of the copybook, PLI or COBOL. If omitted, the default is COBOL.

COBOL compiler option

Optional DDname variable. If you want to change the COBOL compiler options, specify the data set that contains the IGYCDOPT module.

The data set is a load library and the data set organization must be RECFM=U, LRECL=0.

Variable name	Description
CBLOPT	Specify the data set that contains the IGYCDOPT module.

Copybook XREF file

A copybook XREF file contains copybook XREF statements that define mapping of each copybook to a segment.

A copybook XREF file is a PDS or PDSE, attributes are RECFM=FB and LRECL=80. The member name must match the name of the DBD to map.

Two formats are supported for copybook XREF files, type-0 and type-1. Type-0 can be used for both COBOL and PL/I, type-1 can be used for COBOL only. Type-0 is assumed unless the copybook XREF format keyword variable (XREFFORM) is set to TYPE1.

Subsections:

Type-0 copybook XREF statement syntax

Type-0 copybook XREF file supports both COBOL and PL/I. Each XREF statement specifies the language of the copybook, either COBOL or PL/I.

The following figure shows the syntax for type-0 copybook XREF statements.

```
----+----1----+----2----+----3----+----4----+
SEGM=SEGMENT1 COPYBOOK=SEG1COPY LANG=COBOL
SEGM=SEG2     COPYBOOK=S2COPY   LANG=COBOL
|    |        |        |        |
|    |        |        |        |
|    |        |        |        |-Col33-42 LANG=COBOL or LANG=PLI
|    |        |        |-Col24-31 Copybook name
|    |        |-Col15-23 Keyword
|    |-Col6-13 Segment name
|-Col1-5 Keyword
```

Figure 5. Type-0 copybook XREF statement syntax

Position	Description
Columns 1 - 5	Specify the SEGM= keyword.
Columns 6 - 13	Specify, left-aligned, a segment name.
Column 14	Filler. A blank or any character. The character in this column is ignored.
Columns 15 - 23	Specify the COPYBOOK= keyword.
Columns 24 - 31	Specify, left-aligned, the name of the copybook to map the segment. The name of the copybook must match a member in the copybook data set.
Column 32	Filler. A blank or any character. The character in this column is ignored.
Columns 33 - 42	Optional. Specify LANG=COBOL or LANG=PLI. If omitted, LANG=COBOL is applied. To change the default language, set the copybook language keyword variable (COPYLANG). For more information, see copybook language in “Runtime options for copybook import” on page 99.

Type-1 copybook XREF statement syntax

Type-1 copybook XREF file supports COBOL only. To use a type-1 copybook XREF file, you must set the copybook XREF format keyword variable (XREFFORM) to TYPE1. For more information, see copybook XREF format in “Runtime options for copybook import” on page 99.

The following figure shows the syntax for type-1 copybook XREF statements.

```
----+----1----+----2----+----3----+----4----+
   @@ The first line of Type1 is skipped. @@
         SEGNAME1               SEG1COPY
         SEGMENT2               SEG2COPY
|        |       |               |
|        |       |               |-Col34-41 Copybook name
|        |       |-Col18-33 Filler
|        |
|        |-Col10-17 Segment name
|-Col1 - 9 Filler
```

Figure 6. Type-1 copybook XREF statement syntax

The first line is ignored. You can write comments on this line.

Position	Description
Columns 1 - 9	Filler. Blanks or any characters. Characters in these columns are ignored.
Columns 10 - 17	Specify, left-aligned, a segment name.
Columns 18 - 33	Filler. Blanks or any characters. Characters in these columns are ignored.
Columns 34 - 41	Specify, left-aligned, the name of the copybook to map the segment. The name of the copybook must match a member in the copybook data set.

Examples for copybook import

Use the following example to learn how to use the copybook import function.

In this example:

- DBD name is ATYDBD0. The DBD has two segments, ATYSEG1 and ATYSEG2.
- The copybook data set contains two members, ATYCOPY1 and ATYCOPY2. The language used for the copybooks is COBOL.
- The name of the copybook XREF file is ATYDBD0, which is the same as the DBD name. This file exists in the ATY.XREF data set. The format of the copybook XREF file is type-0.
- The copybook XREF file contains the following copybook XREF statements:

```
SEGM=ATYSEG1 COPYBOOK=ATYCOPY1 LANG=COBOL SEGM=ATYSEG2 COPYBOOK=ATYCOPY2 LANG=COBOL
```

The decoded DBD (DBD source) contains the following statements.

```
         DBD   NAME=ATYDBD0,ACCESS=(HDAM,OSAM),                        X
               RMNAME=(DFSHDC40,8,360,3000)
*
DS1    DATASET DD1=SAMPL0,SIZE=(4096),SCAN=0
*
 SEGM    NAME=ATYSEG1,BYTES=20,PARENT=0,RULES=(LLL,LAST),              X
               PTR=(TWIN,,,,)
         FIELD NAME=(FLD1,SEQ,U),BYTES=10,START=1,TYPE=C
         FIELD NAME=(FLD2),BYTES=10,START=11,TYPE=C
*
 SEGM    NAME=ATYSEG2,BYTES=40,PARENT=((ATYSEG1,)),                    X
               PTR=(TWIN,,,,),RULES=(LLL,LAST)
         FIELD NAME=(FLD10,SEQ,U),BYTES=30,START=1,TYPE=C
         FIELD NAME=(FLD20),BYTES=5,START=31,TYPE=C
         FIELD NAME=(FLD30),BYTES=5,START=31,TYPE=C
*
 DBDGEN
 FINISH
 END
```

Figure 7. DBD source (decoded)

The following examples show the contents of copybooks ATYCOPY1 and ATYCOPY2. The names of the members in the copybook data set are ATYCOPY1 and ATYCOPY2.

```
000100*************************************************************************00010000
000200*   SAMPLE COPYBOOK FOR DBD ATYDBD0                                     00020000
000300*   ATYSEG1 SEGMENT                                                     00030002
000400*************************************************************************00040000
000500*                                                                       00050000
000600 01  STRUCT-FIELD0.                                                    00060001
000700     10 FIELD1                  PIC X(5).                             00070000
000800     10 FIELD2                  PIC X(10).                            00080000
000900     10 FIELD3                  PIC X(5).                             00090000
```

Figure 8. Content of copybook ATYCOPY1

```
000100*************************************************************************00010000
000200*   SAMPLE COPYBOOK FOR DBD ATYDBD0                                     00020000
000300*   ATYSEG2 SEGMENT                                                     00030001
000400*************************************************************************00040000
000500*                                                                       00050000
000600 01  STRUCT-FIELD10.                                                   00060000
000700     10 FIELD11                 PIC X(2).                             00070000
000800     10 FIELD12                 PIC X(10).                            00080000
```

Figure 9. Content of copybook ATYCOPY2

After the copybook import function imports metadata in copybook ATYCOPY1 to segment ATYSEG1 and metadata in copybook ATYCOPY2 to segment ATYSEG2, the DBD source is updated as follows:

```
         DBD   NAME=ATYDBD0,ACCESS=(HDAM,OSAM),                          X
               RMNAME=(DFSHDC40,8,360,3000)
*
DS1    DATASET DD1=SAMPL0,SIZE=(4096),SCAN=0
*
 SEGM    NAME=ATYSEG1,BYTES=20,PARENT=0,RULES=(LLL,LAST),               X
               PTR=(TWIN,,,,)
         FIELD NAME=(FLD1,SEQ,U),BYTES=10,START=1,TYPE=C
         FIELD NAME=(FLD2),BYTES=10,START=11,TYPE=C
*
         FIELD EXTERNALNAME=STRUCT_FIELD0,                              +
               BYTES=20,                                                +
               START=1,                                                 +
               DATATYPE=STRUCT,                                         +
               REMARKS='Generated from Copybook ATYCOPY0 imported 2020/+
               08/01 04:15:08 by TS6444  '
         FIELD EXTERNALNAME=FIELD1,                                     +
               PARENT=STRUCT_FIELD0,                                    +
               BYTES=5,                                                 +
               START=1,                                                 +
               DATATYPE=CHAR,                                           +
               REMARKS='Generated from Copybook ATYCOPY0 imported 2020/+
               08/01 04:15:08 by TS6444  '
         FIELD EXTERNALNAME=FIELD2,                                     +
               PARENT=STRUCT_FIELD0,                                    +
               BYTES=10,                                                +
               START=6,                                                 +
               DATATYPE=CHAR,                                           +
               REMARKS='Generated from Copybook ATYCOPY0 imported 2020/+
               08/01 04:15:08 by TS6444  '
         FIELD EXTERNALNAME=FIELD3,                                     +
               PARENT=STRUCT_FIELD0,                                    +
               BYTES=5,                                                 +
               START=16,                                                +
               DATATYPE=CHAR,                                           +
               REMARKS='Generated from Copybook ATYCOPY0 imported 2020/+
               08/01 04:15:08 by TS6444  '
```

Figure 10. DBD source updated with copybook (Part 1 of 2)

```
 SEGM    NAME=ATYSEG2,BYTES=40,PARENT=((ATYSEG1,)),                     X
               PTR=(TWIN,,,,),RULES=(LLL,LAST)
         FIELD NAME=(FLD10,SEQ,U),BYTES=30,START=1,TYPE=C
         FIELD NAME=(FLD20),BYTES=5,START=31,TYPE=C
         FIELD NAME=(FLD30),BYTES=5,START=31,TYPE=C
*
         FIELD EXTERNALNAME=STRUCT_FIELD10,                             +
               BYTES=12,                                                +
               START=1,                                                 +
               DATATYPE=STRUCT,                                         +
               REMARKS='Generated from Copybook ATYCOPY1 imported 2020/+
               08/01 04:15:08 by TS6444  '
         FIELD EXTERNALNAME=FIELD11,                                    +
               PARENT=STRUCT_FIELD10,                                   +
               BYTES=2,                                                 +
               START=1,                                                 +
               DATATYPE=CHAR,                                           +
               REMARKS='Generated from Copybook ATYCOPY1 imported 2020/+
               08/01 04:15:08 by TS6444  '
         FIELD EXTERNALNAME=FIELD12,                                    +
               PARENT=STRUCT_FIELD10,                                   +
               BYTES=10,                                                +
               START=3,                                                 +
               DATATYPE=CHAR,                                           +
               REMARKS='Generated from Copybook ATYCOPY1 imported 2020/+
               08/01 04:15:08 by TS6444  '
 DBDGEN
 FINISH
 END
```

Figure 11. DBD source updated with copybook (Part 2 of 2)

Chapter 17. DBD and PSB update (ATY@OBJU) JCL

ATY@OBJU JCL, also referred to as DBD and PSB update JCL, updates DBDs and PSBs.

ATY@OBJU JCL is generated by the following functions, regardless of whether the ISPF interface or the web interface is used:

- The Build JCL option of the IMS resource change function (database and application administration)
- Import objects (IMS catalog and ACB library management)

The ATY@OBJU job performs DBD and PSB update tasks by calling the DBDGEN, PSBGEN, ACBGEN utilities, and, if IMS catalog is defined in the IMS system, the IMS catalog populate utility (DFS3PU00). If the Use COPYBOOK option is selected, the ATY@OBJU job also performs copybook import before DBDGEN.

Requirements:

- The IMS Tools Base Knowledge Base server and the Distributed Access Infrastructure (DAI) TCP server, TAS, and SOT address spaces must be active.
- The IMS system must be either active or inactive under certain circumstances. See “Requirement: Status of the online IMS system ” on page 107.

Topics:

ATY@OBJU JCL statements

IMS Administration Tool generates ATY@OBJU JCL based on the specifications supplied through the ISPF interface or the web interface. Therefore, you do not need to change the content of the JCL.

If you need to change the JCL, follow these instructions:

- Changing data sets: If you want to change a data set on a DD statement, you can change the data set name.
- Changing the tasks to perform: Tasks to perform are controlled by ATYMSGI control statements. See “ATYMSGI DD” on page 105.
- Removing DD statements: Not allowed. Do not remove any DD statements.

STEPLIB DD
The product and customized load library data sets of IMS Administration Tool and IMS Tools Base.

Input DD statements

ATYMSGI DD
Pre-coded internal control statements of ATY@OBJU.

- FUNCTION=UPDATE is set if the JCL was generated by IMS resource change.
- FUNCTION=IMPORT is set if the JCL was generated by Import Objects.

ATYMSGI control statements specify the tasks to perform, which are determined by IMS Administration Tool.

Basically ATYMSGI control statements require no change. The only change allowed is excluding tasks to perform. To exclude tasks, change the following ATYMSGI control statements:

- To exclude DBDGEN: DBDGEN=N
- To exclude copybook import: ADDCPYBK=N

- To exclude PSBGEN: PSBGEN=N
- To exclude ACBGEN: ACB=N (You must also exclude the IMS catalog populate task.)
- To exclude IMS catalog populate (DFS3PU00): CATALOG=N and PENDCAT=N. If INITLOAD parameter exists, INITLOAD=N.

For ISPF interface users:
If the ATY@OBJU JCL is for IMS resource change, use the ISPF interface and reselect the tasks in the Resource Change Tasks section to exclude or add tasks.

ATYDBD DD
The data set that contains DBD source codes. The data set organization is PDS or PDSE, RECFM=FB,LRECL=80.

ATYPSB DD
The data set that contains PSB source codes. The data set organization is PDS or PDSE, RECFM=FB,LRECL=80.

ATYXREF DD
The data sets that contain cross reference (XREF) files for copybook import. Up to 10 data sets can be specified. The data set organization is RECFM=FB,LRECL=80.

This DD statement is present if you selected the Use COPYBOOK option when generating the ATY@OBJU JCL. For details about copybook import, see Chapter 16, “Copybook import,” on page 97.

ATYPLI DD
The data sets that contain PL/I copybooks. Up to 60 data sets can be specified. The data set organization is RECFM=FB,LRECL=80.

This DD statement is present if you selected the Use COPYBOOK option when generating the ATY@OBJU JCL.

ATYCOPY DD
The data sets that contain COBOL copybooks. Up to 60 data sets can be specified. The data set organization is RECFM=FB,LRECL=80.

This DD statement is present if you selected the Use COPYBOOK option when generating the ATY@OBJU JCL.

IMS DD
PSB and DBD library data sets. These data sets are referred to during ACBGEN.

IMSACB01 DD
ACB library data sets. These data sets are referred to during the IMS catalog populate task.

Output DD statements

ATYPUTDB DD
The data sets where IMS Administration Tool stores DBD source codes that are updated with copybooks. The data set organization is RECFM=FB,LRECL=80.

This DD statement is used if you selected the Use COPYBOOK option when generating the ATY@OBJU JCL.

DBDLIB DD
The IMS DBD library. This DBD library will be updated by DBDGEN, and will be referred to during ACBGEN.

PSBLIB DD
The IMS PSB library. This PSB library will be updated by PSBGEN, and will be referred to during ACBGEN.

IMSACBA DD
IMSACBB DD
IMSACB DD
IMS active, inactive, and staging ACB libraries. The IMSACB (staging ACB library) will be updated by ACBGEN, and will be referred to by the IMS catalog populate utility.

DBDPRINT DD
PSBPRINT DD
LNKPRINT DD
SYSPRINT DD
ATYMSGS DD
ATYERROR DD
FABXAMSG DD
Output destination for reports, messages, and assemble listing.

Requirement: Status of the online IMS system

The ATY@OBJU job updates or initializes the IMS catalog and the IMS directory by performing the IMS catalog populate utility (DFS3PU00). The online IMS system must be either active or inactive depending on the INITLOAD parameter value of the ATYMSGI control statement.

The INITLOAD parameter value in the ATYMSGI control statement is inherited from the Initial Load value that is specified through the web interface or the ISPF interface.

If INITLOAD=N, or INITLOAD is not present in the ATYMSGI control statement

The IMS system must be active while the ATY@OBJU job is running because the job updates the existing IMS catalog and the IMS directory with BMP.

The ACB members of DBDs and PSBs are stored in the ACB staging library or the IMS directory staging data set. After the ATY@OBJU job completes, you must perform the IMS online change (OLC) or the IMPORT DEFN SOURCE(CATALOG) command to activate DBDs and PSBs in the IMS system.

If INITLOAD=Y is present in the ATYMSGI control statement

The ATY@OBJU initializes (create, or delete and define) an IMS catalog and IMS directory.

- If the IMS management of ACBs is enabled, the online IMS system must be inactive. The ACB members of DBDs and PSBs are stored in the IMS directory active data set. When the IMS online system starts, the ACB members in the IMS directory active data set are loaded to IMS.
- If the IMS management of ACBs is not enabled, the online IMS system must be inactive, or the online IMS system must be active with /DBR commands issued against the IMS catalog database and index (/DBR'd). The ACB members of DBDs and PSBs are stored in the ACB library staging data set. You must perform the IMS online change (OLC) to activate DBDs and PSBs in the IMS system.

Scenarios for "Initial Load" and "Overwrite Existing Objects"

DBD and PSB objects to update and the destination data sets (ACB active or staging library, IMS directory active or staging data sets) are determined based on the Overwrite Existing Objects option and the Initial Load option.

The following scenarios explore the possible object management combinations and describe the effect of these options on each environment.

1) IMS management of ACBs is enabled

The following conditions apply to this scenario:

- IMS catalog is defined to IMS.

- IMS environment uses IMS directory to manage ACBs. (ACBMGMT=CATALOG is present in the DFSDF*xxx* member)
- IMS environment does not use ACB library to manage ACBs.

  Note: The import objects function requires an ACB library to run ACBGEN and the IMS catalog populate utility (DFS3PU00). The function obtains the ACB library data set information from the IMSACB DD statement in the IMS control region JCL.

How the import objects function performs in this scenario:

Overwrite Existing Objects is Yes and Initial Load is No

- Performs DBDGEN, PSBGEN, and ACBGEN against all the selected DBDs and PSBs. If any of the existing objects in the ACB library has the same name, they are overwritten.
- Performs DFS3PU00 to populate the IMS directory staging data set and the IMS catalog with the new and updated DBDs and PSBs from the ACB library.

Overwrite Existing Objects is Yes and Initial Load is Yes

- Performs DBDGEN, PSBGEN, and ACBGEN against all the selected DBDs and PSBs. If any of the existing objects in the ACB library has the same name, they are overwritten.
- Performs DFS3PU00. After initializing (delete and define) the IMS catalog and the IMS directory, it populates the IMS directory active data sets and the IMS catalog with all DBDs and PSBs (new, updated, and existing) from the ACB library.

Overwrite Existing Objects is No and Initial Load is No

- Checks the ACB library to determine if members with the same names exist in the ACB library. Performs DBDGEN, PSBGEN, and ACBGEN only against new DBDs and PSBs so that no existing objects are overwritten.
- Performs DFS3PU00 to populate the IMS directory staging data set and the IMS catalog with the new objects from the ACB library.

Overwrite Existing Objects is No and Initial Load is Yes

- Checks the ACB library to determine if members with the same names exist in the ACB library. Performs DBDGEN, PSBGEN, and ACBGEN only against new DBDs and PSBs so that no existing objects are overwritten.
- Performs DFS3PU00. After initializing (delete and define) the IMS catalog and the IMS directory, it populates the IMS directory active data sets and the IMS catalog with all DBDs and PSBs (new and existing) from the ACB library.

2) IMS catalog is enabled and IMS Management of ACBs is not enabled

The following conditions apply to this scenario:

- IMS catalog is defined to IMS.
- IMS environment uses ACB library to manage ACBs.

How the import objects function performs in this scenario:

Overwrite Existing Objects is Yes and Initial Load is No:

- Performs DBDGEN, PSBGEN, and ACBGEN against all the selected DBDs and PSBs. If any of the existing objects in the ACB staging library has the same name, they are overwritten.
- Performs DFS3PU00 to populate the IMS catalog with the new and updated DBDs and PSBs from the ACB staging library.

Overwrite Existing Objects is Yes and Initial Load is Yes

- Performs DBDGEN, PSBGEN, and ACBGEN against all the selected DBDs and PSBs. If any of the existing objects in the ACB staging library has the same name, they are overwritten.

- Performs DFS3PU00. After initializing (delete and define) the IMS catalog and the IMS directory (see Note), it populates the IMS catalog with all DBDs and PSBs (new, updated, and existing) from the ACB staging library.

Overwrite Existing Objects is No and Initial Load is No

- Checks the ACB staging library to determine if members with the same names exist in the ACB staging library. Performs DBDGEN, PSBGEN, and ACBGEN only against new DBDs and PSBs so that no existing objects are overwritten.
- Performs DFS3PU00 to populate the IMS catalog with the new DBDs and PSBs from the ACB staging library.

Overwrite Existing Objects is No and Initial Load is Yes

- Checks the ACB staging library to determine if members with the same names exist in the ACB staging library. Performs DBDGEN, PSBGEN, and ACBGEN only against new DBDs and PSBs so that no existing objects are overwritten.
- Performs DFS3PU00. After initializing (delete and define) the IMS catalog and the IMS directory (see Note), it populates the IMS catalog with all DBDs and PSBs (new and existing) from the ACB staging library.

Note: Although IMS directory is not used in this environment, IMS directory data sets, if they exist, are deleted and defined.

3) IMS catalog is not enabled

The following conditions apply to this scenario:

- IMS catalog is not defined to IMS.
- IMS environment uses ACB library to manage ACBs.

In this scenario, the Initial Load option is not available.

How the import operation performs in this scenario:

Overwrite Existing Objects is Yes
Performs DBDGEN, PSBGEN, and ACBGEN against all the selected DBDs and PSBs. If any of the existing objects in the ACB staging library has the same name, they are overwritten.

Overwrite Existing Objects is No
Checks the ACB staging library to determine if members with the same names exist in the ACB staging library. Performs DBDGEN, PSBGEN, and ACBGEN only against new DBDs and PSBs so that no existing objects are overwritten.

Part 5. IMS catalog and ACB library management

The IMS catalog is a system database that, when enabled, stores the definitions of your databases and program specification blocks (PSBs), as well as other metadata about your databases and application programs.

Topics:

Chapter 18. IMS catalog overview

The IMS catalog is an optional system database that, when enabled, stores trusted metadata and definitions about your databases (DBDs) and application program specification blocks (PSBs) that are defined to IMS.

The IMS catalog is itself a HALDB PHIDAM database. Each database and application program view that is defined to IMS is stored in a separate record in the IMS catalog. In each record, the root header segment identifies the type of resource that it contains: either a database definition (DBD) or a program view (PSB).

Depending on whether you enable the IMS management of application control blocks (ACBs), you have different options for how you define databases and program views, add them to the IMS catalog, and activate them in the IMS system.

When IMS manages the ACBs, you can define databases and program views either by using SQL data definition language (DDL) statements or by using the input macros of the DBD Generation utility and PSB Generation utility.

When you use DDL statements, IMS can add the database and program view definitions to the IMS catalog, build the required runtime control blocks, and, in some cases, load them into the online IMS system automatically.

When you use the DBD and PSB Generation utilities to define databases and program views in an IMS system that manages ACBs, after you run the utilities, you must also run the ACB Generation and Populate utility (DFS3UACB) or equivalent utilities to build the ACBs, update the IMS catalog, and load the ACBs into the IMS system.

In an IMS system that manages ACBs, the IMS catalog completely replaces DBD, PSB, and ACB libraries as the component that determines which database and program view definitions are used by the online IMS system and by batch application programs.

When the IMS management of ACBs is disabled, you cannot use DDL to define databases and program views. Instead, you must define them by using the DBD and PSB Generation utilities, you must generate members into an ACB library, and you must use the online change process to activate the ACB library. You must also make sure that the IMS catalog remains in sync with the active ACB libraries.

The IMS catalog serves to make IMS data more widely and easily accessible outside of the mainframe. The catalog's trusted and comprehensive view of IMS database metadata, fully managed by IMS, allows IMS to participate in solutions that require the exchange of metadata. An example of a solution that requires such an exchange is business impact analysis.

IMS directory data sets

When the IMS management of application control blocks (ACBs) is enabled, IMS stores the active ACBs in the IMS directory, a collection of system-managed data sets that are an extension of the IMS catalog. The IMS directory data sets include:

- Data sets for the ACBs that are active in the IMS system.
- A staging data set for ACBs that are pending activation.
- A bootstrap data set that IMS uses to manage the IMS directory.

The IMS directory data sets that store the active and pending ACBs are functionally similar to the ACB library (ACBLIB) data sets that you would use to manage ACBs when the IMS management of ACBs is not enabled.

Unlike an active ACBLIB data set, the active ACB data sets of the IMS directory are system data sets that IMS creates, updates, and manages automatically. IMS automatically allocates the data sets for the IMS directory and keeps the IMS directory in sync with the IMS catalog. When an active ACB data set becomes full, IMS automatically allocates another data set.

When IMS ACB management is enabled:

- IMS references the directory data sets to get the runtime application control blocks
- IMS uses the directory to indicate which members are active in the IMS catalog

Topics:

Catalog and non-catalog IMS environments

The IMS catalog contains trusted metadata and definitions of the IMS databases and application program views that are defined to IMS.

If IMS management of ACBs is enabled, the IMS catalog also determines the active databases and program views (PSBs) in the IMS system, because ACB libraries are not used.

When IMS uses ACB libraries, the ACB library determines which databases and program views are active, and you must ensure that the IMS catalog is always in synch with the ACB library.

When the IMS catalog is enabled, the following scenarios are possible for ACB management:

- IMS catalog enabled, no ACBLIB present, ACBs managed by IMS.
- IMS catalog enabled, ACBLIB present, ACBs managed by IMS.
- IMS catalog enabled, ACBLIB present, ACBs managed by ACBLIB.
- IMS catalog not enabled, ACBLIB present, ACBs managed by ACBLIB.

1) Catalog enabled - No ACBLIB - IMS management of ACBs

The following conditions apply to this scenario:

- IMS environment is catalog-enabled
- IMS environment does not use ACB library
- IMS management of ACBs

Environment characteristics:

- IMS stores ACBs in the IMS directory.

  The IMS directory is a collection of system-managed data sets that are an extension of the IMS catalog.
- IMS stores and refers to active ACBs in IMS directory active data sets.
- IMS stores and refers to pending ACBs in the IMS directory staging data set.

  The pending ACBs are new or changed objects that are imported with more recent timestamps than active ACBs.
- DDL is the only mechanism available to update objects in the IMS directory.

2) Catalog enabled - ACBLIB used - IMS management of ACBs

The following conditions apply to this scenario:

- IMS environment is catalog-enabled
- IMS environment uses ACB library
- IMS management of ACBs

Environment characteristics:

- ACBLIB can be present even for IMS systems that have catalog managed ACBs. Reasons for this configuration include:

  1. IMS environment is being converted to IMS management of ACBs (catalog) and ACBLIB is kept present for fallback purposes.

2. The IMS instance is part of an IMSPLEX, and not all members of the plex have been converted to use IMS management of ACBs.
3. Administrators do not want to be limited to using DDL to control database and program definitions.

- Both ACBLIB and IMS directory (catalog) are used to update DBD and PSB definitions.

  Synchronization of objects between ACBLIB and IMS directory (catalog) is the responsibility of the administrator.
- To update objects in the IMS directory (catalog), use DDL, or alternatively use ACBGEN and the IMS Catalog Populate utility.
- DBDLIBs are still required for certain types of DBDs (GSAM and logical DBDs).

3) Catalog enabled - ACBLIB used - ACBLIB management of ACBs

The following conditions apply to this scenario:

- IMS environment is catalog-enabled
- IMS environment uses ACB library
- ACBLIB management of ACBs

Environment characteristics:

- DBDs are managed in DBDLIBs.
- PSBs are managed in PSBLIBs.
- ACBs are managed in ACBLIB.

  ACBLIBs contain pre-processed DBDs and PSBs.

  Pre-processing meaning that an IMS utility has already performed some validation and outputs the DBDs and PSBs into a format where the IMS online system only needs to load them in order to use them.
- Each IMS environment using ACBLIB typically has:
  - A staging ACBLIB
  - An inactive ACBLIB
  - An active ACBLIB
- Typically there is just one staging ACBLIB, one inactive ACBLIB, and one active ACBLIB per IMS environment.

  However, some environments have more than one of each type of ACBLIB.
- The catalog is not automatically updated with the new and updated objects.

  Synchronization of objects between ACBLIB and IMS directory (catalog) is the responsibility of the administrator.
- To update objects in the catalog, use ACBGEN and the IMS Catalog Populate utility.
- Synchronization of new and updated objects between ACBLIB and catalog is recommended because extended information in DBDs is required by applications using SQL.

  This extended information comes from the catalog even in an environment with ACBLIB management of ACBs.

4) Catalog not enabled - ACBLIB used - ACBLIB management of ACBs

The following conditions apply to this scenario:

- IMS environment is not catalog-enabled
- IMS environment uses ACB library
- ACBLIB management of ACBs

Environment characteristics:

- DBDs are managed in DBDLIBs.
- PSBs are managed in PSBLIBs.
- ACBs are managed in ACBLIB.

  ACBLIBs contain pre-processed DBDs and PSBs.

  Pre-processing meaning that an IMS utility has already performed some validation and outputs the DBDs and PSBs into a format where the IMS online system only needs to load them in order to use them.
- Each IMS environment using ACBLIB typically has:
  - A staging ACBLIB
  - An inactive ACBLIB
  - An active ACBLIB
- Typically there is just one staging ACBLIB, one inactive ACBLIB, and one active ACBLIB per IMS environment.

  However, some environments have more than one of each type of ACBLIB.

IMS catalog management business scenarios

IMS catalog analysis and validation functions allow you to:

- Copy objects between the IMS catalog on one IMS system to the IMS catalog on another IMS system.
- Compare versions of DBD and PSB resources between the IMS catalog and the IMS ACB library.
- Generate reports to help analyze the databases and applications defined in the IMS catalog.
- Perform space utilization analysis and view the number of objects and instances in the IMS catalog.
- Perform impact analysis when either 1) planning for the IMS catalog or 2) adding a large number of objects to the IMS catalog.
- Include and update individual (or bulk) IMS database definitions (DBD) with schema from COBOL or PL/I copybooks during the import process to the IMS catalog.

  Adding or updating schema to individual databases or in bulk can be accomplished either interactively or schedule through a batch process.

Chapter 19. IMS catalog space analysis and summary reports

IMS catalog database analysis and validation functions allow you to view the number of objects and instances in the IMS catalog, determine IMS catalog database space utilization status, and perform impact analysis for both initial IMS catalog planning and the addition of large number of objects to the existing IMS catalog.

IMS catalog analysis and validation provides three report views:

1. IMS catalog database space analysis
   - IMS catalog environment
   - IMS catalog database space usage
   - Program and database instances in IMS catalog database
2. DBD and PSB summary reports
3. DBD and PSB detail reports

Note: The IMSID selection list only shows IMS subsystems that have the IMS catalog enabled and populated.

Note: When the IMS control region is active in a z/OS LPAR where the IMS Tools Base Distributed Access Infrastructure (DAI) server is not running, the IMSID must be in a data sharing group.

IMS catalog analysis issues DL/I calls to the IMS catalog database. Therefore, data sharing must be configured for the IMS systems so that they can communicate with the LPAR where the DAI server is running.

Use the IRLM to configure data sharing for the IMS systems. Then create an IMS data sharing group for IMS Administration Tool and register the IMS systems to the group. The IRLM of one of the IMS systems in the group must be defined to the LPAR where the DAI server is running.

Analysis and report terminology

For DBD and PSB analysis and report details, DBDs and PSBs are known as **objects**.

Objects can be further distinguished as resources and instances:

- **Resource** refers to a DBD object that is identified by a DBD name, or a PSB object that identified by a PSB name.
- **Instance** refers to a specific time/date occurrence of a resource.

  For example, a PSB resource can have multiple instances with different time-stamps.

Space analysis: IMS catalog environment

The IMS catalog environment report displays the following information:

- IMS ID
- IMS version
- Managed ACBs

  ACBLIB
  ACBs are managed by ACB libraries

  IMS catalog
  ACBs are managed by IMS catalog (directory)
- DFSDF member

DFSDF*xxx* member name in IMS PROCLIB

- IMS catalog PHIDAM database name
- Number of PHIDAM partitions
- Data set organization (PHIDAM partitions)

Space analysis: IMS catalog database space usage

The IMS catalog database space usage report displays the following information:

- IMS catalog PHIDAM database name
- PHIDAM partition name
- Data set group
- Data set name
- Allocated extents

  The number of allocated extents of the database data set.
- IMS size limit

  Maximum data set size that is limited by IMS.
- Allocated space (Bytes)

  Allocated space size of the database data set.
- Used space (Bytes)

  Used space size that is high used RBA (Relative Bytes Address) of the database data set. It is the place of end-of-file.
- IMS limit used (%)

  Ratio of used space to IMS space limit.
- Allocated space used (%)

  Ratio of used space to allocated space.

Space analysis: Program and database instances in IMS catalog database - Estimated sizes

The Program and database instances in IMS catalog database report displays the following information:

- Program (PSB) instances

  The number of PSB instances in the IMS catalog database.
- Database (DBD) instances

  The number of DBD instances in the IMS catalog database
- Total

  The number of PSB and DBD instances in the IMS catalog database.
- Estimated average size

  Estimated average size of PSB and DBD instances.

  This estimation does not take the extra time to read the IMS catalog database directly. Therefore, IMS segment data and free space information is not analyzed.

  As the result, the estimated size value can be larger than the average size value because the estimated average size value includes the IMS free space.

Space analysis: Program and database instances in IMS catalog database - Calculated sizes

The average sizes of DBD and PSB instances are calculated by directly reading the IMS catalog database. IMS free spaces are excluded from the average size values. Therefore, the average size values are more accurate than the estimated average size values.

- Number of PSB instances
- Calculated average size of PSB instances
- Number of DBD instances
- Calculated average size of DBD instances
- Total number of PSB and DBD instances
- Calculated average size of PSB and DBD instances

PSB summary report

The PSB summary report displays the following information:

- All PSB instances
  - Number of PSB instances
  - Average size of PSB instances
- Obsolete PSB instances
  - Number of obsolete PSB instances

    An obsolete instance is not used by IMS.

    For the details of obsolete instances, refer an explanation of status in PSB List.
  - Average size of obsolete PSB instances
- Number of PSB resources having multiple instances
  - Number of PSB resources
  - Number of PSB resources having multiple instances
  - Average number of instances per PSB resource
  - Highest number of instances within one PSB resource

Show full PSB list (detail report)

The Show full PSB list (detail report) displays PSB instances stored in the IMS catalog database and information about them.

For ISPF interface users:
You can decode PSB instances that are stored in the IMS catalog database.

The Show full PSB list (detail report) displays the following information:

- PSB resource name
- Generation date and time
- Size of PSB instance in IMS catalog database
- Status - IMS catalog managed ACBs (application control blocks)

  Active
  The PSB instance is active.

  The time-stamp is equivalent to the active object in an IMS directory active data set.

  Staging
  The PSB instance is pending.

The time-stamp is equivalent to the pending object in an IMS directory staging data set.

"Blank"
The PSB instance is obsolete and it is not used by IMS. The following conditions can apply:

- The instance has an old time-stamp.
- The instance has a newer time-stamp than Active, but it is not in Staging.
- If a PSB resource is not in an IMS directory active or staging data set, "blank" is set for every instance of the PSB resource.

- Status - ACBLIB managed ACBs (application control blocks)

Active
The PSB instance is active.

When Online Change (OLC) is enabled, the time-stamp is equivalent to the PSB member in the active ACB libraries.

When OLC is not enabled, the time-stamp is equivalent to the PSB member in the ACB libraries.

Inactive
The PSB instance is inactive.

The time-stamp is equivalent to the PSB member in the inactive ACB libraries.

Inactive is displayed only when OLC is enabled.

Staging
The PSB instance is in the staging ACB library.

The time-stamp is equivalent to the PSB member in the staging ACB libraries.

Staging is displayed only when OLC is enabled.

"Blank"
The PSB instance is obsolete and it is not used by IMS. The following conditions can apply:

- The instance has an old time-stamp.
- The instance has a newer time-stamp than Active, but it is not Inactive or Staging.
- If a PSB resource is not in the ACB libraries, "blank" is set for every instance of the PSB resource.

DBD summary report

The DBD summary report displays the following information:

- All DBD instances
  - Number of DBD instances
  - Average size of DBD instances
- Obsolete DBD instances
  - Number of obsolete DBD instances

    An obsolete instance is not used by IMS.

    For the details of obsolete instances, refer an explanation of status in DBD List.
  - Average size of obsolete DBD instances
- Number of DBD resources having multiple instances
  - Number of DBD resources
  - Number of DBD resources having multiple instances
  - Average number of instances per DBD resource
  - Highest number of instances within one DBD resource
- DBD instances not pointed to by PSBs

- Number of DBD instances not pointed to by PSBs
- Average Size (Bytes)

Show full DBD list (detail report)

The Show full DBD list (detail report) displays DBD instances stored in the IMS catalog database and information about them.

For ISPF interface users:
You can decode DBD instances that are stored in the IMS catalog database.

The Show full DBD list (detail report) displays the following information:

- DBD resource name
- Database (DB) version
- Generation date and time
- Size of DBD instance in IMS catalog database
- Status - IMS catalog managed ACBs (application control blocks)

  Active
  The DBD instance is active.

  The time-stamp is equivalent to the active object in an IMS directory active data set.

  Staging
  The DBD instance is pending.

  The time-stamp is equivalent to the pending object in an IMS directory staging data set.

  Usable
  The most recent time-stamp DBD instance within the old DB Version.

  The DBD instance can be used by IMS if the DB Version is specified by a PSB or an application program.

  (Logical)
  This is a logical DBD and the latest time-stamp instance.

  IMS does not store the logical DBD block in an IMS directory active or staging data set.

  For this reason, (Logical) is set instead of Active or Staging.

  "Blank"
  The DBD instance is obsolete and it is not used by IMS. The following conditions can apply:

  - The instance has an old time-stamp.
  - The instance has a newer time-stamp than Active, but it is not Staging.
  - If a DBD resource is not in an IMS directory active or staging data set, "blank" is set for every instance of the DBD resource (except for the logical DBD).
- Status - ACBLIB managed ACBs (application control blocks)

  Active
  The DBD instance is active.

  When Online Change (OLC) is enabled, the time-stamp is equivalent to the DBD member in the active ACB libraries.

  When OLC is not enabled, the time-stamp is equivalent to the DBD member in the ACB libraries.

  Inactive
  The DBD instance is inactive.

  The time-stamp is equivalent to the DBD member in the inactive ACB libraries.

  Inactive is displayed only when OLC is enabled.

Staging
The DBD instance is in the staging ACB library.

The time-stamp is equivalent to the DBD member in the staging ACB libraries.

Staging is displayed only when OLC is enabled.

Usable
The most recent time-stamp DBD instance within the old DB Version.

The DBD instance can be used by IMS if the DB Version is specified by a PSB or an application program.

(Logical)
This is a logical DBD.

IMS does not store the logical DBD block in IMS ACB libraries.

For this reason, (Logical) is set instead of Active, Inactive, or Staging.

(Logical) is set on the most recent time-stamp instance of the logical DBD.

(GSAM)
This is a GSAM DBD.

IMS does not store the GSAM DBD block in IMS ACB libraries.

For this reason, (GSAM) is set instead of Active, Inactive, or Staging.

(GSAM) is set on the most recent time-stamp instance of the GSAM DBD.

"Blank"
The DBD instance is obsolete and it is not used by IMS. The following conditions can apply:

- The instance has an old time-stamp.
- The instance has a newer time-stamp than Active, but it is not Inactive or Staging.
- If a DBD resource is not in the ACB libraries, "blank" is set for every instance of the DBD resource.

- Number of PSB Resources Referring this DBD

  The number of PSBs that reference this DBD.

  - For the PSB resources, only active instances are calculated.
  - For the DBD resources, active or usable DBD instances are calculated.

    For GSAM and Logical DBDs, instances flagged with (GSAM) or (Logical) are calculated.
  - Obsolete, inactive, and staging DBD or PSB instances are out of scope for this calculation.

    These instances are not used by IMS at this point.
  - When DB Versioning is enabled, the following IMS definitions are evaluated for this calculation:
    - DBLEVEL=BASE or CURRENT in the DFSDF*xxx* member of the IMS PROCLIB
    - DBLEVEL=BASE or CURRENT in the PSB
    - DBVER=*n* in the PSB

    Note: The INIT VERSION call in an IMS application program is not evaluated.

Chapter 20. DBD/PSB compare

The compare function of IMS Administration Tool allows you to compare versions of DBD and PSB resources in the IMS directory data sets and the IMS ACB library.

Compare business scenarios

You can use the compare function to:

- Confirm consistency of resources in the IMS directory to resources in the ACB library. The IMS directory and the ACB library to compare can be for different IMS subsystems. For example, in a data sharing environment consisting of two IMS subsystems, you can compare the IMS directory for an IMS subsystem to the ACB library used by another IMS subsystem.
- Identify and review differences in resources between the IMS directory active data sets and the IMS directory staging data set within an IMS directory.
- (ISPF interface only) Compare resources between two IMS directories. Also, compare resources between the IMS directory and a backup that was created with the backup function.

Here are some common business scenarios:

- After migrating from ACBLIB-managed ACBs to IMS catalog-managed ACBs (IMS management of ACBs), use the compare function to verify that the IMS directory is successfully populated from the ACB library.
- When migrating from ACBLIB-managed ACBs to IMS catalog-managed ACBs in a data sharing environment where one IMS subsystem uses ACBLIB-managed ACBs and the other IMS subsystem uses IMS catalog-managed ACBs, the resources in the ACB library and the IMS directory must be in sync. Use the compare function to ensure that the consistency is maintained during migration.
- If IMS catalog-managed ACBs are used, use the compare function before activating changes to resources. The compare function reports differences between the resources in the IMS directory active data sets and the IMS directory staging data set and you can ensure that the changes that will be activated are what you intended.
- (ISPF interface only) When two IMS systems are using different IMS directories, use the DBD/PSB compare function to verify whether the DBD and PSB resources in two IMS directories are identical.
- (ISPF interface only) Before you restore the IMS directory from a backup, compare DBD and PSB resources in the IMS directory with those in the backup to ensure that the selected backup matches the current resources. If a difference is detected and you want to retain the resources in the current IMS directory (without replacing them with those in the backup), use the object explorer of IMS Administration Tool to generate DBD and PSB statements of the resources that you want to retain before you restore the IMS directory. After you restore the IMS directory from the backup, run the IMS resource change function and supply the generated DBD and PSB statements as input so that the resources in the IMS directory are restored to the correct state.

Terminology for DBD/PSB compare

For comparison selection, DBDs and PSBs are known as *objects*.

Objects can be further distinguished as resources and instances:

- *Resource* refers to a DBD object that is identified by a DBD name, or a PSB object that identified by a PSB name.
- *Instance* refers to a specific time/date occurrence of a resource.

  For example, a PSB resource can have multiple instances with different time stamps.

Topics:

- “DBD/PSB compare reference—IMS directories” on page 126
- “DBD/PSB compare results reference” on page 129

DBD/PSB compare reference—between IMS directory and ACB library

The compare function of IMS Administration Tool allows you to compare versions of DBD and PSB resources in the IMS directory and the IMS ACB library.

Table 28. Compare criteria selection (IMS directory to ACB library)

Option	Description
Comparison Scope	Options for comparison: • Compare a single resource (Compare) • Compare multiple resources (Compare All) You can choose one or more DBDs or PSBs to compare. Resources can be selected using filters.
Resource Type	Resource types include: • DBD • PSB You can choose one or more DBDs or PSBs to compare. Resources can be selected using filters.
IMS Directory Resource Criteria	
IMSID (of IMS Directory)	The IMSIDs in the selection list are catalog-managed ACBs. Catalog-managed ACBs means the IMS catalog is enabled, ACBs are managed with the IMS catalog, and resources are stored in the IMS directory.
Resource Name	You can choose one or more DBDs or PSBs to compare. Select a single resource from the IMS directory for single resource comparison. Select multiple resources from the IMS directory for multiple resource comparisons.
Resource (Instance) Status (Data and Time Instance)	The selected DBD or PSB resource instance status can be: • Active Active instances are stored in the IMS directory active data sets. • Staging Pending instances are stored in the IMS directory staging data set.
ACB Library Resource Criteria	

Table 28. Compare criteria selection (IMS directory to ACB library) (continued)

Option	Description
IMSID (of ACB Library)	The IMSIDs in the selection list satisfies the one of the following conditions: • IMS catalog is not enabled. • IMS catalog is enabled and ACBs are managed with ACB libraries. You can alternatively specify another ACBLIB library data set.
Resource Name	You can choose one or more DBDs or PSBs to compare. Select a single resource from the ACB library for single resource comparison. Select multiple resources from the ACB library for multiple resource comparisons.
Resource (Instance) Status (Data and Time Instance)	When OLC is enabled, the selected DBD or PSB resource instance status can be: • Active Active instances are in the active ACB libraries. • Inactive Inactive instances are in the inactive ACB libraries. • Staging Staging instances are in the staging ACB libraries.

Table 28. Compare criteria selection (IMS directory to ACB library) (continued)

Option	Description
Comparison Options	Compare options to ignore certain comparison differences: **Ignore VERSION= in DBD** Ignore the differences of VERSION= *parameter* in the DBD statement. **Note:** VERSION= *parameter* is different from DBVER= *parameter*. DBVER is the version number of the database versioning and is always compared. **Ignore METADATA in DBD and PSB** Ignore the metadata differences in DBD and PSB. The metadata is as follows: **DBD** • DFSMARSH, DFSMAP, DFSCASE statements Includes the statements and any parameters on the statements. • FIELD statements CASENAME=, DATATYPE=, DEPENDSON=, EXTERNALNAME=, MINOCCURS=, MAXOCCURS=, MAXBYTES=, PARENT=, REDEFINES=, RELSTART=, REMARKS=, STARTAFTER= • Other statements ENCODING=, EXTERNALNAME=, REMARKS= **PSB** EXTERNALNAME=, REMARKS= **Ignore PCB Name** Ignore the differences for the NAME= *parameter* or the label in the PSBGEN statement of the PSB. **Ignore RMNAME= in DBD** Ignore the differences for the RMNAME= *parameter* in the DBD statement. **Ignore Segment/Edit Compression Exit Routine Name** Ignore the differences for the COMPRTN= *parameter* in the SEGM statement of the DBD. **Ignore KEYLEN of PCB** Ignore KEYLEN= in the PCB statement of the PSB **Ignore DEDB AREA Statement** Ignore AREA statements in the DBD and any parameters on the AREA statements.

DBD/PSB compare reference—IMS directories

The compare function allows you to compare versions of DBD and PSB resources in IMS directories.

You can use the compare function to compare DBD and PSB resources between:

- IMS directory active data sets and IMS directory staging data set of an IMS directory
- (ISPF interface only) Two IMS directories
- (ISPF interface only) IMS directory and a backup created with the backup function

Table 29. Compare criteria selection (IMS directory to IMS directory)

Option	Description
Comparison Scope	Options for comparison: • Compare a single resource (Compare) • Compare multiple resources (Compare All) You can choose one or more DBDs or PSBs to compare. Resources can be selected using filters.
Resource Type	Resource types include: • DBD • PSB You can choose one or more DBDs or PSBs to compare. Resources can be selected using filters.
Source IMS Directory	
Select From (ISPF only)	You can select the source IMS directory data set from an IMSID or the backup list.
IMSID (of IMS Directory)	The IMSIDs in the selection list are catalog-managed ACBs that are used when the IMS management of ACBs is enabled. Catalog-managed ACBs means the IMS catalog is enabled, ACBs are managed with the IMS catalog, and resources are stored in the IMS directory.
Backup (ISPF only)	You can select a backup data set from the backup list. To select from the backup list, the backup list must be created from the IMS directory/BSDS backup and restore menu in advance.
Resource Name	You can choose one or more DBDs or PSBs to compare. Select a single resource from the IMS directory for single resource comparison. Select multiple resources from the IMS directory for multiple resource comparisons.
Resource (Instance) Status (Data and Time Instance)	The selected DBD or PSB resource instance status can be: • Active Active instances are stored in the IMS directory active data sets. • Staging Pending instances are stored in the IMS directory staging data set.
Target IMS Directory	
Select From (ISPF only)	You can select the source IMS directory data set from an IMSID or the backup list, or by specifying the high-level qualifier (HLQ).

Table 29. Compare criteria selection (IMS directory to IMS directory) (continued)

Option	Description
IMSID (of IMS Directory)	The IMSIDs in the selection list are catalog-managed ACBs that are used when the IMS management of ACBs is enabled. Catalog-managed ACBs means the IMS catalog is enabled, ACBs are managed with the IMS catalog, and resources are stored in the IMS directory.
Backup (ISPF only)	You can select a backup data set from the backup list. To select from the backup list, the backup list must be created from the IMS directory/BSDS backup and restore menu in advance.
Specify HLQ (ISPF only)	You can specify the high-level qualifier of the bootstrap data set for the desired target IMS directory.
Resource Name	You can choose one or more DBDs or PSBs to compare. Select a single resource from the IMS directory for single resource comparison. Select multiple resources from the IMS directory for multiple resource comparisons.
Resource (Instance) Status (Data and Time Instance)	The selected DBD or PSB resource instance status can be: • Active Active instances are stored in the IMS directory active data sets. • Staging Pending instances are stored in the IMS directory staging data set.

Table 29. Compare criteria selection (IMS directory to IMS directory) (continued)

Option	Description
Comparison Options	Compare options to ignore certain comparison differences: **Ignore VERSION= in DBD** Ignore the differences of VERSION= *parameter* in the DBD statement. **Note:** VERSION= *parameter* is different from DBVER= *parameter*. DBVER is the version number of the database versioning and is always compared. **Ignore METADATA in DBD and PSB** Ignore the metadata differences in DBD and PSB. The metadata is as follows: **DBD** • DFSMARSH, DFSMAP, DFSCASE statements Includes the statements and any parameters on the statements. • FIELD statements CASENAME=, DATATYPE=, DEPENDSON=, EXTERNALNAME=, MINOCCURS=, MAXOCCURS=, MAXBYTES=, PARENT=, REDEFINES=, RELSTART=, REMARKS=, STARTAFTER= • Other statements ENCODING=, EXTERNALNAME=, REMARKS= **PSB** EXTERNALNAME=, REMARKS= **Ignore PCB Name** Ignore the differences for the NAME= *parameter* or the label in the PSBGEN statement of the PSB. **Ignore RMNAME= in DBD** Ignore the differences for the RMNAME= *parameter* in the DBD statement. **Ignore Segment/Edit Compression Exit Routine Name** Ignore the differences for the COMPRTN= *parameter* in the SEGM statement of the DBD. **Ignore KEYLEN of PCB** Ignore KEYLEN= in the PCB statement of the PSB **Ignore DEDB AREA Statement** Ignore AREA statements in the DBD and any parameters on the AREA statements.

DBD/PSB compare results reference

A compare report contains results from the comparison of two instances.

The source of DBD or PSB in the IMS directory is taken as the basis for the comparisons.

An initial comparison results report provides a summary analysis.

You can also access a detailed results report with side-by-side comparison.

Table 30. Compare results

Option	Description
Compare Results	The initial comparison results report indicates one of the following analysis categories: **Identical** The resource instances in the IMS directory and in the ACB library are identical. **Different** The resource instances in the IMS directory and the ACB library are different. **Unmatched** The resource instance exists in the IMS directory or the ACB library, but not both.
Comparison Results Detail	

Number of Different Statements	The top header section of the comparison report contains the summary information about statements which were inserted, deleted, or changed.
	INSERTED
	The number of statements which were found only in the DBDs or the PSBs in the ACB library.
	DELETED
	The number of statements which were found only in the DBDs or the PSBs in IMS directory.
	CHANGED
	The number of statements which were found in both the DBDs or the PSBs in the IMS directory and the ACB library, but were detected to be different.
	Example:
	`NUMBER OF DIFFERENT STATEMENTS`
	`INSERTED  :     44`
	`DELETED   :      8`
	`CHANGED   :     10`

Table 30. Compare results (continued)

Option	Description

IMS Environment and DBD or PSB Profile	The second header section of the comparison report contains the summary of the IMS environment and the compared instances of DBD or PSB resources:
	• IMSID
	• IMS directory high level qualifier and ACB library data set name
	• Status of the selected resource instance
	• DBD or PSB resource name
	• Time stamp when the resource instance was generated
	• IMS Version when the resource instance was generated
	Example:
	`IMSID : IFB8 |`
	`CATALOG HLQ : |`
	`IMS.IFB8.DFSCD000 |`
	`STATUS : ACTIVE |`
	`RESOURCE : DBFSAMD4 |`
	`GENERATED : 06/12/2020 19.41 |`
	`GENERATED IMS : 1510 |`

Line-by-line Comparison Result	The detail section of the comparison report shows a side-by-side and line-by-line display of the similarities and differences between the DBD or PSB sources. The following characters in the CHK column of the report indicate the type of difference found in the DBD or PSB source between the IMS directory and the ACB library: **I** A statement is inserted into the DBD or PSB in the ACB library. **D** A statement is deleted from the DBD or PSB in the IMS directory. **C** A statement in the DBD or PSB in the IMS directory is different from that in the ACB library. An asterisk (*) is shown on the row of each data that is determined to be different. The SOURCE LINES column shows the IMS DBDGEN or PSBGEN utility control statements that were decoded from the DBD or PSB instance in the IMS directory or the ACB library.

Chapter 21. Export objects and import objects

The export objects function, in combination with the import objects function, allows you to easily bulk copy DBD and PSB resource definitions from one IMS system to another IMS system, regardless of whether both systems are using the IMS catalog or not.

The export objects function extracts IMS ACB control blocks of DBDs and PSBs from ACB libraries or IMS directory, decodes the control blocks into readable DBD and PSB sources codes, and stores them in the *export data set*. An export data set is an intermediate data set generated by the export objects function and used by the import objects function.

The import objects function reads the export data set and calls the DBDGEN, PSBGEN, ACBGEN utilities, and, if IMS catalog is defined in the IMS system, the IMS catalog populate utility (DFS3PU00). If the Use COPYBOOK option is selected, the import objects function also performs copybook import before DBDGEN.

By using the export objects function and the import objects function, you can transfer DBDs and PSBs from one IMS subsystem to another IMS subsystem.

Export/import business scenarios

Because these two functions use DBD and PSB source codes as intermediate data, and DBDGEN, PSBGEN, and ACBGEN are done in the target system environment, the functions allow to maintain different IMS environments for the source system and the target system. For example, you can transfer DBDs and PSBs to a target system that uses a different release of IMS, or transfer DBDs and PSBs between two systems that manage ACBs differently (one with ACBLIB and another by IMS). You can also use these functions to manage objects in a single IMS system. For example, you can export and import objects when you migrate to a new release of IMS, or when you want to import copybooks to DBDs and PSBs and replace DBDs and PSBs in the IMS system.

Typical business scenarios can include:

- Build a test IMS subsystem.
- Synchronize two IMS environments.
- Create a mirror-image IMS subsystem from an existing IMS subsystem.
- Move the IMS subsystem to a different ACB management environment, for example from ACBLIB-managed to IMS-managed (ACBs managed with IMS directory).
- Restore the IMS subsystem from IMS managed ACBs (ACBs managed with IMS directory) to ACBLIB.
- Import COBOL or PL/I copybooks in bulk to the IMS catalog to accommodate a change of application programs and make the information available to Java applications.

Topics:

Import objects settings (ISPF only)

Settings allow you to register data sets and define runtime options for database (DBD) and application (PSB) update tasks.

Note: The **Settings** menu is available only with the ISPF interface. If you are using the web interface and you want to set runtime options, you can do so by registering DDname and keyword variables.

Data set selection method

Change the data set selection method for import objects sessions. Two methods are available; select data sets from a group of data sets that IMS Administration Tool identifies or from a predefined data set group.

- **Discovered Data Sets:** Use data sets that IMS Administration Tool identifies from the IMS control region JCL and IMS PROCLIB members.
- **Data Set Group:** Use data sets included in a predefined data set group. Data set groups can be predefined from **Setup and Administration** > **Manage Data Sets and Groups**.

Note: The import objects function does not use DBD statement source data sets and PSB statement source data sets as input. Instead, it uses exported data sets as input. For more information, see "Import objects reference" on page 135.

Runtime options

The runtime options are applied when copybook import, DBDGEN, PSBGEN, ACBGEN, or IMS Catalog Populate (DFS3PU00) is performed in the following functions:

- IMS resource change function of database and application administration
- Import objects function of IMS catalog and ACB library management

Runtime options include IMS MACLIB, Assemble and COBOL compile options, PL/I and COBOL compiler libraries, and copybook options.

For each runtime option, specify the scope to apply the option (either IMS subsystem ID or system) and a value.

Table 31. Runtime options for DBD/PSB change tasks

Option	Description
IMS Macro Library	IMS macro library data set. Used during DBDGEN and PSBGEN.
Assemble Option	Data set (and member if it is partitioned) that contains assemble options. Used during DBDGEN and PSBGEN.
COBOL Compiler	COBOL compiler library data set. Used during copybook import.
COBOL Compile Option	Data set that contains the COBOL compile option IGYCDOPT module.
PL/I Compiler	PL/I compiler library data set. Used during copybook import.
Copybook Default Lang	Copybook language, either PLI or COBOL. The default is COBOL. Used during copybook import.
Copybook XREF Format	Format of the copybook XREF file, either TYPE1 or TYPE0. The default is TYPE0. Used during copybook import.

Export objects reference

The export objects function extracts IMS control blocks (DBDs and PSBs) from either the ACB library or IMS directory depending on how IMS is configured. Then it decodes the extracted control blocks to readable DBD or PSB source code enabling you to import DBDs and PSBs with the import objects function.

The ACB library and IMS directory are automatically determined by IMS Administration Tool from the parameters and the PROCLIB libraries of the IMS system.

The following options allow you to set up the process of exporting selected resource objects to export data sets. The export objects function generates a JCL job based on the options you select. You submit the JCL job to export objects to the export data set.

Table 32. Exporting objects

Option	Description
Object Selection Criteria	
IMSID	The 1-4 character name of the IMS subsystem to export from.
Export Objects	Specification of resource types to export (and import): • DBD • PSB • Both (DBD and PSB)
DBD and PSB Filters	Specify a wildcard expression to control the number of resource objects that display.
Export Object Options	
Export from and Object Status	Specify the location and the status of the objects to export from. • If the IMS management of ACBs is not enabled, select ACB library. • If the IMS management of ACBs is enabled, you can select from ACB library or IMS directory. To select ACB library, the IMSACB DD statement must be present in the IMS control region JCL or procedure. **ACB library** • Active Active ACB library. • Inactive Inactive ACB library. • Staging Staging ACB library. **IMS directory** • Active IMS directory data sets. • Staging IMS directory staging data set.
Prefix of Export Data Sets	The high-level qualifier prefix of the output data sets that are used for the export process. (35 character maximum)

Import objects reference

The import objects function performs resource change tasks by calling the DBDGEN, PSBGEN, ACBGEN utilities, and, if IMS catalog is defined in the IMS system, the IMS catalog populate utility (DFS3PU00). If

the Use COPYBOOK option is selected, the import objects function also performs copybook import before DBDGEN.

The import objects function requires an export data set as input. The export data set must contain DBD and PSB source codes generated by the export objects function.

The DBDLIB, PSBLIB, ACBLIB, IMS directory, and IMS catalog are automatically determined by IMS Administration Tool from the parameters and the PROCLIB libraries of the IMS system.

For ISPF interface users:
If the name of a data set group is displayed in the Data Set Selection field, it means that the data set group is selected for your import objects session. The following resources can be selected only from the data sets that belong to the selected data set group.

- Copybook and cross reference data sets.
- DBD statement source updated with copybook import
- DBD/PSB/ACB libraries

IMS catalog, directory, and staging data sets are automatically discovered from IMS subsystem even if a data set group is selected.

You can select a data set group from **IMS Catalog and ACBLIB Management** > **3. Import Objects** > **0. Settings**.

Requirement: When the IMS management of ACBs is enabled, the IMS system does not require ACB libraries. However, you must create an ACB library to use the import objects function. In addition, when you use discovered data sets, you must either allocate it to the IMS control region with DD name IMSACB or create a DFSMDA member for the IMSACB.

Tip: Runtime options for resource change tasks
You can predefine runtime options for resource change tasks.

Web interface
The following variables can be predefined.

- IMSMAC DDname variable. IMS macro library data set. If it is not specified, the data set is discovered from the IMS PROCLIB data set.
- ASMAOPT DDname variable. Data set (and member if it is partitioned) that contains assemble options for the assemble step of DBDGEN and PSBGEN.
- CBLLIB, PLILIB, and CBLOPT. Variables for copybook import. For more information, see “Runtime options for copybook import” on page 99.

ISPF interface
Runtime options can be predefined from **IMS Catalog and ACBLIB Management** > **3. Import Objects** > **0. Settings**.

The following options allow you to set up the process of importing selected resource objects from the export data set to a new target destination. The import objects function generates a JCL job, ATY@OBJU, based on the options you select. For more information about ATY@OBJU, see Chapter 17, “DBD and PSB update (ATY@OBJU) JCL,” on page 105.

Table 33. Importing objects

Option	Description
Object Selection Criteria	
Import Objects	Specification of resource types to import from the export data set: • DBD • PSB • Both (DBD and PSB)

Table 33. Importing objects (continued)

Option	Description
DBD and PSB Filters	Specify a wildcard expression to control the number of resource objects that display.
Import Object Options	
Initial Load	This option is available if the IMS catalog is defined to the IMS subsystem. Specify whether to initialize or update the IMS catalog and IMS directory. **Y** Initialize the IMS catalog and IMS directory. If an IMS catalog and IMS directory exist, the data sets are deleted and defined. The ACB members of DBDs and PSBs are stored in the IMS directory active data sets. **N** Update the existing IMS catalog and IMS directory. The DBDs and PSBs are stored in IMS directory active data sets and IMS catalog. The ACB members of DBDs and PSBs are stored in the IMS directory staging data set. **Requirement:** While the import objects job is running, the IMS system must be either active or inactive depending on the INITLOAD parameter value set in the generated JCL (ATY@OBJU JCL). For details, see “Requirement: Status of the online IMS system ” on page 107. See also “Scenarios for "Initial Load" and "Overwrite Existing Objects"” on page 107.
Overwrite Existing Objects	Specify whether to overwrite existing DBD and PSB objects. **Y** Overwrite existing objects. **No** Do not overwrite existing objects. IMS Administration Tool checks if a member with the same name exists in the ACB library: • If the IMS management of ACBs is not enabled, IMS Administration Tool checks the staging ACB library. • If the IMS management of ACBs is enabled, IMS Administration Tool checks the data set that is pointed to from the IMSACB DD statement in the IMS control region JCL. For more information, see “Scenarios for "Initial Load" and "Overwrite Existing Objects"” on page 107.
Prefix of Export Data Sets	The high-level qualifier prefix of the export data set created by the export objects function.

Table 33. Importing objects (continued)

Option	Description
Backup Existing Objects	To provide rollback capability, backup existing objects in the backup data sets before importing. This option creates backup copies of the library or the data sets that the import objects function might update. The backup copies contain DBDs and PSBs in the form of source codes. **Yes** Back up existing objects. The import objects function decodes ACB members in the ACB library or IMS directory into DBD and PSB source codes and stores them in the backup data sets. • If the IMS management of ACBs is not enabled, creates a backup copy of the ACB staging library. • If the IMS management of ACBs is enabled, creates backup copies of the following data sets: – IMS directory active and staging data sets – The ACB library that is pointed to from the IMSACB DD in the IMS control region JCL. **No** Do not create backup data sets.
Prefix of Backup Data Sets	The high-level qualifier prefix of the backup data sets. (35 character maximum)
Use COPYBOOK	This option is available only for DBD objects. Specify Y to import copybook information to the DBD source code. If you specify Y, the function analyzes the copybook and inserts corresponding metadata statements into the DBD source for DBDGEN.
COPYBOOK Data Sets Displayed when "discovered data sets" is selected.	
COPYBOOK Cross Reference (XREF) Data Sets	The name of the data set that pairs the DBD with the copybook. You can specify up to 10 data sets. If you are using the ISPF interface, specify Y to view, change, or add data set names. For the format of COPYBOOK XREF files and examples, see “Copybook XREF file” on page 100.
COBOL or PL/I COPYBOOK Data Sets	The names of the data sets where the copybook resides. You can specify up to 120 data sets, maximum of 60 for COBOL copybook data sets and 60 for PL/I copybook data sets. If you are using the ISPF interface, specify Y to view, change, or add data set names.
DBD Source with COPYBOOK	Specify the name of the output data set for storing the updated DBD source.
JCL Output Options	

Table 33. Importing objects (continued)

Option	Description
JCL Output Data Set	The name of the partitioned data set where the generated import JCL is stored. The data set must be pre-allocated before you can generate the JCL
Member	The name of the member in the partitioned data set where the generated import JCL is stored.
Job Statements	Specification of the JOB statement of the import JCL.
Allocate Data Set	Allocate the data set where the generated import JCL is stored.

Chapter 22. IMS directory/BSDS backup and restore (ISPF only)

Use the IMS directory/BSDS backup function (backup function) to create a backup of the data sets used for the IMS directory. Use the IMS directory/BSDS restore function (restore function) to restore the IMS directory from a backup.

When the IMS management of ACBs is enabled, the runtime application control blocks (ACBs) of DBD and PSB resources are managed using the IMS directory. An IMS directory consists of the following data sets:

- IMS directory data sets (referred to as *IMS directory active data sets* in this documentation)
- Staging data set (referred to as *IMS directory staging data set* in this documentation)
- Bootstrap data set (BSDS)

IMS systems cannot start if these data sets do not exist or if these data sets have problems. The IMS directory/BSDS backup and restore function of IMS Administration Tool provides capabilities to back up and restore these data sets.

Backup function

The backup function generates backup JCL, which you can submit to create a backup of data sets used for the IMS directory.

Use the backup function after you update DBD and PSB resources with one of the following operations:

- Populate DBD and PSB resources by using the IMS Catalog Populate utility (DFS3PU00).
- Use IMS DDL (data definition language) to create, alter, or drop DBD and PSB resources.
- Activate DBD and PSB resources by using the IMPORT DEFN SOURCE(CATALOG) command.

It is recommended that you use IMS High Performance Image Copy or an image copy utility of IMS to create an image copy of the IMS catalog database when you create a backup of IMS directory data sets.

Restore function

The restore function generates restore JCL, which you can submit to restore the data sets of IMS directory (IMS directory active and staging data sets and the bootstrap data set) from a backup created with the backup function.

You can select a backup or use the latest backup found at restore run time:

Restore using the latest backup
: Generates restore JCL that restores the data sets of the IMS directory from the latest backup found at restore run time. Because IMS Administration Tool identifies the latest backup at restore run time, you do not need to identify and specify the latest backup every time you run the restore JCL.

Restore using a specific backup
: Generates restore JCL that restores the data sets of the IMS directory from the backup you select. You can select a backup from a list of backups (backup list).

Backup and restore business scenario

If a problem occurs with data sets of IMS directory, for instance when some data sets cannot be found, you must recover the data sets of the IMS directory. Generally, these data sets can be recovered from the ACB library or the IMS catalog database. However, you cannot recover the data sets if the ACB library and the IMS catalog database cannot be used such as when the ACB library is not kept up-to-date, the IMS catalog database has some problems, or when the IMS catalog database is being held by DBRC. Even under such circumstances, you can still recover the data sets of IMS directory by using the restore function of IMS Administration Tool.

Here is a scenario that illustrates how to restore the IMS directory, and then recover the ACB library and the IMS catalog database from the restored IMS directory:

1. Stop IMS online systems.
2. Submit the restore JCL that is generated with the restore function (the restore using the latest backup option enabled) to restore the data sets of the IMS directory.
3. Run the HD Pointer Checker utility of IMS High Performance Pointer Checker against the IMS catalog database and the PSINDEX to check database pointers in the IMS catalog database.
4. If any pointer error is detected in the IMS catalog database, use IMS High Performance Image Copy and restore the IMS catalog database. Also, rebuild the PSINDEX for the IMS catalog database.
5. Use the Catalog Manager utility of IMS Library Integrity Utilities to validate DBD and PSB resources in the IMS catalog database with those in the IMS directory.
6. If any inconsistency is detected in the resources in the IMS directory and the IMS catalog database, use the object explorer (enable the decode option) to generate DBD and PSB statements of the resources in which the inconsistency was detected.
7. Start IMS systems with the /NRE or /ERE command.
8. Use the IMS resource change function to run DBDGEN, PSBGEN, ACBGEN, and populate the IMS catalog. The DBD and PSB resources in the IMS catalog database are now in sync with the resources in the IMS directory.

Topics:

IMS directory and BSDS backup settings

Before creating backups, you must define some parameters that IMS Administration Tool uses for creating backups.

Table 34. Settings for IMS directory and BSDS backup

Option	Description
Retention Generations	The number of backup generations to retain. Specify a value in the range of 1 - 99. If the number of backup generations reaches this value, IMS Administration Tool deletes the oldest backup.
High-Level Qualifier for Backup Data Sets	Specify the high-level qualifier (HLQ) for backup data sets. HLQ can be up to 32 characters. The names of backup data sets are determined by the HLQ and the generation number. For example, if HLQ is "IMS.DFSCD000.BACKUP" and the current generation number is 02, the backup data set for IMS directory active data set DI1001 is named as "IMS.DFSCD000.BACKUP.B02.DI1001".

The IMS Data Sets to Backup field shows a list of data sets that are currently used for the IMS directory, which include IMS directory active data sets, an IMS directory staging data set, and a bootstrap data set. IMS Administration Tool creates backup data sets from the latest IMS data sets that it finds at backup run time. If you change IMS definitions, IMS data sets that IMS Administration Tool backs up might be different from the IMS data sets listed in this field.

Backup IMS directory and BSDS reference

In the Backup IMS Directory and BSDS panel, specify the required fields to generate backup JCL, which you can submit to create a backup of IMS directory active data sets, the IMS directory staging data set, and the bootstrap data set.

IMS Administration Tool automatically creates data sets for backup when the backup JCL is run. The names of backup data sets are determined by the retention generation and HLQ parameters defined in Settings.

Table 35. Backup IMS directory and BSDS

Option	Description
IMS Data Sets to Backup View Data Sets	Enter a Y next to View Data Sets to show a list of IMS directory data sets to back up. This list contains IMS directory active data sets, an IMS directory staging data set, and a bootstrap data set. IMS Administration Tool identifies these data sets from IMS definitions. IMS Administration Tool creates backup data sets from the latest IMS directory data sets that it finds at backup run time. If you change IMS definitions, IMS data sets that IMS Administration Tool backs up might be different from the IMS data sets listed in this panel.
JCL Output Data Set	Specify the data set and member for storing the backup JCL.
Job Statements	Specify the job statements to be added to the backup JCL.

Restore IMS directory and BSDS reference

In the Restore IMS Directory and BSDS panel, specify the required fields to generate restore JCL, which you can submit to restore IMS directory active data sets, the IMS directory staging data set, and the bootstrap data set from a backup.

Requirement: Before you submit the restore JCL, ensure that all IMS online systems that use the IMS directory are stopped.

The Restore IMS Directory and BSDS panel can be accessed from the following menus:

- To restore from the latest backup: **IMS Directory/BSDS - Backup and Restore** > **2 Restore from Latest**
- To restore from a specific backup: **IMS Directory/BSDS - Backup and Restore** > **3 Backup List**. Enter line command R next to the backup you want to use

The following table summarizes the options in the restore panel.

Table 36. Restore IMS directory and BSDS

Option	Description
IMS Data Sets to Restore View Data Sets	Enter a Y next to View Data Sets to show a list of data sets to restore. This list contains IMS directory active data sets, an IMS directory staging data set, and a bootstrap data set. IMS Administration Tool identifies these data sets from IMS definitions. The data sets of the IMS directory will be discovered again when the restore job is run. If you update IMS definitions to change the data sets used for the IMS directory, IMS Administration Tool restores the new (changed) IMS data sets.

Table 36. Restore IMS directory and BSDS (continued)

Option	Description
Force restore (restore even if data set names are different)	When the restore job runs, IMS Administration Tool checks whether the names of data sets that are currently used by the IMS directory (the one to be restored) match the names of data sets in the backup. If the names are different, the job is stopped unless you specify Y. **Y** Restores IMS directory data sets even if the names of data sets are different from the names of IMS data sets at the time when the backup was created. **N** If data set names are different, cancels the restore operation.
JCL Output Data Set	Specify the data set and member for storing the restore JCL.
Job Statements	Specify the job statements to be added to the restore JCL.

IMS directory/BSDS backup list reference

This panel displays a list of backups. You can view the details of each backup, delete one or all backups, or create restore JCL that restores IMS directory data sets (IMS directory active and staging data sets and bootstrap data set) from a specific backup.

Tips:

- To narrow down the list, use the filter.
- To delete multiple backups at once, filter the backups and then use primary command D.

The backups are listed in the order they were created (backup date and time).

A Y in the Restored column indicates that the backup was used to restore the IMS directory in the past.

If "Not available for restore." is displayed in the message column, it means that the backup cannot be used for restore because some data sets are missing in the backup. In this case, use line command D to delete the backup.

Table 37. IMS directory/BSDS backup list

Option	Description
Primary Commands	**S** Sort the list. **F** Filter the list. **C** Clear the filter. **D** Delete all backups.

Table 37. IMS directory/BSDS backup list (continued)

Option	Description
Line Commands	**R** Generate restore JCL. The restore JCL generated with the R line command restores IMS data sets from the selected backup. **I** Display detailed information about the backup. **D** Delete the backup.

Part 6. Run IMS utilities (JCL generation)

IMS Administration Tool helps you automate the process of generating the JCL required to run IMS utilities provided by IMS Tools products that are registered to participate in the IMS Administration Tool environment.

The Run IMS utilities feature helps automate the JCL generation process and enables you to set up recurring utility jobs for conditional and routine IMS maintenance tasks.

Topics:

Chapter 23. Run IMS Utilities overview and process flow

The Run IMS Utilities feature of IMS Administration Tool provides a detailed and flexible mechanism to generate single master JCL that you can run to perform simple and complex IMS maintenance tasks.

Topics:

Process summary for product registration

IMS Tools products that participate in the IMS environment with IMS Administration Tool are required to register information to the central IMS Tools Knowledge Base repository.

This product information is used by the IMS Administration Tool "Run IMS utilities" feature to help automate and support the JCL generation process.

Product registration includes:

- Register to the IMS Tools Knowledge Base repository for general data storage.
- Register to the IMS Tools Knowledge Base report service for storage of generated product reports.
- Register to the IMS Tools Knowledge Base product registry:
  - Product version and release
  - Product library names and locations
  - Initial assignment of product "scope=GLOBAL"
- Register specific *functions* provided by the IMS Tool products.
- Register *templates* for each function that represent the JCL code used to perform that function.

  Initial assignment of template "scope=GLOBAL".
- Register a list of *variable* expressions used in the template code that are later populated with values appropriate to the IMS environment.

  Initial assignment of variable "scope=GLOBAL".
- Enhanced initial setup and customization of IMS Administration Tool through IMS Tools Setup.

Process summary for JCL generation

The JCL generation process used to run IMS maintenance tasks is dependent on the product registration information gathered from IMS Tools that participate in the IMS Administration Tool environment.

To support the Run IMS Utilities feature of IMS Administration Tool, IMS Tools product *functions* are registered and made available to the JCL generation process.

The code to run a specific function is provided in the form of a *template*. The template is JCL code and includes *variable* expressions that are populated with appropriate values before and during the final build process of an actual job JCL.

Run IMS Utilities uses the registered functions, templates, and variables to create three types of configuration files that are used to build custom JCL jobs: *object profiles*, *utility profiles*, and *job profiles*.

1. Create an *object profile* that identifies the specific resource or resources in the IMS environment where the master JCL job for the maintenance task is run.

IMS Administration Tool runs in an IMS environment, identified by an IMSID/Group designation.

The IMS environment is made up of one or more databases and/or database groups.

Example IMS resource objects: single databases, PSBs, DBRC groups (CAGRP, DBDSGRP, RECOVGRP, DBGRP)

2. Create a *utility profile* that represents an IMS maintenance task, and identifies the IMS Tools functions required for the task, plus the sequence in which the functions need to be performed.

   The utility profile defines a database maintenance task by specifying the required functions in the correct sequence.

   Example utility specification:

   - Task: Database reorganization
   - Required functions and sequence:
     a. Unload a full function database
     b. Reload a full function database
     c. Build indexes for a full function database
     d. Pointer check a full function database
     e. Prefix resolution and update
     f. ...
3. Create a *job profile* that combines a utility profile and an object profile to build a single JCL job that can perform a database maintenance task for a specific IMS environment.

   The job profile combines the function templates specified by that utility profile into a single master JCL job. The master JCL code is a correctly sequenced concatenation of the individual function template code provided by the utility profile.

   The JCL job is applicable to an IMS environment that is defined by the *object profile*.

   The templates for each function are selected by the scope level (GLOBAL, SYSTEM, IMSID, or PROFILE) that is appropriate for this task.

   Example job profile task: Run database reorganization on PSB1

   - Object profile: PSB1
   - Utility profile: Database reorganization
4. During the master JCL build process, variable expressions in the templates are populated with appropriate values.

   There are two types of variables:

   - DDNAME
   - Keyword

   Values are selected by the scope level (GLOBAL, SYSTEM, IMSID) that is appropriate for this task.

   When creating the job profile, any variable can be further customized to contain a value that is appropriate only for this specific job profile (scope=PROFILE).

   Additionally, some variables and values are dynamically provided during the JCL build process. Sources for these dynamic variables include:

   - **Environment** (z/OS system information)

     Examples: SORTLIB, SYSMAC, USERID, UNIT
   - **Registry** (IMS Tools product information)

     Examples: library names (*MENU, *PENU, *SENU, *LOAD)
   - **Discovery** (IMS system information)

Examples: DBDLIB, PROCLIB, RECON1

5. Build a master z/OS batch job for this job profile containing the JCL to run the correct sequence of functions specified in the utility profile (example: Database reorganization).
6. The resulting job can be run immediately on the resource object specified by the object profile (example: PSB1), or saved and inserted into a job scheduler.

JCL generation process flow

The following diagram illustrates the relationship between the initial IMS Tools product registration process and how functions, templates, and variables are used to create object, utility, and job profiles for JCL generation.

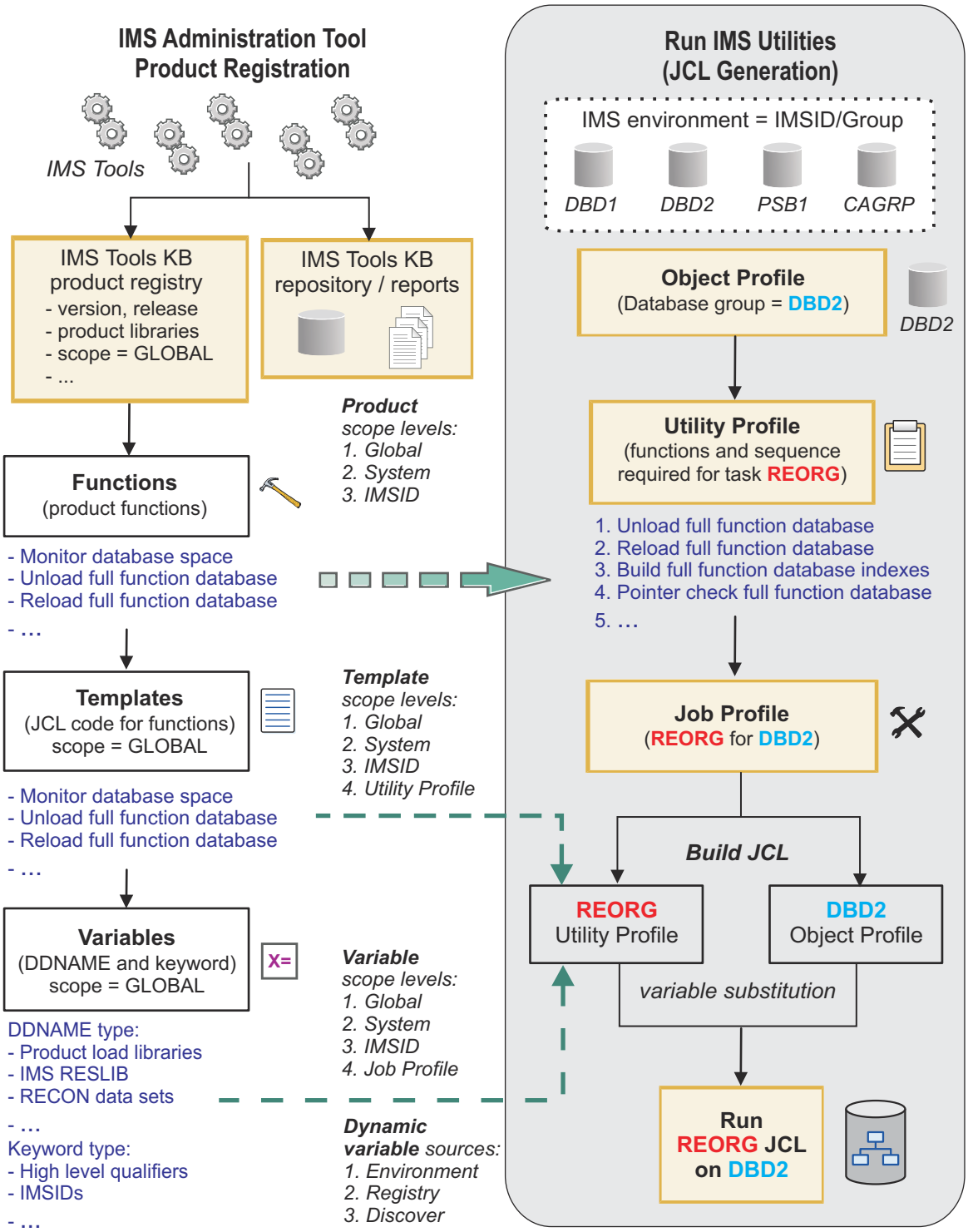

Figure 12. JCL generation process flow

Chapter 24. Object profile overview and reference

An object profile is a configuration file that is used to define and logically group IMS resources (objects) together so that a custom JCL job can be generated and run specifically for that profile.

Object profile overview

A *job profile* combines the specifications in an object profile and a utility profile to generate a single JCL job that performs a database maintenance task for a specific IMS resource.

- The *utility profile* defines the database maintenance task (utility), the individual IMS Tools functions required for that task, and the sequence in which the functions are performed.
- The *object profile* defines the specific IMS resources (objects) where the generated JCL job is run.

Examples of IMS resources that can be selected as objects in an object profile include:

- Databases (DBDs)
- Program specification blocks (PSBs)
- DBRC groups:
  - CAGRPs
  - DBDSGRPs
  - RECOVGRPs
  - DBGRPs
  - ALL DBRC Groups

Business scenarios for object profiles

The following business scenarios provide examples for creating object profiles:

- The object profile contains just a single database.

  Object profile name suggestion: The same name as the primary database.
- The object profile contains a single DBRC group.

  A DBRC group is a grouping of databases defined in the RECON.

  Object profile name suggestion: A name matching the DBRC group name, or a combination of DBRC group name and DBRC group type.
- The object profile relates to an application.

  There are several ways to define an application in an object profile, such as multiple DBDs, DBD wildcarding, and PSB.

  Object profile name suggestion: The user-defined application name or a name matching closely to the PSB name.

Topics:

Manage Object Profiles reference

The Manage Object Profiles interface provides the options to manage existing object profiles and create new object profiles in your IMS Administration Tool environment.

Table 38. Manage Object Profiles

Option	Description
Display Filters	All object profiles in the IMS Administration Tool environment are initially listed. You can control the number of object profiles that display by using the following filter criteria: **IMSID Filter** Specify an IMSID or IMSID wildcard expression to control the number of object profiles that display. Examples: IMS1, IM*, * **Creator Filter** Specify an object profile creator name or creator name wildcard expression to control the number of object profiles that display. Example: USER* **Profile Filter** Specify an object profile name or name wildcard expression to control the number of object profiles that display. Example: PROFI*
Create	Create a new object profile. An object profile is created for a single IMS environment (IMSID) and includes specifications for one or more resources (objects) from that environment.
Sort	Sort the object profile list display. Opens the Sort Columns panel. You can specify the sequence order (values: 1-6) for each field to be sorted and the sort orders for each field (A-Ascending or D-Descending).
D (delete)	Delete an existing object profile. A Delete Confirmation window requests confirmation of the action. The profile must have the "Update" access control (Share Option) set to allow this action for users other than the object profile creator.
M (model)	Create (define) a new object profile based on (modeled after) the attributes of the selected object profile. The IMSID Selection List allows you to apply this additional object profile to another IMS environment. A double asterisk (**) preceding the modeled name in the Object Profile Options view indicates the need to change the profile name. A different profile name is required if the new profile is being created for the same IMSID as the original profile.

Table 38. Manage Object Profiles (continued)

Option	Description
U (update)	Update an existing object profile. The profile must have the "Update" access control (Share Option) set to allow this action for users other than the object profile creator.
V (view)	View an existing object profile. The profile must have the "Update" or "View" access control (Share Option) set to allow this action for users other than the object profile creator.

Create, model, update object profile reference

The Manage Object Profiles interface provides the options to create, model, and update object profiles in your IMS Administration Tool environment.

Table 39. Create, model, update object profile

Option	Description
Creator	The TSO user ID (owner) of the object profile. This field is pre-populated with the user of the current session.
IMSID	The 1-4 character name of the IMS subsystem where this object profile applies. This field is populated with the IMSID previously selected for this object profile.
Profile Name	Any user-defined name for the object profile (maximum of 24 characters).
Description	A user-defined phrase to describe the object profile (maximum of 24 characters).
Share Option	Access control setting for the management of this object profile by users other than the profile creator. **Update** Other users can edit (update) and make changes to this object profile. **View** Other users can only view the object profile details. No changes to the object profile are allowed by users with this access control. **None** Other users have no edit or view access to this object profile.

Table 39. Create, model, update object profile (continued)

Option	Description
Select One Object Type	An object profile can include any combination of valid IMS resources (objects). However, you must add and configure each object type to the object profile one at a time. When you add an object type, you continue the configuration by creating the rules or criteria by which all or some of these objects are selected for use in the object profile (Define DBD/PSB Object Rules). Valid object types: • DBDs (DB) • PSBs (PS) • DBRC groups: – CAGRPS (CG) – DBDSGRPS (CD) – RECOVGRPS (CR) – DBGRPS (CB) – All DBRC Groups (DR)

Table 39. Create, model, update object profile (continued)

Option	Description
Define DBD Object Rules	Rules for the DBD object type are filter criteria that are used to specify one or more database objects to include in the object profile: **Select by DBD Qualifier** You can specify a single database name or use a wildcard expression to select a wider range of databases. Examples: DBDNAME, DB%%*, DB*, * **Display DBD List?** Lists the database objects that match the filter criteria of the qualifier name. If you intend to include or exclude specific database objects, you must display the list generated by the qualifier and select those objects from the list. Y-Yes, N-No **Include/Exclude** You can include or exclude any number of database objects from the object profile. The best practice procedure is to start with a large group of included objects, and then exclude a few selected objects from the list. I-Include, E-Exclude **Process Dependent Indexes** Specify whether dependent indexes should be processed appropriately according to the task. For example, database reorganization requires that dependent indexes be regenerated. However, no dependent index processing is required for an image copy task. Therefore a database reorganization job profile should have an object profile containing objects with Process Dependent Indexes set to Yes. Y-Yes, N-No **Process Logical Relations** Specify whether logical relationships between separate databases should be recognized and processed appropriately according to the task. If a particular job profile task requires processing of logical relationships, the object profile associated with that job profile should contain objects with Process Logical Relations set to Yes. Y-Yes, N-No

Table 39. Create, model, update object profile (continued)

Option	Description
Define PSB Object Rules	Rules for the PSB object type are filter criteria that are used to specify one or more database objects to include in the object profile: **Select by PSB Qualifier** You can specify a single database name or use a wildcard expression to select a wider range of databases. Examples: PSBNAME, PS%%*, PS*, * **Display PSB List?** Lists the database objects that match the filter criteria of the qualifier name. If you intend to include or exclude specific database objects, you must display the list generated by the qualifier and select those objects from the list. Y-Yes, N-No **Include/Exclude** You can include or exclude any number of database objects from the object profile. The best practice procedure is to start with a large group of included objects, and then exclude a few selected objects from the list. I-Include, E-Exclude **Process Dependent Indexes** Specify whether dependent indexes should be processed appropriately according to the task. For example, database reorganization requires that dependent indexes be regenerated. However, no dependent index processing is required for an image copy task. Therefore a database reorganization job profile should have an object profile containing objects with Process Dependent Indexes set to Yes. Y-Yes, N-No **Process Logical Relations** Specify whether logical relationships between separate databases should be recognized and processed appropriately according to the task. If a particular job profile task requires processing of logical relationships, the object profile associated with that job profile should contain objects with Process Logical Relations set to Yes. Y-Yes, N-No

Table 39. Create, model, update object profile (continued)

Option	Description
Define DBRC Group Rules	Rules for the DBRC object type are filter criteria that are used to specify one or more database objects to include in the object profile. DBRC group types include: • CAGRPS (CG) • DBDSGRPS (CD) • RECOVGRPS (CR) • DBGRPS (CB) • All DBRC Groups (DR) The following default filters are set for DBRC group rules: • Only single DBRC objects can be selected; wildcard expressions are not valid. • Include only • Process dependent indexes is set to no • Process logical relationships is set to no
Expand with All Rules Applied	primary index, secondary index, partition name, area name, DD name

Chapter 25. Utility profile overview and reference

A utility profile is a configuration file that defines an IMS maintenance task, and identifies the IMS Tools functions required for the task, plus the sequence in which the functions are performed.

Utility profile overview

A *job profile* combines the specifications in an object profile and a utility profile to generate a single JCL job that performs a database maintenance task for a specific IMS resource.

- The *utility profile* defines the database maintenance task (utility), the individual IMS Tools functions required for that task, and the sequence in which the functions are performed.
- The *object profile* defines the specific IMS resources (objects) where the generated JCL job is run.

Example utility profile specification:

- Task: Database reorganization
- Required IMS Tools functions and sequence: 1) unload, 2) load, 3) index build, 4) pointer check, 5) etc.

Topics:

Manage utility profile reference

The Manage Utility Profiles interface provides the options to manage existing utility profiles and create new utility profiles in your IMS Administration Tool environment.

Table 40. Manage Utility Profiles

Option	Description
Display Filters	All utility profiles in the IMS Administration Tool environment are initially listed. You can control the number of utility profiles that display by using the following filter criteria: **IMSID Filter** Specify an IMSID or IMSID wildcard expression to control the number of utility profiles that display. Examples: IMS1, IM*, * **Creator Filter** Specify a utility profile creator name or creator name wildcard expression to control the number of utility profiles that display. Example: USER* **Profile Filter** Specify a utility profile name or name wildcard expression to control the number of utility profiles that display. Example: PROFI*

Table 40. Manage Utility Profiles (continued)

Option	Description
Create	Create a new utility profile. A utility profile is created for a single IMS environment (IMSID) and includes specifications for one or more functions that are required to perform a database maintenance task.
Sort	Sort the utility profile list display. Opens the Sort Columns panel. You can specify the sequence order (values: 1-5) for each field to be sorted and the sort orders for each field (A-Ascending or D-Descending).
D (delete)	Delete an existing utility profile. A Delete Confirmation window requests confirmation of the action. The profile must have the "Update" access control (Share Option) set to allow this action for users other than the utility profile creator.
M (model)	Create (define) a new utility profile based on (modeled after) the attributes of the selected utility profile. The IMSID Selection List allows you to apply this additional utility profile to another IMS environment. A double asterisk (**) preceding the modeled name in the Utility Profile Options view indicates the need to change the profile name. A different profile name is required if the new profile is being created for the same IMSID as the original profile.
U (update)	Update an existing utility profile. The profile must have the "Update" access control (Share Option) set to allow this action for users other than the utility profile creator.
V (view)	View an existing utility profile. The profile must have the "Update" or "View" access control (Share Option) set to allow this action for users other than the utility profile creator.

Create, model, update utility profile reference

The Manage Utility Profiles interface provides the options to create, model, and update utility profiles in your IMS Administration Tool environment.

Table 41. Create, model, update utility profile

Option	Description
Creator	The TSO user ID (owner) of the utility profile. This field is pre-populated with the user of the current session.
IMSID	The 1-4 character name of the IMS subsystem where this utility profile applies. This field is populated with the IMSID previously selected for this utility profile.

Table 41. Create, model, update utility profile (continued)

Option	Description
Profile Name	Any user-defined name for the utility profile (maximum of 24 characters).
Description	A user-defined phrase to describe the utility profile (maximum of 24 characters).
Share Option	Access control setting for the management of this utility profile by users other than the profile creator. **Update** Other users can edit (update) and make changes to this utility profile. **View** Other users can only view the utility profile details. No changes to the utility profile are allowed by users with this access control. **None** Other users have no edit or view access to this utility profile.
Enter Sequence Numbers to Add Functions	The Utility Profile Options view lists all IMS Tools functions that have been registered to the IMS Administration Tool environment. Assign sequence numbers to the functions that are required to perform the task. The numbers indicate the order in which the functions are to be performed. The job profile uses the combination of templates for these functions to build a single JCL job that can perform the task for the IMS resource specified in the object profile.
Update a Function Template	You can edit (update) the JCL code (template) for the selected function. **Update a function template** Display the template to modify the JCL code. **View a function template** Display the template to view the JCL code only. **Enter sequence numbers to add and/or resequence functions** Add new sequence numbers, remove sequence numbers, rearrange sequence numbers.

IMS maintenance tasks

This reference topic summarizes all the functions (IMS maintenance tasks) that are supported for the Run IMS utilities (JCL generation) function.

Available functions vary depending on which IMS Tools products are registered to IMS Administration Tool.

Table 42. IMS maintenance tasks

Function name	IMS utility
Analyze DEDB Area Offline	IMS High Performance Fast Path Utilities
Analyze DEDB Area Online	IMS High Performance Fast Path Utilities
Build non-FP Index/ILDS Offline	IMS Index Builder
Build non-FP Sec. Index w/WF1	IMS Index Builder
Build FP Secondary Index Offline	IMS High Performance Fast Path Utilities

Table 42. IMS maintenance tasks (continued)

Function name	IMS utility
Check DBD Consistency	IMS Library Integrity Utilities
Clean-up RECONs for D/R	IMS Database Recovery Facility
Clone one or more databases	IMS Cloning Tool
Collect DB Sensor Data	IMS Solution Packs Data Sensor
Collect FP Sensor Data Offline	IMS Solution Packs Data Sensor
Collect RECOV Sensor Data	IMS Solution Packs Data Sensor
Convert to HALDB offline	IMS HALDB Toolkit
Convert to HALDB online	IMS HALDB Toolkit
Create a Change Accum	IMS High Performance Change Accumulation Utility
Create a Point-in-Time CA	IMS High Performance Change Accumulation Utility
Create a Recovery Point	IMS Database Recovery Facility Extended Functions
Create DBD/PSB Hierarchy Map	IMS Library Integrity Utilities
Create DBD/PSB Map from ACB	IMS Library Integrity Utilities
Create IC to prior IC or CA	IMS Database Recovery Facility
Create IC to Current Time	IMS Database Recovery Facility
Create IC to Timestamp	IMS Database Recovery Facility
DELETE/DEFINE Database(s)	z/OS DFSMS Access Method Services (Template supplied by IMS Administration Tool)
Extend DEDB Area Online	IMS High Performance Fast Path Utilities
Extract DEDB Segments Offline	IMS High Performance Fast Path Utilities
Extract DEDB Segments Online	IMS High Performance Fast Path Utilities
Fast Backup (Offline)	IMS High Performance Image Copy
Health Check Recovery Assets	IMS Database Recovery Facility Extended Functions
Identify Recovery Points	IMS Database Recovery Facility Extended Functions
Image Copy with Pointer Check	IMS High Performance Image Copy
Initialize DEDB Area Offline	IMS High Performance Fast Path Utilities
Monitor DB Space	IMS High Performance Pointer Checker
Pointer Check (non-FP)	IMS High Performance Pointer Checker
Pointer Check with HASH (non-FP)	IMS High Performance Pointer Checker
Prefix Resolution/Update	IMS High Performance Prefix Resolution
Print DEDB Area DMAC Offline	IMS High Performance Fast Path Utilities
Print DEDB Area DMAC Online	IMS High Performance Fast Path Utilities
Recover to Current	IMS Database Recovery Facility

Table 42. IMS maintenance tasks (continued)

Function name	IMS utility
Recover to Current (DUP)	IMS Database Recovery Facility
Recover to Current (PRO+DUP)	IMS Database Recovery Facility
Recover to LastIC	IMS Database Recovery Facility
Recover to LastIC (DUP)	IMS Database Recovery Facility
Recover to LastIC (PRO+DUP)	IMS Database Recovery Facility
Recover to LastPITCA	IMS Database Recovery Facility
Recover to LastPITCA (DUP)	IMS Database Recovery Facility
Recover to LastPITCA (PRO+DUP)	IMS Database Recovery Facility
Recover to PITCATime	IMS Database Recovery Facility
Recover to PITCATime (DUP)	IMS Database Recovery Facility
Recover to PITCATime (PRO+DUP)	IMS Database Recovery Facility
Recover to Timestamp	IMS Database Recovery Facility
Recover to Timestamp (DUP)	IMS Database Recovery Facility
Recover to Timestamp (PRO+DUP)	IMS Database Recovery Facility
Register database(s) to DBRC	IMS Database Recovery Control Facility (DBRC) (Template supplied by IMS Administration Tool)
Reload Database Offline (non-FP)	• IMS High Performance Load • IMS Database Reorganization Expert
Reload DEDB Area Offline	IMS High Performance Fast Path Utilities
Reorg w/Shadows Offline (non-FP)	IMS Database Reorganization Expert
Reorg Database Offline (non-FP)	IMS Database Reorganization Expert
Reorg Database Online (non-FP)	IMS Online Reorganization Facility
Reorg DEDB Area w/Shadow Offline	IMS High Performance Fast Path Utilities
Reorg DEDB Area Online	IMS High Performance Fast Path Utilities
Repartition HALDB offline	IMS HALDB Toolkit
Repartition HALDB online	IMS HALDB Toolkit
Simulate Repartitioning	IMS HALDB Toolkit
Start Database(s)	IMS Administration Tool
Stop Database(s)	IMS Administration Tool
Unload Database Offline (non-FP)	• IMS High Performance Unload • IMS Database Reorganization Expert
Unload Database Online (non-FP)	IMS Online Reorganization Facility
Unload DEDB Area Offline	IMS High Performance Fast Path Utilities
Verify Recovery Assets	IMS Database Recovery Facility Extended Functions

Chapter 26. Job profiles overview and reference

A job profile is a configuration file that combines a utility profile and an object profile to build a single JCL job that can perform a database maintenance task for a specific IMS environment.

Job profile overview

The job profile combines the one or more function templates specified by the utility profile into a single master JCL job. The master JCL code is a correctly sequenced concatenation of the individual function template code provided by the utility profile.

The JCL is applicable to an IMS environment that is defined by the object profile.

The templates for each function are selected by the scope level (GLOBAL, SYSTEM, IMSID, or PROFILE) that is appropriate for this task.

During the master JCL build process, variable expressions in the templates are populated with appropriate values.

Values are selected by the scope level (GLOBAL, SYSTEM, IMSID) that is appropriate for this task.

When creating the job profile, any variable can be further customized to contain a value that is appropriate only for this specific job profile (scope=PROFILE).

Additionally, some variables and values are dynamically provided during the JCL build process. Sources for these dynamic variables include:

- **Environment** (z/OS system information)
- **Registry** (IMS Tools product information)
- **Discovery** (IMS system information)

Example job profile

Run database reorganization on PSB1

- Object profile: PSB1
- Utility profile: Database reorganization

Example database maintenance tasks for JCL generation

- Run database reorganization on DBD1
- Backup databases for application identified by PSB1
- Recover databases for application identified by PSB1
- Clone one or more databases
- Print DBD/PSB hierarchy map
- Repartition a HALDB database
- Collect sensor data for a group of databases
- Print DEDB Area DMAC

Topics:

Manage Job Profiles reference

The Manage Job Profiles interface provides the options to manage existing job profiles and create new job profiles in your IMS Administration Tool environment.

Table 43. Manage Job Profiles

Option	Description
Display Filters	All job profiles in the IMS Administration Tool environment are initially listed. You can control the number of job profiles that display by using the following filter criteria: **IMSID Filter** Specify an IMSID or IMSID wildcard expression to control the number of job profiles that display. Examples: IMS1, IM*, * **Creator Filter** Specify a utility profile creator name or creator name wildcard expression to control the number of job profiles that display. Example: USER* **Profile Filter** Specify a utility profile name or name wildcard expression to control the number of job profiles that display. Example: PROFI*
Create	Create a new job profile. A job profile is created for a single IMS environment (IMSID) and includes specifications for a utility profile and an object profile that are combined to build a master JCL job that can perform a database maintenance task.
Sort	Sort the job profile list display. Opens the Sort Columns panel. You can specify the sequence order (values: 1-5) for each field to be sorted and the sort orders for each field (A-Ascending or D-Descending).
D (delete)	Delete an existing job profile. A Delete Confirmation window requests confirmation of the action. The profile must have the "Update" access control (Share Option) set to allow this action for users other than the job profile creator.
M (model)	Create (define) a new job profile based on (modeled after) the attributes of the selected job profile. An IMSID Selection List is not available. The utility profile and object profile specified in the original job profile are already associated with the current IMSID. The current IMSID association must remain consistent. A double asterisk (**) preceding the modeled name in the Job Profile Options view indicates the need to change the profile name. A different profile name is required if the new profile is being created for the same IMSID as the original profile.

Table 43. Manage Job Profiles (continued)

Option	Description
U (update)	Update an existing job profile. The profile must have the "Update" access control (Share Option) set to allow this action for users other than the job profile creator.
V (view)	View an existing job profile. The profile must have the "Update" or "View" access control (Share Option) set to allow this action for users other than the job profile creator.

Build JCL for Job Profile reference

The Manage Job Profiles interface provides the options to build the master JCL for the database maintenance task for your IMS Administration Tool environment.

The master JCL code is a correctly sequenced concatenation of the individual function template code provided by the utility profile.

Table 44. Build JCL for Job Profile

Option	Description
Job Profile/IMSID	The pre-populated name of the selected job profile and the ID of the IMS environment that the job profile belongs to.
Creator/Last Updated by/ Timestamp	The pre-populated name of the creator of this job profile, the name of the user who last modified this job profile, and the date and time when the last update was made.
Execute or Build JCL Only	Select to build and immediately run the JCL, or only build and save the JCL. • Execute (run) JCL • Build JCL Only (run at a later time)
Edit Generated JCL	Select to edit the generated JCL before it is run. • Yes • No
JCL Output Data Set	Specify the name and location of the data set where the JCL output will reside.
Member	If you use a partition data set, specify the name of the member where the JCL output will reside within the data set.
Job Statements	Specify the environment-specific job statement information that prefixes the generated JCL. If you previously specified a job statement data set for use by this job profile (Job Profile Generation Options), the build process uses the values from that data set. You do not need to re-enter the job statement information in these fields. However, if you specify alternative job statement information in these fields, the new values override the values from the job statement data set.

Table 44. Build JCL for Job Profile (continued)

Option	Description
Output Data Set Allocation	If the specified JCL output data set does not exist, the Output Data Set Allocation interface appears. Use this interface to confirm or adjust any JCL output data set characteristics and perform the allocation.

Manage Variables for Job Profile reference

The Manage Job Profiles interface provides the options to manage the variables for existing job profiles in your IMS Administration Tool environment.

The Manage (DDNAME/Keyword) Variables for Job Profile interface displays all variables and values available to the IMS Administration Tool environment.

The following **source types** can apply to variables:

- GLOBAL (scope level)

  The initial default scope designation for all product variables and values when they are initially registered to the IMS Administration Tool environment.
- SYSTEM (scope level)

  A scope=GLOBAL variable and value that has been modified (modeled) using the variable management interface.
- IMSID (scope level)

  A scope=GLOBAL or SYSTEM variable and value that has been modified (modeled or updated) using the variable management interface.
- PROFILE (scope level)

  A scope=GLOBAL or SYSTEM or IMSID variable and value that has been modified (modeled or updated) using the manage job profile interface.
- ENVIRONMENT (dynamic)

  z/OS system information dynamically provided during the final JCL build process.
- REGISTRY (dynamic)

  IMS Tools product information dynamically provided during the final JCL build process.
- DISCOVERED (dynamic)

  IMS system information dynamically provided during the final JCL build process.

Table 45. Manage Variables for Job Profile

Option	Description
Create a DDNAME Variable	Create a new DDNAME variable and values. Values for DDNAME variables can include data set names and the DDNAME parameter itself. Because JCL code often contains concatenated data set names, all DDNAME variables must be assigned a rule that specifies how the variable values are substituted in the code during a final JCL job build: • **Replace** The value for this variable replaces any existing value or values. • **Before** The value for this variable is applied at the beginning of any existing DDNAME concatenation. • **After** The value for this variable is applied at the end of any existing DDNAME concatenation.
Create a Keyword Variable	Create a new keyword variable and value.
Delete	Remove a variable name and value from the IMS Administration Tool environment.
Model	Create (define) a new variable based on (modeled after) the attributes of the selected variable.
Update	Update an existing variable value.

Create Job Profile reference

The Manage Job Profiles interface provides the options to create new job profiles in your IMS Administration Tool environment.

Table 46. Create Job Profile

Option	Description
Creator	The TSO user ID (owner) of the job profile. This field is pre-populated with the user of the current session.
IMSID	The 1-4 character name of the IMS subsystem where this job profile applies. This field is populated with the IMSID previously selected for this job profile.
Profile Name	Any user-defined name for the job profile (maximum of 24 characters).
Description	A user-defined phrase to describe the job profile (maximum of 24 characters).

Table 46. Create Job Profile (continued)

Option	Description
Share Option	Access control setting for the management of this job profile by users other than the profile creator. **Update** Other users can edit (update) and make changes to this job profile. **View** Other users can only view the job profile details. No changes to the job profile are allowed by users with this access control. **None** Other users have no edit or view access to this job profile.
Add One Object Profile	Select one object profile from the list of profiles available for this IMS environment (IMSID). You can use wildcard expressions to filter the list by the Creator ID and/or Profile name. You can also arrange the list display by specifying the sequence and order of items under each column header.
Add One Utility Profile	Select one utility profile from the list of profiles available for this IMS environment (IMSID). You can use wildcard expressions to filter the list by the Creator ID and/or Profile name. You can also arrange the list display by specifying the sequence and order of items under each column header.
Generate Job If Errors	Select an option that specifies how an error is handled when the JCL is generated. **Y-Yes** If an error occurs, continue to generate the JCL. **N-No** If an error occurs, do not generate the JCL. **W-Warning** If an error occurs,
Job Statement Data Set	You can specify a data set that stores the environment-specific job statement information that prefixes generated JCL. The job statement information provided by this data set is used by default by your job profiles, unless you provide overriding values at the time a job profile created, modeled, or updated. **Data Set Name** The name and location of the data set where the job statement information resides. **Member** If you use a partition data set, the name of the member where the job statement information resides within the data set.

Part 7. IMS SPUFI (IMS SQL processing using file input)

IMS SQL processing using file input (SPUFI) function allows you to develop interactive SQL commands, run the SQL commands, and review the resulting output from the SQL command.

Topics:

Chapter 27. IMS SPUFI overview

IMS SQL processing using file input (IMS SPUFI) function of IMS Administration Tool allows you to directly interact with an IMS system by developing and running interactive SQL statements and reviewing the resulting output.

You can issue SQL statements SELECT, INSERT, UPDATE, and DELETE to view, insert, update, and delete data in IMS databases.

IMS SQL runtime language environments

The SQL statements that you issue through the web interface or the ISPF interface are executed as IMS application programming API in the IMS SPUFI application program in z/OS. You can select COBOL or Java for the language environment to execute SQL statements. Based on the selected language environment, the IMS SPUFI application is executed as an IMS COBOL application or IMS Java application. Therefore, considerations and restrictions that apply when using COBOL and Java applications with IMS SQL also apply to IMS SPUFI.

The SQL statements that IMS SPUFI supports are SELECT, INSERT, DELETE, and UPDATE. The syntax of the statements differ between COBOL and Java. For more information, see the topic "SQL statements" in *IMS Application Programming APIs*.

The IMS SPUFI COBOL or Java application runs as a sub task in the IMS Tools Base DAI SOT address space as well as other functions of IMS Administration Tool. The difference from other functions is that the COBOL application runs as IMS BMP and the Java application runs as IMS JBP. The IMS JBP uses type-2 IMS Universal drivers. Therefore, considerations and restrictions that apply when using type-2 IMS Universal drivers also apply to IMS SPUFI. For more information, see the topic "IMS Universal drivers overview" in *IMS Application Programming*.

Restrictions:

- The IMS catalog must be defined to the IMS system to which the SQL statements are issued.
- IMS Administration Tool must be run on the same z/OS LPAR as the IMS system because the IMS SPUFI application program runs as IMS JBP or BMP.
- Supported SQL statements are SELECT, INSERT, DELETE, and UPDATE. Other SQL statements are not supported by IMS SPUFI.
- SQLIMS restrictions that are described in the topic "SQL considerations and restrictions for COBOL" in *IMS Application Programming* also apply to IMS SPUFI if you use COBOL to execute SQL statements.

To select the language environment, specify either COBOL or JBP (Java batch processing) for the SQLLANG variable.

COBOL
: If COBOL is specified for variable SQLLANG or if variable SQLLANG is not defined, IMS SPUFI COBOL application runs as IMS BMP.

  The IMS SPUFI COBOL application uses SQLIMS, which is supported by IMS. SQLIMS requires each SQL statement to begin with EXEC SQLIMS and end with END-EXEC. However, you do not need to write EXEC SQLIMS and END-EXEC statements on the IMS SPUFI panels. IMS SPUFI internally adds EXEC SQLIMS and END-EXEC statements. You can simply start a SQL statement with SELECT, INSERT, UPDATE, or DELETE.

  COBOL is the default value for the SQLLANG variable.

JBP
: If JBP is specified for variable SQLLANG, IMS SPUFI Java application runs as IMS JBP with type-2 IMS Universal drivers.

  If you specify JBP for variable SQLLANG, you must also specify the path prefix for the ATY jar file as a variable. For more information, see “Setting up a Java environment for IMS SPUFI JBP” on page 40.

About Structured Query Language for IMS

Because an IMS database is hierarchical in structure, IMS database elements must be mapped to relational database elements when using SQL.

For example, a database segment definition defines the fields for a set of segment instances similar to the way that a relational table defines columns for a set of rows in a table. In this regard, segments relate to tables, and fields in a segment relate to columns in a table. An occurrence of a segment in a database corresponds to a row in a table.

Table 47. Relational versus IMS hierarchical database structure

Relational DB	**IMS DB**
Table	Segment
Column	Field
Row	Segment instance
Scheme	PCB
Table primary key	Segment unique key

When you write an SQL statement, you specify what you want done, not how to do it. To access data, for example, you need only to name the segment and fields that contain the data. You do not need to describe how to get to the data.

IMS transforms each SQL statement (that is, the specification of a result table), into a sequence of operations for data retrieval or modifications.

IMS database structure - the role of PSB for SQL

IMS database is a hierarchical database where data is stored at different levels and each entity is dependent on higher level entities. Each level in the hierarchy contains segments, which are groupings of similar or related data.

A segment is the smallest unit of information that is transferred to and from an application program during any input-output operation.

IMS control blocks define the structure of the IMS database and a program's access to them. The database descriptor (DBD) control block describes the complete physical structure of the database, such as its organization and access method, the segments and fields in a database record, and the relationship between the types of segments.

However, the application programs that process data can have different views of the database. These views are called application data structure and are defined in the program specification block (PSB).

PSBs define the database view and logical message destinations for the IMS database that is appropriate for applications such as SQL that rely on a relational database structure.

The database view for applications provided by a PSB is called a program communication block (PCB). The PSB defines one PCB for each DL/I database that the application program accesses. The number of PCBs depends on the number of databases to be used by the program. There can be many PCBs in a PSB, allowing a program to communicate with (access) multiple IMS databases.

A PCB also defines the access levels allowed to a program. The allowed accesses include SELECT, UPDATE, INSERT, and DELETE. To use SQL statements to browse or update IMS data, you must use a PSB that contains a PCB that provides the required level of access to the database, to the segments in that database, and to the fields in those segments.

A PCB can also allow a program to use different access paths through a database. It can allow the program to access a database through a secondary index or a logical relationship. The program view of the hierarchical structure of the database can be different from the hierarchical structure defined in the DBD.

Accessing IMS data - IMS catalog

The IMS catalog is the single, authoritative source of database and application metadata for all client applications. The data stored in the IMS catalog includes all the metadata that is traditionally held in the DBD and PSB libraries.

You can write SQL to access IMS data based on the metadata information available in the IMS catalog database. IMS SPUFI requires that the IMS catalog be enabled and loaded with the database metadata needed by SQL.

Like other types of IMS databases, the structure of the IMS catalog is defined by database descriptions (DBDs), and access to the IMS catalog is defined by program specification blocks (PSBs).

The IMS catalog contains metadata derived from the DBD, PSB, and PCB control blocks that define the application and database views. The metadata includes information about the IMS database, including segments, segment names, the segment hierarchy, fields, field types, field names, fields offsets, and field lengths. For example the EXTERNALNAME parameter for a DBD segment or field is described in the IMS catalog metadata.

When an IMS application program requires access to the metadata in the catalog, a PSB to access the catalog database is automatically attached to the PSB that is loaded for the application. IMS can then use that PSB to access the metadata in the IMS catalog.

Summary: Run IMS SPUFI from the Management Console

The following outline provides a summary of using IMS SPUFI from the Management Console interface:

- Specify SQL statement and output formatting characteristics from the SQL Options tab.
- Specify the IMS subsystem (IMSID).
- Specify the required PSB.

  To obtain a list of the PSBs associated with the selected IMSID, click on the Program View tab.

  You can further expand the PSB information to view associated PCBs and the detail for each PCB (Table, Columns and Authority, information).

  The PCB authority information shows the types of operations - such as Select, Update, Insert, and Delete - that IMS SPUFI can perform on the fields in the database.
- Enter the SQL statements.
- Click on the Execute SQL button.

  The Management Console uses temporary output data sets to record and display SQL output.
- The History tab retains the current and previous SQL statement sessions, and allows easy access to regularly used statements during future use.

Summary: Run IMS SPUFI from ISPF

The following outline provides a summary of using IMS SPUFI from the ISPF interface:

- Specify SQL statement and output formatting characteristics from the Set IMS SPUFI Options panel.
- Specify the IMS subsystem (IMSID).

  Use the question mark ("?") to obtain a list of available IMSIDs.
- Specify the required PSB.

  Use the question mark ("?") to obtain a list of PSBs associated with the selected IMSID.

You can further expand the PSB information to view associated PCBs and the detail for each PCB (Table, Authority, and Column information).

The PCB authority information shows the types of operations - such as Select, Update, Insert, and Delete - that IMS SPUFI can perform on the segments in the database.

- Specify input and output data set names.

  The data set names can be specified once and then reused repeatedly.

  Alternatively, a temporary output data set can be used, as specified by the temporary output data set characteristics.

  Using data sets also means that a possibly-complicated set of SQL commands can persist from session to session rather than being lost upon exit.
- Enter or edit the SQL statements.

  The standard ISPF editor is opened on the input data set.
- Enter EXECSQL on the command line to process the SQL statements

  The ISPF interface uses the configured input and output data sets to record SQL statements and display SQL output.
- The results are placed in the output data set and the ISPF editor is opened (in read-only "browse" mode) on that output.

Chapter 28. Set IMS SPUFI options reference

Options are available to specify SQL statement characteristics and output formatting characteristics.

SQL Statement Characteristics

Table 48. SQL Statement Characteristics

Option	Description

SQL Terminator	Specifies the character that terminates each of multiple SQL statements in an input stream.
	Valid values include the semicolon (;) or the colon (:)
	Default value is the semicolon (;)
	Example:
	`SELECT*`
	`FROM DFSCAT00.FLDRMK`
	`;  <== terminator`

Max SELECT Lines	Specifies the maximum number of lines (rows) that a SELECT statement can return to the caller. Valid values = 1-99999 Default value = 250

Output Formatting Characteristics

Table 49. Output Formatting Characteristics

Option	Description
Decimal Point	Specifies how IMS SPUFI displays decimal separators in its output. Valid values include the comma (,) or the period (.) Default value is the period (.) Example: `100.99 or 100,99`
MAX Numeric Field Width	Specifies the maximum column width for returned numeric data. If the numeric data returned is greater than this value, the field is populated with asterisks (*****). Valid values = 1-99 Default value = 33

Table 49. Output Formatting Characteristics (continued)

Option	Description
MAX CHAR Field Width	Specifies the maximum column width for returned non-numeric (character) data. If the non-numeric data returned is greater than this value, the field is truncated at the specified field width. Valid values = 1-99 Default value = 80
Lines/Page of Listing	Specifies the number of lines to print on each page of listing or IMS SPUFI output. When the specified value is reached, column header rows are repeated. Valid values = 50-999 Default value = 60

Chapter 29. Run IMS SPUFI statements reference

IMS SQL processing using file input (SPUFI) allows you to issue pre-written SQL statements and review the resulting output.

IMS SPUFI is used to view data from an IMS database.

IMS SPUFI PSB and Data Set Settings

Table 50. IMS SPUFI PSB and Data Set Settings

Option	Description
IMSID	Specify the ID of the IMS subsystem to interact with. Enter a '?' to list the active IMS 13.0+ systems within the same LPAR.
PSB Name	Specify a PSB name associated with this IMSID. PSB selection methods: **Management Console** • Select the Program View tab. • The Program View (PSB Name) column loads the list of PSBs associated with the selected IMS subsystem. • Select a PSB to further expand PSB and PCB details. The PSB program view provides the information detail that can help you construct valid SQL statements. • Type the name of the appropriate PSB in the PSB Name field. **ISPF** • Enter ? to display the list of PSBs associated with the selected IMS subsystem. • Select the name of the appropriate PSB from the PSB list. • From the PSB list, use the Expand line command to display the program view that provides further PSB and PCB details. The PSB program view provides the information detail required to help you construct valid SQL statements. **Note:** If the selected IMS subsystem is not catalog-enabled, the detailed program view cannot be obtained.
Input Data Set Name (ISPF only) Member	Specify the data set member name that contains the stored SQL statements to run. • The input data set must be a pre-allocated sequential or a partition data set (PDS) with a record format of fixed block (FB) and a record length of 80 (LRECL). • Specify the PDS name along with the member name, or a sequential data set name with no member name. • The specified data set contains the stored SQL statements to run. • The SQL statements. in the data set can be edited before running. • There is no "list" (?) support for the member name field.

Table 50. IMS SPUFI PSB and Data Set Settings (continued)

Option	Description
Output Data Set Name (ISPF only)	Optionally specify the pre-allocated sequential data set name for SQL output. If blank, IMS SPUFI uses a temporary output data set using the output file characteristics that are specified in the Temporary Output Data Set Characteristics section of the panel. • Space Units • Primary Amount • Secondary Amount Record Length • Record Format • Device Type
History (Management Console only)	The History tab retains the current and previous SQL statement sessions, and allows easy access to regularly used statements during future use.

Part 8. IMS command processing

You can issue IMS commands and review responses from the IMS Administration Tool user interface.

Topics:

Chapter 30. IMS command processor overview

IMS Administration Tool command processor allows you to issue, analyze, and coordinate IMS commands across as many as 64 IMS regions on any number of z/OS images, all from a single point of control.

Topics:

IMS command processor features

The IMS Administration Tool command processor can simplify the issuing, analyzing, and coordinating of IMS commands.

You can use the IMS command processor to:

- Process both IMS type-1 and type-2 commands.
- Issue commands to and from 1 to 64 IMS systems simultaneously.
- Issue commands to any type of IMS system: DBCTL, DCCTL, or DB/DC.
- Pass commands to individual IMS systems, or to a group of IMS systems that are defined as a command group.
- Issue commands using any of the following methods:
  - Batch program
  - ISPF interface
  - Web interface
  - Callable application programming interface (API)
- Provide powerful predefined procedures that can:
  - Automate online change processing
  - Clean up the dead letter queue
- Create a combined log for IMS messages, commands, and command responses.
- Manage messages that are to be suppressed from the IMS master terminal, the IMS Administration Tool message log, or the IMS secondary master.

When run as a batch program, the IMS command processor can:

- Provide database command response verification, command conversion, and simulate IMS responses.
- Verify successful command processing for database START, STOP, DBR, and DBD commands.
- Retry failed commands.
- Reissue commands that fail because a member of a command group is unavailable.
- Use automated online change.

Restriction: The following functions, which are supported by IMS Command Control Facility, are not supported by IMS Administration Tool.

- APPC/MVS and APPC/IMS

- Command processor list

For more information about compatibility and incompatibility between IMS Administration Tool and IMS Command Control Facility, see “Migration from IBM IMS Command Control Facility for z/OS” on page 42.

IMS command processor operation environments

The IMS Administration Tool command processor controls the issuing of commands to IMS.

Supported environments for issuing commands

The IMS Administration Tool command processor can issue commands in the following environments:

Batch program
When run as a batch program, the IMS command processor can run as an IMS BMP, IMS DL/I batch, or standard z/OS batch job.

IMS commands are read from an input data set and are processed one-at-a-time across all requested IMS systems.

Web interface or ISPF dialog
When IMS commands are entered from the web interface or ISPF dialog, the commands are sent to the IMS Tools Base DAI SOT address space where IMS Administration Tool command processor runs as a subtask. Then the commands are routed to a single IMS system or multiple IMS systems that belong to an IMS command group.

IMS command callable application programming interface (API)
When run as an IMS command callable API, the IMS command processor routes the command that was passed by the calling program to either a specific IMS system or to a set of IMS systems that are contained in an IMS command group.

For all environments, IMS Administration Tool can issue commands either to an individual IMS system or up to 64 IMS systems in an IMS command group.

IMS Administration Tool command processor sends IMS commands to IMS Operation Manager (OM) region.

Every IMS system must be configured an IMS OM region to process IMS commands issued by IMS Administration Tool command processor. All IMS systems that belong to the same IMS command group must be managed by one OM region.

Applicable IMS system environment types are DBCTL, DCCTL, and DB/DC.

IMS command processor configurations

The combination of a command-issuing environment and a command routing interface results in a specific command processor configuration.

You can use the IMS command processor in any of the following configurations:

- “IMS Operations Manager (OM) configuration” on page 186

  The command processor issues commands to the IMS Operations Manager address space.
- “Local BMP configuration” on page 188

  The command processor issues commands to the local IMS where the BMP is attached using the ICMD/RCMD automated operator interface.

IMS Operations Manager (OM) configuration

IMS Administration Tool can issue commands to IMS through the IMS Operations Manager (OM) automated operator interface (AOI).

Operations Manager (OM) is part of the IMS Common Service Layer (CSL).

To use the IMS Operations Manager to route commands, the target IMS system must be connected to the IMS Operations Manager.

Restriction: If IMS Operations Manager routing is selected for an IMS system in a command group, then all IMS regions in the command group must use the same IMS Operations Manager.

The supported command-issuing environments and command-routing interfaces are illustrated in the following figure.

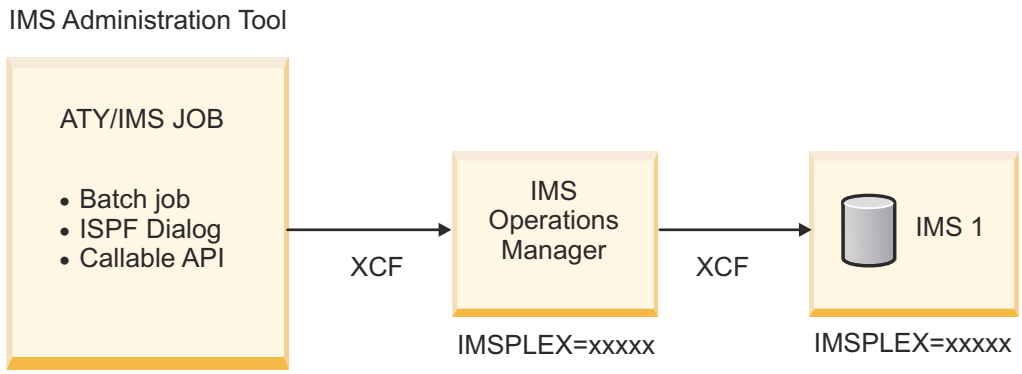

Figure 13. IMS Operations Manager (OM) configuration

The IMS OM configuration is supported when the IMS command driver runs in one of the following environments:

- Batch job (IMS BMP, IMS DL/I batch, or standard z/OS batch)
- ISPF dialog
- Callable API

When you use this configuration, the IMS command driver must run in the same z/OS sysplex as the IMS OM.

IMS Administration Tool places no restrictions or limitations on commands when you use this configuration.

IMS OM support provides the following additional flexibility to IMS Administration Tool:

- Support for IMS Type-2 (OM) commands
- Formatting of IMS Type-2 (OM) command responses

Guidelines for IMS OM command routing interface

Advantages:

- A single instance of an IMS OM can be used by several IMS systems.

  A typical scenario would be all IMS systems in a data sharing environment. But it is not limited to systems in a data sharing environment.

  Example: A test environment, with many independent IMS systems, could share a single OM instance.
- Supports both type-1 and type-2 IMS commands
- Supports all IMS region types (DB/DC, DCCTL, DBCTL)
- No VTAM® setup
- No BMP scheduling (remote STC)

Disadvantages:

- Requires additional address spaces (Common Service Layer address spaces)

- Does not allow commands to be routed outside of a sysplex

Recommendations:

The IMS Operations Manager supports all IMS region types, as well as type-2 IMS commands. The Operations Manager is a good command routing interface choice under the following conditions:

- If it is not inconvenient for you to set up additional address spaces
- If you do not need to issue commands outside of the sysplex

Local BMP configuration

IMS Administration Tool can issue commands to IMS using a local batch message processing (BMP) configuration.

IMS Administration Tool can issue commands directly to an IMS where the IMS command driver is attached as an IMS BMP.

The supported command-issuing environments and command-routing interface are illustrated in the following figure.

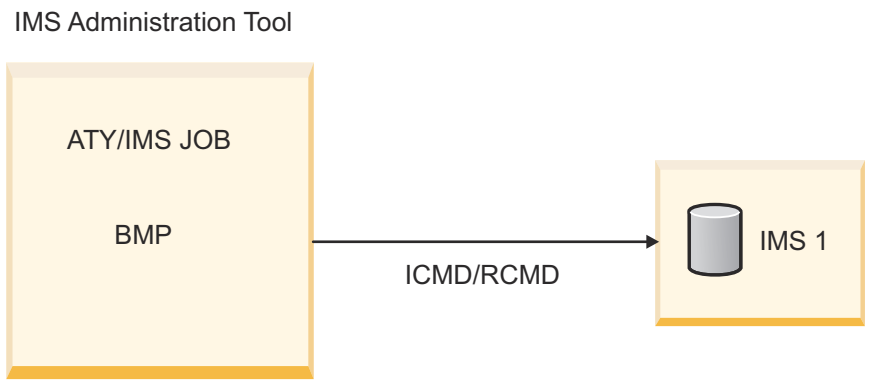

Figure 14. Local BMP configuration

The local BMP configuration is used if the IMS command driver runs as an IMS BMP.

Because IMS accepts only type-1 commands from the ICMD/RCMD DL/I, IMS Administration Tool cannot issue type-2 commands to an IMS system that uses this configuration.

Certain type-1 commands are either not allowed or do not perform as expected when IMS Administration Tool runs as a local BMP. IMS Administration Tool processes these commands uniquely when one of the following commands is encountered:

- /MOD commands
- Commands that change a database/AREA state (for example, /DBD, /DBR, /STA, and /STO)

IMS command groups overview

IMS Administration Tool passes commands to individual IMS systems, or to a group of IMS systems that are defined as an IMS command group.

Typically, IMS command groups are defined to associate together all IMS systems within an IMSplex. These multiple systems share databases that need to be kept in the same state.

All members of a command group must belong to the same IMSplex. IMS command groups allow you to issue IMS commands that are routed to only the members of the group within the IMSplex.

The best practice recommendation is for an IMS command group to contain all members of the IMSplex.

For certain environments where all IMS systems in an IMSplex are not actually data sharing, IMS command groups can be defined to associate together only a select number of IMS systems within the IMSplex. These select systems share databases that need to be kept in the same state.

An IMS command group consists of 1 to 64 IMS systems where commands can be distributed for processing. Typically these IMS systems share resources and keep events synchronized.

IMS command groups consist only of the members that are defined in the command group.

The IMS command group and the IMSplex can contain a different number of IMS regions. If this is the case, IMS Administration Tool verifies that the command was properly routed for only those members of the command group. If a command fails on an IMSplex member that is not part of the command group, IMS Administration Tool continues as if no error were encountered.

To register IMS command groups, use the ISPF interface or the web interface:

- Web interface: **Setup and Admin** > **IMS Management** > **Manage Groups**
- ISPF interface: **0. Setup and Administration** > **3. Manage IMS Groups**

IMS command log (and audit log) overview

An IMS command log (or audit log) can provide a single point of reference for viewing IMS commands and command responses for a specific IMS subsystem.

Command logging information can be captured by either the command log or the audit log. Both log files are optional and must be created and configured for any logging to occur.

Log streams used by IMS Administration Tool

IMS Administration Tool uses two types of log stream definitions:

- Audit log

  The single global IMS Administration Tool audit log, when configured, activates general product logging and captures processing information for the entire IMS Administration Tool environment.

  By default, the audit log does not capture IMS command and response information.
- IMS command log(s)

  An IMS command log is configured for a specific IMS subsystem and when configured, activates command logging and captures IMS command and response information.

  A command log stream can be named the same as the audit log stream (recommended). The single audit log then captures IMS command and response information in addition to general product processing information.

z/OS System Logger overview

The audit log and IMS command log streams are initially created during z/OS configuration and are defined as z/OS System Logger log stream data sets.

- System Logger is a z/OS component that provides a logging facility for applications that run in a single-system or multi-system sysplex.

  Restriction: In order to share the z/OS log stream across z/OS images, a coupling facility is required.
- The advantage of using System Logger is that the responsibility for tasks - such as saving the log data (with the requested persistence), retrieving the data (potentially from any system in the sysplex), archiving the data, and expiring the data - is removed from the creator of the log records.

  In addition, System Logger provides the ability to have a single merged log that contains log data from multiple instances of an application within the sysplex.

- IMS Administration Tool uses the IMS automated operator interface (AOI) exit to capture IMS messages, commands, and command responses, and then write them to a z/OS system logger log stream:
  - DFSAOE00, if you are implementing a non-refreshable user exit.
  - ATYAOE00, if you are implementing a refreshable user exit.

    DFSAOE00 is not used if you are implementing a refreshable exit routine.
- Additionally, IMS Administration Tool provides post-exit routines that capture commands and command responses from the IMS Operations Manager (OM) and write them to the same z/OS log stream.

  These routines can be added to the IMS OM task to capture copies of commands and responses for the IMS OM.
- The log stream can be shared by IMS regions that run anywhere in the z/OS sysplex.

  The log stream must be defined to the coupling facility in order for it to be shared (read or update) by multiple z/OS images.
- Additionally, the data in the z/OS log stream can be archived to a sequential data set for historical reference and problem determination.

  The archive job provides parameters to determine how much data is to be archived, or left in the log stream.

Management of log stream data

IMS Administration Tool writes records to the log stream in the order in which they are presented to the IMS automated operator interface (AOI) and Operations Manager (OM) exits.

The data remains in the log stream until it is either marked for deletion by IMS Administration Tool or automatically deleted by the z/OS System Logger.

If the log data is required for historical purposes, you should set the retention period in the z/OS System Logger policy high enough so that the data is not deleted before the IMS Administration Tool archive job can offload the data.

Using an audit log stream

You can use the optional single IMS Administration Tool audit log to capture a variety of product activity.

To activate general product logging, you specify the audit log stream in the IMS Administration Tool global settings:

Setup and Administration > Global Settings > Audit Log

Technical notes:

- The audit log is created during z/OS configuration and is defined as a z/OS System Logger log stream data set.

  Refer to the appropriate z/OS documentation for information and syntax.
- Only one audit log serves the entire IMS environment.
- By default, IMS commands and responses are not logged to the audit file.

Using a command log stream

You can use one or more optional IMS command logs to capture IMS command and response information.

To activate IMS command logging, you specify the command log stream when you register individual IMS subsystems:

Setup and Administration > Register IMS Systems > Create > Register an IMS Subsystem > Command Processor Settings > Command Log Stream

Technical notes:

- An IMS command log is created through z/OS configuration and is defined as a z/OS System Logger log stream data set.

  Refer to the appropriate z/OS documentation for information and syntax.
- Multiple command logs can serve multiple IMS subsystems.
- You can name the command log stream the same as the audit log stream (recommended), or alternatively, you can specify a separate command log stream for each individual IMS subsystem.

Command store/forward overview

The command store/forward feature saves commands that fail because a member of a command group is unavailable. The saved commands are then run when the IMS region is started.

Command store/forward is a feature that can keep all members of a command group in synchronization. Command store/forward is used in an IMSplex to ensure that resources are in the same state (for example, stopped or started) across all members of the sysplex.

If a member of the command group is unavailable when the command driver is running as a batch job (IMS BMP, IMS DL/I batch, or standard z/OS batch), the commands are saved in a data set and are subsequently run when the IMS region is started.

Message disposition overview

You can use message disposition to suppress messages from the IMS master terminal, the IMS Administration Tool message log, or the IMS secondary master. You can also use message disposition to route messages to an automated operator interface (AOI) token.

Note: Suppressing messages from the IMS secondary master is valid only for IMS 12 and later.

You must define each message that you want IMS Administration Tool to determine the disposition of. You define each message by using the IMS Administration Tool ISPF interface.

Message disposition is invoked as part of the IMS automated operator interface (AOI) exit:

- DFSAOE00, if you are implementing a non-refreshable user exit.
- ATYAOE00, if you are implementing a refreshable user exit.

  DFSAOE00 is not used if you are implementing a refreshable exit routine.

You can use message disposition to:

- Suppress messages from the IMS master terminal.
- Suppress messages from the IMS Administration Tool message log.
- Route messages to an AOI token.
- Manage the list of messages for which IMS Administration Tool is to determine the disposition.
- Dynamically refresh the list of messages without an IMS restart.
- Suppress messages from the IMS secondary master terminal (IMS 12 and later).

Chapter 31. Using IMS Command Processor reference

The IMS Administration Tool command processor allows you to interactively issue IMS commands and to view the IMS command log.

Topics:

Specifying IMS command global options

Global options for the IMS command processor allow you to set installation defaults for all batch job steps that run the command processor batch utility.

Some of the options are also supported for IMS commands that are entered through the web or the ISPF user interface.

General Processing Options

Table 51. General Processing Options

Option	Description
Command Input DDNAME	The ddname that defines the data set or in-stream command input to the command processor batch process. Except for SYSIN or SYSPRINT, there are no restrictions on the name that can be defined. This could facilitate the use of existing JCL to avoid unnecessary conversions.
Command Output DDNAME	The ddname that defines the output data set where all issued commands and output are displayed. Except for SYSIN or SYSPRINT, there are no restrictions on the name that can be chosen. This also could facilitate the use of existing JCL to avoid unnecessary conversions.

General Processing Options - Command Retry Options

The following options are also effective for IMS commands that are entered through the web or the ISPF user interface.

Table 52. General Processing Options - Command Retry Options

Option	Description
Attempts	The command processor retries unsuccessful database commands up to the number specified (0-99). If 0 is specified, no retry is attempted. Use this parameter in conjunction with the Command Retry Interval.

Table 52. General Processing Options - Command Retry Options (continued)

Option	Description
Interval(Sec)	The command processor waits to retry unsuccessful database commands for the specified number of seconds (from 0-999). If 0 is specified, retry is attempted immediately. Use this parameter in conjunction with the Command Retry Attempts.

General Processing Options - Abend/RC Failure Options

Table 53. General Processing Options - Abend/RC Failure Options

Option	Description
ABEND	A selected number (0 - 4095) that specifies the user completion code for any error condition that results in an abend of the processing job step. If a value is not specified (0000), the default of 4070 is used.
Return Code	A selected number (0 - 4095) that specifies the job step condition code for any error condition that does not result in an abend of the processing job step.

Failure options - General

You can instruct IMS Administration Tool how to handle any other unexpected error condition by specifying one of the following options.

Table 54. Failure options - General

Option	Description
ABEND	Abend after an unexpected return code.
Return Code	Set a non-zero job step condition code after an unexpected return code.
Issue WTOR	Issue a WTOR and wait for an operator reply to determine the course of action after an unexpected return code.
Ignore	Ignore the error.

Failure options - Routing

You can instruct IMS Administration Tool how to handle IMS OM routing error conditions by specifying one of the following options.

Table 55. Failure options - Routing

Option	Description
ABEND	Abend after an unexpected error from using IMS OM.
Return Code	Set a non-zero job step condition code after an unexpected error from using IMS OM.
Issue WTOR	Issue a WTOR and wait for an operator reply to determine the course of action after an unexpected error from using IMS OM.

Table 55. Failure options - Routing (continued)

Option	Description
Ignore	Ignore the error.

Failure options - DFS0488I

You can instruct IMS Administration Tool how to handle an unacceptable return code by specifying one of the following options.

Table 56. Failure options - DFS0488I

Option	Description
ABEND	Abend after an unexpected return code.
Return Code	Set a non-zero job step condition code after an unexpected return code.
Issue WTOR	Issue a WTOR and wait for an operator reply to determine the course of action after an unexpected return code.
Ignore	Ignore the error.

Failure options - DBRC

When ABEND, Return Code, or Issue WTOR option is selected, IMS Administration Tool verifies the state of the database in DBRC after /DBD and /DBR commands. These three options instruct IMS Administration Tool how to proceed if a database is still open with update intent by any subsystem after the commands have completed. The NODBRC option sets DBRC validation off.

Table 57. Failure options - DBRC

Option	Description
ABEND	Abend after a database command is issued which shows the database in an unexpected status.
Return Code	Set a non-zero job step condition code after a database command is issued which shows the database in an unexpected status.
Issue WTOR	Issue a WTOR and wait for an operator reply to determine the course of action after a database command is issued that shows the database in an unexpected status.
NODBRC	Do not use DBRC to verify the status of the database.

/ATYMOD Options

You can instruct the command processor how to handle error conditions when attempting to use the /ATYMOD online change procedure.

Table 58. /ATYMOD Options

Option	Description
/ATYMOD Failures	• 1 ABEND If an unexpected error condition occurs while attempting to use the /ATYMOD online change procedure, the command processor should abend the job. • 2 Return Code If an unexpected error condition occurs while attempting to use the /ATYMOD online change procedure, the command processor should terminate the job step with a non-zero return code.
/ATYMOD COMMIT Reversal?	If Y is specified for this option, the command processor attempts to undo any successfully completed online change if an online change error has occurred on at least one of the IMS systems in the IMS command group where the /ATYMOD online change procedure is being attempted. If N is specified, no online change reversal is attempted.

Database Options - Return Codes

If there are non-zero return codes that are acceptable for database commands, up to 20 non-zero return codes can be specified from DFS0488I messages, or up to 5 return codes can be returned from IMS OM.

When the command processor encounters one of these return codes, the command processor treats the command as successfully completed.

The following options are also effective for IMS commands that are entered through the web or the ISPF user interface.

Table 59. Database Options - Return Codes

Option	Description
Valid DFS0488I Return Codes	Specify 1-20 acceptable non-zero return codes (2 character length).
Valid IMS OM Return Codes	Specify 1-5 acceptable non-zero return codes (4 character length).

Database Options - /START DB ACCESS

If you want the command processor to determine the database access mode when a /START DB command with the ACCESS=UP parameter is issued, specify one of the following three options.

The following options are also effective for IMS commands that are entered through the web or the ISPF user interface.

Table 60. Database Options - /START DB ACCESS

Option	Description
Use SYSGEN	The command processor reads your staging MODBLKS data set to determine access based on how the database stage 1 macro was coded.

Table 60. Database Options - /START DB ACCESS (continued)

Option	Description
Use DBRC	The command processor reviews the output of a LIST.DB command to determine the access to the database. If the database was defined with sharelvl(3), the command processor issues /STA DB x ACCESS=UP on all systems. If sharelvl (1 or 2), the command processor issues /STA DB x ACCESS=UP on the primary IMS (where the BMP is attached or the IMSID for either DL/I or standard batch is defined) and issues /STA DB x ACCESS=R* on the remaining IMS regions.
As coded	The command processor processes the command as it is coded.

Database Options - Questions

Preference settings for database options.

The following options, except for the "WTO Database command?" option, are also effective for IMS commands that are entered through the web or the ISPF user interface.

Table 61. Database Options - Questions

Option	Description
WTO Database Command?	For IMS/TM systems only, specify either Y or N if database commands should be displayed in SYSLOG through WTO.
Expand DATAGRP Commands?	Specify Y if the command processor should issue individual commands for each database defined to a DBRC database group instead of issuing database commands with the DATAGRP keyword. Specify N if database commands with the DATAGRP keyword should be issued by the command processor as coded.
Treat DFS3466I as an Error?	Specify either Y or N if the command processor should treat any DFS3466I message as an error condition after any database command.
Add NOFEOV to /DBD and /DBR?	Specify either Y or N if the command processor should append the NOFEOV keyword after any /DBR or /DBD command.
Set rc/ABEND when DB/AREA ALL Fails?	Specify either Y or N if the command processor should analyze responses to Database/AREA commands when the ALL parameter is used.

Specifying IMS command job options

IMS command job options allow you to set options for the IMS command batch jobs. A set of job options is identified by a jobname or jobmask. IMS Administration Tool applies the job options whose name matches the name of the command processor batch job. If job option having the name of the command processor batch job does not exist, IMS Administration Tool uses the IMS command global options.

Usage notes:

- Job options and global options are not supported for IMS commands that are issued in a REDO BMP job or IMS command callable API application job.

- Job options are not supported for IMS commands that are entered through the web or the ISPF user interface.

Jobname/Jobmask Option

The following information can be specified from the Job Options panel.

Table 62. Jobname/Jobmask Option

Option	Description
Jobname/Jobmask	Specify a jobname of 1 to 8 bytes or a mask of 1 to 8 bytes containing asterisks (*). Each * represents any valid character used for jobname.

Command Retry Options

Table 63. Command Retry Options

Option	Description
Attempts	IMS Administration Tool will retry unsuccessful database commands up to the number specified (0-99). If 00 is chosen, no retry is attempted. Use this parameter in conjunction with the Command Retry Interval.
Interval	IMS Administration Tool will wait to retry unsuccessful database commands for the specified number of seconds (from 1-999). If 000 is chosen, retry is attempted immediately. Use this parameter in conjunction with the Command Retry Attempts.

Abend/RC Failure Options

Table 64. Abend/RC Failure Options

Option	Description
Abend Code	For any error condition that should result in an abend of the executing job step, select a number from 0 through 4095 to specify the user completion code.
Return Code	For any error condition that should not result in an abend of the executing job step, select a number from 0 through 4095 to specify the job step condition code.

Failure Options - General

You can instruct IMS Administration Tool how to handle any other unexpected error condition by specifying one of the following options.

Table 65. Failure Options - General

Option	Description
ABEND	Abend after an unexpected return code.
Return Code	Set a non-zero job step condition code after an unexpected return code.
Issue WTOR	Issue a WTOR and wait for an operator reply to determine the course of action after an unexpected return code.

Table 65. Failure Options - General (continued)

Option	Description
Ignore	Ignore the error.

Failure Options - Routing

You can instruct IMS Administration Tool how to handle IMS OM routing error conditions by specifying one of the following options.

Table 66. Failure Options - Routing

Option	Description
ABEND	Abend after an unexpected error from using IMS OM.
Return Code	Set a non-zero job step condition code after an unexpected error from using IMS OM.
Issue WTOR	Issue a WTOR and wait for an operator reply to determine the course of action after an unexpected error from using IMS OM.
Ignore	Ignore the error.

Failure Options - DFS0488I

You can instruct IMS Administration Tool how to handle an unacceptable return code by specifying one of the following options.

Table 67. Failure Options - DFS0488I

Option	Description
ABEND	Abend after an unexpected return code.
Return Code	Set a non-zero job step condition code after an unexpected return code.
Issue WTOR	Issue a WTOR and wait for an operator reply to determine the course of action after an unexpected return code.
Ignore	Ignore the error.

Failure Options - DBRC

When option ABEND, Return Code, or Issue WTOR is selected, IMS Administration Tool verifies the state of the database in DBRC after /DBD and /DBR commands. The three options instruct IMS Administration Tool how to proceed if a database is still open with update intent by any subsystem after the commands have completed. Option NODBRC sets DBRC validation off.

Table 68. Failure Options - DBRC

Option	Description
ABEND	Abend after a database command is issued which shows the database in an unexpected status.

Table 68. Failure Options - DBRC (continued)

Option	Description
Return Code	Set a non-zero job step condition code after a database command is issued which shows the database in an unexpected status.
Issue WTOR	Issue a WTOR and wait for an operator reply to determine the course of action after a database command is issued that shows the database in an unexpected status.
NODBRC	Do not use DBRC to verify the status of the database.

Database Options - Return Codes

If there are non-zero return codes that are acceptable for database commands, up to 20 non-zero return codes can be specified from DFS0488I messages, or up to 5 status codes can be returned from IMS OM. When IMS Administration Tool encounters one of these return codes, IMS Administration Tool treats the command as successfully completed.

Table 69. Database Options - Return Codes

Option	Description
Valid DFS0488I Return Codes	Specify 1-20 acceptable non-zero return codes.
Valid IMS OM Return Codes	Specify 1-5 acceptable non-zero return codes.

Database Options - /START DB ACCESS

If you want IMS Administration Tool to determine the database access mode when a /START DB command with the ACCESS=UP parameter is issued, specify one of the following three options.

Table 70. Database Options - /START DB ACCESS

Option	Description
Use SYSGEN	IMS Administration Tool reads your staging MODBLKS data set to determine access based on how the database stage 1 macro was coded.
Use DBRC	IMS Administration Tool reviews the output of a LIST.DB command to determine the access of the database. If the database was defined with sharelvl(3), IMS Administration Tool issues /STA DB x ACCESS=UP on all systems. If sharelvl (1 or 2), IMS Administration Tool issues /STA DB x ACCESS=UP on the primary IMS (where the BMP is attached or the IMSID for either DL/I or standard batch is defined) and issues /STA DB x ACCESS=R* on the remaining IMS regions.
As coded	IMS Administration Tool processes the command as it is coded.

Database Options - Question

Table 71. Database Options - Question

Option	Description
WTO Database command?	For IMS/TM systems only, specify either Y or N if database commands should be displayed in SYSLOG through WTO.

Issuing IMS commands

You can issue IMS commands directly from the IMS Administration Tool ISPF interface.

Issue IMS commands overview

- IMS commands can be issued and routed to either an individual IMS or a group of IMS subsystems (IMS command group).
- Command groups associate a select number of IMS systems within an IMSplex.

  Commands can then be issued and routed only to the members defined in the command group.
- IMS command groups can be defined to the command processor:

  Setup and Administration > Define Groups
- The command responses are displayed directly on the screen.

Issue IMS Command reference

Table 72. Issue IMS commands

Option	Description
IMSID/GROUP	Specify one of the following entries: • Enter a 4 character IMS subsystem ID as defined to the command processor: **Setup and Administration > Register IMS Systems** • Enter a 1- 8 character IMS command group name as defined to the command processor: – Web interface: **Setup and Admin** > **IMS Management** > **Manage Groups** – ISPF interface: **0. Setup and Administration** > **3. Manage IMS Groups**

IMS CMD	Specify an IMS command.
	IMS type-1 and type-2 commands supported.
	Example type-1 command:
	`/DIS DB ALL`
	Example type-2 command:
	`QUERY DB NAME(*) SHOW(ALL)`
	Command input is free form text.
	Type-1 commands must be preceded by the CRC (command recognition character "/").
	Refer to the *IMS Command Reference* for command syntax and examples.

View the IMS command log

IMS command logs record commands and associated command responses issued by users and batch utilities.

View the IMS command log overview

- IMS command log streams are associated with a particular IMS subsystem and are defined during IMS subsystem registration:

  Setup and Administration > Register IMS Systems > Create > Register an IMS Subsystem > Command Processor Settings > Command Log Stream
- IMS command log streams are optional.
- Specifying an IMS command log stream activates IMS Administration Tool command logging for the associated IMS subsystem.
- Alternatively, the single global IMS Administration Tool audit log can be configured to serve additionally as a command log for any IMS subsystem:

  Setup and Administration > Global Settings > Audit Log
- By default, the audit log does not capture IMS commands and responses.

  When additionally specified as an IMS command log stream, the audit log adds IMS command logging to its capabilities.
- The audit log and IMS command log streams are initially created during z/OS configuration and are defined as z/OS System Logger log stream data sets.

  System Logger is a z/OS component that provides a logging facility for applications that run in a single-system or multi-system sysplex.

Command Log Selection

- You can select the command log for a particular IMS subsystem.

  The IMSID filter allows you to control the list of IMS subsystems that display.
- The names in the Command Log Name list can be the single global IMS Administration Tool audit log stream or separately created IMS command log streams.
- If a command log archive job (ATYARCH0) runs while the command log is being viewed, gaps might be present in the log data.

  These gaps are caused by the archive job deleting log records before they have been read by the ISPF dialog.

  If this occurs, the missing log data can be found in the output data set created by the command log archive job.

IMS Command Log Filters reference

You can apply filter criteria to limit the number of records that are displayed.

More log information is displayed when some or all filter fields are left blank.

Table 73. IMS Command Log Filters

Option	Description
IMSID	The IMSID filter is a 4 character ID of an IMS subsystem. The IMSID filter limits the displayed results to those command/response records that were issued to an individual IMSID through any source. Possible sources of commands include: **IIMS** IMS **ICMD** Application program issuing an IMS ICMD (Issue Command) call **OTHR** Time Controlled Options (TCO) **VTAM** VTAM (Virtual Telecommunications Access Method) terminal **LU62** APPC (Advanced Program-to-Program Communication) **OTMA** Terminal connect to IMS through OTMA (Open Transaction Manager Access) **EMCS** Program acting as an EMCS (Extended Multiple Console Support) console **OMGR** IMS OM (Operations Manager) **Blank** MVS system console or IMS Master Terminal All commands issued through the IMS Administration Tool ISPF and Management Console interfaces are routed through OM.
OM Name	The OM Name filter is a 1-8 character name of an IMS Operations Manager address space. An Operations Manager address space can consist of many IMSIDs, as well as several other components. The OM Name filter limits the displayed results to those command/response records that were issued to all IMSIDs and components in the IMSplex through the specified OM only. All commands issued through the IMS Administration Tool ISPF and Management Console interfaces are routed through OM.
User	The displayed results are limited to those command records issued by the specified 1-8 character user ID. You can combine the User filter with either the IMSID filter or the OM Name filter.
Start Date	Date format: `yyyy/mm/dd` • *yyyy* is expressed as a 4-digit year. • *mm* is expressed as a 2-digit month between 01 and 12. • *dd* is expressed as a 2-digit day between 01 and 31. If specified, only messages logged on or after the specified date are available for viewing.

Table 73. IMS Command Log Filters (continued)

Option	Description
Start Time	Time format: hh:mm:ss • *hh* is expressed as a 2-digit value for hours between 00 and 23. • *mm* is expressed as a 2-digit value for minutes between 00 and 59. • *ss* is expressed as a 2-digit value for seconds between 00 and 59. **Note:** The values specified for hh, mm, and ss must be separated by a colon (:) character. If specified, **Start Date** must also be specified. Any messages logged before the specified date and time are not available for viewing.
End Date	Date format: yyyy/mm/dd • *yyyy* is expressed as a 4-digit year. • *mm* is expressed as a 2-digit month between 01 and 12. • *dd* is expressed as a 2-digit day between 01 and 31. If specified, messages logged after the specified date are not available for viewing.
End Time	Time format: hh:mm:ss • *hh* is expressed as a 2-digit value for hours between 00 and 23. • *mm* is expressed as a 2-digit value for minutes between 00 and 59. • *ss* is expressed as a 2-digit value for seconds between 00 and 59. **Note:** The values specified for hh, mm, and ss must be separated by a colon (:) character. If specified, **End Date** must also be specified. Any messages logged after the specified date and time are not available for viewing.

Chapter 32. Using IMS Command Processor - batch processing

When the IMS Administration Tool command driver is run as a batch program, it can run as an IMS BMP, IMS DL/I batch, or standard z/OS batch job.

IMS commands are read from an input data set and processed one-at-a-time across all requested regions.

Topics:

IMS command batch processing overview

When the IMS command processor of IMS Administration Tool runs as a batch program, it can run as an IMS BMP, IMS DL/I batch, or standard z/OS batch job.

The only significant difference between the types of batch jobs is how the IMS Administration Tool determines where to route the commands.

When the IMS command processor runs as a standard z/OS batch job, command routing is determined by the EXEC statement PARM specification, which can be one of the following specifications:

- `//job-step EXEC PGM=ATYCMD00,PARM='IMSID=imsid'`
- `//job-step EXEC PGM=ATYCMD00,PARM='GROUP=ims-command-group-id'`

When the IMS command processor is run as an IMS BMP or IMS DL/I batch job, command routing is determined by one of the following specifications. IMS Administration Tool looks for these specifications in the following order and applies the first one found.

1. 'GROUP=*ims-command-group-id*' in the EXEC PARM statement
   - DL/I batch

     ```
     //job-step EXEC PGM=DFSRRC00,
     //              PARM=(DLI,ATYCMD00,psb,,,,,,,,imsid,,dbrc,irlm,irlmnm,,,,
     //              'GROUP=ims-command-group-id')
     ```

   - BMP

     ```
     //job-step EXEC PGM=DFSRRC00,
     //              PARM=(BMP,ATYCMD00,psb,,,,,,,,,,imsid,,,,,'GROUP=ims-command-group-id')
     ```

   If you use a DLIBATCH or IMSBATCH procedure, specify APARM='GROUP=*ims-command-group-id*'.
2. The IMSID from the PARM statement
3. The IMSID in SDFSRESL(DFSVC000)

Sample JCL for each type of batch job can be found in the SATYSAMP sample library:

- Sample JCL for an IMS BMP is in member ATYBMP.
- Sample JCL for an IMS DL/I batch is in member ATYDLI.
- Sample JCL for a standard z/OS batch is in member ATYBATCH.

The following sample JCL member ATYBMP from the SATYSAMP sample library contains a few options specified for the ATYOPTS ddname input statement, including the PRESCAN option:

```
//ATYBMP    JOB  (TECH),ATYBMP,CLASS=A,MSGCLASS=H,
//      REGION=4M,NOTIFY=&SYSUID,COND=(0,NE)
//*
//*      THIS SAMPLE JCL WILL EXECUTE THE ATY/IMS COMMAND PROCESSOR
//*   AS AN IMS BMP JOB.
//*
//*      THE FOLLOWING CHARACTER STRINGS MUST BE TAILORED:
//*   ##ATYLOAD   - DEFINES THE DSN OF THE LOAD LIBRARY INTO WHICH
//*                 ATY WAS INSTALLED (SATYLOAD).
//*   ##SDFSRESL  - MUST BE THE NAME OF YOUR IMS SDFSRESL.
//*   ##IMSID     - MUST BE THE NAME OF THE IMS WHERE THE BMP WILL
//*                 ATTACH.
//*   ##PSB       - CAN BE ANY APPLCTN DEFINED IN THE IMS SYSGEN
//*                 WITH THE GPSB= PARAMETER.
//*
//STEP01  EXEC PGM=DFSRRC00,
//          PARM='BMP,ATYCMD00,##PSB,,,,,,,,,,##IMSID'
//STEPLIB  DD  DISP=SHR,DSN=##ATYLOAD
//         DD  DISP=SHR,DSN=##SDFSRESL
//SYSABEND DD  SYSOUT=*
//ATYLIST  DD  SYSOUT=*
//ATYOPTS  DD  *
PRESCAN=YES NOFEOV=YES SETRC=16
//*
//ATYSYSIN DD  *
/STA DB DI21PART ACCESS UP
```

IMS Command batch processing DD statements

IMS Administration Tool uses the following DD statements to control product behavior. Some statements are required, some are optional, and some are dynamically allocated.

Required DD statements

The following DD statements are required.

STEPLIB DD
Specify the following loadlib data sets:

- IMS Administration Tool SYSLOAD data set containing the ATY#OPTS and ATYSTFWD load modules. For details of the SYSLOAD data set and these load modules, see “Configure VSAM options data set” on page 26 and “Command store/forward: Configure” on page 28.
- IMS Administration Tool product loadlib data set or IMS Tools combined loadlib COMBLOAD data set. The COMBLOAD data set is created by IMS Tools Setup and it contains IMS Administration Tool load modules.
- IMS RESLIB data set
- IMS MDA library that contains RECON data set names. This library is required if you specify to use DBRC in the IMS command global options and omit RECON1, RECON2, and RECON3 DD statements.

ATYSYSIN DD
An input physical-sequence data set with an LRECL that ranges from 80 to 121 bytes.

This DD statement references the data set that contains the list of commands that IMS Administration Tool is to process.

ATYLIST DD
An output physical-sequence data set where IMS Administration Tool writes the command results and responses.

This data set must be the same LRECL as ATYSYSIN. This DD statement is typically coded as:

```
//ATYLIST DD SYSOUT=*
```

Optional DD statements

The following DD statements are optional.

RECON1 DD
RECON2 DD
RECON3 DD
RECON data sets of the IMS subsystem. These DD statements are used only when you specify to use DBRC in the IMS command global options.

ATYOPTS DD
An input physical-sequence data set that is used to provide runtime options for this particular batch job.

Options that are specified on this DD statement override the options that are specified in the IMS Administration Tool options data set.

This data set must be defined as LRECL=80.

Dynamically allocated DD statement

ATYJOPRT DD
An output print data set that is dynamically allocated.

This data set lists the options that are in effect for the running of this job.

Use the following DD statement if you do not want this list to be created:

```
//ATYJOPRT  DD  DUMMY
```

Runtime options for IMS command batch jobs

You can use IMS command global options to define certain processing characteristics for all jobs.

You can override most processing options by defining the IMS command job options.

The global options can be overridden by the IMS command job options or by specifying ATYOPTS ddname input statements.

Any options that are specified in ATYOPTS will override any previously specified processing options.

ddname input and output specification

At run time when searching for ddname values, IMS Administration Tool uses the following sequence to look up specific batch job ddnames to use for input and output:

1. ATYOPTS ddname input statement:

   You can use the ATYOPTS ddname input statements to specify ddnames by using these parameters:

   - DDNINP
   - DDNOUT

   If the DDNINP and DDNOUT parameters and the ddnames are present in the JCL, they are used when the batch job is processed. For example:

   ```
   //STEP01  EXEC PGM=ATYCMD00
   //LEM     DD  ......
   //LIME  DD  SYSOUT=*
   //ATYOPTS  DD  *
     DDNINP=LEM DDNOUT=LIME
   ```

2. IMS command global options:

   You can use the global options to specify the ddnames to use for batch job input and output data.

   To use a single set of ddnames, specify the name of the input and output ddname in the global options.

3. ddname table (ATYDDTBL):

   You can create a ddname table to hold the multiple ddname listings.

   Sample JCL is located in the SATYSAMP member ATYDDTBL.

ATYOPTS ddname input statements for IMS command batch job

When you run an IMS command batch job (IMS BMP, IMS DL/I batch, or standard z/OS batch), you can use ATYOPTS ddname input statements to override values in the IMS command job options record and global options record.

The values that are specified for DDNINP and DDNOUT are used if the specified names are present in the batch job JCL. If ddnames are not present in the batch job JCL, the batch job input and output ddnames are obtained from the options data set or from the ddname table, ATYDDTBL.

The following table lists the ATYOPTS ddname input statements and describes the valid values.

Table 74. ATYOPTS ddname input statements: definition and values

ATYOPTS ddname input statements	Description	Value
ABEND	Abend code	0 - 4095
CHKDBALL	Analyze Database/AREA command output when the ALL parameter is used	Y or N
DATAGRPEXP	Expand DATAGRP commands	Y or N
DBACCESS	/START DB ACCESS	SYSGEN. DBRC, or ASIS
DBRC	DBRC errors	ABEND, SETRC, WTOR, or NODBRC
DDNINP	DD name of the command input data set	ddname
DDNOUT	DD name of the command output data set	ddname
DFS0488I	Valid DFS0488I return codes	Up to 20 two-character return codes. Specify them without blank characters. For example, 01204584.
ERR488	DFS0488I errors	ABEND, SETRC, WTOR, or IGNORE
ERR3466	Treat DFS3466I as an error	Y or N
GENERAL	General errors	ABEND, SETRC, WTOR, or IGNORE
MODFAIL	/ATYMOD failures	ABEND or SETRC

Table 74. ATYOPTS ddname input statements: definition and values (continued)

ATYOPTS ddname input statements	Description	Value
MODREVERSE	/ATYMOD commit reversal	Y or N
NOFEOV	Add NOFEOV to /DBD and /DBR	Y or N
PRESCAN	Use DB pre-scan for remote-STC	Y or N
RETRYATT	Attempts	0 - 99
RETRYSEC	Interval	0 - 999
ROUTING	Routing errors	ABEND, SETRC, WTOR, or IGNORE
SETRC	Return code	0 - 4095
SYNTAXERR	Use GENERAL error option when IMS returns a DFS107I message	Y or N
WTODBCMD	WTO database command	Y or N

Creating a ddname table for IMS command batch job

You can create a ddname table to hold multiple ddname listings.

About this task

The ddname table defines a list of valid ddname values for IMS command batch jobs of IMS Administration Tool.

Complete the following steps to create and load a ddname table:

Procedure

1. Locate the sample JCL in the SATYSAMP member ATYDDTBL.
2. Copy ATYDDTBL to your working library.
3. Open ATYDDTBL in your working library in edit mode.
4. Type a valid JOB statement for your installation.

   Replace ACCT with a valid account name for your environment.

   Optionally, set REGION equal to 0.
5. Modify the SET SATYSAMP= statement to specify the data set name of your SATYSAMP.
6. Modify the SET SATYLOAD= statement to specify the data set name of your load library.
7. Customize the assembler macros that follow the SYSIN DD statement of the ASMA90 step to meet your requirements.

   The ATYDD macro supplies the ddnames that you want to search for in each batch job.

   IMS Administration Tool searches the JCL of each job until it finds one of the ddnames that are specified in a ATYDD macro.

   You can use the ATYDD macro with the options that are shown in the following table:

Table 75. ATYDD options

Option	Description
HELP	Use the HELP option to have information displayed in your assembly output. This macro is typically coded as: `ATYDD HELP=[YES|NO]`
ddname specification	Use the TYPE= and DD= keywords to specify the ddnames to be searched for. The ddname can be an input or an output value. This macro is typically coded as: `ATYDD TYPE=[OUTPUT|INPUT],DD=`*`ddname`*
BUILD	The BUILD option is required as the last statement in your input stream to properly generate and build the object module. This macro is typically coded as: `ATYDD BUILD=YES`

8. Copy member ATYDDTBL into the STEPLIB of all IMS Administration Tool batch jobs.

Example

The SATYSAMP data set includes a sample job in member ATYDDTBL that you can customize.

```
//ATYDDTBL JOB (ACCT),ATYDD,CLASS=A,NOTIFY=&SYSUID,
// MSGCLASS=H,COND=(0,NE),REGION=4M
//*
//  SET  SATYSAMP=SATYSAMP        SET TO DSN OF YOUR SATYSAMP
//  SET  LOADLIB=your library     SET TO DSN OF YOUR LOADLIB
//*
//ASMA90  EXEC PGM=ASMA90,PARM='NOUSING,ALIGN,OBJECT'
//SYSPRINT DD  SYSOUT=*
//SYSLIB   DD  DSN=&SATYSAMP,DISP=SHR
//SYSUT1   DD  UNIT=SYSDA,SPACE=(TRK,(15,15),RLSE)
//SYSLIN   DD  DSN=&&OBJECT,DISP=(,PASS,DELETE),
//         UNIT=SYSDA,SPACE=(TRK,(5,5),RLSE),
//         DCB=(RECFM=FB,LRECL=80,BLKSIZE=3200,DSORG=PS)
//SYSIN    DD  *
*
* GENERATE THE DOCUMENTATION
*
  ATYDD   HELP=YES
*
* DDNAMES USED BY OLD IM COMMAND PROCESSOR NUMBER 1
*
  ATYDD   TYPE=INPUT,DD=CMDIN
  ATYDD   TYPE=OUTPUT,DD=CMDOUT
*
* DDNAMES USED BY THE OTHER COMMAND PROCESSORS
*
  ATYDD   TYPE=OUTPUT,DD=SYSOUT
*
  ATYDD   TYPE=INPUT,DD=INPUT
  ATYDD   TYPE=INPUT,DD=INDD
*
  ATYDD   TYPE=OUTPUT,DD=OUTPUT
  ATYDD   TYPE=OUTPUT,DD=OUTDD
*
* GENERATE THE OBJECT MODULE
*
  ATYDD   BUILD=YES
  END
//*
//IEWL    EXEC PGM=IEWL,PARM='LIST,LET,XREF'
//SYSPRINT DD  SYSOUT=*
//SYSUT1   DD  UNIT=SYSDA,SPACE=(CYL,(1,1))
//OBJECT   DD  DSN=&&OBJECT,DISP=(OLD,DELETE,DELETE)
//SYSLMOD  DD  DSN=&LOADLIB,DISP=SHR
//SYSLIN   DD  *
    INCLUDE OBJECT
      ENTRY ATYDDTBL
       NAME ATYDDTBL(R)
//
```

Error handling in a batch environment

IMS Administration Tool takes specific action for the different categories of errors that can occur in a batch environment.

When IMS Administration Tool command driver runs as a batch job (IMS BMP, IMS DL/I batch, or standard z/OS batch), you might encounter errors that fall into one of the following categories:

- General

  A general error occurs when IMS Administration Tool fails to edit a command.

- Routing

  A routing error occurs when a command fails due to routing problem. This error is viewed by IMS Administration Tool as an IMS region being unavailable.

- DFS0488I

  The DFS04881 error is issued when a command that changes the state of a database/AREA fails to perform the required action.

  This error is typically caused by IMS Administration Tool not receiving an acceptable return code on a DFS0488I/ATY0488I message.

You can specify whether or not IMS Administration Tool treats a DFS3466I/ATY3466I (database/AREA not defined) as an error condition in the global record by using the ISPF dialog, or by using the ERR3466 parameter in the ATYOPTS ddname input statement.

- DBRC

  The DBRC error occurs if a subsystem record in the RECON has the database/AREA open with update intent after a /DBD or /DBR command.

  Note: IMS Administration Tool DBRC verification does not work in a DBRC environment that utilizes the RECON loss notification option unless user exit DSPSCIX0 provides the name of the XCF group.

IMS Administration Tool allows each error category to be handled by the following actions:

- **Abend**

  Action: Terminate the batch job with the specified abend code.

- **Return code**

  Action: Terminate the batch job with the specified return code.

- **WTOR**

  Action: Issue a WTOR and allow operator intervention to determine course of action.

- **Ignore**

  Action: Continue processing the next command as if no error had occurred.

  (For DBRC, this option is specified as `DBRC=NODBRC`.)

Chapter 33. Predefined procedures and commands

IMS Administration Tool predefined procedures can perform complete tasks with the entry of a single input command.

IMS Administration Tool provides two predefined procedures, automated online change processing and dead letter queue cleanup. These procedures automate tasks that might normally be performed by a master terminal operator (MTO).

Restriction: IMS Administration Tool does not support the features provided by the command list processors of IMS Command Control Facility.

Topics:

Predefined procedures overview

IMS Administration Tool predefined procedures can perform complete tasks with the entry of a single input command.

IMS Administration Tool provides two predefined procedures that can be used by the IMS Administration Tool command driver:

- Coordinated online change.

  IMS Administration Tool can perform an online change across multiple systems by supplying a single command to the IMS Administration Tool batch job.

  Coordinated online change is valid from a batch environment only.

  This process coordinates the online change across multiple systems and minimizes the potential of out-of-sync conditions that might occur when online change is performed manually.
- Dead letter queue cleanup.

  IMS Administration Tool can clean up any dead letter queue entries by supplying a single command to the IMS Administration Tool batch job.

  Dead letter queue cleanup is valid in all command routing environments (batch, ISPF, and callable API).

Automated online change processing (/ATYMOD)

Automated online change processing synchronizes the online change process across multiple IMS regions and reduces out-of-sync conditions.

Automated online change is allowed only when the command driver runs as a batch job (IMS BMP, IMS DL/I batch, or standard z/OS batch).

Command format:

```
/ATYMOD imsparm killconv deqtran
```

imsparm
Specifies the type of online change. Parameters can be found in **/MOD PREPARE** command of the *IMS Operator's Reference* manual.

killconv
Specifies KILLCONV to have IMS Administration Tool terminate any IMS conversations that are preventing online change from completing.

deqtran
Specifies DEQTRAN to have IMS Administration Tool dequeue any transactions that are preventing online change from completing.

The following commands are issued during the automated online change process:

1. Issue /DIS MODIFY ALL on each IMS system.
2. Issue /MOD PREPARE *xxx* on each IMS system.
3. Issue /DIS MODIFY ALL on each IMS system.
   - If the NO WORK PENDING message is received for each IMS system, IMS Administration Tool continues with Step 4.
   - If the NO WORK PENDING message is not received, IMS Administration Tool performs the KILLCONV and DEQTRAN processing, if specified.

     If the NO WORK PENDING message is still not received, IMS Administration Tool aborts the online change.
4. Issue /MOD COMMIT on each system.
5. Issue /DIS MODIFY ALL on each IMS system to verify that changed libraries now use the proper ddnames.

If the online change fails, IMS Administration Tool terminates the batch job using the option defined in the MODFAIL parameter, as specified either in the global options record or the ATYOPTS ddname input statement.

If Step 4 was successful for some, but not all members of a command group, parameter MODREVERSE is used to inform IMS Administration Tool how to proceed.

- If `MODREVERSE=NO` is specified or defaulted to, IMS Administration Tool terminates the job based upon the MODFAIL parameter.
- If `MODREVERSE=YES` is specified, IMS Administration Tool attempts to reverse the online change on the IMS systems where it was successful.
- The MODREVERSE parameter can be specified in either the global record or the ATYOPTS ddname input statement.

Note: Discretion must be used before deciding to use `MODREVERSE=YES`, particularly for ACBLIB changes. Backing out DMB changes might cause unexpected impact on database integrity.

Dead letter queue cleanup (/ATYDEADQ)

You can use the dead letter queue cleanup to manage your IMS message queue utilization. The dead letter queue cleanup process can replace a cold start or manual efforts by the MTO to cleanup unwanted messages.

Dead letter queue cleanup is allowed when the command driver runs as a batch job (IMS BMP, IMS DL/I batch, or standard z/OS batch), from ISPF dialog or from the callable API.

Command format:

```
/ATYDEADQ
```

The process implements the following commands for each IMS system:

1. Issue `/DIS POOL QBUF`
2. Issue `/DIS USER DEADQ`
3. Based on output from the proceeding command, the process performs the following actions for each displayed user that is not currently allocated:

- Issue /STO USER *xxxx*
- Issue /DEQ USER *xxxx* PURGE
- Issue /STA USER *xxxx*

4. Issue /DIS POOL QBUF

This command displays message queue utilization both before and after this process.

/ATYWAIT command

IMS Administration Tool provides the **/ATYWAIT** command to support the command driver in a batch environment.

/ATYWAIT can be used when the command driver runs as a batch job (IMS BMP, IMS DL/I batch, or standard z/OS batch).

Command format:

```
/ATYWAIT nn
```

The **/ATYWAIT** command causes IMS Administration Tool to wait the number (nn) of seconds specified in the command parameter.

Valid values for nn are 1 through 10.

If an invalid value is entered, IMS Administration Tool waits five seconds by default.

Chapter 34. Command processor API

An external application program can call the IMS Administration Tool command driver by using an application programming interface module called ATYCAPI0.

The command driver routes the IMS command to the specified IMSID or command group and presents command responses to the calling program.

Topics:

Command processor API overview

An external application program can call the IMS Administration Tool command driver by using an application programming interface module called ATYCAPI0.

The ATYCAPI0 subroutine can be called by any application program that must issue IMS type-1 or type-2 commands. The subroutine routes the IMS command to the specified IMSID or command group and presents command responses to the calling program.

When run as the callable API, ATYCAPI0, the IMS Administration Tool command driver runs only as a command router. The driver routes the command to one or more IMS systems and returns the command responses to the calling program.

The driver does not perform any of the special processing functions described for the command driver when it runs as a batch program. It is the responsibility of the calling program to perform the analysis of the command responses.

Any application can issue IMS commands and get all output with minimal interface requirements. The application must use the IMS Administration Tool callable API interface block and specify the following basic call types:

- **CMD** (issue command)
- **GCMD** (get response)
- **TERM** (cleanup call type)

Invoking ATYCAPI0: Assembler example

You can invoke ATYCAPI0 from an assembler program using the following example as a model.

ATYCAPI0 expects the caller to pass the address of the IMS Administration Tool API interface block using standard linkage conventions.

See member ATYAPIAS in SATYMACS for the following source.

```
ATYAPIAS TITLE 'SAMPLE ASSEMBLER PROGRAM TO ISSUE COMMANDS'
*********************************************************************
*
*  THIS SAMPLE ASSEMBLER PROGRAM USES THE ATY CALLABLE INTERFACE
*  TO ISSUE COMMANDS.  THE PROGRAM READS A RECORD FROM DDNAME
*  SYSIN, CALLS THE ATY COMMAND CALLABLE INTERFACE TO ISSUE THE
*  COMMAND, AND THEN WRITES ALL OF THE RESPONSES TO DDNAME
*  SYSPRINT.  THE PROGRAM REPEATS THE PROCESS UNTIL ALL RECORDS
*  FROM THE DDNAME SYSIN HAVE BEEN READ.
*
*********************************************************************
ATYAPIAS CSECT ,
ATYAPIAS AMODE 31
ATYAPIAS RMODE ANY
         BAKR  R14,0
         LR    R12,R15
         USING ATYAPIAS,R12
         USING SAVWKA,R13
         LA    R3,SAVWKALL
         STORAGE OBTAIN,LENGTH=(R3),ADDR=(R2),LOC=BELOW
         LR    R13,R2
         XR    R15,R15
         MVCL  R2,R14           ZEROES TO SAVE/WORK AREA
         MVC   4(L'F1SA,R13),=A(F1SA)  LINKAGE STACK IN USE
F1SA     EQU   C'F1SA',4
         MVI   OUTCC,X'40'      OUTPUT CARRIAGE CONTROL
*
         LOAD  EP=ATYCAPI0      LOAD ATY API
         STCM  R0,15,@SUB       SAVE ADDR OF ATY API
*
OPNINP   DS    0H
         MVC   XXDCBINP(LLDCBINP),MMDCBINP     DCB TO WORKAREA
         MVC   XXOPNINP(LLOPNINP),MMOPN        OPEN MAC TO WORKAREA
         OPEN  (XXDCBINP),MODE=31,MF=(E,XXOPNINP)
         LTR   R15,R15                         OPEN OK?
         BNZ   RETURN                          NONZERO - NOT OK
OPNINPX  DS    0H
*
OPNPRT   DS    0H
         MVC   XXDCBPRT(LLDCBPRT),MMDCBPRT     DCB TO WORKAREA
         MVC   XXOPNPRT(LLOPNPRT),MMOPN        OPEN MAC TO WORKAREA
         OPEN  (XXDCBPRT,OUTPUT),MODE=31,MF=(E,XXOPNPRT)
         LTR   R15,R15                         OPEN OK?
         BNZ   RETURN                          NONZERO - NOT OK
OPNPRTX  DS    0H
*
*  GET CMD INPUT ROUTINE
*
GETINP   DS    0H
         GET   XXDCBINP,INPREC         GET A RECORD
```

Figure 15. Invoking ATYCAPI0: Assembler example (ATYAPIAS) (Part 1 of 3)

```
TYPECMD  EQU   C'CMD ',4
         MVC   AOITYPE,=AL4(TYPECMD)   ISSUE API CMD
         MVC   AOIDEST,INPDEST         EITHER IMSID OR GROUP
         MVC   AOINAME,INPNAME         NAME OF IMSID/GROUP
         LA    R0,AOIDATA              CMD TEXT GOES HERE
         LA    R1,L'AOIDATA            MAX LENGTH (256)
         LA    R14,INPDATA             SOURCE OF INP CMD
         LA    R15,L'INPDATA           ACTUAL LENGTH OF INP CMD
         ICM   R15,B'1000',=X'40'      PAD IT WITH SPACES
         MVCL  R0,R14                  MOVE TO INTF BLOCK
*
         ICM   R15,15,@SUB             ADDR OF ATY API
         CALL  (15),ATYAPIIB,MF=(E,PLSUB)  CALL API NOW
*
         MVC   OUTDATA,AOIDATA         FILL OUTPUT AREA
         PUT   XXDCBPRT,OUTREC         PRINT IT NOW
GETRSP   DS    0H
TYPEGCMD EQU   C'GCMD',4
         MVC   AOITYPE,=AL4(TYPEGCMD)  API GET A RESPONSE
         ICM   R15,15,@SUB             ADDR OF ATY API
         CALL  (15),ATYAPIIB,MF=(E,PLSUB)  CALL API NOW
         LTR   R15,R15                 NOT ZERO MEANS NO RESP
         BNZ   GETINP                  TIME FOR MORE INPUT
         MVC   OUTDATA,AOIDATA         FILL OUTPUT AREA
         PUT   XXDCBPRT,OUTREC         PRINT IT NOW
         B     GETRSP                  GET ANOTHER RESPONSE
*
GETINPX  DS    0H                      COME HERE AT END OF FILE
*
TYPETERM EQU   C'TERM',4
         MVC   AOITYPE,=AL4(TYPETERM)  ISSUE API - CLEANUP
         ICM   R15,15,@SUB             ADDR OF ATY API
         CALL  (15),ATYAPIIB,MF=(E,PLSUB)  CALL API NOW
*
         DELETE EP=ATYCAPI0            DELETE MODULE NOW
         XC    @SUB,@SUB               CLEAR ITS OLD ADDR
*
RETURN   DS    0H
         STCM  R15,15,RETCODE          SAVE REG15
*
*  CLOSE INPUT
*
CLSINP   DS    0H
         TM    XXDCBINP+DCBOFLGS-IHADCB,DCBOFOPN  STILL OPEN?
         BZ    CLSINPX                 ZERO MEANS NO
         CLOSE (XXDCBINP),MODE=31,MF=(E,XXOPNINP)
CLSINPX  DS    0H
*
*  CLOSE OUTPUT
*
CLSPRT   DS    0H
         TM    XXDCBPRT+DCBOFLGS-IHADCB,DCBOFOPN  STILL OPEN?
         BZ    CLSPRTX                 ZERO MEANS NO
         CLOSE (XXDCBPRT),MODE=31,MF=(E,XXOPNPRT)
CLSPRTX  DS    0H
*
```

Figure 16. Invoking ATYCAPI0: Assembler example (ATYAPIAS) (Part 2 of 3)

```
XIT      DS    0H
         ICM   R2,15,RETCODE
         LA    R3,SAVWKALL
         STORAGE RELEASE,ADDR=(R13),LENGTH=(R3)
         LTR   R15,R2
         PR
*
         LTORG
*
MMOPN    OPEN  (,),MODE=31,MF=L
MMDCBPRT DCB   DDNAME=SYSPRINT,                                        X
               DSORG=PS,MACRF=PM,RECFM=FBA,LRECL=L'AOIDATA+1
MMDCBINP DCB   DDNAME=SYSIN,                                           X
               DCBE=MMDCEINP,                                          X
               DSORG=PS,MACRF=GM,RECFM=FB,LRECL=80
MMDCEINP DCBE  EODAD=GETINPX
*
         YREGS
         LTORG
*
*  COMBO SAVE AND WORK AREA
*
SAVWKA   DSECT
SAVEAREA DS    18F
RETCODE  DS    F
@SUB     DS    A
PLSUB    DS    F      ONLY 1 PARM NEEDED FOR THIS CALL
*
*-------------------------------------------------------------------*
*      THIS DSECT IS USED TO MAP THE AREA PASSED TO THE
*   CALLABLE AOI.
*-------------------------------------------------------------------*
ATYAPIIB DS   0D
AOITYPE  DS    CL4                 CALL TYPE
*                                  CMD, GCMD OR TERM
AOIRETCD DS    CL4
AOIRSNCD DS    CL4
AOIDEST  DS    CL8                 CMD DESTINATION IMSID OR GROUP
AOINAME  DS    CL8                 DESTINATION NAME
AOIRESV  DS    CL24                RESERVED
AOIDATA  DS    CL256               I/O AREA
*
XXOPNINP OPEN  (,),MODE=31,MF=L
LLOPNINP EQU   *-XXOPNINP
XXDCBINP DCB   DSORG=PS,MACRF=GM
LLDCBINP EQU   *-XXDCBINP
*
XXOPNPRT OPEN  (,),MODE=31,MF=L
LLOPNPRT EQU   *-XXOPNPRT
XXDCBPRT DCB   DSORG=PS,MACRF=PM
LLDCBPRT EQU   *-XXDCBPRT
*
OUTREC   DS   0CL1
OUTCC    DS    CL1
OUTDATA  DS    CL(L'AOIDATA)
*
INPREC   DS   0CL80
INPDEST  DS    CL8
INPNAME  DS    CL8
INPDATA  DS    CL(INPDLEN)
INPDLEN  EQU   L'INPREC-(INPDATA-INPREC)
*
SAVWKALL EQU   *-SAVWKA
*
         DCBD  DSORG=DA
         IHADCBE
*
         END   ATYAPIAS
```

Figure 17. Invoking ATYCAPI0: Assembler example (ATYAPIAS) (Part 3 of 3)

Invoking ATYCAPI0: COBOL example

You can invoke ATYCAPI0 from a COBOL program using the following example as a model.

ATYCAPI0 expects the caller to pass the address of the IMS Administration Tool API interface block by using standard linkage conventions.

See member ATYAPICB in SATYMACS for the following source.

```
       IDENTIFICATION DIVISION.
       PROGRAM-ID. ATYAPICB.
       ENVIRONMENT DIVISION.

       INPUT-OUTPUT SECTION.

       FILE-CONTROL.

           SELECT CTL-IN
                 ASSIGN TO UT-S-SYSIN.
           SELECT PRT-OUT
                 ASSIGN TO UT-S-SYSPRINT.

       DATA DIVISION.

       FILE SECTION.

       FD  CTL-IN
           RECORDING MODE IS F
           LABEL RECORDS STANDARD
           BLOCK CONTAINS 00 RECORDS.
       01  CTL-IN-REC.
           05  CTL-IN-DEST             PIC X(08).
           05  CTL-IN-NAME             PIC X(08).
           05  CTL-IN-DATA             PIC X(64).

       FD  PRT-OUT
           RECORDING MODE IS F
           LABEL RECORDS STANDARD
           BLOCK CONTAINS 00 RECORDS.
       01  PRT-OUT-REC.
           05  PRT-OUT-CC              PIC X(1).
           05  PRT-OUT-DATA            PIC X(256).

       WORKING-STORAGE SECTION.

       77  ATYCAPI0                    PIC X(8) VALUE 'ATYCAPI0'.
       77  TYPECMD                     PIC X(4) VALUE 'CMD'.
       77  TYPEGCMD                    PIC X(4) VALUE 'GCMD'.
       77  TYPETERM                    PIC X(4) VALUE 'TERM'.

       01  ATYAPIIB.
           05  AOITYPE                 PIC X(4).
           05  AOIRETCD                PIC X(4).
           05  AOIRSNCD                PIC X(4).
           05  AOIDEST                 PIC X(8).
           05  AOINAME                 PIC X(8).
           05  AOIRESV                 PIC X(24).
           05  AOIDATA                 PIC X(256).

       PROCEDURE DIVISION.

       000-MAINLINE.
           OPEN INPUT CTL-IN.
           OPEN OUTPUT PRT-OUT.
       100-GETINP.
```

Figure 18. Invoking ATYCAPI0: COBOL example (ATYAPICB) (Part 1 of 2)

```
           READ CTL-IN
             AT END
               GO TO 999-CLEANUP.
           MOVE TYPECMD TO AOITYPE.
           MOVE CTL-IN-DEST TO AOIDEST.
           MOVE CTL-IN-NAME TO AOINAME.
           MOVE CTL-IN-DATA TO AOIDATA.
           CALL ATYCAPI0 USING ATYAPIIB.
           MOVE SPACE TO PRT-OUT-CC.
           MOVE AOIDATA TO PRT-OUT-DATA.
           WRITE PRT-OUT-REC.
       200-GETRESP.
           MOVE TYPEGCMD TO AOITYPE.
           CALL ATYCAPI0 USING ATYAPIIB.
           IF RETURN-CODE NOT ZERO
             GO TO 100-GETINP.
           MOVE SPACE TO PRT-OUT-CC.
           MOVE AOIDATA TO PRT-OUT-DATA.
           WRITE PRT-OUT-REC.
           GO TO 200-GETRESP.
       999-CLEANUP.
           MOVE TYPETERM TO AOITYPE.
           CALL ATYCAPI0 USING ATYAPIIB.
           CANCEL ATYCAPI0.
           GOBACK.
```

Figure 19. Invoking ATYCAPI0: COBOL example (ATYAPICB) (Part 2 of 2)

Invoking ATYCAPI0: REXX example

You can invoke ATYCAPI0 from a REXX procedure using the following example as a model.

ATYCAPI0 expects the caller to pass the address of the IMS Administration Tool API interface block by using standard linkage conventions.

See member ATYAPIRX in SATYMACS for the following source.

```
/* REXX ---------------------------------------------------------------*/
/*                                                                     */
/*    LICENSED MATERIALS - PROPERTY OF IBM                             */
/*    5655-R58 (C) COPYRIGHT IBM CORP. 2001, 2013.                     */
/*    ALL RIGHTS RESERVED.                                             */
/*    US GOVERNMENT USERS RESTRICTED RIGHTS -                          */
/*    USE, DUPLICATION OR DISCLOSURE RESTRICTED                        */
/*    BY GSA ADP SCHEDULE CONTRACT WITH IBM CORP.                      */
/*                                                                     */
/* ATYAPIRX -                                                          */
/*                                                                     */
/*                                                                     */
/* Usage ------------------------------------------------------------- */
/*                                                                     */
/*    THIS SAMPLE REXX WILL CALL THE ATYCAPI0 MODULE TO EXECUTE        */
/*    COMMANDS FROM THE ASSOCIATED JCL MEMBER ATYAPIRX.                */
/*                                                                     */
/*    Please refer to Ch. 13 Callable API, Interface Block section     */
/*    in the IBM IMS Administration Tool for z/OS User's Guide  */
/*    for a description of the fields in the Interface Block (APIIB    */
/*    in this sample procedure).                                       */
/*                                                                     */
/*---------------------------------------------------------------------*/
/*                                                                     */
ADDRESS MVS
CMD.0 = 0
"EXECIO 0 DISKR ATYIN (STEM CMD. OPEN)"
if (rc ¬= 0) then
  do
   say 'ATYIN Open failure RC =' RC
   signal ccfret
  END

ATYRD:
ADDRESS MVS
/*                                                                     */
/*  READS A RECORD FROM ATYIN DD AND EXECUTES THE COMMAND              */
/*                                                                     */
"EXECIO 1 DISKR ATYIN (STEM CMD.)"
if (rc = 2) then signal ccfend           /* EOF  */
if (rc ¬= 0) then
  do
   say 'ATYIN Read failure RC =' RC
   signal ccfret
  END

SAY 'ATYIN Record:'
SAY CMD.1
AOIDEST = SUBSTR(CMD.1,1,8)
AOINAME = SUBSTR(CMD.1,9,8)
AOIDATA = SUBSTR(CMD.1,17,54)
APIIB = 'CMD '                           /* AOITYPE   */
APIIB = INSERT(' ',APIIB,4,8,' ')
APIIB = INSERT(AOIDEST,APIIB,12,8,' ')
APIIB = INSERT(AOINAME,APIIB,20,8,' ')
APIIB = INSERT(AOIDATA,APIIB,52,256,' ')
```

Figure 20. Invoking ATYCAPI0: REXX example (ATYAPIRX) (Part 1 of 2)

```
ADDRESS LINKPGM "ATYCAPI0  APIIB"
if (rc ¬= 0) then
  do
   say 'ATYCAPI0 NON-ZERO RC =' RC
   cmdret = substr(apiib,52,256)
   say cmdret
   signal ccfrd
  END
cmdret = substr(apiib,52,256)
say cmdret

ATYGCMD:
/*                                                                  */
/*  RETRIEVE RESULTS OF THE COMMAND                                 */
/*                                                                  */
APIIB = INSERT('GCMD',APIIB,0,4,' ')    /* AOITYPE   */
ADDRESS LINKPGM "ATYCAPI0  APIIB"
if (rc ¬= 0) then
  DO
   APIIB = INSERT('TERM',APIIB,0,4,' ')    /* AOITYPE   */
   ADDRESS LINKPGM "ATYCAPI0  APIIB"
   signal ccfrd
  END
cmdret = substr(apiib,52,256)
say cmdret
signal ccfgcmd

ATYEND:
/*                                                                  */
/*  EOF                                                             */
/*                                                                  */
SAY 'ATYIN End of File'

ATYRET:
return
```

Figure 21. Invoking ATYCAPI0: REXX example (ATYAPIRX) (Part 2 of 2)

This REXX procedure can be invoked from batch using the following sample JCL as a model:

```
//ATYBATRX  JOB  (TECH),ATYBATRX,CLASS=A,MSGCLASS=X,
//      REGION=0M,NOTIFY=&SYSUID
//*
//         SET ATYLOAD=##ATYLOAD                <====  SET
//         SET SDFSRESL=##SDFSRESL              <====  SET
//         SET ATYEXEC=##ATYEXEC                <====  SET
//*
//*-------------------------------------------------------------------*
//*    LICENSED MATERIALS - PROPERTY OF IBM
//*    5655-R58 (C) COPYRIGHT IBM CORP. 2001, 2015.
//*    ALL RIGHTS RESERVED.
//*    US GOVERNMENT USERS RESTRICTED RIGHTS -
//*    USE, DUPLICATION OR DISCLOSURE RESTRICTED
//*    BY GSA ADP SCHEDULE CONTRACT WITH IBM CORP.
//*-------------------------------------------------------------------*
//*
//*      THIS SAMPLE JCL WILL EXECUTE THE ATY/IMS COMMAND PROCESSOR
//*   VIA A REXX EXEC - ATYAPIRX
//*
//*      ATYIN RECORD FORMAT:
//*   COLS 1 - 8        - 'IMSID' OR 'GROUP'
//*   COLS 9 - 16       - IMS SUBSYS ID OR THE NAME OF
//*                       A GROUP OF IMS REGIONS DEFINED IN THE
//*                       ATY OPTIONS DATA SET.
//*   COLS 17 - 70      - THE CMD WITHOUT ANY CONTINUATION
//*
//*      THE FOLLOWING SET VARIABLES MUST BE TAILORED:
//*   ATYLOAD   - DEFINES THE DSN OF THE LOAD LIBRARY INTO WHICH
//*               ATY WAS INSTALLED (SATYLOAD).
//*   SDFSRESL  - MUST BE THE NAME OF YOUR IMS SDFSRESL.
//*   ATYEXEC   - DEFINES THE DSN OF THE EXEC LIBRARY INTO WHICH
//*                 ATY WAS INSTALLED (SATYREXX).
//*-------------------------------------------------------------------*
//*
//*
//ATYAPIRX EXEC PGM=IRXJCL,PARM=ATYAPIRX
//*
//STEPLIB  DD  DISP=SHR,DSN=&ATYLOAD
//         DD  DISP=SHR,DSN=&SDFSRESL
//*
//SYSEXEC  DD  DISP=SHR,DSN=&ATYEXEC
//*
//SYSABEND DD  SYSOUT=*
//*
//SYSTSPRT DD  SYSOUT=*
//*
//ATYIN    DD  *
IMSID   SSID    /DIS ACT
/*
//
```

Command processor API interface block

The following table provides details for the callable API interface block.

Table 76. Callable API interface block

Field	Field Type	Length	Description
AOITYPE	Supplied	4	Specify one of the following character call types padded to 4 bytes with spaces: • CMD Issue IMS command • GCMD Get IMS command response • TERM Cleanup

Table 76. Callable API interface block (continued)

Field	Field Type	Length	Description
AOIRETCD	Returned	4	4 byte binary return code from ATYCAPI0.
AOIRSNCD	Returned	4	4 byte binary return code from ATYCAPI0.
AOIDEST	Supplied	8	Specify one of the following character command destination types padded to 8 bytes with spaces: • IMSID The command should be routed to a specific IMS system. • GROUP The command should be routed to all IMS systems defined for a ATY group.
AOINAME	Supplied	8	If IMSID is specified for AOIDEST, caller must initialize this field with a 4 character IMSID padded to eight characters with spaces. If GROUP is specified for AOIDEST, caller must initialize this field with a one to eight character command group name padded to eight characters with spaces.
AOIRESV	Reserved	24	24 bytes reserved for use by ATYCAPI0.
AOIDATA	Supplied/Returned	256	If the AOITYPE call type is CMD, then this field should be initialized by the caller to the IMS command padded to 256 bytes with spaces. The actual command cannot be longer than 252 bytes. IMS Administration Tool requires the last four bytes to contain spaces. Upon return from the CMD call, this field will either be spaces or contain a message from ATYCAPI0 of up to 256 bytes (padded with spaces). If the AOITYPE call type is GCMD, then this field will contain up to 256 bytes (padded with spaces) if the return code in AOIRETCD is zeroes. Otherwise the contents of this field should be ignored.

Part 9. Troubleshooting

IMS Administration Tool issues messages and codes that can help you to diagnose and correct problems that you experience with the product.

Topics:

Chapter 35. Messages and codes

The following topics describe messages and abend codes of IMS Administration Tool.

Topics:

Messages (ATY0 - ATY9)

IMS Administration Tool issues messages that can help you understand the status of the infrastructure and help you resolve errors.

Message format

IMS Administration Tool messages adhere to the following format:

```
ATYnnnnx
```

Where:

ATY
Indicates that the message was issued by IMS Administration Tool

nnnn
Indicates the message identification number

x
Indicates the severity of the message:

A
Indicates that operator intervention is required before processing can continue.

E
Indicates that an error occurred, which might or might not require operator intervention.

I
Indicates that the message is informational only.

W
Indicates that the message is a warning to alert you to a possible error condition.

Each message also includes the following information:

Explanation:
The Explanation section explains what the message text means, why it occurred, and what its variables represent.

System action:
The System action section explains what the system will do in response to the event that triggered this message.

User response:
The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

ATY0100W FOLLOWING RECORD FAILED EDITING

Explanation

ATY/IMS editing failed while trying to analyze the command. The character string is not recognized as an IMS type 1 or type 2 command, nor is it a valid IMS name.

System action

The action taken depends upon the setting for GENERAL errors. The following GENERAL error settings and actions are possible:

WTOR
This record is skipped and processing continues as if no error were encountered.

SETRC
Terminate the job step using the user-defined return code.

ABEND
Terminate the job step using the user-defined abend code.

IGNORE
This record is be skipped and processing continues as if no error were encountered.

User response

Correct the command, and run the job again.

ATY0105I /ATYWAIT OR /CCFWAIT VALUE MUST BE 1-10

Explanation

A /ATYWAIT or /CCFWAIT control card was read but an invalid wait interval was specified.

System action

IMS Administration Tool will wait a default 5 seconds and then resume processing.

User response

None. This message is informational.

ATY0106E IMS PLEX NAME MIS-MATCH DETECTED

Explanation

A configuration error has been encountered. To issue commands to a IMS Administration Tool group using IMS Operations Manager, all IMS records must be defined with the same Operations Manager (PLEX) name.

System action

The job terminates using the user-defined abend code.

User response

Identify the IMS with the mismatched PLEX name using the prior ATY6010I message. Use the IMS Administration Tool user interface to correct the IMS record with the mismatch and run the job again.

ATY0107E INCOMPATIBLE COMMAND ROUTING TECHNIQUES SPECIFIED

Explanation

A configuration error has been encountered. The IMS members of a IMS Administration Tool group have been defined to use both Operations Manager and non-Operation Manager command routing techniques. If Operations Manager is specified for the command routing technique, all members of a IMS Administration Tool group must use Operations Manager for their command routing technique.

System action

The job terminates using the user-defined abend code.

User response

Identify the command routing techniques for the IMS Administration Tool group members using the prior ATY6010I message, correct the incompatibility, and run the job again.

ATY0110E AIB INQY CALL ERROR, RC=*rc*, REASON=*rsn*

Explanation

Program ATYCMD00 encountered an error while processing an INQY ENVIRON call. The AIB return code is displayed as *rc* and the reason code as *rsn*.

System action

The job terminates with the user-defined abend code.

User response

Correct the condition described by the AIB return code and reason codes. If assistance is required, contact IBM Software Support.

ATY0111E ERROR OPENING DD NAME *ddn*

Explanation

An error occurred while trying to open a data set with the DDNAME of *ddn*. Check the job log for additional messages.

System action

The action taken depends upon the setting for GENERAL errors. If SETRC is specified for GENERAL errors, the job terminates using the user-defined return code. Otherwise the job terminates with the user-defined abend code.

User response

Correct the condition causing the failure and run the job again.

ATY0112E ***ddn*** **HAS LRECL GREATER THAN MAXIMUM**

Explanation

The data set represented by *ddn* has an LRECL that is greater than 121 bytes. Valid record lengths for the input data set are from 80 to 121 bytes.

System action

The action taken depends upon the setting for GENERAL errors. If SETRC is specified for GENERAL errors, the job terminates using the user-defined return code. Otherwise the job terminates using the user-defined abend code.

User response

Reallocate the data set with a valid LRECL and run the job again.

ATY0113E ***ddn*** **HAS LRECL LESS THAN MINIMUM**

Explanation

The data set represented by *ddn* has an LRECL that is less than 80 bytes. Valid record lengths for the input data set are from 80 to 121 bytes.

System action

The action taken depends upon the setting for GENERAL errors. If SETRC is specified for GENERAL errors, the job terminates using the user-defined return code. Otherwise the job terminates using the user-defined abend code.

User response

Reallocate the data set with a valid LRECL and run the job again.

ATY0114E **OPEN FAILED FOR STORE/FORWARD DATA SET, RC=*rc***

Explanation

An error occurred trying to open the store/forward data set. Field *rc* contains the return code from the OPEN.

System action

Processing continues, but the command store/forward function is not active for this job.

User response

Make sure the command store/forward installation completed successfully.

ATY0115E **DYNALLOC FAILED FOR: *dsn***

Explanation

Dynamic allocation failed for the command store/forward data set, *dsn*.

System action

Processing continues, but the command store/forward function is not active for this job.

User response

Make sure the command store/forward installation completed successfully.

ATY0150I **FOLLOWING RECORD READ FROM: *ddn***

Explanation

The data in the next line of output was read from DDNAME *ddn*.

System action

Processing continues.

User response

None. This message is informational.

ATY0201E **ERROR ENCOUNTERED PROCESSING OPTIONS DATA SET**

Explanation

An error was encountered by the callable interface module, ATYCAPI0. Additional error messages should be obtained by calling ATYCAPI0 with the GCMD parameter.

System action

Return code of 12 is set and control is returned to the calling program.

User response

Obtain additional error messages using the ATYCAPI0 GMCD call. However, since this is likely a recurring error, no calls other than the GCMD should be attempted.

ATY0202E NAME/TOKEN CREATE FAILED, RC=*rc*

Explanation

An error was encountered trying to create a z/OS name token entry.

System action

Return code of 12 is set and control is returned to the calling program.

User response

This is likely a recurring error, so no other calls should be attempted.

ATY0203W INVALID OPTION SPECIFIED IN AOITYPE PARAMETER

Explanation

The data passed in parameter field AOITYPE is invalid.

System action

The invalid message is skipped, return code 4 is set, and control is returned to the calling program.

User response

Correct the invalid data in the AOITYPE field and retry the operation.

ATY0204W INVALID DATA SPECIFIED IN AOINAME PARAMETER

Explanation

The data passed in parameter field AOINAME is invalid.

System action

The invalid message is skipped, return code 4 is set, and control is returned to the calling program.

User response

Correct the invalid data in the AOINAME field and retry the operation.

ATY0205W INVALID DATA SPECIFIED IN AOIDEST PARAMETER

Explanation

The data passed in parameter field AOIDEST is invalid.

System action

The invalid message is skipped, return code 4 is set, and control is returned to the calling program.

User response

Correct the invalid data in the AOIDEST field and retry the operation.

ATY0206W NO ATY GROUP RECORDS FOUND IN OPTIONS DATA SET

Explanation

Field AOIDEST requested command routing to a IMS Administration Tool group, but there are no group records defined in the options data set.

System action

Return code 4 is set and control is returned to the calling program.

User response

Add a group record using the IMS Administration Tool user interface, or correct the parameter and retry the operation.

ATY0207W GROUP NAME = *grpname* NOT FOUND IN OPTIONS DATA SET

Explanation

grpname not defined as a IMS Administration Tool group in the options data set.

System action

Return code 4 is set and control is returned to the calling program.

User response

Add the IMS Administration Tool group *grpname* using the IMS Administration Tool user interface, or

correct the name specified for *grpname* and retry the operation.

ATY0208W NO IMS ENTRIES FOR ATY GROUP - *grpname*

Explanation

grpname is defined in the options data set, but the group does not have any IMS systems defined.

System action

Return code 4 is set and control is returned to the calling program.

User response

Add IMS entries to the IMS Administration Tool group *grpname* using the IMS Administration Tool user interface and retry the operation.

ATY0209W NO IMS RECORDS FOUND IN ATY OPTIONS DATA SET

Explanation

There are no IMS records defined in the options data set.

System action

Return code 4 is set and control is returned to the calling program.

User response

Add IMS entries using the IMS Administration Tool user interface and retry the operation.

ATY0210W IMS NAME = *ims* NOT FOUND IN OPTIONS DATA SET

Explanation

There is no IMS record for *ims* defined in the options data set.

System action

Return code 4 is set and control is returned to the calling program.

User response

Add IMS record *ims* using the IMS Administration Tool user interface, or correct the name specified for *ims* and retry the operation.

ATY0211W IMS NAME SPECIFIED IN AOINAME MORE THAN 4 BYTES

Explanation

Field AOIDEST requested command routing to a specific IMSID, but the data in field AOINAME was more than four bytes long. IMS Administration Tool limits the length of an IMS name to four bytes.

System action

Return code 4 is set and control is returned to the calling program.

User response

Correct the name in AOINAME and retry the operation.

ATY0212W NOT ALL IMS REGIONS USE SAME OPERATIONS MANAGER NAME

Explanation

Some of the IMS members of a IMS Administration Tool group are defined to use a different Operations Manager name. If a member of a IMS Administration Tool group is defined to use Operations Manager for its command routing technique, then all members must use the same Operations Manager name.

System action

Return code 4 is set and control is returned to the calling program.

User response

Correct the routing technique information in the IMS records using the IMS Administration Tool user interface and retry the operation.

ATY0213W INCOMPATIBLE COMMAND ROUTING TECHNIQUES SPECIFIED

Explanation

One or more IMS members of a IMS Administration Tool group was defined to use Operations Manager as its command routing technique, but one or more IMS members were defined to use a command routing technique other than Operations Manager. If Operations Manager is used by an IMS for its command routing technique, all IMS members of the IMS Administration Tool group must use the same Operations Manager.

System action

Return code 4 is set and control is returned to the calling program.

User response

Correct the routing technique information in the IMS records using the IMS Administration Tool user interface and retry the operation.

ATY0214W COMMAND REJECTED, COMMAND IS RESTRICTED

Explanation

The command passed in field AOIDATA is not allowed from the callable API.

System action

Return code 4 is set and control is returned to the calling program.

User response

Do not attempt to issue restricted commands.

ATY0215W INVALID DATA IN COMMAND, OR UNKNOWN IMS SPECIFIED

Explanation

IMS Administration Tool was not able to determine the content of the AOIDATA field.

System action

Return code 4 is set and control is returned to the calling program.

User response

Review the data that was passed to the callable API. If the data is valid, contact IBM Software Support.

ATY0216W COMMAND FAILED EDITING

Explanation

A bad return code was received from module ATYEDIT0. ATYEDIT0 should have returned a descriptive message indicating the nature of the error.

System action

Return code 4 is set and control is returned to the calling program.

User response

Review the message returned from ATYEDIT0, correct the problem, and retry the operation.

ATY0217W ERROR ENCOUNTERED IN COMMAND WILDCARD PROCESSING

Explanation

An internal error occurred when processing a command that contains a wildcard character.

System action

Skips the command and continues from the next command.

User response

If any other error messages are issued before this message, follow the user response for those messages. If no error messages are issued before this message, contact IBM Software Support.

ATY0218W BAD RETURN CODE FROM COMMAND DRIVER

Explanation

A bad return code was received from module ATYEXEC0. ATYEXEC0 should have returned a descriptive message indicating the nature of the error.

System action

Return code 4 is set and control is returned to the calling program.

User response

Review the message returned from ATYEXEC0, correct the problem, and retry the operation.

ATY0219E INQY CALL ERROR, AIB RC=*rc* RSN=*rsn*

Explanation

A non-zero return code was received when making an IMS AIB call.

System action

Return code 12 is set and control is returned to the calling program.

User response

Find the AIB return code and reason codes in *IMS Messages and Codes*, fix the problem identified by the codes, and retry the operation.

ATY0220E INPUT COMMAND LONGER THAN 252 BYTES

Explanation

An application program called the IMS Administration Tool AOI with an input command (AOIDATA) longer than 252 bytes. IMS Administration Tool requires the command be 252 bytes, or less, with the last four bytes of AOIDATA containing spaces.

System action

A return code 12 is returned to the calling program, and the command is ignored.

User response

Correct the command, and run the job again.

ATY0301I COMMAND DISALLOWED BY IMS SECURITY

Explanation

IMS determined the user ID attempting this command is not authorized.

System action

Command is bypassed.

User response

Verify that the user ID attempting this command has proper authorization. If the user should be able to execute this command, correct the security definition, and retry the operation.

ATY0302E DBRC MODULE DSPURX00 NOT FOUND, BYPASSING DBRC PROCESSING

Explanation

DBRC has been requested for either DB verification, or to set ACCESS, but the DBRC load module is not found.

System action

The action taken is determined by the DRBC= *option*.

User response

If DBRC usage is required, add IMS SDFSRESL to the STEPLIB. If DBRC usage is not required, set options DBRC=NODBRC.

ATY0306I NO MODBLKS DDNAME, DRD ASSUMED FOR *imsid*

Explanation

IMS Administration Tool assumes that dynamic resource definition (DRD) is used in the indicated IMS.

System action

Processing continues.

User response

None. This message is informational.

ATY0308W END OF TABLE ENCOUNTERED BUILDING DBRC DB TABLE

Explanation

Option DBACCESS=DBRC was requested, but more databases than expected were found when processing the output of a LIST.DB command. The remaining databases will not be added to the DBRC table.

System action

The job step continues.

User response

The maximum size of the table might need to be increased. Contact IBM Software Support for information.

ATY0317E MODBLKS READ ROUTINE FAILED

Explanation

Option DBACCESS=GEN was requested, but an error was encountered attempting to read the MODBLKS data set.

System action

The job will terminate based upon the setting for GENERAL errors. If GENERAL=SETRC, the job will terminate using the value set in SETRC. Otherwise, the job terminates using the user-defined abend code.

User response

Using the IMS Administration Tool user interface, ensure the IMS System Information in the IMS record is defined correctly.

ATY0329I COMMAND EXECUTING ON: *ims*

Explanation

The following command will execute on the displayed IMS (*ims*).

System action

The job continues processing.

User response

N/A

ATY0330E ERROR IN ONLINE CHANGE INITIALIZATION, FUNCTION TERMINATING

Explanation

An unexpected error occurred while trying to save pre-online change information for all IMS Administration Tool group members.

System action

Online change command processing is terminated.

User response

Correct the problem preventing online change from occurring and resubmit the command.

ATY0331E AN ERROR HAS BEEN ENCOUNTERED, ONLINE CHANGE TERMINATING

Explanation

An unexpected error occurred while trying to issue /MODIFY PREPARE commands to all IMS Administration Tool group members.

System action

Both messages ATY0331E and ATY0336E are displayed and the online change command processing terminates abnormally.

User response

Correct the problem preventing the online change command from occurring and resubmit the command.

ATY0332E AN ERROR HAS BEEN ENCOUNTERED, ONLINE CHANGE TERMINATING

Explanation

An unexpected error occurred while checking for NO WORK PENDING on all IMS Administration Tool group member systems.

System action

Both messages ATY0332E and ATY0337E are displayed and online change command processing terminates abnormally.

User response

Correct the problem preventing the online change from occurring and resubmit the command.

ATY0334I MODIFY ABORT PROCESSING INITIATED

Explanation

An unexpected error occurred during the online change process.

System action

Online change command processing is terminated and /MODIFY ABORT commands will be issued to all IMS Administration Tool group members.

User response

Correct the problem preventing the online change from occurring and resubmit the command.

ATY0335E ONLINE CHANGE FAILED - OPERATOR INTERVENTION MAY BE REQUIRED

Explanation

An unexpected error occurred while trying to issue / MODIFY ABORT commands to all IMS Administration Tool group member systems.

System action

Online change processing terminates abnormally.

User response

Operator intervention will be required to correct and restore all systems to pre-online change conditions.

ATY0338E **ONLINE CHANGE TERMINATED, ERROR DURING MOD COMMIT PROCESSING**

Explanation

An unexpected error occurred while trying to issue / MODIFY COMMIT commands to all IMS Administration Tool group member systems.

System action

Both messages ATY333E and ATY0338E are displayed and online change command processing terminates abnormally.

User response

Correct the problem preventing the online change from occurring and resubmit the command.

ATY0339E ***ddn*** **LIBRARY NOT SWAPPED ON** ***ims***

Explanation

The online change being attempted was not successful on the indicated system (*ims*). The library where the suffix name did not change is identified by its DDNAME (*ddn*).

System action

The online change process terminates abnormally.

User response

Correct the problem preventing the online change from occurring and resubmit the command.

ATY0340I **ONLINE CHANGE FUNCTION SUCCESSFUL**

Explanation

The online change function was successful.

System action

The system continues processing.

User response

N/A

ATY0344E **ERROR ENCOUNTERED PROCESSING "/DIS POOL" COMMAND, REGION BYPASSED**

Explanation

An unexpected error occurred while trying to process this command during Dead Letter Queue cleanup.

System action

Dead Letter Queue cleanup processing is skipped for this particular IMS region.

User response

Resubmit the command. Contact IBM Software Support if problem persists.

ATY0345E **ERROR ENCOUNTERED PROCESSING "/DIS USER" COMMAND, REGION BYPASSED**

Explanation

An unexpected error occurred while trying to process this command during Dead Letter Queue cleanup.

System action

Dead Letter Queue cleanup processing is skipped for this particular IMS region.

User response

Resubmit the command. Contact IBM Software Support if problem persists.

ATY0346E **ERROR ENCOUNTERED PROCESSING "/STO USER" COMMAND, USER BYPASSED**

Explanation

An unexpected error occurred while trying to process this command during Dead Letter Queue cleanup.

System action

Dead Letter Queue cleanup processing is skipped for this particular IMS region.

User response

Resubmit the command. Contact IBM Software Support if problem persists.

ATY0347E **ERROR ENCOUNTERED PROCESSING "/DEQ USER" COMMAND, JOB TERMINATING**

Explanation

An unexpected error occurred while trying to process this command during Dead Letter Queue cleanup.

System action

Dead Letter Queue cleanup processing is skipped for this particular IMS region.

User response

Resubmit the command. Contact IBM Software Support if problem persists.

ATY0348E ERROR ENCOUNTERED PROCESSING "/STA USER" COMMAND, JOB TERMINATING

Explanation

An unexpected error occurred while trying to process this command during Dead Letter Queue cleanup.

System action

Dead Letter Queue cleanup processing is skipped for this particular IMS region.

User response

Resubmit the command. Contact IBM Software Support if problem persists.

ATY0351E ERROR ENCOUNTERED, ACTION DETERMINED BY ERROR FLAG: *flag*

Explanation

A recurring error has been encountered and identified by a prior message. This messages states which error option (*flag*) is used to determine how the job will proceed.

System action

The action taken is determined by the setting for error option flag.

User response

Follow the User Response for the prior error message.

ATY0355W COMMAND BYPASSED DUE TO OPERATOR RESPONSE

Explanation

An operator replied to a WTOR command, causing IMS Administration Tool to skip the prior error.

System action

The system continues processing.

User response

A review may be required to determine whether the command still needs to be issued.

ATY0356W COMMAND BYPASSED DUE TO ERR488=IGNORE SPECIFICATION

Explanation

Even though a database command failed to receive a positive response, processing continues due to option ERR488=IGNORE specification.

System action

The system continues processing.

User response

Review the prior response messages and determine whether the command still needs to be issued.

ATY0357E REGION TERMINATING, MAXIMUM RETRY ATTEMPTS EXCEEDED

Explanation

The maximum number of command retries has been reached. The reason for command failure is described in a prior message.

System action

The job step terminates abnormally.

User response

Correct the condition causing the error and retry the command. Contact IBM Software Support if the error persists.

ATY0358E REGION TERMINATING, PERMANENT ERRORS ENCOUNTERED AND MAX RETRIES

Explanation

Recurring errors have been experienced and the maximum number of command retries has been reached.

System action

The action taken is determined by the setting for GENERAL errors.

User response

Correct the condition causing the error and retry the command. Contact IBM Software Support is the error persists.

ATY0359I COMMAND BEING ATTEMPTED AGAIN DUE TO OPERATOR RESPONSE

Explanation

An operator reply to a WTOR specified that command retry should be attempted.

System action

The job step resumes processing after the reply to the WTOR.

User response

No further action is required.

ATY0361E DATAGRP ERROR, JOB TERMINATING, ERR488=ABEND SPECIFIED

Explanation

An error was encountered when processing an IMS command with the DATAGROUP keyword. The reason for the error should be identified in a prior message.

System action

The action taken is determined by the setting for ERR488 errors.

User response

Correct the problem described in the prior message. Then resubmit the command.

ATY0362E DATAGRP ERROR, JOB TERMINATING, ERR488=IGNORE NOT SPECIFIED

Explanation

An error was encountered when processing an IMS command with the DATAGROUP keyword. The reason for the error should be identified in a prior message.

System action

The action taken is determined by the setting for ERR488 errors.

User response

Correct the problem described in the prior message. Then resubmit the command.

ATY0371E ERROR ATTEMPTING DBRC VALIDATION, VALIDATION BYPASSED

Explanation

An error described by a prior message was encountered during DBRC validation.

System action

DBRC validation is not performed and the job will proceed as determined by the prior error condition.

User response

Follow User Response described in prior error message.

ATY0372E DB OPEN FOR SSID= *ssid* ACC= *access* DBD= *database*

Explanation

An IMS /DBD or /DBR command was issued and DBRC validation was requested, but one or more databases are registered in the RECON as being open with UPDATE intent.

- SSID= shows the subsystem that is using the database
- ACC= shows the processing intent
- DBD= shows the database

System action

The action taken is determined by the setting for DBRC errors.

User response

Review prior messages and determine if the command needs to be reissued.

ATY0373E **DB OPEN FOR SSID= *ssid* ACC= *access* DBD= *database* AREA= *area***

Explanation

An IMS /DBD or /DBR command was issued and DBRC validation was requested, but one or more areas are registered in the RECON as being open with UPDATE intent.

- SSID= shows the subsystem that is using AREA
- ACC= shows the processing intent
- DBD= shows the database
- AREA= shows the AREA name

System action

The action taken is determined by the setting for DBRC errors.

User response

Review prior messages and determine if the command needs to be reissued.

ATY0374I **NO DATABASES OPEN WITH UPDATE INTENT**

Explanation

DBRC shows that all database commands executed successfully.

System action

The job step continues processing.

User response

N/A

ATY0375I **DBRC VALIDATION SUCCESSFUL**

Explanation

DBRC shows that all database commands executed successfully.

System action

The job step continues processing.

User response

N/A

ATY0376E **INVALID HELD AUTH STATE=X"*acc*" FOR DBD=*dbd* AREA=*area***

Explanation

DBRC shows that a database for the indicated DBD/AREA did not complete as expected.

System action

The action taken is determined by the setting for DBRC errors.

User response

Issue IMS command /RML DRBC='DB DBD(*dbd*) DBDS' to determine which job has the database open.

ATY0377W **COMMAND FAILED ON ALL SYSTEMS, STORE/FORWARD BYPASSED**

Explanation

The prior command failed on all systems and is therefore not saved in the store/forward data set. In order for a command to be eligible for command store/forward processing, it must be successfully processed on at least one system.

System action

Processing continues, but the prior command is not saved in the store/forward data set.

User response

Determine whether the failed command needs to be manually entered for all failed systems.

ATY0378I **FOLLOWING COMMAND SAVED IN STORE/FORWARD FOR IMS: *ims***

Explanation

The following command encountered routing errors on IMS (*ims*) and is saved in the store/forward data set for subsequent processing.

System action

The failed command is written to the store/forward data set and processing continues.

User response

None. This message is informational.

ATY0381I **PRE-SCAN STARTED ON IMS: *ims***

Explanation

Database pre-scan processing has started for IMS (*ims*).

System action

The job step continues processing.

User response

None. This message is informational.

ATY0382I PRE-SCAN ENDED ON IMS: *ims*

Explanation

Database pre-scan processing has completed for IMS (*ims*).

System action

The job step continues processing.

User response

None. This message is informational.

ATY0383I ERROR ENCOUNTERED, ONLINE CHANGE REVERSAL BEING ATTEMPTED

Explanation

An error has been encountered during /ATYMOD processing after at least one system had completed the online change and option MODREVERSE=Y is in effect.

System action

/MODIFY ABORT commands are issued to all systems where the online change has not completed, and IMS Administration Tool reverses the online change for any system where the online change was successful.

User response

Determine the reason for the online change failure, correct it, and resubmit the command.

ATY0389I SYMDEST=*symdest* / PARTNER=*partner*

Explanation

This is an information message that accompanies one of many different error messages. The message identifies the routing information coded on the IMS record of the options data set.

System action

N/A

User response

Correct the problem identified by the accompanying message and, if required, run the job again.

ATY0390I STATUS CHECKING BYPASSED FOR LOCAL ICMD

Explanation

A database command was issued using the ICMD/RCMD AOI in the local IMS. Because the local BMP cannot perform the simulated DFS0488I status checking, ATY/IMS assumes that the command processed successfully.

System action

Processing continues.

User response

If the simulated DFS0488I status checking is required, perform one of the following tasks:

- Run the ATY/IMS job as an IMS DL/I job.
- Run the ATY/IMS job as a standard z/OS batch job.

ATY0398E ERROR ENCOUNTERED ON ICMD CALL, RC=*rc* REASON=*rsn*

Explanation

An unexpected error occurred while trying to issue a command using the local ICMD call. The IMS AIB return code (*rc*) and reason code (*rsn*) are displayed in the message.

System action

The job step may terminate abnormally, depending upon what options are in effect for the job.

User response

Determine the cause of the error by reviewing the AIB return and reason codes in *IMS Messages and Codes*, correct the error, and retry the command.

ATY0399E ERROR ENCOUNTERED ON RCMD CALL, RC= *rc* REASON= *rsn*

Explanation

An unexpected error occurred while trying to retrieve a command response using the local RCMD call. The

IMS AIB return code (*rc*) and reason code (*rsn*) are displayed in the message.

System action

The job step may terminate abnormally, depending upon what options are in effect for the job.

User response

Determine the cause of the error by reviewing the AIB return and reason codes in *IMS Messages and Codes*, correct the error, and retry the command.

ATY0449I **ONE OR MORE DATA BASES STILL HELD IN DBRC**

Explanation

DBRC validation has been requested, but one or more databases are still registered in the RECON and open with update intent. This message is accompanied by ATY0450A.

System action

Processing continues.

User response

N/A

ATY0450A **REPLY "C" TO CANCEL, "S" TO SKIP OR "R" TO RETRY COMMAND**

Explanation

This message accompanies one or more messages, issued previously, that describe the error encountered.

System action

Action taken depends upon the response to this message.

User response

Review the accompanying messages and reply to the WTOR accordingly.

ATY0451E **DATA BASE COMMAND UNSUCCESSFUL**

Explanation

A database command did not execute successfully. This message is accompanied by additional messages.

System action

Processing continues.

User response

Review the accompanying messages.

ATY0452I ***cmd***

Explanation

The database command (*cmd*) that did not execute successfully is displayed.

System action

Processing continues.

User response

N/A

ATY0455I ***cmd***

Explanation

The command (*cmd*) that did not execute successfully is displayed.

System action

Processing continues.

User response

N/A

ATY0457I ***jobname* - *ims* - SYMD *symdest* PARTNER *partner***

Explanation

This information message is displayed when a WTODBCMD=Y is in effect, and a command that changes the state of a database is executed. This message is accompanied by ATY0458I, which lists the actual command being executed.

System action

Processing continues.

User response

N/A

ATY0458I ***cmd***

Explanation

This message follows ATY0457I, and lists the command that changes database state.

System action

Processing continues.

User response

N/A

ATY0488I ***cmd*** **COMMAND COMPLETED** ***type dbd*** **RC=*rc***

Explanation

This is a simulated DFS0488I response. It is in response to a command that changes the state of a database or AREA. The *cmd* indicates the command that is being attempted. The type indicates whether the command is being entered for a database (DBN=) or an AREA (AREA=). The *dbd* is the name of the database or AREA. The *rc* is the return code. When *rc* is 0, the command processed as you requested. Otherwise, the return code is set to 99.

System action

Processing continues.

User response

N/A

ATY0501E **SYSPRINT MUST BE DYNAMICALLY ALLOCATED**

Explanation

DDNAME SYSPRINT is coded in the job JCL. The SYSPRINT DDNAME must be dynamically allocated for IMS Administration Tool to perform any DBRC options.

System action

If option DBRC=SETRC is specified, the job step terminates with the user-defined return code; otherwise the job terminates with the user-defined abend code.

User response

Remove the SYSPRINT DDNAME from the JCL, or do not use any IMS Administration Tool DBRC options, and run the job again.

ATY0502E **SYSIN MUST BE DYNAMICALLY ALLOCATED**

Explanation

DDNAME SYSIN is coded in the job JCL. The SYSIN DDNAME must be dynamically allocated for IMS Administration Tool to perform any DBRC options.

System action

If option DBRC=SETRC is specified, the job step terminates with the user-defined return code; otherwise the job terminates with the user-defined abend code.

User response

Remove the SYSIN DDNAME from the JCL, or do not use any IMS Administration Tool DBRC options, and run the job again.

ATY0503E ***ddn*** **DYNAMIC ALLOCATION ERROR, RC=*rc* REASON=*rsn***

Explanation

Dynamic allocation failed for DDNAME *ddn*. The return code (*rc*) and reason code (*rsn*) identify the cause of the failure.

System action

If option DBRC=SETRC is specified, the job step terminates with the user-defined return code; otherwise the job terminates with the user-defined abend code.

User response

Correct the cause of the failure and run the job again.

ATY0505E **UNABLE TO OPEN DDNAME SYSIN**

Explanation

An error was encountered attempting to open DDNAME SYSIN.

System action

If option DBRC=SETRC is specified, the job step terminates with the user-defined return code; otherwise the job terminates with the user-defined abend code.

User response

Review the z/OS log for additional messages, correct the failure condition, and run the job again.

ATY0506W NON-ZERO CODE RETURNED FROM DSPURX00, RC=*rc*

Explanation

An unexpected error was returned from DBRC module DSPURX00.

System action

The job step terminates abnormally.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATY0507E UNABLE TO OPEN DDNAME SYSPRINT

Explanation

An error was encountered attempting to open DDNAME SYSPRINT.

System action

If option DBRC=SETRC is specified, the job step terminates with the user-defined return code; otherwise the job terminates with the user-defined abend code.

User response

Review the z/OS log for additional messages, correct the failure condition, and run the job again.

ATY0701E DYNAMIC ALLOCATION FAILED, RC=*rc* REASON=*rsn*

Explanation

An error occurred during dynamic allocation. The return (*rc*) and reason (*rsn*) codes indicate the nature of the failure. The data set name will be displayed in a subsequent message.

System action

The action taken depends on the options set for this job. The job terminates with the user-defined abend code or the user-defined return code.

User response

Fix the problem that caused the dynamic allocation failure and run the job again.

ATY0702E DYNAMIC ALLOCATION FAILED, DSN=*dsn*

Explanation

Dynamic allocation failed for the data set name *dsn*. A prior message provides additional information regarding the dynamic allocation failure.

System action

The action taken depends on the options set for this job. The job terminates with the user-defined abend code or the user-defined return code.

User response

Fix the problem that caused the dynamic allocation failure and run the job again.

ATY0703E OPEN FAILED FOR DATA SET: *dsn*

Explanation

An error occurred trying to open data set named *dsn*.

System action

The action taken depends on the options set for this job. The job terminates with the user-defined abend code or the user-defined return code.

User response

Fix the problem that caused the dynamic allocation failure and run the job again.

ATY0704E *ver* IS AN UNSUPPORTED VERSION

Explanation

This is a ATY/IMS internal error.

System action

The action taken depends on the options set for this job. The job terminates with the user-defined abend code or the user-defined return code.

User response

To allow this job to run, specify DBACCESS=ASIS or DBACCESS=DBRC. Contact IBM Software Support to resolve the original error.

ATY0705E **MODBLKS READ ROUTINE NOT LINKED FOR VERSION *ver***

Explanation

This is probably an installation error.

System action

The action taken depends on the options set for this job. The job terminates with the user-defined abend code or the user-defined return code.

User response

To allow this job to run, specify DBACCESS=ASIS or DBACCESS=DBRC. Contact IBM Software Support to resolve the original error.

ATY0711E **DYNAMIC UNALLOCATION FAILED, RC=*rc* REASON=*rsn***

Explanation

An error occurred during dynamic unallocation. The return (*rc*) and reason (*rsn*) codes indicate the nature of the failure. The data set name will be displayed in a subsequent message.

System action

The action taken depends on the options set for this job. The job terminates with the user-defined abend code or the user-defined return code.

User response

Fix the problem that caused the dynamic unallocation failure and run the job again.

ATY0712E **DYNAMIC UNALLOCATION FAILED, DDNAME=*ddn***

Explanation

Dynamic unallocation failed for the data set associated with DDNAME *ddn*. A prior message provides additional information regarding the dynamic unallocation failure.

System action

The action taken depends on the options set for this job. The job terminates with the user-defined abend code or the user-defined return code.

User response

Fix the problem that caused the dynamic unallocation failure and run the job again.

ATY0801E **INTERNAL ERROR, DATA BASE TABLE OVERFLOW**

Explanation

An unexpected condition occurred. This is probably a logic error in the program.

System action

The action taken depends on the options set for this job. The job terminates with the user-defined abend code or the user-defined return code.

User response

Contact IBM Software Support.

ATY0802E ***ims* -LOAD FAILED: *dsn***

Explanation

Option DBACCESS=GEN is in effect for this job, but IMS Administration Tool was unable to load the MODBLKS members from the specified data set name (*dsn*). This problem is probably a setup error in the IMS record for the specified IMS system (*ims*).

System action

The action taken depends on the options set for this job. The job terminates with the user-defined abend code or the user-defined return code.

User response

Use the IMS Administration Tool user interface to verify that the IMS record is defined with the correct IMS System Information.

ATY1200W **INVALID COMMAND: *cmd***

Explanation

IMS Administration Tool was unable to identify the data (*cmd*) read from the input data set.

System action

The action taken is determined by the setting for GENERAL errors.

User response

If the command is not valid, correct the command and run the job again. If a valid command is being attempted, contact IBM Software Support.

ATY1201W INVALID KEYWORD LENGTH IN FOLLOWING COMMAND:

Explanation

The keyword specified on the command is longer than IMS Administration Tool allows.

System action

The action taken is determined by the setting for GENERAL errors.

User response

If the command is not valid, correct the command and run the job again. If a valid command is being attempted, contact IBM Software Support.

ATY1202W INVALID PARAMETER LENGTH IN FOLLOWING COMMAND:

Explanation

A parameter specified on the command is longer than IMS Administration Tool allows.

System action

The action taken is determined by the setting for GENERAL errors.

User response

If the command is not valid, correct the command and run the job again. If a valid command is being attempted, contact IBM Software Support.

ATY1203W /ATYMOD OR /CCFMOD CANNOT BE ROUTED TO A SPECIFIC IMSID

Explanation

The command requested /ATYMOD or /CCFMOD be routed to a specific IMS system. IMS Administration Tool does not support routing the /ATYMOD or /CCFMOD command to a specific IMS system.

System action

The action taken is determined by the setting for GENERAL errors.

User response

Correct the command and run the job again.

ATY1204E ERROR ENCOUNTERED DETERMINING DATABASE ACCESS

Explanation

The ACCESS keyword was specified but command parsing failed to find the parameter value.

System action

The action taken is determined by the setting for GENERAL errors.

User response

Correct the command and run the job again.

ATY1205E INVALID DATABASE ACCESS REQUESTED: *acc*

Explanation

An invalid parameter was specified for database access. The command parser determined that *acc* was the access specified in the command. Valid parameter values are RO, RD, UP, or EX.

System action

The action taken is determined by the setting for GENERAL errors.

User response

Correct the invalid command and run the job again.

ATY1206E NO VALID DATABASE NAMES FOUND IN COMMAND

Explanation

After command parsing completed, there were no database names in the command.

System action

The action taken is determined by the setting for GENERAL errors.

User response

Correct the non-valid command and run the job again.

ATY1207E UNABLE TO DETERMINE COMMAND TYPE

Explanation

The command parser failed to recognize the command being attempted.

System action

The action taken is determined by the setting for GENERAL errors.

User response

If the command appears correct, contact IBM Software Support. Otherwise, correct the command and run the job again.

ATY1208E TYPE 2 CMD ENTERED, BUT NOT ALL IMS SYSTEMS USE OM FOR CMD ROUTING

Explanation

A type 2 IMS command was entered, but not all of the IMS systems in the IMS Administration Tool group use Operations Manager for their command routing technique.

System action

Processing continues.

User response

Use the IMS Administration Tool user interface to change all members of the IMS Administration Tool group to use Operations Manager as the command routing technique. Alternatively, do not enter type 2 IMS commands.

ATY1209E INVALID PARAMETER SPECIFICATION ON UPDATE COMMAND

Explanation

The command parser failed to recognize the command keyword.

System action

The action taken is determined by the setting for GENERAL errors.

User response

If the command appears correct, contact IBM Software Support. Otherwise, correct the command and run the job again.

ATY1210W GLOBAL/LOCAL BOTH SUPPLIED, GLOBAL IGNORED

Explanation

Both the GLOBAL and LOCAL parameters were specified on a database command. The GLOBAL parameter will be discarded.

System action

Processing continues.

User response

Correct the command to eliminate this message.

ATY1211W ACCESS INVALID ON GLOBAL COMMAND, ACCESS IGNORED

Explanation

Both the ACCESS and GLOBAL parameter were specified on a database command. The ACCESS parameter will be discarded.

System action

Processing continues.

User response

Correct the command to eliminate this message.

ATY1212E FUNCTION INVALID OR MISSING FOR ATYMOD or CCFMOD REQUEST

Explanation

Command parsing found an invalid parameter, or there were no parameters specified.

System action

The action taken is determined by the setting for GENERAL errors.

User response

Correct the command and run the job again.

ATY1214W PREVIOUS COMMAND BYPASSED DUE TO OPERATOR ACTION

Explanation

The previous command was skipped due as a result of the reply to the WTOR.

System action

Processing continues.

User response

N/A

ATY1215W EDIT ERROR IN PRIOR COMMAND, BYPASS OPTION IN EFFECT

Explanation

The command parsing routine encountered an error on the previous command. The command is bypassed due to the setting of the GENERAL errors option.

System action

Processing continues.

User response

Determine the cause for the failure, correct the command and run the job again. Alternatively, issue the commands manually.

ATY1216E EDIT ERROR IN PRIOR COMMAND, JOB IS TERMINATING

Explanation

The command parsing routine encountered an error in the previous command. The job terminates due to the setting of the GENERAL errors option.

System action

The job terminates with a user-defined abend code or user-defined return code.

User response

Correct the error and run the job again.

ATY1218W BOTH ALL AND GLOBAL SUPPLIED, GLOBAL REMOVED

Explanation

A database command contained both the ALL and GLOBAL parameters. These parameters are mutually exclusive; both cannot be specified on the same command.

System action

The GLOBAL parameter is removed from the command and processing continues.

User response

To eliminate this error message, correct the command before running this job again.

ATY1219E NO PARAMETERS ARE ALLOWED ON THE /ATYDEADQ OR /CCFDEADQ COMMAND

Explanation

Parameters were supplied on the /ATYDEADQ or /CCFDEADQ command. No parameters are allowed on this command.

System action

The action taken is determined by the setting for GENERAL errors.

User response

Correct the command and run the job again.

ATY1220E LTERM KEYWORD SUPPLIED BUT LTERM NAME MISSING

Explanation

The ATYMOD predefined procedure was requested and the LTERM keyword was supplied, but the LTERM parameter was missing.

System action

The action taken is determined by the setting for the GENERAL errors.

User response

Remove the LTERM keyword, or supply an LTERM parameter name, and run the job again.

ATY1221E LTERM NAME MORE THAN EIGHT CHARACTERS LONG

Explanation

An invalid value was supplied for the LTERM name parameter. The LTERM name must be less than eight characters long.

System action

The action taken is determined by the setting for the GENERAL errors.

User response

Correct the invalid LTERM name parameter and run the job again.

ATY1222W DATAGRP *datagrp* NOT FOUND

Explanation

DATAGRPEXP=Y is in effect, but IMS Administration Tool could not obtain a list of database names from DBRC. This might be due to the DATAGRP not being defined or the wrong set of RECON data sets in the STEPLIB concatenation.

System action

The command is passed unchanged to IMS.

User response

Turn off DATAGRPEXP, define the DATAGRP to DBRC, or add the correct RECON data sets to the STEPLIB concatenation, and run the job again.

ATY1223E DATAGRP KEYWORD PRESENT BUT NO DATAGRP NAMES SPECIFIED

Explanation

The command parser determined a DATAGROUP command was being attempted with DATAGRPEXP=Y in effect, but the command did not specify the DATAGROUP parameter name.

System action

The command is passed unchanged to IMS.

User response

Correct the command and run the job again.

ATY1224E DATAGRP KEYWORD PRESENT BUT MORE THAN 1 DATAGRP NAME SPECIFIED

Explanation

The command parser determined a DATAGROUP command was being attempted with DATAGRPEXP=Y in effect, but the command specified more than one DATAGROUP parameter name.

System action

The command is passed unchanged to IMS.

User response

Correct the command and run the job again.

ATY1225W DATAGRP *datagrp* RECEIVED RETURN CODE = *rc* FROM DSPURX00

Explanation

The command parser determined a DATAGROUP command was being attempted with DATAGRPEXP=Y in effect, but a non-zero return code was returned from DSPURX00. Additional messages might be displayed on the z/OS Syslog.

System action

The command is passed unchanged to IMS.

User response

Correct the reason for the non-zero return code and run the job again.

ATY1226E INTERNAL ERROR, SYSPRINT DATA SET NOT OPEN

Explanation

An error occurred attempting to open DDNAME SYSPRINT. Additional messages might be displayed on the z/OS Syslog.

System action

The command is passed unchanged to IMS.

User response

Correct the reason for the open failure and run the job again.

ATY1227I FOLLOWING DATABASES FOUND FOR DATAGRP: *datagrp*

Explanation

DATAGRPEXP=Y is in effect and the following records list the databases that were defined to DATAGROUP *datagrp* in DBRC.

System action

Processing continues.

User response

N/A

ATY1228E **NO DATABASES RETURNED FOR DATAGRP: *datagrp***

Explanation

DATAGRPEXP=Y is in effect but there were no database names found in the named DATAGROUP *datagrp*.

System action

The command is passed unchanged to IMS.

User response

N/A

ATY1229W **DBRC MODULE DSPURXX0 NOT FOUND**

Explanation

DATAGRPEXP=Y is in effect but IMS Administration Tool was unable to obtain a list of database names because DBRC module DSPURX00 could not be loaded.

System action

The command is passed unchanged to IMS.

User response

Ensure DBRC module DSPURX00 is in the STEPLIB concatenation and run the job again.

ATY1230W **DATAGRP ERROR BYPASSED, ERR488=IGNORE SPECIFIED**

Explanation

An invalid DATAGROUP command was encountered and skipped due to option ERR488=IGNORE being in effect.

System action

Command is skipped and processing continues.

User response

Correct the command and run the job again.

ATY1231I **ERROR EDITING FOLLOWING COMMAND**

Explanation

IMS Administration Tool determined that the command in the following message was not valid. Additional messages that describe the nature of the error are displayed in the job output listing.

System action

Processing continues.

User response

N/A

ATY1232A **REPLY "C" TO CANCEL, "S" TO SKIP ALL FAILED COMMANDS**

Explanation

An error, described by a previous message, has been encountered. This command requires a response to inform IMS Administration Tool how to handle this error, and possibly future errors, for this job step.

System action

The action taken is dependent upon the operator response to this WTOR.

User response

Reply to the WTOR with the valid character for the required action.

ATY1233E **DATAGRP ERROR, JOB TERMINATING, ERR488=IGNORE NOT SPECIFIED**

Explanation

An error, described by a previous message, has been encountered, and the setting for ERR488 errors causes this job step to terminate.

System action

The job step terminates with a user-defined return code.

User response

Correct the error described in the previous message and run the job again.

ATY1234E **DATAGRP ERROR, JOB TERMINATING, ERR488=ABEND SPECIFIED**

Explanation

An error, described by a previous message, has been encountered, and the setting for ERR488 errors causes this job to abend.

System action

The job terminates with the user-defined abend code.

User response

Correct the error described in the previous message and run the job again.

ATY1235W DATAGRP NAME LONGER THAN 8 CHARACTERS

Explanation

The command parser determined the name of the specified DATAGROUP is more than eight characters. Eight characters is the maximum allowed for DATAGROUP names.

System action

The command is passed unchanged to IMS.

User response

Correct the DATAGROUP parameter name and run the job again.

ATY1236W PARM CONFLICT, BOTH IMS AND SCOPE(ACTIVE) SPECIFIED - IMS IGNORED

Explanation

The command parser detected conflict in the following command. The command was requested to be routed to a specific IMS and to all active Operations Manager members.

System action

The IMS routing is ignored and the command is passed to all active Operations Manager members.

User response

To eliminate this message, correct the command prior to running this job again.

ATY1237W BOTH OPEN AND NOOPEN SPECIFIED, NOOPEN DISCARDED

Explanation

Mutually exclusive OPEN and NOOPEN parameters were specified on the input command.

System action

Because the OPEN and NOOPEN parameters cannot be specified on the same command, IMS Administration Tool removed the NOOPEN parameter and continued processing.

User response

To eliminate this message in subsequent schedules of IMS Administration Tool, correct the control card by removing either the OPEN or NOOPEN parameter.

ATY2201E OPEN FAILED FOR DDNAME PROCLIB

Explanation

IMS Administration Tool Operations Manager initialization exit was unable to open DDNAME PROCLIB. Additional messages might be displayed in the z/OS log.

System action

Processing continues, but without the IMS Administration Tool Message Log.

User response

Correct the reason for the open failure and restart IMS Operations Manager.

ATY2202E ATYLOGR INITIALIZATION FAILED

Explanation

An error, described by a previous message, prevented IMS Administration Tool from completing initialization to the IMS Administration Tool Message Log.

System action

Processing continues, but without the IMS Administration Tool Message Log.

User response

Follow User Response for the previous error message.

ATY2203E PROCLIB MEMBER ATYPARMS NOT FOUND

Explanation

The member IMS Administration Tool needs for IMS Administration Tool Message Log initialization is not present in the data set referenced by DDNAME PROCLIB.

System action

Processing continues, but without the IMS Administration Tool Message Log.

User response

Create the required PROCLIB member and restart IMS Operations Manager.

ATY2204W INVALID RECORD, NO DATA IN POSITION 1-10

Explanation

A record that failed editing was read from PROCLIB member ATYPARMS.

System action

The record is ignored and processing continues.

User response

To eliminate this message, correct or remove the erroneous record before the next Operations Manager start up.

ATY2205W UNKNOWN RECORD TYPE FOUND IN ATYPARMS - *data*

Explanation

A record that contained unknown *data* was read from PROCLIB member ATYPARMS. The first few bytes of data from the erroneous record are displayed as data.

System action

The record is ignored and processing continues.

User response

To eliminate this message, correct or remove the erroneous record before the next Operations Manager start up.

ATY2206E ATYLOGR= NOT SPECIFIED

Explanation

IMS Administration Tool Operations Manager initialization exit did not find a control card ATYLOGR= in PROCLIB member ATYPARMS. The ATYLOGR= control card is not valid.

System action

Processing continues, but without the IMS Administration Tool Message Log.

User response

Add or correct the ATYLOGR= *definition* in PROCLIB member ATYPARMS and restart Operations Manager.

ATY2207E ATYLOGR NAME NOT SPECIFIED

Explanation

IMS Administration Tool Operation Manager found control card ATYLOGR= but there was no parameter name specified.

System action

Processing continues, but without the IMS Administration Tool Message Log.

User response

Add the IMS Administration Tool Message Log log stream name to the ATYLOGR= control card and restart Operations Manager.

ATY2208E ATYLOGR NAME LONGER THAN 26 BYTES

Explanation

The log stream name specified as the ATYLOGR= parameter in the PROCLIB member ATYPARMS is longer than the maximum allowed. The maximum length of a log stream name is 26 bytes.

System action

Processing continues, but without the IMS Administration Tool Message Log.

User response

Correct the IMS Administration Tool Message Log log stream name in the ATYLOGR= control card and restart Operations Manager.

ATY2209E NAME/TOKEN ROUTINE ERROR RC=*rc*

Explanation

An error was encountered attempting to create a z/OS name/token anchor. The return code is displayed as *rc*.

System action

Processing continues, but without the IMS Administration Tool Message Log.

User response

Correct the reason for the name/token creation failure and restart Operations Manager.

ATY2210E LOGSTREAM CONNECT FAILED

Explanation

The connect attempt to the IMS Administration Tool Message Log log stream failed. A prior message should indicate the reason for the failure.

System action

Processing continues, but without the IMS Administration Tool Message Log.

User response

Correct the failure described in the prior message and restart Operations Manager.

ATY2299I LOGSTREAM CONNECT SUCCESSFUL

Explanation

IMS Administration Tool message log initialization completed successfully.

System action

Processing continues.

User response

N/A

ATY3001I Return Code: *rc* Reason Code: *rsn*

Explanation

This message is presented with an accompanying message that describes the error condition. *rc* indicates the return code and *rsn* indicates the reason code.

System action

The job terminates with the indicated return code.

User response

Review the conditions that caused the error. Also look up the meanings of return and reason codes to identify the error cause, correct the error condition, and rerun the job. If the problem persists, contact IBM Software Support.

ATY3002I ABEND Code: *code* Reason Code: *rsn*

Explanation

This message is presented with an accompanying message that describes the error condition. *code* indicates the abend code, and *rsn* indicates the reason code.

System action

The job terminates with the indicated abend code.

User response

Contact IBM Software Support.

ATY3003I Dataset Name: *dsn*

Explanation

This message is presented with an accompanying message. *dsn* indicates the data set name.

System action

Processing continues.

User response

None. This message is informational.

ATY3004I DD Name: *dd*

Explanation

This message is presented with an accompanying message. *dd* indicates the DD name.

System action

Processing continues.

User response

None. This message is informational.

ATY3005I **Member: *member***

Explanation

This message is presented with an accompanying message. *member* indicates the member name.

System action

Processing continues.

User response

None. This message is informational.

ATY3009I **DMB Type: *dmb-type* DBRC Type: *dbrc-type***

Explanation

This message is presented with an accompanying message that describes the warning condition. *dmb-type* is one of PHDAM, PHIDAM, DEDB, MSDB, INDEX, or DLI. *dbrc-type* is one of DLI, DEDB, or HALDB. This message accompanies message ATY3309W.

System action

The job terminates with return code 4.

User response

Follow the user response for message ATY3309W.

ATY3010I **DBRC *type db-name* missing from DMB**

Explanation

This message is presented with an accompanying message that describes the warning condition. *type* is DSG or AREA. *db-name* indicates the missing database. This message accompanies message ATY3309W.

System action

The job terminates with return code 4.

User response

Follow the user response for message ATY3309W.

ATY3013I **Database : *dbdname***

Explanation

This message is presented with an accompanying message. *dbdname* indicates the DBD name.

System action

Processing continues.

User response

None. This message is informational.

ATY3014I ***text1 text2 text3***

Explanation

This message is presented with an accompanying message to provide further information.

System action

Processing continues.

User response

None. This message is informational.

ATY3014E ***text1 text2 text3***

Explanation

This message consists of multiple messages to provide information about the abend.

System action

The job terminates abnormally.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATY3015I **AREA : *area-name***

Explanation

This message is presented with an accompanying message that describes the error condition. *area-name* indicates the area.

System action

See the system action for the accompanying message.

User response

Follow the user response for the accompanying message.

ATY3016I **Partition : *part-name***

Explanation

This message is presented with an accompanying message that describes the error condition. *part-name* indicates the HALDB partition.

System action

See the system action for the accompanying message.

User response

Follow the user response for the accompanying message.

ATY3017I DSG : *dsg-name*

Explanation

This message is presented with an accompanying message that describes the error condition. *dsg-name* indicates the data set group.

System action

See the system action for the accompanying message.

User response

Follow the user response for the accompanying message.

ATY3019I IMS PROCLIB DSN : *dsname*

Explanation

This message is presented with an accompanying message. *dsname* indicates the IMS PROCLIB data set name.

System action

Processing continues.

User response

None. This message is informational.

ATY3021I Group : *grp-name*

Explanation

This message is presented with an accompanying message that describes the error condition. *grp-name* indicates the DBRC group.

System action

See the system action for the accompanying message.

User response

Follow the user response for the accompanying message.

ATY3022I ACB AREA count: *a-count* DBRC Area count: *d-count*

Explanation

This message is presented with message ATY3309W, which describes the error condition. *a-count* indicates area count in ACB, and *d-count* indicates area count in DBRC.

System action

See the system action for message ATY3309W.

User response

Follow the user response for message ATY3309W.

ATY3100E z/OS LOAD failed for *module-type module-name*

Explanation

An error occurred in the internal load instruction. *module-type* is one of PROGRAM, MDA member, or no value. *module-name* indicates the module that could not be loaded.

System action

The job terminates abnormally.

User response

This is an internal error. Contact IBM Software Support.

ATY3101E *func* call failed for module *module-name*

Explanation

An error occurred during a service call for the indicated module. *func* is one of ENQ, DEQ, Initialization, Ready, Stop, SWAREQ, or ISGENQ.

System action

The job terminates abnormally.

User response

This is an internal error. Contact IBM Software Support.

ATY3102E ***buff-type*** **Eyecatcher is invalid (x'*code*')**

Explanation

IMS Administration Tool could not identify the buffer. This is an internal error. *buff-type* is either DFSPDBSC or SSCD. *code* is the hexadecimal code of the invalid buffer name area.

System action

The job terminates abnormally.

User response

This is an internal error. Contact IBM Software Support.

ATY3103E **Name/Token *func* call failed in *module-name* (*entry-name*)**

Explanation

An error occurred in the indicated module during a function call. *func* is one of GET, DELETE, or Create.

System action

The job terminates abnormally.

User response

This is an internal error. Contact IBM Software Support.

ATY3104E **CPOOL *function* call failed**

Explanation

An error occurred while getting a storage area for the indicated function call. *function* is either BUILD or GET.

System action

The job terminates abnormally. Other messages are issued to provide more information about the error.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATY3105E **The IMS Release of the IMS SSID requested is not supported**

Explanation

The release level of the IMS system identified by the requested IMS SSID is not supported by IMS Administration Tool.

System action

The job terminates abnormally.

User response

Consult your System Administrator.

ATY3107E **Dynamic Allocation (SVC99) *type* call Failed in program *program***

Explanation

An error occurred in the internal dynamic allocation call. *type* is one of ALLOCATE, CONCATENATE, DE-CONCATENATE, or FREE. *program* indicates the program in which the error occurred.

System action

The job terminates abnormally.

User response

This is an internal error. Contact IBM Software Support.

ATY3108E **BLDL (SVC 18) call for PROCLIB member *memname* failed in program *pgmname***

Explanation

An error occurred trying to issue the BLDL macro to obtain PROCLIB member entries. *memname* is the member name. *pgmname* is the name of the IMS Administration Tool program in which this error occurred. Message ATY3001I, which follows this message, shows the return code and the reason code.

System action

The job terminates abnormally.

User response

Refer to *z/OS DFSMS Macro Instructions for Data Sets* for the BLDL return and reason codes. If the problem persists, contact IBM Software Support.

ATY3109E ***member-type name*** **is in an unknown format**

Explanation

An error is detected in the record format. *member-type* is one of MODSTAT, MODSTAT2, OLCSTAT, or MDA member. *name* is one of Record, RECON1, RECON2, RECON3, IMSACB, IMSACBA, IMSACBB, or DFSHDBSC.

System action

The job terminates abnormally.

User response

This is an internal error. Contact IBM Software Support.

ATY3110E **DEVTYPE (SVC 24) call for DD name *dd-name* failed in program *pgmname***

Explanation

An error occurred trying to issue the DEVTYPE macro to check the indicated DD statement that is specified in JCL. *dd-name* is the DD statement. *pgmname* is the IMS Administration Tool program in which this error occurred. Message ATY3001I, which follows this message, shows the return code and the reason code.

System action

The job terminates abnormally.

User response

Refer to *z/OS DFSMSdfp Advanced Services* for the return and reason codes from the DEVTYPE macro. If the problem persists, contact IBM Software Support.

ATY3111E **DD required for program *pgm-func* processing is missing**

Explanation

A required DD statement is missing in the JCL. *pgm-func* indicates the program or the function that requires the missing DD statement.

System action

The job terminates abnormally.

User response

Supply the missing DD statement and rerun the job. If the problem persists, contact IBM Software Support.

ATY3112E **Unauthorized dataset found in *rgn-name* Region STEPLIB concatenation**

Explanation

An unauthorized data set is found in the STEPLIB concatenation of the indicated region. *rgn-name* is one of CQS, CTL, DBRC, DLIS, IMS Control, IRLM, JBP, OM, RM, or SCI. Message ATY3003I, which follows this message, shows the data set name.

System action

The job terminates abnormally.

User response

Review the attribute of the indicated data set that caused the error. Correct the error condition and rerun the job. If the problem persists, contact IBM Software Support.

ATY3113E ***dd-name* Started Task name *mbr-name* was not found in IMS PROCLIB DSN: *dsn***

Explanation

A started task member was not found in the IMS PROCLIB data set. *dd-name* is the DD name. *mbr-name* is the started task that was not found. *dsn* is the data set name of the IMS PROCLIB.

System action

The job terminates abnormally.

User response

Ensure that the started task member exists in the IMS PROCLIB data set and rerun the job. If the problem persists, contact IBM Software Support.

ATY3114E **Module: DFSVC000 not found in STEPLIB concatenation**

Explanation

The DFSVC000 module could not be found in the STEPLIB data set concatenation of the IMS control region.

System action

The job terminates abnormally.

User response

Ensure that the DFSVC000 module exists in the STEPLIB data set concatenation of the IMS control region and rerun the job. If the problem persists, contact IBM Software Support.

ATY3115E **No STEPLIB data sets found in member *mbr-name* in IMS PROCLIB DSN: *dsn***

Explanation

The indicated member, which exists in the IMS PROCLIB data set, does not have a STEPLIB data set. *dsn* is the data set name of the IMS PROCLIB.

System action

The job terminates abnormally.

User response

Ensure that the indicated member contains a STEPLIB data set and rerun the job. If the problem persists, contact IBM Software Support.

ATY3116E **Unable to open INCLUDE member *memname* in DSN: *dsname***

Explanation

An error occurred while trying to open the indicated member. *memname* is the member name, and *dsname* is the data set name.

System action

The job terminates abnormally.

User response

Refer to preceding error messages and identify the cause of the error. If the error persists, contact IBM Software Support.

ATY3117E **Member *memname* was not found in either IMS PROCLIB or JES PROCLIB**

Explanation

The indicated member was not found in the IMS PROCLIB data set or in the JES PROCLIB data set.

System action

The job terminates abnormally.

User response

Store the member in the IMS PROCLIB or the JES PROCLIB data set.

ATY3118E **Unable to locate *parm* in member *mbr-name* in DSN: *dsn***

Explanation

An error occurred trying to locate the parameter value in the indicated member. *parm* is one of RGSUF, Subsystem Type, or DBRC Started Task Name. *dsn* is the data set that contains this member.

System action

The job terminates abnormally.

User response

Ensure that the indicated parameter exists in the member and rerun the job. If the problem persists, contact IBM Software Support.

ATY3119E **ATTACH of program *program* from ATY@PRSB failed. Return Code: *rc***

Explanation

An error occurred in the ATTACH process. The compiler program (*program*), which is required for the copybook import process, could not be attached. *rc* indicates the return code. *program* is either IGYCRCTL (for COBOL compiler) or IBMZPLI (for PL/I compiler).

System action

The job terminates abnormally.

User response

This is an internal error. Contact IBM Software Support.

ATY3120E ***task-name* is required when *state***

Explanation

A required task was not found. *task-name* is the required task, and *state* is the specified parameter.

Possible combinations of *task-name* and *state* are as follows:

- IRLM Started Task Name and IRLM=Y
- DLISAS Started Task Name and LSO=S

System action

The job terminates abnormally.

User response

Ensure that either the IRLM Started Task Name or the DLISAS Started Task Name is supplied depending on the *state*. Correct the error condition and rerun the job. If the problem persists, contact IBM Software Support.

ATY3122I ***dsn*** **allocated to** ***dd***

Explanation

The indicated data set (*dsn*) is allocated to the indicated DD (*dd*).

System action

Processing continues.

User response

None. This message is informational.

ATY3123E **EXPORT data sets from both the Catalog and ACBLIB found**

Explanation

Import processing failed because the export data set was found in both the IMS catalog and the ACB library. Message ATY3124E follows this message.

System action

The job terminates abnormally.

User response

Change the prefix of the export data set so that the export data set is found only in the IMS catalog or in the ACB library. Retry the import process.

ATY3124E **Can only IMPORT objects from one source**

Explanation

Objects to import must be found only in one of the sources – either in the IMS catalog or in the ACB library. This message accompanies message ATY3123E.

System action

The job terminates abnormally.

User response

Change the prefix of the export data set so that the export data set is found only in the IMS catalog or in the ACB library. Retry the import process.

ATY3125E **No data sets to IMPORT** ***objects*** **from located**

Explanation

Import processing failed because IMS Administration Tool could not find the import data set for the indicated objects. *objects* indicate either DBDs or PSBs.

System action

The job terminates abnormally.

User response

Ensure that the name of the import data set, which contains the objects to import, is specified correctly.

The import data set name consists of the export data set prefix followed by one of the following strings:

For DBDs:

- CDBDACT
- CDBDPND
- ADBDSTG
- ADBDINA
- ADBDACT

For PSBs:

- CPSBACT
- CPSBPND
- APSBSTG
- APSBINA
- APSBACT

ATY3126E **Invalid data at column** ***col*** **of IMS Task User Parms: Quote only valid around parm value**

Explanation

A quotation mark is found at the indicated column position of the IMS task user parameter. Quotation marks can only be used to surround a parameter.

System action

The job terminates abnormally.

User response

Review the IMS task user parameter, correct the error condition, and rerun the job. If the problem persists, contact IBM Software Support.

ATY3127E **Invalid value for *item*: *text***

Explanation

An error occurred while parsing the parameter or the DD in the IMS procedure. *item* indicates the parameter or the DD. *text* shows detailed information.

System action

The job terminates abnormally.

User response

Review the IMS procedure, correct the error condition, and rerun the job. If the problem persists, contact IBM Software Support.

ATY3128E **Required DD or variable *variable* for *process* is missing**

Explanation

process failed because a required DD statement or variable was not found. *variable* is either CBLLIB, PLILIB, or IMSMAC. *process* is copybook processing, DBDGEN, or PSBGEN.

System action

The job terminates abnormally.

User response

If *variable* is CBLLIB or PLILIB, ensure that the compiler library that corresponds to the language of the copybook is registered to the CBLLIB or the PLILIB variable, or supplied with a DD statement.

If *variable* is IMSMAC, ensure that the IMS Macro library is registered to the IMSMAC variable, or supplied with a DD statement.

ATY3129E **Module *module-name*: Member *db-name* is a duplicate in the *func* hash table**

Explanation

The database name appears more than once in the internal table. *module-name* indicates the module that issued this message. *db-name* indicates the database that appears more than once. *func* is DDIR or PDIR.

System action

The job terminates abnormally.

User response

This is an internal error. Contact IBM Software Support.

ATY3130E **Data set was not found: *dsn***

Explanation

This message is presented with an accompanying message, ATY3131E, which provides information about the error. *dsn* indicates the missing data set.

System action

The job terminates abnormally.

User response

See the explanation of message ATY3131E and correct the error.

ATY3131E **The data set name is specified in the IMS *type* JCL. Member: *member-name***

Explanation

This message accompanies message ATY3130E. IMS *type* JCL is one of the following JCL:

- IMS control region JCL
- IMS DBRC region JCL
- IMS JBP region JCL
- IMS DBDGEN JCL
- IMS PSBGEN JCL

member-name is the JCL member that contains a reference to the missing data set.

System action

The job terminates abnormally.

User response

Ensure that the data set exists. Complete either of the following steps and try the failed operation again:

- Specify the name of the existing data set in the indicated JCL member. If a symbol (&) is used, replace the symbol with the actual data set name.
- If the data set name contains a symbol (&), update the IMS subsystem information so that symbols are regarded as variables:

1. Go to **Setup and Administration** > **Register an IMS Subsystem**.
2. For Control Region User Parms, specify symbol=variable.

If the problem persists, contact IBM Software Support.

ATY3200E **DBRC-API *service-name* service failed. IMSID *imsid***

Explanation

An error occurred during DBRC-API service call. *service-name* is one of the following services:

- CHANGE.DBDS RECOV
- DSPAPI(QUERY CHANGE ACCUM)
- DSPAPI(QUERY DBD)
- DSPAPI(QUERY LOG)
- DSPAPI(QUERY OLDS)
- DSPAPI(QUERY RECON)
- DSPAPI(QUERY SUBSYS)
- DSPAPI(RELBUF)
- DSPAPI(STARTDBRC)
- DSPAPI(STOPDBRC)
- QUERY CAGRP
- QUERY DBDSGRP
- QUERY DBGRP
- QUERY RECOVGRP

imsid is the IMS system.

System action

The job terminates abnormally.

User response

Contact IBM Software Support.

ATY3201E ***func* Request timed-out in program *module-name***

Explanation

A time out occurred during a DBRC function request. *func* is the name of the DBRC function in DBRC API parameters. *module-name* indicates the module that issued this message.

System action

The job terminates abnormally.

User response

Contact IBM Software Support.

ATY3300W **No OLDS records found for SSID/RSENAME *imsid* in RECON datasets**

Explanation

Found no OLDS record when obtaining OLDS information for IMS SSID/RSENAME. *imsid* is the IMS system.

System action

The job terminates with return code 4.

User response

Ensure that the OLDS record exists. If the problem persists, contact IBM Software Support.

ATY3307E **The format of the RDDSN dataset *dsn* has changed while processing.**

Explanation

The format of the indicated RDDSN data set is invalid.

System action

The job terminates abnormally.

User response

Contact IBM Software Support.

ATY3308E **Module *module-name* was not found in the data set concatenation for DD *dd-name* when processing IMS SSID *imsid***

Explanation

An error occurred while trying to find the DBD names defined in the RDDSN data sets. The indicated module was not found in the DD concatenation.

System action

The job terminates abnormally.

User response

Contact IBM Software Support.

ATY3309W **Inconsistencies found between the DMB and DBRC definitions for database *dbname***

Explanation

Found inconsistencies between the DMB definitions and the DBRC definitions. Message ATY3009I, which follows this message, shows the DMB type and DBRC type.

System action

The job terminates with return code 4.

User response

Review the conditions that caused the warning, correct the warning condition, and rerun the job. If the problem persists, contact IBM Software Support.

ATY3313E **QSAM *function* call failed for DD *dd* in PROGRAM *program***

Explanation

An error occurred in the indicated function call for a QSAM data set. *function* is one of PUT, OPEN, or CLOSE. *dd* indicates the DD for the data set. *program* indicates the program in which the error occurred.

System action

The job terminates abnormally.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATY3314W **There are no *group-type* groups defined in the RECONS used by SSID *imsid***

Explanation

No members found in the indicated DBRC group type. *group-type* is one of CAGRP, DBGRP, DBDSGRP, RECOVGRP, or DBRC. *imsid* is the IMS system.

System action

The job terminates with return code 4.

User response

Review the conditions that caused the warning, correct the warning condition, and rerun the job. If the problem persists, contact IBM Software Support.

ATY3322W ***process* failed, RC=*rc* RSN=*rsn***

Explanation

An error occurred during the indicated process. *process* is DBRC Pre-load. *rc* indicates the return code, and *rsn* indicates the reason code.

System action

The job terminates with return code 4.

User response

Review the conditions that caused the warning, correct the warning condition, and rerun the job. If the problem persists, contact IBM Software Support.

ATY3322E ***process* failed, RC=*rc* RSN=*rsn***

Explanation

An error occurred during the indicated process. *process* is one of Catalog OPEN, Catalog CLOSE, Catalog LIST, Catalog GET, or IMSINFO. *rc* indicates the return code, and *rsn* indicates the reason code.

System action

The job terminates abnormally.

User response

Contact IBM Software Support.

ATY3327E ***text1 text2 text3 text4***

Explanation

This message is composed of several texts to describe the error condition.

System action

The job terminates abnormally.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATY3330E ***keyword* is an unsupported FUNCTION**

Explanation

The import objects function, the IMS resource change function, or the DBD resource change function failed because the indicated keyword, which is specified for the FUNCTION statement of the ATYMSGI DD statement, is invalid.

System action

The job terminates abnormally.

User response

Correct the keyword for the FUNCTION statement. The FUNCTION statement keyword can be JCLGEN, IMPORT, or UPDATE.

ATY3331E **Missing required parameter *parameter* for FUNCTION=*function***

Explanation

The import objects function, the IMS resource change function, or the DBD resource change function failed because the indicated parameter, which the function requires, is missing. *function* shows the value that is specified for the FUNCTION statement of the ATYMSGI DD statement, and it is one of JCLGEN, IMPORT, or UPDATE.

System action

The job terminates abnormally.

User response

Add the missing parameter.

If the cause of the error cannot be determined, contact IBM Software Support.

ATY3332E **Invalid value (*value*) specified for parameter=*parameter***

Explanation

The import objects function, the IMS resource change function, or the DBD resource change function failed because the value specified for the indicated parameter is invalid. This invalid value is present on the ATYMSGI DD statement.

System action

The job terminates abnormally.

User response

Correct the value specified for the indicated parameter. The value must be either Y or N.

If the cause of the error cannot be determined, contact IBM Software Support.

ATY3333E **CATALOG=Y specified but Catalog not enabled on target IMS**

Explanation

Although the CATALOG=Y parameter is present in the ATYMSGI DD statement, the IMS catalog is not enabled in the target IMS system.

System action

The job terminates abnormally.

User response

Ensure that the target IMS system, in which the IMS catalog will be populated, is specified correctly.

ATY3335E **ACB update required to populate IMS Catalog**

Explanation

An error occurred while checking parameters required for IMS catalog population. To populate the IMS catalog, IMS Administration Tool updates ACBs, but the parameter that is required to process ACBGEN is not found in the ATYMSGI DD statement.

System action

The job terminates abnormally.

User response

Review the parameters in the ATYMSGI DD statement.

ATY3336W **Some objects bypassed because they already exist**

Explanation

This message is printed when the Overwrite Existing Objects option is set to No and one or more objects with same names already exist in the ACB library.

System action

Processing continues. Objects with same names are not processed (imported or updated). Prints message ATY3338W to indicate which objects are not processed.

User response

None. This message is informational.

ATY3337E **All members to import already exist and OVERWRITE=N**

Explanation

This message is printed when the Overwrite Existing Objects option is set to No and IMS Administration Tool identified no objects that must be processed.

System action

The job terminates abnormally.

User response

Ensure that the correct objects are selected. Also ensure that the Overwrite Existing Objects option is set correctly.

ATY3338E ***object member*** **already exists in** ***library*** **and will not be replaced**

Explanation

This message is printed during the import process when the Overwrite Existing Objects option is set to No and the indicated member already exists in the indicated library. The import process for this member is skipped. *object* is either DBD or PSB.

System action

Skips the import process for the indicated member and continues processing. If there are no more objects to import, the job terminates abnormally and issues message ATY3337E.

User response

None.

ATY3339I **No objects currently exist in** ***status source-lib*** **to backup**

Explanation

Found no objects to export in the indicated library. *status* is one of PENDING, ACTIVE, INACTIVE, or STAGING. *source-lib* is ACBLIB or IMSCAT.

System action

Processing continues.

User response

None. This message is informational.

ATY3409E **Requested SSID/GROUP (*name*) not registered in the repository**

Explanation

The indicated SSID/GROUP is not registered to the IMS Tools Knowledge Base repository. *name* is SSID/GROUP name.

System action

The job terminates abnormally.

User response

Ensure that the SSID/GROUP name is registered to the IMS Tools Knowledge Base repository. If the problem persists, contact IBM Software Support.

ATY3431W **CAGROUP** ***group-name*** **not found in RECON for DB** ***dbname*** **DDN** ***dd-name***

Explanation

The indicated CAGROUP is not found in the RECON data set. *dbname* is the database. *dd-name* is the DD.

System action

The job terminates with return code 4.

User response

Review the conditions that caused the warning, correct the warning condition, and rerun the job. If the problem persists, contact IBM Software Support.

ATY3432E **DDN=*dd-name* already allocated to DSN=*dsn***

Explanation

The indicated DDN (*dd-name*), which is for a RECON data set, is already allocated to the indicated RECON data set (*dsn*). Message ATY3433E, which follows this message, shows the requested data set name.

System action

The job terminates abnormally.

User response

Contact IBM Software Support.

ATY3433E **Requested DSN=*dsn***

Explanation

This message accompanies message ATY3432E. See the explanation for messages ATY3432E.

System action

The job terminates abnormally.

User response

Follow the user response for message ATY3432E.

ATY3462I ***timestamp*** **DEDB** ***dedb*** **NOT VALID FOR /DBD COMMAND**

Explanation

An attempt was made to issue a /DBD command for a Fast Path DEDB (*dedb*). This is not a valid command.

System action

The DEDB is skipped.

User response

Correct the command and run the job again.

ATY3463I ***timestamp*** **SPECIFIC MSDB** ***msdb*** **NOT VALID FOR /DBD COMMAND**

Explanation

An attempt was made to issue a /DBD command for a Fast Path MSDB (*msdb*). This is not a valid command.

System action

The MSDB is skipped.

User response

Correct the command and run the job again.

ATY3464I ***timestamp*** **MSDB** ***msdb*** **NOT VALID FOR /DBR COMMAND**

Explanation

An attempt was made to issue a /DBR command for a Fast Path MSDB (*msdb*). This is not a valid command.

System action

The MSDB is skipped.

User response

Correct the command and run the job again.

ATY3466I ***timestamp*** **DDIR FOR DATABASE NOT FOUND or** ***timestamp*** **DMAC FOR AREA NOT FOUND**

Explanation

The database (*dbd*) or AREA (*area*) was not found in the IMS control blocks.

System action

Processing continues.

User response

N/A

ATY3600E **Unable to read** ***mbr-name*** **from ACBLIB**

Explanation

Failed to read the indicated member from the ACB library. *mbr-name* is either a PSB member or an ACB member.

System action

The job terminates abnormally.

User response

Contact IBM Software Support.

ATY3601E **Unable to locate** ***library*** **information**

Explanation

An error occurred while obtaining information about the indicated library. *library* is either Inactive ACBLIB or RECON.

System action

The job terminates abnormally.

User response

This is an internal error. Contact IBM Software Support.

ATY3602E **Unable to read** ***psb-name*** **from Catalog**

Explanation

Failed to read the indicated member from the IMS catalog. *psb-name* is the name of the PSB member that could not be read.

System action

The job terminates abnormally.

User response

Contact IBM Software Support.

ATY3603E **Fast Path area definition storage blocks not found. Module=*module-name***

Explanation

An internal storage error occurred. *module-name* indicates the module that issued this message.

System action

The job terminates abnormally.

User response

This is an internal error. Contact IBM Software Support.

ATY3604E ***type* definitions for *type type-name*, database *db-name*, need to be registered in DBRC or defined in MDALIB**

Explanation

The database definition is not registered correctly. *type* is AREA or DDNAME. *type-name* is the resource name of *type*. *db-name* is the name of the database.

System action

The job terminates abnormally.

User response

Review the definition of the database and identify the cause of the error. If the problem persists, contact IBM Software Support.

ATY3605E ***type* definitions for database *db-name* need to be registered in DBRC or defined in MDALIB**

Explanation

The database definition is not registered correctly. *type* is AREA or DDNAME. *db-name* is the name of the database.

System action

The job terminates abnormally.

User response

Review the definition of the database and identify the cause of the error. If the problem persists, contact IBM Software Support.

ATY3606E **Database information for *db-name* needs to be defined in RDDS or MODBLKS**

Explanation

The database information is not defined correctly. *db-name* is the name of the database.

System action

The job terminates abnormally.

User response

Review the definition of the database and identify the cause of the error. If the problem persists, contact IBM Software Support.

ATY3607E **Information requested from catalog but catalog is not enabled**

Explanation

An error occurred when IMS Administration Tool requested catalog information. The IMS catalog is not enabled.

System action

The job terminates abnormally.

User response

Ensure that the IMS catalog is made available to the IMS system. If the problem persists, contact IBM Software Support.

ATY3608E **Unable to locate *variable-name* variable setting**

Explanation

The indicated variable is missing. This variable must be registered.

System action

The job terminates abnormally.

User response

Register the indicated variable.

ATY3609W **Unable to locate library for Fast ACBGEN**

Explanation

The library that is required for the Fast ACBGEN process is not found.

System action

Processing continues.

User response

None. This message is informational.

ATY3609E **Unable to locate library for Fast ACBGEN**

Explanation

The library that is required for the Fast ACBGEN process is not found.

System action

The job terminates abnormally.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATY3610E **Catalog Update requires function to be run on same LPAR as active IMS**

Explanation

Either the IMS system is not active or this task or job is not executed on the same LPAR as the active IMS system. To update the IMS catalog, this task or job must be executed on the same LPAR as the active IMS system.

System action

The job terminates abnormally.

User response

Ensure that the IMS system is active and that this task or job is executed on the same LPAR as the active IMS system.

ATY3611E **IEBCOPY ended with return code *rc***

Explanation

An error occurred trying to invoke the internal IEBCOPY utility. *rc* indicates the return code from the utility.

System action

The job terminates abnormally.

User response

This is an internal error. Contact IBM Software Support.

ATY3612E ***function* to *target* cannot be run when IMS is active**

Explanation

The indicated function cannot be performed because the IMS system is active. The indicated function requires that the IMS system be inactive. *function* is either Update or Import. *target* is either Active ACBLIB or Active Catalog.

System action

The job terminates abnormally.

User response

Ensure that IMS system is not active. For more information, see “Requirement: Status of the online IMS system ” on page 107.

ATY3613E ***ctl-1* not valid when *ctl-2* specified**

Explanation

The combination of the indicated keywords, which are specified in the ATYMSGI DD statement, is not supported.

When *ctl-2* is ACB=N, *ctl-1* cannot be STAGEACB=Y, ACTACB=Y, or INACTACB=Y.

When *ctl-2* is CATALOG=N, *ctl-1* cannot be PENDACT=Y or ACTCAT=Y.

System action

The job terminates abnormally.

User response

Correct the indicated keywords. If the cause of the error cannot be determined, contact IBM Software Support.

ATY3614E **No active ACB found for logically related or index related database *dbdname* in the [IMS directory | ACBLIB data set]**

Explanation

The active ACB member for the indicated DBD (*dbdname*) is not found in the IMS directory or in the active ACBLIB data set. *dbdname* is one of the following databases:

- Logically related database
- Index database
- Indexed database

System action

The system stops the requested processing.

User response

Ensure that the active ACB member for the indicated DBD exists in the IMS directory or in the ACBLIB data set and rerun the job. If the problem persists, contact IBM Software Support.

ATY3700E **AiiSsi *function* request failed, RC=*rc* RSN=*rsn***

Explanation

An error occurred trying to issue the function call to IMS Tools Base Distributed Access Infrastructure (DAI). *rc* indicates the return code, and *rsn* indicates the reason code. *function* is one of BUILDENV, QRYGRP, FREEBUF, INIT, QRYTAS, FREEBUF, SEND, GET, XCFMSG, or MESSAGE.

System action

The job terminates abnormally.

User response

This is an internal error. Contact IBM Software Support.

ATY3702E ***function* request for *target* failed, RC=*rc* RSN=*rsn***

Explanation

An error occurred trying to request the internal function call. *function* is one of the following functions:

- IXGCONN DISCONNECT
- IXGWRITE
- HKTXPEX READ
- HKTXPEX INIT
- HKTXPEX TERM
- IXGCONN CONNECT
- HKTXPEX ADD
- HKTXPEX SYNC
- HKTXPEX DLET
- HKTXPEX GETL
- IXGCONN DISCONNECT
- OBTAIN

target indicates one of log stream name, ITKB XCF group name, or data set name. *rc* indicates the return code, and *rsn* indicates the reason code.

System action

The job terminates abnormally.

User response

This is an internal error. Contact IBM Software Support.

ATY3703E **Required ITKB XCF group name was not specified.**

Explanation

An error occurred trying to initialize the IMS Tools Knowledge Base information. The XCF group name for the IMS Tools Knowledge Base repository server was not supplied.

System action

The job terminates abnormally.

User response

This is an internal error. Contact IBM Software Support.

ATY3704I **Audit log is not written because log stream is being formatted.**

Explanation

An temporary error occurred trying to write the audit log. Audit log cannot be written when the log stream is being formatted.

System action

Processing continues.

User response

None. This message is informational.

ATY3900E **Entry number *nn* not found in Table : *table***

Explanation

No entry found for the indicated message number in the message table. *nn* is the entry number of the message that was intended to be issued. *table* is ATY#LENU (Literal table) or ATY#MENU (Message table).

System action

The job terminates abnormally.

User response

This is an internal error. Contact IBM Software Support.

ATY3901E **Program *pgm-name* requires APF-Authorization**

Explanation

The indicated program must be APF authorized.

System action

The job terminates abnormally.

User response

Contact IBM Software Support.

ATY3902E **MVS Service *svc* call from *member* failed**

Explanation

An error occurred when the indicated member issued the MVS service (*svc*) call. *svc* is one of ATTACH, ATTACHX, OPEN, LOCASCB, DESERV, IGGCSI00, or STOW.

System action

The job terminates abnormally.

User response

This is an internal error. Contact IBM Software Support.

ATY3904E **Unable to open *ddname* DD**

Explanation

An error occurred while trying to open a data set with the DDNAME of *ddname*.

System action

The job terminates abnormally.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATY3910E **ABEND occurred in program *pgm-name***

Explanation

An abend occurred in the indicated program (*pgm-name*). Message ATY3002I, which follows this message, shows the abend code and the reason code.

System action

The job terminates abnormally.

User response

Contact IBM Software Support.

ATY3920I **VSAM *operation* call failed**

Explanation

An error occurred during an operation call to a VSAM file. *operation* is one of GET, PUT, ERASE, SHOWCB ACB ACBLEN, or SHOWCB RPL RPLLEN. Message ATY3939E, which follows this message, shows the reason code from the VSAM access error.

System action

The job terminates abnormally.

User response

Contact IBM Software Support.

ATY3936E **Program *pgm-name* received invalid function (*fc*) in message**

Explanation

An internal error occurred trying to access the VSAM command options. *pgm-name* is the name of program in which the error occurred. *fc* indicates the invalid code character, which is other than G (Get), A (Add), U Update), and D (Delete).

System action

The job terminates abnormally.

User response

Contact IBM Software Support.

ATY3937E **Program *pgm-name* : No key supplied for function (*fc*) in message.**

Explanation

An internal error occurred trying to access the VSAM command options. Key data was not supplied. *pgm-name* is the name of program in which the error occurred. *fc* is one of G (Get), A (Add), U (Update), or D (Delete).

System action

The job terminates abnormally.

User response

Contact IBM Software Support.

ATY3938E **Program *pgm-name*: Duplicate key for insert with record type (*type*)**

Explanation

An error occurred trying to insert a record to a VSAM data set. Found a duplicate record key. *pgm-name* is the name of program in which the error occurred. *type* is the record type and is one of I (IMS), J (JOB), or M (MSG).

System action

The job terminates abnormally.

User response

Contact IBM Software Support.

ATY3939E **RPLERRCD: *errcd***

Explanation

This message indicates the reason code from the VSAM access error. This message accompanies message ATY3920E.

System action

The job terminates abnormally.

User response

Contact IBM Software Support.

ATY3940W **Program *pgm-name*: Record not found**

Explanation

A record was not found when IMS Administration Tool accessed a VSAM file. *pgm_name* is the name of the program that detected this warning condition.

System action

The job terminates with return code 4.

User response

This is an internal error. Contact IBM Software Support.

ATY3941E **Program *pgm-name*: ENQ failure**

Explanation

An error occurred trying to issue the ENQ macro to the VSAM options file. *pgm-name* is the name of program in which the error occurred. Message ATY3001I, which follows this message, shows the return code and the reason code.

System action

The job terminates abnormally.

User response

Contact IBM Software Support.

ATY3942W **LOGSTREAM name *ls-name* not found**

Explanation

An error occurred trying to connect to the log stream. The log stream name is not defined in the LOGR policy. *ls-name* is the log stream name.

System action

The job terminates abnormally.

User response

Contact IBM Software Support.

ATY3943E **LOGSTREAM *ls-name* CONNECT error**

Explanation

An error occurred trying to connect to the log stream. *ls-name* is the log stream name.

System action

The job terminates abnormally.

User response

Contact IBM Software Support.

ATY3944I LOGSTREAM *ls-name* is empty

Explanation

An error occurred trying to browse the log stream. The log stream is empty. *ls-name* is the log stream name.

System action

The job terminates abnormally.

User response

Contact IBM Software Support.

ATY3945E LOGSTREAM *ls-name* BROWSE START error

Explanation

An error occurred trying to start a browse session for the log stream. *ls-name* is the log stream name. Message ATY3001I, which follows this message, shows the return code and the reason code.

System action

The job terminates abnormally.

User response

Contact IBM Software Support.

ATY3946E LOGSTREAM *ls-name* READCURSOR error

Explanation

An error occurred trying to read (READCURSOR) the log stream. The end of the log stream has been reached in the direction of the read. *ls-name* is the log stream name. Message ATY3001I, which follows this message, shows the return code and the reason code.

System action

The job terminates abnormally.

User response

Contact IBM Software Support.

ATY3950E Program ATY@PRSB received invalid parameter (*x*) in ATYMSGI

Explanation

The copybook language parameter, which was passed to ATY@PRSB during the copybook import process, is invalid. *x* indicates the 1-digit invalid parameter that was passed to ATY@PRSB. The copybook language parameter must be either B for COBOL or P for PL/I.

System action

The job terminates abnormally.

User response

This is an internal error. Contact IBM Software Support.

ATY3953E ACBGEN ended with *process* code *cd*

Explanation

The ACBGEN process ended with the indicated return code (*cd*). *process* shows the type of the code, either Abend or Return.

System action

The job terminates abnormally.

User response

Identify the cause of the error, correct it, and rerun the job. If the problem persists, contact IBM Software Support.

ATY3954W Catalog Populate ended with Return code *cd*

Explanation

During the copybook import process, the process to update the IMS catalog ended with the indicated return code (*cd*).

System action

Processing continues. The job terminates with return code 4.

User response

None. This message is informational.

ATY3954E **Catalog Populate ended *process* code *rc***

Explanation

During the copybook import process, the process to update the IMS catalog ended with the indicated return code. *process* shows the type of the code, either Abend or Return.

System action

The job terminates abnormally.

User response

Locate messages issued by the IMS Catalog Populate utility (DFS3PU00). Identify the cause of the error and correct it.

ATY3955I **EXPORT ended with Return code *cd***

Explanation

The EXPORT process ended with the indicated return code (*cd*). Found no objects to export.

System action

Processing continues.

User response

None. This message is informational.

ATY3955E **EXPORT ended with *process* code *cd***

Explanation

The EXPORT process ended with the indicated return code (*cd*). *process* shows the type of the code, either Abend or Return.

System action

The job terminates abnormally.

User response

Identify the cause of the error, correct it, and rerun the job. If the problem persists, contact IBM Software Support.

ATY3956E **Compiler ended with *process* code *rc***

Explanation

During the copybook import process, the compiler ended with the indicated return code. *process* shows the type of the code, either Abend or Return.

System action

The job terminates abnormally.

User response

Identify the cause of the error and correct it. Rerun the job.

ATY3999E **Internal Logic Error: *module* (Code: *number*)**

Explanation

An internal logic error occurred. *module* indicates the module in which the error occurred, and *number* indicates the code number, which is one of the following values:

- 001: Invalid Handle passed
- 002: Invalid Function passed
- 003: Invalid Parameter passed

System action

The job terminates abnormally.

User response

This is an internal error. Contact IBM Software Support.

ATY5001E **ATYPRINT OR CCFPRINT OPEN FAILED**

Explanation

The REDO BMP encountered an error attempting to open DDNAME ATYPRINT or CCFPRINT. Additional messages might be displayed on the z/OS Syslog.

System action

The REDO BMP terminates with a return code of 12.

User response

Correct the error that caused the open failure and run the job again.

ATY5002E **DYNALLOC FAILED FOR DSN=*dsn***

Explanation

The REDO BMP encountered a dynamic allocation failure for data set *dsn*. The return code for the DYNALLOC failure can be found in subsequent message ATY5003E.

System action

The REDO BMP terminates with a return code of 12.

User response

Correct the error that caused the DYNALLOC failure and run the job again.

ATY5003E DYNALLOC RETURN CODE =*rc*

Explanation

The data set named in message ATY5002E received an invalid return code (*rc*) during DYNALLOC processing.

System action

The REDO BMP terminates with a return code of 12.

User response

Correct the error that caused the DYNALLOC failure and run the job again.

ATY5004E LOAD FAILED FOR MODULE ATYSTFWD

Explanation

IMS Administration Tool was unable to load the store/forward dynamic allocation member ATYSTFWD.

System action:
The REDO BMP terminates with a return code of 12.

User response

Ensure the proper ATYSTFWD member is present in the STEPLIB of the REDO BMP and run the job again.

ATY5005E OPEN FAILED FOR ATYSTFWD OR CCFSTFWD, RETURN CODE=*rc*

Explanation

IMS Administration Tool was unable to open the data set associated the DDNAME ATYSTFWD or CCFSTFWD. The return code from the open is contained in field *rc*. Additional messages might be displayed on the z/OS Syslog.

System action

The REDO BMP terminates with a return code of 12.

User response

Correct the error that caused the open failure and run the job again.

ATY5006E INQY CALL FAILED, AIBRETRN=*rc* AIBREASN=*rsn*

Explanation

The REDO BMP was not able to successfully issue an IMS INQY/ENVIRON call. The AIBRETRN and AIBREASN codes are contained in *rc* and *rsn*, respectively.

System action

The job step might terminate abnormally, depending on what options were in effect for the job.

User response

Correct the problem and retry the command.

ATY5007W OPEN FAILED FOR DD ATYPRE OR CCFPRE

Explanation

The REDO BMP encountered an error attempting to open DDNAME ATYPRE or CCFPRE. This is probably due to erroneous DCB parameters. Additional messages might be displayed on the z/OS Syslog.

System action

Processing continues without ATYPRE or CCFPRE input. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response

Make sure the data set associated with DDNAME ATYPRE or CCFPRE is defined with LRECL=80 and DSORG=PS.

ATY5008E PREVIOUS RECORD IGNORED, UNRECOGNIZED COMMAND

Explanation

A record that contained a non-valid command was read from the store/forward data set. This is an internal error that should not occur.

System action

The record is bypassed and processing continues.

User response

Contact IBM Software Support.

ATY5009I STORE/FORWARD DSN=*dsn*

Explanation

This is an informational message displayed by the REDO BMP to indicate the name of the store/forward data set.

System action

Processing continues.

User response

None. This message is informational.

ATY5010W ERROR DURING ICMD CALL, AIBRETRN=*rc* AIBREASN=*rsn*

Explanation

Program ATYREDO0 was not able to successfully issue an IMS command using the ICMD interface. The AIBRETRN and AIBREASN codes are contained in *rc* and *rsn*, respectively.

System action

The job step might terminate abnormally, depending on what options were in effect for the job.

User response

Correct the problem and retry the command.

ATY5011W ERROR DURING ICMD CALL, AIBRETRN=*rc* AIBREASN=*rsn*

Explanation

Program ATYREDO0 was not able to successfully issue an IMS command using the ICMD interface. The AIBRETRN and AIBREASN codes are contained in *rc* and *rsn*, respectively.

System action

The job step might terminate abnormally, depending on what options were in effect for the job.

User response

Correct the problem and retry the command.

ATY5012W ERROR DURING RCMD CALL, AIBRETRN=*rc* AIBREASN=*rsn*

Explanation

Program ATYREDO0 was not able to successfully retrieve a response to an IMS command using the RCMD call. The AIBRETRN and AIBREASN codes are contained in *rc* and *rsn*, respectively.

System action

The job step might terminate abnormally, depending on what options were in effect for the job.

User response

Correct the problem and retry the command.

ATY5013W ERROR DURING RCMD CALL, AIBRETRN=*rc* AIBREASN=*rsn*

Explanation

Program ATYREDO0 was not able to successfully retrieve a response to an IMS command using the RCMD call. The AIBRETRN and AIBREASN codes are contained in *rc* and *rsn*, respectively.

System action

The job step might terminate abnormally, depending on what options were in effect for the job.

User response

Correct the problem and retry the command.

ATY5014I ATYPRE OR CCFPRE PROCESSING STARTED

Explanation

The REDO BMP has started processing the commands read from DDNAME ATYPRE or CCFPRE.

System action

Processing continues.

User response

None. This message is informational.

ATY5015I ATYPRE OR CCFPRE PROCESSING COMPLETED

Explanation

The REDO BMP has completed processing all commands from DDNAME ATYPRE or CCFPRE.

System action

Processing continues.

User response

None. This message is informational.

ATY5016W OPEN FAILED FOR DD ATYPOST OR CCFPOST

Explanation

The REDO BMP encountered an error attempting to open DDNAME ATYPOST or CCFPOST. This is probably due to erroneous DCB parameters. Additional messages might be displayed on the z/OS Syslog.

System action

Processing continues without ATYPOST or CCFPOST input. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response

Make sure the data set associated with DDNAME ATYPOST is defined with LRECL=80 and DSORG=PS.

ATY5017I ATYPOST OR CCFPOST PROCESSING STARTED

Explanation

The REDO BMP has started processing commands read from DDNAME ATYPOST or CCFPOST.

System action

Processing continues.

User response

None. This message is informational.

ATY5018I ATYPOST OR CCFPOST PROCESSING COMPLETED

Explanation

The REDO BMP has completed processing all commands from DDNAME ATYPOST or CCFPOST.

System action

Processing continues.

User response

None. This message is informational.

ATY5019W IMS *ims* NOT FOUND IN GROUP CSLplex

Explanation

The IMS record in the options data set for *ims* specifies Operations Manager for its command routing technique, but *ims* is not an active member in CSLplex.

System action

Processing continues with all type 1 IMS commands. Type 2 IMS commands are skipped and erased from the store/forward data set. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response

Use the IMS Administration Tool user interface to correct the IMS routing technique specification for *ims*.

ATY5020E READ ERROR ON STORE/FORWARD DATA SET, RC=*rc* RPLFDBK=*rplfdbk*

Explanation

The REDO BMP encountered an error reading the store/forward data set. The VSAM return code and RPLFDBK are represented by *rc* and *rplfdbk*, respectively.

System action

The REDO BMP terminates with a return code of 12.

User response

Correct the error caused by the non-zero return code and run the job again.

ATY5021I STORE/FORWARD PROCESSING STARTED

Explanation

The REDO has started processing commands from the store/forward data set.

System action

Processing continues.

User response

None. This message is informational.

ATY5022I **FOLLOWING RECORD FROM JOB=*job* DATE-TIME: *date -time***

Explanation

The REDO BMP read the following record from the store/forward data set. The record was written to the store/forward by job name *job* on date (*date*) and time (*time*) specified in the message.

System action

Processing continues.

User response

None. This message is informational.

ATY5023I **NO RECORDS FOUND ON STORE/FORWARD FOR: *ims***

Explanation

The REDO BMP found no records in the store/forward data set for IMS region listed in *ims*.

System action

Processing continues.

User response

None. This message is informational.

ATY5024I **STORE/FORWARD PROCESSING COMPLETED**

Explanation

The REDO BMP completed processing all relevant records from the store/forward for this particular IMS.

System action

Processing continues.

User response

None. This message is informational.

ATY5025I **FOLLOWING RECORD FROM JOB=*job* DATE-TIME: *date – time* DELETED BY USER *user***

Explanation

The following record was read from the store/forward data set for this particular IMS, but it is not processed because it was flagged for deletion by USER *user*.

System action

The record is deleted from the store/forward data set and processing continues.

User response

None. This message is informational.

ATY5026I ***stfrec***

Explanation

This message lists the record described by previous message ATY5025I.

System action

Processing continues.

User response

None. This message is informational.

ATY5027I **ATY OPTIONS DATA SET NAME = *dsn***

Explanation

This is an informational message displayed by the REDO BMP to indicate the name of the options data set. The options data set is read by the REDO BMP because a type 2 IMS command has been read, and the REDO BMP needs to read the IMS record to obtain the Operations Manager PLEX name.

System action

Processing continues.

User response

None. This message is informational.

ATY5028W **READ ERROR ON ATY OPTIONS DATA SET, RC=*rc* RPLFDBK=*rplfdbk***

Explanation

The REDO BMP encountered an error reading the options data set. The VSAM return code and RPLFDBK are represented by *rc* and *rplfdbk*, respectively.

System action

The REDO BMP terminates with a return code of 12.

User response

Correct the error caused by the non-zero return code and run the job again.

ATY5029W LOAD FAILED FOR MEMBER ATY#OPTS

Explanation

IMS Administration Tool was unable to load the options data set dynamic allocation member ATY#OPTS.

System action:
The REDO BMP terminates with a return code of 12.

User response

Ensure the proper ATY#OPTS member is present in the STEPLIB of the REDO BMP and run the job again.

ATY5030W OPEN FAILED FOR OPTIONS DS, RETURN CODE=*rc*

Explanation

IMS Administration Tool was unable to open the options data set. The return code from the open is contained in field *rc*. Additional messages might be displayed on the z/OS Syslog.

System action

Processing continues with all type 1 IMS commands. Type 2 IMS commands are skipped and erased from the store/forward data set. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response

Correct the error that caused the open failure and run the job again.

ATY5031W OPTIONS DATA SET RECORD FOR *ims* NOT FOUND

Explanation

The options data set did not contain an IMS record for *ims*. The options data set IMS record is needed to obtain the Operation Manager name because a type 2 IMS command has been read.

System action

Processing continues with all type 1 IMS commands. Type 2 IMS commands are skipped and erased from the store/forward data set. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response

Ensure correct options data set is being used. If so, use the IMS Administration Tool user interface to add an IMS record to the options data set.

ATY5032W IMS *imsid* NOT DEFINED TO USE OPERATIONS MANAGER

Explanation

The IMS record in the options data set for *ims* does not specify Operations Manager as its command routing technique.

System action

Processing continues with all type 1 IMS commands.

Type 2 IMS commands are skipped and erased from the store/forward data set.

Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response

If type 2 IMS commands are to be executed, use the IMS Administration Tool user interface and change the IMS record for *imsid* to use Operations Manager as its command routing technique.

ATY5033W OPERATIONS MANAGER NAME NOT SPECIFIED FOR *ims*

Explanation

The IMS record in the options data set for *ims* specifies Operations Manager as its command routing technique, but the PLEX name is not defined.

System action

Processing continues with all type 1 IMS commands. Type 2 IMS commands are skipped and erased from

the store/forward data set. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response

If type 2 IMS commands are to be executed, use the IMS Administration Tool user interface to define the Operations Manager PLEX name.

ATY5034W CSLSCREG FAILED FOR CSLplex RC=*rc* RSN=*rsn*

Explanation

The REDO BMP encountered an error attempting to connect to the Common Service Layer PLEX plex. The return and reason codes are contained in *rc* and *rsn*, respectively.

System action

Processing continues with all type 1 IMS commands. Type 2 IMS commands are skipped and erased from the store/forward data set. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response

Find the return (*rc*) and reason (*rsn*) code for CSLSCREG in the *IMS Common Service Layer Guide and Reference*.

ATY5035W CSLSCQRY FAILED WITH RC=*rc* RSN=*rsn*

Explanation

The REDO BMP encountered an error attempting to query the Common Service Layer PLEX plex. The return and reason codes are contained in *rc* and *rsn*, respectively.

System action

Processing continues with all type 1 IMS commands. Type 2 IMS commands are skipped and erased from the store/forward data set. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response

Find the return (*rc*) and reason (*rsn*) code for CSLSCQRY in the *IMS Common Service Layer Guide and Reference*.

ATY5036W INVALID DATA RETURNED FROM CSLSCQRY

Explanation

The REDO BMP does not recognize the data returned from the CSLSCQRY call.

System action

Processing continues with all type 1 IMS commands. Type 2 IMS commands are skipped and erased from the store/forward data set. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response

This is an internal error. Contact IBM Software Support.

ATY5037W INVALID DATA RETURNED FROM CSLSCQRY

Explanation

The REDO BMP does not recognize the data returned from the CSLSCQRY call.

System action

Processing continues with all type 1 IMS commands. Type 2 IMS commands are skipped and erased from the store/forward data set. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response

This is an internal error. Contact IBM Software Support.

ATY5038W NO MEMBER INFO RETURNED FROM CSLSCQRY

Explanation

The REDO BMP does not recognize the data returned from the CSLSCQRY call.

System action

Processing continues with all type 1 IMS commands. Type 2 IMS commands are skipped and erased from the store/forward data set. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response

This is an internal error. Contact IBM Software Support.

ATY5039W OPERATIONS MANAGER NOT ACTIVE IN GROUP CSLplex

Explanation

The REDO BMP did not find an active Operations Manager task in the Common Service Layer group.

System action

Processing continues with all type 1 IMS commands. Type 2 IMS commands are skipped and erased from the store/forward data set. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response

Ensure an Operations Manager task is started.

ATY5040W IMS *ims* NOT IN ACTIVE STATE IN GROUP CSLplex

Explanation

The IMS (*ims*) where the REDO BMP is attached is connected to the Common Service Layer group (CSLplex), but is not in an active state and therefore cannot process commands.

System action

Processing continues with all type 1 IMS commands. Type 2 IMS commands are skipped and erased from the store/forward data set. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response

Determine why the IMS is not in an active state and correct the condition.

ATY5041W CSLOMCMD RECEIVED RC = *rc* RSN = *rsn*

Explanation

The REDO BMP encountered an error attempting to issue a type 2 IMS command. The return and reason codes are contained in *rc* and *rsn*, respectively.

System action

The record is erased from the store/forward data set and processing continues. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response

Find the return (*rc*) and reason (*rsn*) code for CSLSCQRY in the *IMS Common Service Layer Guide and Reference*.

ATY5042W COMMAND BYPASSED DUE TO PRIOR SCI CONNECT FAILURE

Explanation

Due to the failure of a previous attempt to issue a type 2 IMS command, all type 2 IMS commands are bypassed. The reason for the previous failure is displayed in a previous message.

System action

The record is erased from the store/forward data set and processing continues. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response

None. This message is informational.

ATY6007I CHANGED TO DBACCESS=ASIS DUE TO MISSING MODBLKS DSN IN *xxxx*

Explanation

The runtime option for this job is specified by the DBACCESS=SYSGEN parameter, but the IMS entry for *xxxx* in the IMS Administration Tool options data set did not contain a MODBLKS data set name.

System action

The runtime option for this job is changed from DBACCESS=SYSGEN to DBACCESS=ASIS, and processing continues.

User response

To use the DBACCESS=SYSGEN runtime option, add a MODBLKS data set name in the IMS Administration Tool options data set for IMS *xxxx*, and rerun the job.

ATY6008I COMMAND STORE/FORWARD ACTIVE

Explanation

Command store/forward is active for this job.

System action

Processing continues.

User response

None. This message is informational.

ATY6009I STORE/FORWARD DSN=*dsn*

Explanation

This information message displays the name of the command store/forward data set (*dsn*).

System action

Processing continues.

User response

None. This message is informational.

ATY6010I ERRORS .: ABEND=U*code* SETRC=*rc* ERRORS .: GENERAL=*opt* ROUTING=*opt* ERR488=*opt* DBRC=*opt* RETRY OPTIONS .....: RETRYATT=*att* RETRYSEC=*sec* / ATYMOD OR /CCFMOD OPTIONS ...: MODFAIL=*modfail* MODREVERSE=*modrev* DATABASE OPTIONS ..: WTODBCMD=*wto* DATAGRPEXP=*grpexp* DBACCESS=ASIS NOFEOV=Y ERR3466=X PRESCAN=X DFS0488I: *rc rc rc rc rc rc rc rc rc rc rc rc* OPERATIONS MANAGER RETURN CODE: *omrc omrc omrc omrc omrc* JOB= MASK=*mask route=name* OPTIONS DATA SET NAME = *dsn* IMS LIST: ERRORS .: SYNTAXERR=% TIMEOUT SECONDS ...: TIMEOUT=%%%%

Explanation

This message lists all of the options in effect for this job.

System action

Processing continues.

User response

None. This message is informational.

ATY6011E MISSING ATY#OPTS MEMBER FOR ATY OPTIONS DATA SET

Explanation

An attempt to LOAD member ATY#OPTS failed. The member is not present in the ATY Product Load Library.

System action

If the ATY command driver is running as a batch job, the job terminates with a U4095 abend. If the ATY command driver is called by the callable API (ATYCAPI0), the call to the API fails with a non-zero return and reason code.

User response

Ensure member ATY#OPTS is present in a STEPLIB or JOBLIB data set, and try the operation again.

ATY6012E ATY OPTIONS NOT FOUND - DSN=*dsn*

Explanation

A LOCATE failed for the ATY options data set name (*dsn*) obtained from member ATY#OPTS.

System action

If the ATY command driver is running as a batch job, the job terminates with a U4095 abend. If the ATY command driver is called by the callable API (ATYCAPI0), the call to the API fails with a non-zero return and reason code.

User response

Ensure member ATY#OPTS contains the correct data set name for the ATY options data set.

ATY6013E DYNAMIC ALLOCATION FAILED FOR ATY OPTIONS DATA SET

Explanation

Dynamic allocation failed for the ATY options data set name that is obtained from member ATY#OPTS.

System action

If the ATY command driver is running as a batch job, the job terminates with a U4095 abend. If the

ATY command driver is running from the callable API (ATYCAPI0), the call to the API fails with a non-zero return and reason code.

User response

Ensure member ATY#OPTS contains the correct data set name for the ATY options data set.

ATY6014E OPEN FAILED FOR ATY OPTIONS DATA SET

Explanation

An open failed for the ATY options data set.

System action

If the ATY command driver is running as a batch job, the job terminates with a U4095 abend. If the ATY command driver is called by the callable API (ATYCAPI0), the call to the API fails with a non-zero return and reason code.

User response

Ensure member ATY#OPTS contains the correct data set name for the ATY options data set.

ATY6015E IMS NOT DEFINED - IMSID=*iiii*

Explanation

A request was made to issue a command to an IMS system (*iiii*) that was not defined in the ATY options data set.

System action

If the ATY command driver is running as a batch job, the job terminates with the abend code specified in either the global, or job, record in the ATY options data set. If the ATY command driver is called by the callable API (ATYCAPI0), the call to the API fails with a non-zero return and reason code.

User response

Ensure member ATY#OPTS contains the correct data set name for the ATY options data set.

ATY6016E ATY GROUP NOT DEFINED - IMSID=*iiii* GROUP=*gggggggg*

Explanation

A request was made to issue a command to a ATY group (*gggggggg*), but that group name is not defined in the ATY options data set.

The requested group name is obtained either from the JCL parm statement, or if the IMSID (*iiii*) is present in the message, from the Default ATY Group obtained from the IMSID record in the ATY options data set.

System action

If the ATY command driver is running as a batch job, the job terminates with the abend code specified in either the global or job record in the ATY options data set.

If the ATY command driver is called by the callable API (ATYCAPI0), the call to the API fails with a non-zero return and reason code.

User response

Ensure that the correct ATY group name is specified in either the JCL parm statement, or in the IMSID record "Default ATY Group" field in the ATY options data set.

ATY6017E EMPTY ATY GROUP RECORD - GROUP=*gggggggg*

Explanation

A request was made to issue a command to a ATY group (*gggggggg*), but the group record in the ATY options data set contained no IMS names.

System action

If the ATY command driver is running as a batch job, the job terminates with the abend code specified in either the global, or job, record in the ATY options data set. If the ATY command driver is called by the callable API (ATYCAPI0), the call to the API fails with a non-zero return and reason code.

User response

Ensure the group record in the ATY options data set contains the wanted IMS system names.

ATY6019W IMSID=*iiii* IN GROUP=*gggggggg* BUT NOT IN OPTIONS DS

Explanation

An IMSID was defined in ATY group (*gggggggg*) but there is no IMSID record in the ATY options data set for MS *iiii*.

System action

IMS (*iiii*) is removed from the ATY group, and processing continues.

User response

Either remove the undefined IMS name from the ATY group entry, or create a valid IMS ATY entry for *iiii*.

ATY6020E GLOBAL OPTIONS RECORD IS MISSING

Explanation

The ATY options data set did not contain the global record.

System action

If the ATY command driver is running as a batch job, the job terminates with the abend code specified in either the global, or job, record in the ATY options data set. If the ATY command driver is called by the callable API (ATYCAPI0), the call to the API fails with a non-zero return and reason code.

User response

Ensure that the ATY options data set has been properly populated.

ATY6022W ABOVE OPTION UNKNOWN

Explanation

Input that is read from ATYOPTS dd statement contained an invalid keyword. The keyword is identified in the preceding ATY6024I message.

System action

The unknown keyword is bypassed, and processing continues.

User response

Ensure that the ATY options data set has been properly populated.

ATY6023W ATY GROUP TRUNCATED TO 8 CHARACTERS

Explanation

The ATY Group name, obtained either from the PARM statement, or read from ATYOPTS dd statement, was more than 8 characters in length. The ATY Group specification is listed in a prior ATY6024I message.

System action

The ATY Group name is truncated to 8 characters and processing continues.

User response

Correct the ATY Group name specification before you run the ATY job.

ATY6024I //ATYOPTS OR CCFOPTS: *xxxxx*

Explanation

This message lists a parameter, or ATYOPTS or CCFOPTS input keyword, that is incorrectly specified. The specific error is displayed in a subsequent ATY message.

System action

The action that is taken is determined by the subsequent ATY message.

User response

Take action that is based on the subsequent ATY message.

ATY6025I JOB RECORD FOUND

Explanation

A job options record in the VSAM options data set matched the job name.

System action

IMS Administration Tool runtime options are obtained from the matching job options record in the VSAM options data set.

User response

None. This message is informational.

ATY6026I JOB RECORD FOUND - MASK=*xxxxxxxx*

Explanation

A job options record in the VSAM options data set containing masks matched the job name. The name of job options record is displayed in the MASK=*xxxxxxxx* field.

System action

IMS Administration Tool runtime options are obtained from the matching job options record in the VSAM options data set.

User response

None. This message is informational.

ATY6027W ATYOPTS OR CCFOPTS "GROUP=" SPECIFICATION IGNORED

Explanation

A Job name record in the VSAM options data set containing wildcard matched the JES2 job name.

System action

IMS command processing runtime options are obtained from the matching Job name record in the VSAM options data set.

User response

None. This message is informational.

ATY6028W ATYOPTS OR CCFOPTS "IMSID=" SPECIFICATION IGNORED

Explanation

Because both GROUP and IMSID statements are specified on the EXEC parameter, IMS Administration Tool ignored the IMSID statement.

System action

Processing continues.

User response

None. This message is informational.

ATY6029W IMSID TRUNCATED TO 4 CHARACTERS

Explanation

The IMSID, obtained either from the PARM statement or read from ATYOPTS dd statement, was more than 4 characters in length.

The IMSID specification is listed in a prior ATY6024I message.

System action

The IMSID is truncated to 4 characters and processing continues.

User response

Correct the IMSID specification before you run the ATY job.

ATY6032W DBRC=IGNORE IN EFFECT BECAUSE RECONS ARE NOT SHARED

Explanation:
DBRC was selected. However this value was overridden by the options module because the Group record does not have the shared RECON flag set to "Y".

System action:
DBRC value is set to IGNORE.

User response:
None.

ATY6033W DBRC BYPASSED - SYSPRINT/ SYSIN DDNAMES SELECTED

Explanation:
Either SYSPRINT or SYSIN is selected as the DD name. The DBRC option is set to IGNORE.

System action:
DBRC value is set to IGNORE.

User response:
None.

ATY6034W DBRC BYPASSED - SYSPRINT/ SYSIN JCL ALLOCATED

Explanation:
Either SYSPRINT or SYSIN is JCL allocated. The DBRC option is set to IGNORE.

System action:
DBRC value is set to IGNORE.

User response:
None.

ATY6035W DBRC BYPASSED - RESLIB IS NOT IN STEPLIB

Explanation:
IMS RESLIB is not in the standard MVS load library search order. The DBRC option is set to IGNORE.

System action:
DBRC value is set to IGNORE.

User response:
None.

ATY6036W ATYOPTS OR CCFOPTS "GROUP=" ALREADY SPECIFIED

Explanation:
A GROUP= statement has already been specified.

System action:
The new specification attempt is ignored.

User response:
None.

ATY6037W ATYOPTS OR CCFOPTS "IMSID=" ALREADY SPECIFIED

Explanation:
An IMSID= statement has already been specified.

System action:
The new specification attempt is ignored.

User response:
None.

ATY6038E NO VALID IMSID/GROUP SPECIFIED

Explanation:
An IMSID/GROUP was not specified as required.

System action:
User abend is issued.

User response:
Provide a valid IMSID/GROUP.

ATY6039E SETRC= VALUE MUST BE NUMERIC BETWEEN 0-4095

Explanation:
The SETRC= value must be a numeric value between 0 and 4095.

System action:
Processing continues with the default value from the options module.

User response:
Provide a valid SETRC= value.

ATY6040E ABEND= VALUE MUST BE NUMERIC BETWEEN 0-4095

Explanation:
The ABEND= value must be a numeric value between 0 and 4095.

System action:
Processing continues with the default value from the options module.

User response:
Provide a valid ABEND= value.

ATY6041E RETRYATT= VALUE MUST BE NUMERIC BETWEEN 1-99

Explanation:
The RETRYATT = value must be a numeric value between 1 and 99.

System action:
Processing continues with the default value from the options module.

User response:
Provide a valid RETRYATT = value.

ATY6042E RETRYSEC= VALUE MUST BE NUMERIC BETWEEN 1-999

Explanation:
The RETRYSEC= value must be a numeric value between 1 and 999.

System action:
Processing continues with the default value from the options module.

User response:
Provide a valid RETRYSEC= value.

ATY6043E DFS0488I= VALUES (UP TO 20 2-DIGIT PAIRS) MUST BE NUMERIC

Explanation:
The DFS0488I= values must be up to 20 two digit pairs.

System action:
Processing continues with the default values from the options module.

User response:
Provide valid DFS0488I= values.

ATY6044E TIMEOUT= VALUE MUST BE NUMERIC BETWEEN 1-1440

Explanation:
The TIMEOUT= value must be a numeric value between 1-1440.

System action:
Processing continues with the default values from the options module.

User response:
Provide a valid TIMEOUT== value.

ATY6101I GLOBAL OPTIONS RECORD MAINTENANCE COMPLETE

Explanation

The IMS Administration Tool user interface function that maintains the global record in the options data set completed successfully.

System action

The user interface continues.

User response

N/A

ATY6102E ATY VSAM OPTIONS DATA SET NOT FOUND

Explanation

The IMS Administration Tool user interface that maintains the options data set was not able to locate the data set specified on the IMS Administration Tool Primary Options Menu.

System action:

System action

The user interface continues.

User response

Correct the data set name, or allocate and initialize the specified name as required. If you are creating a new data set, use the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY6103E ATYVSAM SVC99 RC=*rc* FOR *dsn*

Explanation

The IMS Administration Tool user interface encountered an error while attempting to dynamically allocate the options data set specified on the IMS Administration Tool Primary Options Menu.

System action

The user interface continues.

User response

Correct the condition based on any other accompanying message that might have been displayed, or check the dynamic allocation messages for more information.

ATY6104E ATYVSAM OPEN ERROR REASON=*rsn*

Explanation

An error occurred attempting to open the options data set. The error might be due to the options data set not being properly initialized. Additional message might be displayed on the z/OS Syslog.

System action

The user interface continues.

User response

Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY6105E ATYVSAM EMPTY KSDS INIT FAILURE

Explanation

The options data set has not been properly initialized.

System action

The user interface continues.

User response

Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY6106I ATYVSAM EMPTY KSDS INIT SUCCESSFUL

Explanation

The options data set has been initialized.

System action

The user interface continues.

User response

N/A

ATY6107I NO CHANGES MADE TO GLOBAL OPTIONS

Explanation

The options data set global record update screen was used, but no changes were made to the global record.

System action

The user interface continues.

User response

N/A

ATY6108I GLOBAL OPTIONS RECORD SAVED

Explanation

The options data set global record has been successfully updated.

System action

The user interface continues.

User response

N/A

ATY6109E ATYVSAM UPDATE ERROR

Explanation

The IMS Administration Tool user interface function encountered an unexpected error while attempting to update the global record in the options data set.

System action

The user interface continues.

User response

Take any required action based on accompanying messages, or contact IBM Software Support.

ATY6110E ATYVSAM OPEN ERROR REASON=*rsn*

Explanation

The IMS Administration Tool user interface function was unable to open the options data set that was specified on the IMS Administration Tool Primary Options Menu.

System action

The user interface continues.

User response

Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY6111E ATYVSAM PUT ERROR RC=*rc* REASON=*rsn*

Explanation

The IMS Administration Tool user interface function was unable to update the global record in the options data set.

System action

The user interface continues.

User response

Take any corrective action required based on the VSAM return information displayed in the text of the message.

ATY6112E ATYVSAM GET ERROR RC=*rc* REASON=*rsn*

Explanation

The IMS Administration Tool user interface function was unable to retrieve the global record from the options data set.

System action

The user interface continues.

User response

Take any corrective action required based on the VSAM return information displayed in the message text.

ATY6115E YOU NEED RACF AUTHORIZATION FOR THIS FUNCTION - R15=*r*15 RET=*rc* RSN=*rsn*

Explanation

The attempted operation was protected in the RACF FACILITY class. The RACF user ID that is attempting to perform this function does not have proper security authorization.

System action

The update process is disallowed.

User response

Contact your security department to obtain proper authorization.

ATY6151I ATY IMS COMMAND PROCESSING COMPLETE

Explanation

IMS command processing function completed successfully.

System action

Processing continues.

User response

None. This message is informational.

ATY6152E ATY OPTIONS DATA SET NOT FOUND

Explanation

The IMS Administration Tool user interface function that issues IMS commands was not able to locate the data set specified on the IMS Administration Tool Primary Options Menu.

System action

The user interface continues.

User response

Correct the data set name, or allocate and initialize the specified name as required. If you are creating a new data set, use the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY6153E ATYVSAM DYNALLOC RC=*rc* FOR *dsn*

Explanation

The IMS Administration Tool user interface function encountered an error while attempting to dynamically allocate the options data set specified on the IMS Administration Tool Primary Options Menu.

System action

The user interface continues.

User response

Correct the condition based on any other accompanying messages that might have also been displayed, or check the dynamic allocation messages for more information about the error.

ATY6154E ATYVSAM OPEN ERROR REASON=*rsn*

Explanation

The user interface function was unable to open the options data set that was specified on the IMS Administration Tool Primary Options Menu.

System action

The user interface continues.

User response

Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY6160E NO GLOBAL OPTIONS RECORD FOUND

Explanation

The IMS Administration Tool user interface function was unable to retrieve the global record from the options data set.

System action

The user interface continues.

User response

Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY6162E COMMAND NOT KNOWN

Explanation

The IMS Administration Tool user interface function did not recognize the command/option entered at the ISPF command prompt.

System action

The user interface continues.

User response

Correct or remove the entry as required.

ATY6163E GROUP NOT DEFINED IN ATY OPTIONS DATA SET

Explanation

IMS Administration Tool could not locate the IMS command group record in the VSAM options data set that matched the group name specified in the command panel.

System action

Processing continues.

User response

Register the command group or remove the command group as required.

ATY6164W NO IMS RECORDS FOUND IN ATY OPTIONS FILE

Explanation

The IMS Administration Tool user interface function did not locate any IMS records in the options data set.

System action

The user interface continues.

User response

If the options data set was initialized, complete the customization for your environment by adding the appropriate IMS records before trying to use this panel to issue IMS commands.

ATY6167E **YOU NEED RACF AUTHORIZATION FOR THIS FUNCTION - R15=*r*15 RET=*rc* RSN=*rsn***

Explanation

The attempted operation is protected in the RACF FACILITY class. The RACF user ID that is attempting to perform this function does not have proper security authorization.

System action

The update process is disallowed.

User response

Contact your security department to obtain proper authorization.

ATY6168E **OPEN ERROR FOR /DSN= DATA SET**

Explanation

A /DSN command was entered, but failed because an error occurred attempting to open the specified data set. Additional message might be displayed on the z/OS Syslog.

System action

The command is bypassed.

User response

Correct the problem with the data set and retry the operation.

ATY6169E **DATA SET NAME SPECIFIED FOR /DSN= NOT FOUND**

Explanation

The name specified in the /DSN= field is not defined for this system.

System action

The command is bypassed.

User response

Correct the name specified in the /DSN= field and retry the operation.

ATY6170E **MEMBER NAME SPECIFIED FOR /DSN= NOT FOUND**

Explanation

The PDS member name in the /DSN= field is not present in the specified data set.

System action

The command is bypassed.

User response

Specify a valid member name in the /DSN= field and retry the command.

ATY6171E **DYNALLOC ERROR FOR DSNAME SPECIFIED FOR /DSN= RC=*rc* RSN=*rsn***

Explanation

A dynamic allocation error occurred for the data set specified in the /DSN= field.

System action

The command is bypassed.

User response

Correct the error that caused the dynamic allocation failure and retry the operation.

ATY6174I **CLEAR IMS COMMAND AREA TO SEE LIST OF RECENT COMMANDS**

Explanation

To view a list of recent IMS commands entered from this IMS Administration Tool user interface, clear the IMS command line and press enter.

System action

The user interface continues.

User response

N/A

ATY6175E **ATYPROC COMMAND LIST NOT FOUND**

Explanation

The command list specified on a /ATYPROC command was not found.

System action

The user interface continues.

User response

Correct the name of the command list and retry the command.

ATY6176E ATYPROC COMMAND LIST NOT SPECIFIED

Explanation

The /ATYPROC command requires a member name to be specified.

System action

The user interface continues.

User response

Specify a valid member name and retry the command.

ATY6177E /DSN= LIBRARY MEMBER NOT FOUND

Explanation

The PDS member name in the /DSN= field is not present in the specified data set.

System action

The command is bypassed.

User response

Specify a valid member name in the /DSN= field and retry the command.

ATY6179E ATYPROC DD STATEMENT NOT ALLOCATED

Explanation

The /ATYPROC command was attempted, but there is not a ATYPROC DDNAME allocated to the TSO session.

System action

The user interface continues.

User response

Allocate DDNAME ATYPROC and retry the command.

ATY6180E ATYPROC LIBRARY PROCESSING ERROR

Explanation

While using the IMS Administration Tool user interface function, an unexpected error occurred processing a /ATYPROC command.

System action

The user interface continues.

User response

Check for any messages in the syslog for the TSO user's address space and make any required corrections.

ATY6181E ATYPROC MEMBER NOT FOUND

Explanation

While using the IMS Administration Tool ISPF component IMS command screen, the user entered a /ATYPROC member command in the IMS command input area but the member name was not found in the PDS allocated to the ATYPROC DDNAME statement.

System action

The IMS Administration Tool ISPF terminates its processing of the /ATYPROC command.

User response

The user can check the directory of the PDS for a list of valid member names to enter.

ATY6182E ATYPROC MEMBER PROCESSING ERROR

Explanation

While using the IMS Administration Tool ISPF component IMS command screen, an unexpected error occurred processing a /ATYPROC command.

System action

The IMS Administration Tool ISPF terminates its processing of a /ATYPROC or /DSN= command.

User response

Check for any messages in the syslog for the TSO user's address space and make any required corrections.

ATY6183E /DSN= DATA SET DOES NOT CONTAIN ANY INPUT

Explanation

An empty data set was specified on the /DSN= command.

System action

The command is bypassed.

User response

Correct the input and retry the command.

ATY6184E ATYPROC MEMBER DOES NOT CONTAIN ANY INPUT

Explanation

An empty member was specified on the /ATYPROC command.

System action

The command is bypassed.

User response

Correct the input and retry the command.

ATY6185E ALL ATY GROUP MEMBERS NOT USING IMS OM

Explanation

IMS Administration Tool user interface user is attempting to issue IMS commands to a IMS Administration Tool Group where at least one IMS member is not using the IMS Operations Manager.

System action

The IMS command is not issued.

User response

Either change all IMS Administration Tool Group members to use IMS Operations Manager, or make sure no members in the IMS Administration Tool Group are using IMS Operations Manager.

ATY6186E ATY GROUP MEMBERS NOT USING SAME IMSPLEX NAME

Explanation

IMS Administration Tool user interface user is attempting to issue IMS commands to a IMS Administration Tool Group where at least one IMS member is not using the same IMSPLEX name as the other IMS members in the IMS Administration Tool Group.

System action

The IMS command is not issued.

User response

Correct the IMSPLEX name using the IMS System Information panel.

ATY6187E NO IMS SYSTEMS DEFINED FOR THIS ATY GROUP

Explanation

IMS Administration Tool user interface user is attempting to issue IMS commands to a IMS Administration Tool Group but the IMS Administration Tool Group has no IMS members defined for it.

System action

The IMS command is not issued.

User response

Add IMS members to the IMS Administration Tool Group or change the IMS Administration Tool Group on the IMS Command panel.

ATY6188E IMSID *ims* IS DEFINED IN ATY GROUP BUT DOES NOT EXIST

Explanation

IMS Administration Tool user interface user is attempting to issue IMS commands to a IMS Administration Tool Group but the named IMSID (*ims*) has not been defined using the IMS System Information panel.

System action

The IMS command is not issued.

User response

Add the IMSID using the IMS System Information panel, or remove the IMSID from the IMS Administration Tool Group using the IMS Administration Tool Group IMSID List panel.

ATY6190E USE OF GROUP/IMSID NOT AUTHORIZED

Explanation:
Use of the IMS Administration Tool Group or the IMS subsystem is not authorized.

System action:
The command is not run.

User response:
See your Security Administrator.

ATY6202E ATY VSAM OPTIONS DATA SET NOT FOUND

Explanation

The IMS Administration Tool user interface function that maintains the job records was unable to locate the data set specified on the IMS Administration Tool Primary Options Menu.

System action

The user interface continues.

User response

Correct the data set name, or allocate and initialize the specified name as required. If you are creating a new data set, use the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY6203E ATYVSAM SVC99 RC=*rc* FOR *dsn*

Explanation

The IMS Administration Tool user interface encountered an error while attempting to dynamically allocate the options data set specified on the IMS Administration Tool Primary Options Menu.

System action

The user interface continues.

User response

Correct the condition based on any other accompanying message that might have been displayed, or check the dynamic allocation messages for more information.

ATY6204E ATYVSAM OPEN ERROR REASON=*rsn*

Explanation

An error occurred attempting to open the options data set. The error might be due to the options data set not being properly initialized. Additional message information might be displayed on the z/OS Syslog.

System action

The user interface continues.

User response

Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY6205E ATYVSAM EMPTY KSDS INIT FAILURE

Explanation

The options data set has not been properly initialized.

System action

The user interface continues.

User response

Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY6206I ATYVSAM EMPTY KSDS INIT SUCCESSFUL

Explanation

The options data set has been initialized.

System action

The user interface continues.

User response

N/A

ATY6207I JOB RECORD MAINTENANCE COMPLETE

Explanation

The options data set job record update has completed.

System action

The user interface continues.

User response

N/A

ATY6209E ATYVSAM UPDATE ERROR

Explanation

The IMS Administration Tool user interface function encountered an unexpected error while attempting to update a job record in the options data set.

System action

The user interface continues.

User response

Take any required action based on accompanying messages or contact IBM Software Support.

ATY6210E ATYVSAM OPEN ERROR REASON=*rsn*

Explanation

The IMS Administration Tool user interface function was unable to open the options data set that was specified on the IMS Administration Tool Primary Options Menu.

System action

The user interface continues.

User response

Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY6211E ATYVSAM PUT ERROR RC=*rc* REASON=*rsn*

Explanation

The IMS Administration Tool user interface function was unable to update a job record in the options data set.

System action

The user interface continues.

User response

Take any corrective action required based on the VSAM return information displayed in the text of the message.

ATY6212E ATYVSAM GET ERROR RC=*rc* REASON=*rsn*

Explanation

The IMS Administration Tool user interface function was unable to retrieve a job record from the options data set.

System action

The user interface continues.

User response

Take any corrective action required based on the VSAM return information displayed in the message text.

ATY6213E JOBNAME CANNOT CONTAIN IMBEDDED SPACES

Explanation

The value specified in the Jobname/JobMask field is invalid.

System action

Updates are bypassed.

User response

Correct the name in the Jobname/JobMask field and retry the update.

ATY6215E JOBNAME MUST BE ALPHANUMERIC

Explanation

Invalid characters have been specified in the Jobname/JobMask field.

System action

Updates are bypassed.

User response

Correct the name in the Jobname/JobMask field and retry the update.

ATY6216E JOBNAME 1ST CHAR MUST BE ALPHABETIC OR $/#/@

Explanation

An invalid name has been specified in the Jobname/JobMask field.

System action

Updates are bypassed.

User response

Change the first character of the Jobname/JobMask field to one of the listed values.

ATY6217E YOU NEED RACF AUTHORIZATION FOR THIS FUNCTION - R15=*r*15 RET=*rc* RSN=*rsn*

Explanation

The attempted operation was protected in the RACF FACILITY class. The RACF user ID that is attempting to perform this function does not have proper security authorization.

System action

The update process is disallowed.

User response

Contact your security department to obtain proper authorization.

ATY6218I LOCATE FAILED - END OF JOB LIST REACHED

Explanation

IMS Administration Tool user interface user has entered a locate command for a jobname from the Job List panel, but no matches were found for the entered name.

System action

The Job List panel is displayed again.

User response

Specify another locate command if necessary.

ATY6301I ATY VSAM OPTIONS DATA SET NOT FOUND

Explanation

The IMS Administration Tool user interface function that maintains the IMS records was unable to locate the data set specified on the IMS Administration Tool Primary Options Menu.

System action

The user interface continues.

User response

Correct the data set name, or allocate and initialize the specified name as required. If you are creating a new data set, use the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY6303E ATYVSAM SVC99 RC=*rc* FOR *dsn*

Explanation

The IMS Administration Tool user interface encountered an error while attempting to dynamically allocate the options data set specified on the IMS Administration Tool Primary Options Menu.

System action

The user interface continues.

User response

Correct the condition based on any other accompanying message that might have been displayed, or check the dynamic allocation messages for more information.

ATY6304E ATYVSAM OPEN ERROR REASON=*rsn*

Explanation

An error occurred attempting to open the options data set. The error might be due to the options data set not being properly initialized. Additional message information might be displayed on the z/OS Syslog.

System action

The user interface continues.

User response

Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY6305E ATYVSAM EMPTY KSDS INIT FAILURE

Explanation

The options data set has not been properly initialized.

System action

The user interface continues.

User response

Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY6306I ATYVSAM EMPTY KSDS INIT SUCCESSFUL

Explanation

The options data set has been initialized.

System action

The user interface continues.

User response

N/A

ATY6307I IMS RECORD MAINTENANCE COMPLETE

Explanation

The options data set IMS record update has completed.

System action

The user interface continues.

User response

N/A

ATY6308I IMS SYSTEM RECORD SAVED

Explanation

The options data set IMS record has been successfully updated.

System action

The user interface continues.

User response

N/A

ATY6309E ATYVSAM UPDATE ERROR

Explanation

The IMS Administration Tool user interface function encountered an unexpected error while attempting to update an IMS record in the options data set.

System action

The user interface continues.

User response

Take any required action based on accompanying messages or contact IBM Software Support.

ATY6310E ATYVSAM OPEN ERROR REASON=*rsn*

Explanation

The IMS Administration Tool user interface function was unable to open the options data set that was specified on the IMS Administration Tool Primary Options Menu.

System action

The user interface continues.

User response

Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY6311E ATYVSAM PUT ERROR RC=*rc* REASON=*rsn*

Explanation

The IMS Administration Tool user interface function was unable to update an IMS record in the options data set.

System action

The user interface continues.

User response

Take any corrective action required based on the VSAM return information displayed in the text of the message.

ATY6312E ATYVSAM GET ERROR RC=*rc* REASON=*rsn*

Explanation

The IMS Administration Tool user interface function was unable to retrieve an IMS record from the options data set.

System action

The user interface continues.

User response

Take any corrective action required based on the VSAM return information displayed in the message text.

ATY6313E IMSID CANNOT BE LEFT BLANK

Explanation

The IMSID field must be specified.

System action

Updates are bypassed.

User response

Enter an IMSID value and retry the update.

ATY6314I NO IMS RECORDS FOUND

Explanation

This informational message indicates that this is the first IMS record being added to the options data set.

System action

The user interface continues.

User response

Enter the required IMS information.

ATY6315E YOU NEED RACF AUTHORIZATION FOR THIS FUNCTION - R15=*r*15 RET=*rc* RSN=*rsn*

Explanation

The attempted operation was protected in the RACF FACILITY class. The RACF user ID that is attempting to perform this function does not have proper security authorization.

System action

The update process is disallowed.

User response

Contact your security department to obtain proper authorization.

ATY6316I LOCATE FAILED - END OF IMS SYSTEM LIST REACHED

Explanation

IMS Administration Tool user interface user has entered a locate command for an IMS system from the IMS System List panel, but no matches were found for the entered name.

System action

The IMS System List panel is displayed again.

User response

Specify another locate command if necessary.

ATY6317E INVALID VALUE IN COMMAND ROUTING TECHNIQUE

Explanation

The value specified for the Command Routing Technique is not one of the listed values.

System action

Updates are bypassed.

User response

Change the value in the Command Routing Technique field to one of the listed values and try the operation again.

ATY6318E RESTRICTED VALUE IN USER DFSAOE00 NAME

Explanation

The value specified for User DFSAOE00 Name is not allowed by IMS Administration Tool.

System action

Updates are bypassed.

User response

Change the value in the User DFSAOE00 Name to one allowed by IMS Administration Tool and retry the operation.

ATY6401I ATY IMSPLEX MAINTENANCE COMPLETE

Explanation

The IMS Administration Tool user interface function that maintains the IMS Administration Tool group records in the options data set completed successfully.

System action

The user interface continues.

User response

N/A

ATY6402E ATY VSAM OPTIONS DATA SET NOT FOUND *dsn*

Explanation

The IMS Administration Tool user interface function that maintains the IMS Administration Tool group records was unable to locate the data set specified on the IMS Administration Tool Primary Options Menu.

System action

The user interface continues.

User response

Correct the data set name, or allocate and initialize the specified name as required. If you are creating a new data set, use the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY6403E ATYVSAM SVC99 RC=*rc* FOR

Explanation

The IMS Administration Tool user interface encountered an error while attempting to dynamically allocate the options data set specified on the IMS Administration Tool Primary Options Menu.

System action

The user interface continues.

User response

Correct the condition based on any other accompanying message that might have been displayed, or check the dynamic allocation messages for more information.

ATY6404E ATYVSAM OPEN ERROR REASON=*rsn*

Explanation

An error occurred attempting to open the options data set. The error might be due to the options data set not being properly initialized. Additional message information might be displayed on the z/OS Syslog.

System action

The user interface continues.

User response

Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY6405E ATYVSAM EMPTY KSDS INIT FAILURE

Explanation

The options data set has not been properly initialized.

System action

The user interface continues.

User response

Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY6406I ATYVSAM EMPTY KSDS INIT SUCCESSFUL

Explanation

The options data set has been initialized.

System action

The user interface continues.

User response

N/A

ATY6407I ATY IMSPLEX RECORD MAINTENANCE COMPLETE

Explanation

The options data set IMS Administration Tool group record update has completed.

System action

The user interface continues.

User response

N/A

ATY6408I ATY IMSPLEX RECORD SAVED

Explanation

The options data set IMS Administration Tool group record has been successfully updated.

System action

The user interface continues.

User response

N/A

ATY6409E ATYVSAM UPDATE ERROR

Explanation

The IMS Administration Tool user interface function encountered an unexpected error while attempting to update a IMS Administration Tool group record in the options data set.

System action

The user interface continues.

User response

Take any required action based on accompanying messages or contact IBM Software Support.

ATY6410E ATYVSAM OPEN ERROR REASON=*rsn*

Explanation

The IMS Administration Tool user interface function was unable to open the options data set that was specified on the IMS Administration Tool Primary Options Menu.

System action

The user interface continues.

User response

Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY6411E ATYVSAM PUT ERROR RC=*rc* REASON=*rsn*

Explanation

The IMS Administration Tool user interface function was unable to update a IMS Administration Tool group record in the options data set.

System action

The user interface continues.

User response

Take any corrective action required based on the VSAM return information displayed in the text of the message.

ATY6412E ATYVSAM GET ERROR RC=*rc* REASON=*rsn*

Explanation

The IMS Administration Tool user interface function was unable to retrieve a IMS Administration Tool group record from the options data set.

System action

The user interface continues.

User response

Take any corrective action required based on the VSAM return information displayed in the message text.

ATY6413E IMSPLEX CANNOT BE LEFT BLANK

Explanation

The IMS Administration Tool group field must be specified.

System action

Updates are bypassed.

User response

Enter a IMS Administration Tool group name and retry the update.

ATY6414I NO ATY IMSPLEX RECORDS FOUND

Explanation

This informational message indicates that this is the first IMS Administration Tool group record being added to the options data set.

System action

The user interface continues.

User response

Enter the required IMS Administration Tool group information.

ATY6415E **YOU NEED RACF AUTHORIZATION FOR THIS FUNCTION - R15=*r*15 RET=*rc* RSN=*rsn***

Explanation

The attempted operation was protected in the RACF FACILITY class. The RACF user ID that is attempting to perform this function does not have proper security authorization.

System action

The update process is disallowed.

User response

Contact your security department to obtain proper authorization.

ATY6416I **LOCATE FAILED - END OF ATY GROUP LIST REACHED**

Explanation

IMS Administration Tool user interface user has entered a locate command for an IMS Administration Tool Group from the IMS Administration Tool Group List panel, but no matches were found for the entered name.

System action

The IMS Administration Tool Group List panel is displayed again.

User response

Specify another locate command if necessary.

ATY6501I **ATY STORE/FORWARD EDIT COMPLETE**

Explanation

The IMS Administration Tool user interface function has completed its editing of the store/forward data set.

System action

The user interface continues.

User response

N/A

ATY6502E **ATY STORE/FORWARD DATA SET NOT FOUND**

Explanation

The data set specified for store/forward is not defined on this system.

System action

The user interface continues.

User response

Correct the name of the store/forward data set and retry the operation.

ATY6503E **ATYSFVSM SVC99 RC=*rc* FOR *dsn***

Explanation

The IMS Administration Tool user interface encountered an error while attempting to dynamically allocate the store/forward data set.

System action

The user interface continues.

User response

Correct the condition based on any other accompanying message that might have been displayed, or check the dynamic allocation messages for more information.

ATY6504E **ATY STORE/FORWARD DATA SET IN USE**

Explanation

The store/forward data set is in use by another job or user.

System action

The user interface continues.

User response

Try the operation after the other job or user completes the processing of the store/forward data set.

ATY6505I NO CHANGES TO ATY STORE/ FORWARD DATASET

Explanation

The edit session of the store/forward data set completed, but there were no updates made to the data set.

System action

The user interface continues.

User response

N/A

ATY6506I STORE/FORWARD BROWSE SUCCESSFUL

Explanation

The browse session of the store/forward data set completed.

System action

The user interface continues.

User response

N/A

ATY6507I STORE/FORWARD EDIT SUCCESSFUL

Explanation

The edit of the store/forward data set successfully completed.

System action

The user interface continues.

User response

N/A

ATY6508E YOU NEED RACF AUTHORIZATION FOR THIS FUNCTION - R15=*r*15 RET=*rc* RSN=*rsn*

Explanation

The attempted operation was protected in the RACF FACILITY class. The RACF user ID that is attempting to perform this function does not have proper security authorization.

System action

The update process is disallowed.

User response

Contact your security department to obtain proper authorization.

ATY6601W WILDCARD TABLE INITIALIZATION FAILED

Explanation

An error occurred attempting to build the wildcard table.

System action

Skips the command and continues from the next command.

User response

If any other error messages are issued before this message, follow the user response for those messages. If no error messages are issued before this message, contact IBM Software Support.

ATY6602I NO NAMES MATCH WILDCARD MASK

Explanation

No names matched the wildcard pattern specified in the command.

System action

Processing continues.

User response

N/A

ATY6603I *table* WILDCARD TABLE OBTAINED FROM *ims*

Explanation

The wildcard table has been obtained by issuing a /DIS x ALL command to the displayed IMS (*ims*) region.

System action

Processing continues.

User response

N/A

ATY6701I ATY LOG VIEW COMPLETE

Explanation

The IMS Administration Tool user interface function for browsing the Message Log has successfully completed.

System action

The user interface continues.

User response

N/A

ATY6702E ATY VSAM OPTIONS DATA SET NOT [SPECIFIED | FOUND]

Explanation

The VSAM options data set is not specified in the ATY#OPTS module.

System action

The user interface continues.

User response

Create the VSAM options data set, specify the data set name to the ATY#OPTS module, and register the *loadlib* data set to the SYSLOAD variable. Instructions are provided in "Configure VSAM options data set" on page 26.

ATY6703E ATYVSAM SVC99 R15=*r*15 RC=*rc* FOR *dsn*

Explanation

The IMS Administration Tool user interface encountered an error while attempting to dynamically allocate the options data set specified on the IMS Administration Tool Primary Options Menu.

System action

The user interface continues.

User response

Correct the condition based on any other accompanying message that might have been displayed, or check the dynamic allocation messages for more information.

ATY6704E ATYVSAM OPEN ERROR REASON=*rsn*

Explanation

An error occurred attempting to open the options data set. The error might be due to the options data set not being properly initialized. Additional message information might be displayed on the z/OS Syslog.

System action

The user interface continues.

User response

Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY6708E ATY LOGSTREAM CONNECT ERROR - RET=*rc* RSN=*rsn* LSN=*lsn*

Explanation

An error was encountered attempting to connect to the specified log stream (*lsn*) using service IXGCONN REQUEST=CONNECT.

System action

The user interface continues.

User response

Review the IXGCONN return and reason codes contained in *rc* and *rsn*, respectively. Correct the problem and retry the operation.

ATY6709E ATY LOGSTREAM NAME NOT DEFINED IN THE LOGR POLICY - LSN=*lsn*

Explanation

An error was encountered attempting to connect to the specified log stream (*lsn*) using service IXGCONN REQUEST=CONNECT.

System action

The user interface continues.

User response

Ensure the Message Log customization procedure of this manual has completed successfully.

ATY6711E ATY LOGSTREAM BROWSE START ERROR - RET=*rc* RSN=*rsn* - LSN=*lsn*

Explanation

An error was encountered attempting to read the log stream using service IXGBRWSE REQUEST=START.

System action

The user interface continues.

User response

Review the IXGBRWSE return and reason codes contained in *rc* and *rsn*, respectively. Correct the problem and retry the operation.

ATY6711I NO RECORDS RETURNED FOR THIS SEARCH

Explanation

No records in the Message Log log stream matched the specified search criteria.

System action

The user interface continues.

User response

Adjust the search criteria and retry the operation.

ATY6714I NO IMS SYSTEM RECORDS FOUND

Explanation

There were no IMS records in the options data set.

System action

The user interface continues.

User response

IMS Administration Tool customization is not complete until there are IMS definitions in the options data set. Add IMS definitions to the options data set and retry the operation.

ATY6715E YOU NEED RACF AUTHORIZATION FOR THIS FUNCTION - R15=r15 RET=*rc* RSN=*rsn*

Explanation

The attempted operation was protected in the RACF FACILITY class. The RACF user ID that is attempting to perform this function does not have proper security authorization.

System action

The update process is disallowed.

User response

Contact your security department to obtain proper authorization.

ATY6900E ATY REMOTE BMP ABEND=S*code1* U*code2*

Explanation

The IMS Administration Tool remote STC BMP ended abnormally with either a system (code1) or user (code2) abend.

System action

Processing is aborted.

User response

Correct the reason for the abnormal termination and rerun the job.

ATY7001E INVALID NUMBER OF PARAMETERS

Explanation

A IMS Administration Tool internal error occurred.

System action

The job terminates abnormally with completion code U4083.

User response

Contact IBM Software Support.

ATY7002E SCD ADDRESS REQUIRED

Explanation

A IMS Administration Tool internal error occurred.

System action

The job terminates abnormally with completion code U4083.

User response

Contact IBM Software Support.

ATY7003E INVALID SCD ADDRESS PASSED

Explanation

A IMS Administration Tool internal error occurred.

System action

The job terminates abnormally with completion code U4083.

User response

Contact IBM Software Support.

ATY7101E ATYSTFWD DDNAME MISSING

Explanation

Store/forward data set initialization failed due to missing DDNAME ATYSTFWD.

System action

The job terminates with a completion code of 16.

User response

Add the required DDNAME and rerun the job.

ATY7102E GENCB ACB1 ERROR

Explanation

Store/forward data set initialization failed attempting to build VSAM control blocks. Additional error messages might be displayed on the z/OS Syslog.

System action

The job terminates abnormally.

User response

Correct any errors. If the problem persists, contact IBM Software Support.

ATY7103E GENCB RPL1 ERROR

Explanation

Store/forward data set initialization failed attempting to build VSAM control blocks. Additional error messages might be displayed on the z/OS Syslog.

System action

The job terminates abnormally.

User response

Correct any errors and rerun the job. If the problem persists, contact IBM Software Support.

ATY7104W COMMAND STORE/FORWARD DATA SET ALREADY INITIALIZED

Explanation

An attempt was made to initialization the store/forward data set, but the data set has already been initialized.

System action

The job terminates with a completion code of 4.

User response

N/A

ATY7105E ATYVSAM INIT ERROR

Explanation

An error was encountered attempting to write the header record to the store/forward data set.

System action

The job terminates abnormally.

User response

Correct any errors and rerun the job. If the problem persists, contact IBM Software Support.

ATY7106I COMMAND STORE/FORWARD DATA SET INITIALIZATION SUCCESSFUL

Explanation

The store/forward data has been successfully initialized.

System action

Processing continues.

User response

N/A

ATY7201I EITHER MSG DISP OR AOITOKEN REQUIRED

Explanation

One or both of the listed values must be specified.

System action

Updates bypassed.

User response

Correct the information on the screen and retry the operation.

ATY7202E ATY VSAM OPTIONS DATA SET NOT FOUND

Explanation

The IMS Administration Tool user interface function that maintains the MSG records was unable to locate the data set specified on the IMS Administration Tool Primary Options Menu.

System action

The user interface continues.

User response

Correct the data set name, or allocate and initialize the specified name as required. If you are creating a new data set, use the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY7203E ATYVSAM SVC99 RC=*rc* FOR *dsn*

Explanation

The IMS Administration Tool user interface encountered an error while attempting to dynamically allocate the options data set specified on the IMS Administration Tool Primary Options Menu.

System action

The user interface continues.

User response

Correct the condition based on any other accompanying message that might have been displayed, or check the dynamic allocation messages for more information.

ATY7204E ATYVSAM OPEN ERROR REASON=*rsn*

Explanation

An error occurred attempting to open the options data set. The error might be due to the options data set not being properly initialized. Additional message information might be displayed on the z/OS Syslog.

System action

The user interface continues.

User response

Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY7205I MSG DISPOSITION RECORD MAINTENANCE COMPLETE

Explanation

The options data set MSG table record update has completed.

System action

The user interface continues.

User response

N/A

ATY7206I MSG DISPOSITION RECORD SAVED

Explanation

The options data set MSG table record has been successfully updated.

System action

The user interface continues.

User response

N/A

ATY7207E ATYVSAM OPEN ERROR REASON=*rsn*

Explanation

An error occurred attempting to open the options data set. The error might be due to the options data

set not being properly initialized. Additional message information might be displayed on the z/OS Syslog.

System action

The user interface continues.

User response

Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY7208E ATYVSAM PUT ERROR RC=*rc* REASON=*rsn*

Explanation

The IMS Administration Tool user interface function was unable to update a MSG table record in the options data set.

System action

The user interface continues.

User response

Take any corrective action required based on the VSAM return information displayed in the text of the message.

ATY7209E ATYVSAM GET ERROR RC=*rc* REASON=*rsn*

Explanation

The IMS Administration Tool user interface function was unable to retrieve a MSG table record in the options data set.

System action

The user interface continues.

User response

Take any corrective action required based on the VSAM return information displayed in the text of the message.

ATY7210I NO MSG DISPOSITION RECORDS FOUND

Explanation

The IMS Administration Tool user interface function did not locate any MSG table records in the options data set.

System action

The user interface continues.

User response

Complete the required fields and press enter.

ATY7211E YOU NEED RACF AUTHORIZATION FOR THIS FUNCTION - R15=r15 RET=*rc* RSN=*rsn*

Explanation

The attempted operation was protected in the RACF FACILITY class. The RACF user ID that is attempting to perform this function does not have proper security authorization.

System action

The update process is disallowed.

User response

Contact your security department to obtain proper authorization.

ATY7212I LOCATE FAILED - END OF MESSAGE DISPOSITION LIST REACHED

Explanation

IMS Administration Tool user interface user has entered a locate command for a msgtable from the Message Disposition List panel, but no matches were found for the entered name.

System action

The Message Disposition List panel is displayed again.

User response

Specify another locate command if necessary.

ATY7301E ATYLSCD RECEIVED AN INCORRECT NUMBER OF PARAMETERS

Explanation

A IMS Administration Tool internal error has occurred.

System action

The job terminates abnormally with completion code U4083.

User response

Contact IBM Software Support.

ATY7401E CSLSCREG FAILED FOR: CSLplex RC=*rc* RSN=*rsn*

Explanation

An error was encountered attempting to connect to the Common Service Layer PLEX plex. The return and reason codes are contained in *rc* and *rsn*, respectively.

System action

The job terminates with the user-defined return code or user-defined abend code.

User response

Find the return (*rc*) and reason (*rsn*) code for CSLSCREG in the *IMS Common Service Layer Guide and Reference*.

ATY7402E CSLSCQRY FAILED, RC=*rc* RSN=*rsn*

Explanation

An error was encountered attempting to query the Common Service Layer PLEX plex. The return and reason codes are contained in *rc* and *rsn*, respectively.

System action

The job terminates with the user-defined return code or user-defined abend code.

User response

Find the return (*rc*) and reason (*rsn*) code for CSLSCREG in the *IMS Common Service Layer Guide and Reference*.

ATY7403E NO DATA RETURNED FROM CSLSCQRY

Explanation

The CSLSCQRY did not return any data.

System action

The job terminates with the user-defined return code or user-defined abend code.

User response

Contact IBM Software Support.

ATY7404E INVALID DATA RETURNED FROM CSLSCQRY

Explanation

ATY could not identify the data returned from the CSLSCQRY call.

System action

The job terminates with the user-defined return code or user-defined abend code.

User response

Contact IBM Software Support.

ATY7405E NO ENTRIES IN IMS OM GROUP

Explanation

IMS Administration Tool was able to connect to the Common Service Layer group, but there were no IMS systems connected.

System action

The job terminates with the user-defined return code or user-defined abend code.

User response

Wait for IMS regions to join the Operations Manager group and run the job again.

ATY7406E OPERATIONS MANAGER NOT ACTIVE IN GROUP: CSLplex

Explanation

IMS Administration Tool was able to connect to the Common Service Layer group, but the Operations Manager task was not active in the group.

System action

The job terminates with the user-defined return code or user-defined abend code.

User response

Wait for an Operations Manager task to join the group and run the job again.

ATY7407W IMS MEMBER *ims* FOUND IN CSL GROUP BUT NOT IN ATY GROUP

Explanation

IMS region *ims* was found in the Common Service Layer group, but it was not defined as being a part of the IMS Administration Tool group. Commands might get routed to this IMS.

System action

Processing continues.

User response

If *ims* should be part of the IMS Administration Tool group, use the IMS Administration Tool user interface to add it to the IMS Administration Tool group.

ATY7408W **ATY GROUP MEMBER *ims* NOT ACTIVE IN CSL GROUP**

Explanation

A member of a IMS Administration Tool group (*ims*) was not active in the Common Service Layer group.

System action

The action taken is determined by the setting for ROUTING errors.

User response

If ROUTING=IGNORE was specified and command store/forward is active, ensure the REDO BMP runs immediately at *ims* start up.

ATY7409E **IMS *ims* NOT FOUND IN ATY GROUP**

Explanation

IMS region *ims* was found in the Common Service Layer group, but it was not defined as being a part of the IMS Administration Tool group. Commands might get routed to this IMS.

System action

Processing continues.

User response

If *ims* should be part of the IMS Administration Tool group, use the IMS Administration Tool user interface to add it to the IMS Administration Tool group.

ATY7410E **MEMBER *ims* IS NOT ACTIVE IN CSL GROUP**

Explanation

A member of a IMS Administration Tool group (*ims*) was not active in the Common Service Layer group.

System action

The action taken is determined by the setting for ROUTING errors.

User response

If ROUTING=IGNORE was specified and command store/forward is active, ensure the REDO BMP runs immediately at *ims* start up.

ATY7411E **NO ACTIVE IMS SYSTEMS IN CSL GROUP**

Explanation

IMS Administration Tool was able to connect to the Common Service Layer group, but there were no active IMS regions in the group.

System action

The job terminates with the user-defined return code or user-defined abend code.

User response

Wait for the IMS regions to join the group and run the job again.

ATY7412E **DATAGRP NOT DEFINED, JOB TERMINATING DUE TO ERR488= SPECIFICATION**

Explanation

DATAGRPEXP=Y is in effect, but IMS Administration Tool could not obtain a list of database names from DBRC. This might be due to the DATAGRP not being defined, or the wrong set of RECON data sets in the STEPLIB concatenation.

System action

The job terminates with a user-defined return code or user-defined abend code.

User response

Turn off DATAGRPEXP, define the DATAGRP to DBRC, or add the correct RECON data sets to the STEPLIB concatenation, and run the job again.

ATY7413I **COMMAND BEING ROUTED TO *type* = *name* {PLEX = *plexname*}**

Explanation

The following command is routed to Operations Manager for processing.

The destination is designated by *name* and the *type* is either a Group name or a specific IMSID.

If the Group members are in an IMSplex, then the IMSplex name is shown.

System action:
Processing continues.

User response:
N/A

ATY7414E **/MOD PREPARE FAILED, CSLOMCMD RC=*rc* RSN=*rsn***

Explanation

An error was encountered processing a /MOD PREPARE command using the CSLOMCMD call. The return and reason codes are contained in *rc* and *rsn*, respectively.

System action

Depending on the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response

The return and reason codes can be found in the *IMS Common Service Layer Guide and Reference*. Correct the reason for the failure and run the job again.

ATY7415I **DATAGRP NOT DEFINED, BYPASSING COMMAND DUE TO ERR488= SPECIFICATION**

Explanation

DATAGRPEXP=Y is in effect, but IMS Administration Tool could not obtain a list of database names from DBRC. This might be due to the DATAGRP not being defined, or the wrong set of RECON data sets in the STEPLIB concatenation.

System action

The command is passed unchanged to IMS.

User response

Turn off DATAGRPEXP, define the DATAGRP to DBRC, or add the correct RECON data sets to the STEPLIB concatenation, and run the job again.

ATY7416E **CSLOMCMD COMMAND ISSUED RC=*rc* RSN=*rsn***

Explanation

An error was encountered while attempting a command using the CSLOMCMD call. The return and reason codes are contained in *rc* and *rsn*, respectively.

System action

Depending on the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response

The return and reason codes can be found in the *IMS Common Service Layer Guide and Reference*. Correct the reason for the failure and run the job again.

ATY7417W **CSLOMCMD COMMAND ISSUED RC=*rc* RSN=*rsn***

Explanation

An error was encountered while attempting a command using the CSLOMCMD call. The return and reason codes are contained in *rc* and *rsn*, respectively.

System action

Depending on the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response

The return and reason codes can be found in the *IMS Common Service Layer Guide and Reference*. Correct the reason for the failure and run the job again.

ATY7418I **ONLINE CHANGE FUNCTION SUCCESSFUL**

Explanation

/ATYMOD processing successfully completed.

System action

Processing continues.

User response

N/A

ATY7419E "NO WORK PENDING" NOT RECEIVED, ABORT STARTED

Explanation

After successfully issuing a /MOD PREPARE command to all IMS regions, the /DIS MODIFY ALL did not receive the `NO WORK PENDING` message for all systems.

System action

If /ATYMOD processing is failing, IMS Administration Tool issues /MOD ABORT to all IMS regions. After the abort processing completes, depending on the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response

Determine the reason why the `NO WORK PENDING` message was not received, correct the condition preventing the online change, and run the job again.

ATY7420E *ddn* LIBRARY NOT SWAPPED ON *ims*

Explanation

A IMS Administration Tool internal error occurred. After what was believed to be a successful online change, there are libraries that did not change DDNAME suffixes.

System action

Depending on the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response

Contact IBM Software Support.

ATY7421E MAX RETRIES REACHED, ABORT PROCESS STARTED

Explanation

The /ATYMOD process did not receive the `NO WORK PENDING` display from all systems even after the maximum number of retry attempts.

System action

/MOD ABORT processing is started. The job terminates with the user-defined return code or user-defined abend code.

User response

Correct the problem that was preventing the `NO WORK PENDING` display and run the job again.

ATY7422W CSLOMCMD COMMAND ISSUED RC=*rc* RSN=*rsn*

Explanation

An error was encountered while attempting a command using the CSLOMCMD call. The return and reason codes are contained in *rc* and *rsn*, respectively.

System action

Depending on the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response

The return and reason codes can be found in the *IMS Common Service Layer Guide and Reference*. Correct the reason for the failure and run the job again.

ATY7423E ONLINE CHANGE FAILED, /MOD REVERSE BEING INITIATED

Explanation

A /MOD COMMIT failed on an IMS system after a /MOD COMMIT was successful on one or more IMS systems. Because MODREVERSE=Y is in effect, IMS Administration Tool attempts to restore the IMS systems where the /MOD COMMIT was successful to pre-online change state.

System action

After MODREVERSE processing completes, and dependent upon the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response

Ensure all IMS systems were returned to pre-online change state, correct the condition that caused the /MOD COMMIT to fail, and run the job again.

ATY7424E ONLINE CHANGE FAILED, TERMINATING

Explanation

A severe error occurred during /ATYMOD processing. Prior messages describe the condition that caused the online change failure.

System action

Depending on the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response

Follow user response for previously displayed messages.

ATY7425E ONLINE CHANGE FAILED, IMS SYSTEM(S) NOT ACTIVE

Explanation

A /ATYMOD predefined procedure determines that all members of a IMS Administration Tool group are not active in the Common Service Layer group.

System action

Depending upon the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response

Wait for all members of the IMS Administration Tool group to become active and run the job again.

ATY7426W CSLOMCMD RECEIVED RC=*rc* RSN=*rsn*

Explanation

An error was encountered while attempting a command using the CSLOMCMD call. The return and reason codes are contained in *rc* and *rsn*, respectively.

System action

Depending on the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response

The return and reason codes can be found in the *IMS Common Service Layer Guide and Reference*. Correct the reason for the failure and run the job again.

ATY7427W MAX RETRIES REACHED

Explanation

A database command has been attempted the number of times specified in RETRYATT and there are still databases not in the required state.

System action

The action taken is determined by the setting for ERR488 errors.

User response

Review the conditions that caused the database command to be unsuccessful and take appropriate action.

ATY7428E JOB TERMINATING DUE TO ERR488 SPECIFICATION

Explanation

A database command has been attempted the number of times specified in RETRYATT and there are still databases not in the required state.

System action

The job terminates due to the setting for ERR488 errors.

User response

Review the conditions that caused the database command to be unsuccessful and take appropriate action.

ATY7429I COMMAND BYPASSED DUE TO OPERATOR RESPONSE

Explanation

A database command has been attempted the number of times specified in RETRYATT and there are still databases not in the required state. Error option ERR488=WTOR is in effect and the operator replied S to skip the failed command.

System action

Processing continues.

User response

Review the conditions that caused the database command to be unsuccessful and take appropriate action.

ATY7430W **COMMAND BYPASSED DUE TO ERR488=IGNORE SPECIFICATION**

Explanation

A database command has been attempted the number of times specified in RETRYATT and there are still databases not in the required state. The command is bypassed due to error option ERR488=IGNORE being in effect.

System action

Processing continues.

User response

Review the conditions that caused the database command to be unsuccessful and take appropriate action.

ATY7431I **COMMAND BEING ATTEMPTED AGAIN DUE TO OPERATOR RESPONSE**

Explanation

A database command has been attempted the number of times specified in RETRYATT and there are still databases not in the required state. Error option ERR488=WTOR is in effect and the operator replied R to retry the command.

System action

The command is tried again.

User response

N/A

ATY7432E **TASK TERMINATING DUE TO ROUTING= SPECIFICATION**

Explanation

A command has been attempted the number of times specified in RETRYATT and still did not process successfully on all systems.

System action

The job terminates due to the setting for ROUTING errors.

User response

Review the conditions that caused the command to be unsuccessful and take appropriate action.

ATY7433I **UNAVAILABLE IMS BYPASSED DUE TO ROUTING=IGNORE SPECIFICATION**

Explanation

A command has been attempted the number of times specified in RETRYATT and still did not process successfully on all systems.

System action

If command store/forward is active, the command is written to the store/forward data set. The job continues processing.

User response

Review the conditions that caused the command to be unsuccessful and take appropriate action. If the command is written to the store/forward data set, ensure the REDO BMP runs when the failed IMS is restarted.

ATY7434I **ROUTING=IGNORE ESTABLISHED DUE TO OPERATOR RESPONSE**

Explanation

After a command failed due to a routing error, an operator replied S to skip routing errors. For this and all subsequent commands, routing errors are skipped.

System action

Processing continues.

User response

N/A

ATY7435I **IMS AVAILABILITY RE-VERIFIED DUE TO OPERATOR RESPONSE**

Explanation

A command failed due to a routing error and an operator replied R to retry the failed command.

System action

The command is tried again.

User response

N/A

ATY7436I **REQUESTED IMS IS NOT ACTIVE IN THE CSL GROUP**

Explanation

A command is being routed to a specific IMS system, but that system is not active in the Common Service Layer group.

System action

Processing continues.

User response

N/A

ATY7437E **ERROR ATTEMPTING DBRC VALIDATION, VALIDATION BYPASSED**

Explanation

An error described by a prior message was encountered during DBRC validation.

System action

DBRC validation is not performed and the job proceeds as determined by the prior error condition.

User response

Follow the User Response described in prior error message.

ATY7438E **DB OPEN FOR SSID= *ssid* ACC= *access* DBD= *database* AREA= *area***

Explanation

An IMS /DBD or /DBR command was issued and DBRC validation was requested, but one or more databases are registered in the RECON as being open with an UPDATE intent.

- SSID= shows the subsystem that is using AREA
- ACC= shows the processing intent
- DBD= shows the database
- AREA= shows the AREA name

System action

The action taken is determined by the setting for DBRC errors.

User response

Review prior messages and determine if the command needs to be reissued.

ATY7439E **DATABASE STILL AUTHORIZED IN DBRC, DBD: *dbd***

Explanation

An IMS /DBD or /DBR command was issued and DBRC validation was requested, however, one or more databases are still registered in the RECON as being open with UPDATE intent.

System action

The action taken is determined by the setting for DBRC errors.

User response

Review prior messages and determine if command needs to be reissued.

ATY7440E **DATABASE STILL AUTHORIZED IN DBRC, DBD: *dbd* AREA *area***

Explanation

An IMS /DBD or /DBR command was issued and DBRC validation was requested, however, one or more areas are still registered in the RECON as being open with UPDATE intent.

System action

The action taken is determined by the setting for DBRC errors.

User response

Review prior messages and determine if command needs to be reissued.

ATY7441I **NO DATABASES OPEN WITH UPDATE INTENT**

Explanation

DBRC shows that all database commands executed successfully.

System action

The job step continues processing.

User response

N/A

ATY7442I **DBRC VALIDATION SUCCESSFUL**

Explanation

DBRC validation successfully completed.

System action

Processing continues.

User response

N/A

ATY7443W **COMMAND BYPASSED DUE TO OPERATOR RESPONSE**

Explanation

A database failed DBRC validation, the error option DBRC=WTOR is in effect, and the operator replied R to retry the command.

System action

The command is tried again.

User response

N/A

ATY7444E **DBRC MODULE DFSURX00 NOT FOUND, BYPASSING DBRC PROCESSING**

Explanation

DBRC has been requested for either DB verification, or to set ACCESS, but the DBRC load module is not found.

System action

The action taken is determined by the DRBC= option.

User response

If DBRC usage is required, add IMS SDFSRESL to the STEPLIB. If DBRC usage is not required, set options DBRC=NODBRC.

ATY7445W **CSLOMCMD RECEIVED RC=*rc* RSN=*rsn***

Explanation

An error was encountered while attempting a command using the CSLOMCMD call. The return and reason codes are contained in *rc* and *rsn*, respectively.

System action

Depending on the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response

The return and reason codes can be found in the *IMS Common Service Layer Guide and Reference*. Correct the reason for the failure and run the job again.

ATY7446W **CSLOMCMD RECEIVED RC=*rc* RSN=*rsn***

Explanation

An error was encountered while attempting a command using the CSLOMCMD call. The return and reason codes are contained in *rc* and *rsn*, respectively.

System action

Depending on the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response

The return and reason codes can be found in the *IMS Common Service Layer Guide and Reference*. Correct the reason for the failure and rerun the job.

ATY7447I **FOLLOWING COMMAND SAVED IN STORE/FORWARD FOR IMS: *ims***

Explanation

The following command encountered routing errors on IMS (*ims*) and is saved in the store/forward data set for subsequent processing.

System action

The failed command is written to the store/forward data set and processing continues.

User response

None. This message is informational.

ATY7448E **CSLOMCMD RECEIVED RC= *return code* RSN= *reason code***

Explanation

An error was encountered while attempting a command using the CSLOMCMD call.

The return and reason codes are contained in *rc* and *rsn*, respectively.

System action

Depending on the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response

The return and reason codes can be found in the *IMS Common Service Layer Guide and Reference*. Correct the reason for the failure and run the job again.

ATY7449W MAX RETRY ATTEMPTS REACHED

Explanation

A command has been attempted the number of times specified in RETRYATT and did not complete successfully on all systems.

System action

The action taken is dependent on the options in effect for the job.

User response

Review the conditions that caused the command to be unsuccessful and take appropriate action.

ATY7450W END OF TABLE ENCOUNTERED BUILDING DBRC DB TABLE

Explanation

Option DBACCESS=DBRC was requested, but more databases than expected were found when processing the output of a LIST.DB command. The remaining databases are not added to the DBRC table.

System action

The job step continues.

User response

The maximum size of the table might need to be increased. Contact IBM Software Support for information.

ATY7451E MODBLKS READ ROUTINE FAILED

Explanation

Option DBACCESS=GEN was requested, but an error was encountered attempting to read the MODBLKS data set.

System action

The job terminates based upon the setting for GENERAL errors. If GENERAL=SETRC, the job terminates using the value set in SETRC. Otherwise, the job terminates using the user-defined abend code.

User response

Using the IMS Administration Tool user interface, ensure the IMS System Information in the IMS record is defined correctly.

ATY7452W RETRY NOT ATTEMPTED FOR IMS: *ims* - NOT IN CSL GROUP

Explanation

A prior execution of a command failed on *ims*. While attempting a command retry, the system determined that the command should be skipped because *ims* is not active in the Common Service Layer group.

System action

Command is bypassed and processing continues.

User response

None. This message is informational.

ATY7453W OPERATIONS MANAGER DETERMINED COMMAND CONTAINED INVALID KEYWORD

Explanation

IMS Administration Tool batch processor received return code x'02000008' and reason code x'00002004' on a CSLOMCMD call. The return and reason code indicate that IMS Operations Manager determined the keyword specified in the command is invalid.

System action

The action taken depends upon the setting for GENERAL errors. The following error settings and actions are possible:

WTOR
Message ATY7460A will be issued to the z/OS syslog. IMS Administration Tool batch processing

will proceed based upon the operator response to the WTOR.

SETRC
Terminate the job step using the user-defined return code.

ABEND
Terminate the job step using the user-defined abend code.

IGNORE
This record is skipped and processing continues as if no error were encountered.

User response

Correct the command and run the job again.

ATY7454I COMMAND SKIPPED DUE TO GENERAL ERROR SPECIFICATION

Explanation

An error as described in a prior IMS Administration Tool message was encountered, but IMS Administration Tool was instructed to skip the error based upon the GENERAL=IGNORE specification.

System action

Processing continues as if no error was encountered.

Programmer response

Correct the condition described in the prior IMS Administration Tool messages and run the job again.

ATY7455I IMS OPERATIONS MANAGER DETERMINED COMMAND IS INVALID

Explanation

IMS Administration Tool batch processor received return code x'02000008' and reason code x'00002004' on a CSLOMCMD call. The return and reason code indicate that IMS Operations Manager determined the keyword specified in the command is invalid.

System action

The action taken depends upon the setting for GENERAL errors. The following error settings and actions are possible:

WTOR
Message ATY7460A will be issued to the z/OS syslog. IMS Administration Tool batch processing will proceed based upon the operator response to the WTOR.

SETRC
Terminate the job step using the user-defined return code.

ABEND
Terminate the job step using the user-defined abend code.

IGNORE
This record is skipped and processing continues as if no error were encountered.

User response

Correct the command and run the job again.

ATY7456I NO MODBLKS DDNAME, DRD ASSUMED FOR *imsid*

Explanation

IMS Administration Tool assumes that dynamic resource definition (DRD) is used in the indicated IMS.

System action

Processing continues.

User response

None. This message is informational.

ATY7460A REPLY "T" TO TERMINATE JOB OR "S" TO SKIP COMMAND

Explanation

This is a WTOR message waiting for operator's response.

This message is issued along with message ATY7453W, which indicates that the keyword specified in the command is invalid.

System action

IMS command processing batch job waits for the operator's response. Takes either of the following actions upon a response:

T
Terminates the job.

S
Skips the command and continues processing.

User response

Enter "T" or "S" to WTOR.

After the job ends, correct the command and rerun the job.

ATY7461E DATA BASE COMMAND UNSUCCESSFUL

Explanation

A database command did not execute successfully. This message is accompanied by additional messages.

System action

Processing continues.

User response

Review the accompanying messages.

ATY7462E IMS NOT AVAILABLE FOR COMMAND:

Explanation

This message precedes message ATY7497I and identifies a command that failed due to a routing error when ROUTING=WTOR is in effect.

System action

Processing continues.

User response

N/A

ATY7497I *cmd*

Explanation

This message follows one of several previously issued messages that describe the error encountered. This message displays the command that encountered the error.

System action

Processing continues.

User response

N/A

ATY7499I ONE OR MORE DATA BASES STILL HELD IN DBRC

Explanation

DBRC validation has been requested, however, one or more databases are still registered in the RECON and open with update intent. This message is accompanied by ATY7460A.

System action

Processing continues.

User response

N/A

ATY7500I ATY OPTIONS DATASET INITIALIZATION SUCCESSFUL

Explanation

The options data set utility successfully completed.

System action

Processing continues.

User response

None. This message is informational.

ATY7501W ATY OPTIONS DATASET ALREADY INITIALIZED

Explanation

An attempt was made to initialize the options data set that was previously initialized.

System action

The job terminates with a completion code of 4.

User response

None. This message is informational.

ATY7502E ATYODSET DDNAME MISSING

Explanation

The options data set DDNAME, ATYODSET, was not specified in the JCL for this job.

System action

The job terminates with a completion code of 16.

User response

Correct the JCL and run the job again.

ATY8001W LOAD FAILED FOR ATY#OPTS

Explanation

IMS Administration Tool could not obtain the VSAM options data set because it failed to load the ATY#OPTS member.

System action

IMS Administration Tool processes IMS commands and responses. However, it cannot perform the error-handling that is defined in message disposition tables and it cannot write log records to the log stream.

User response

Ensure the proper ATY#OPTS member is present in the STEPLIB of the IMS control region.

ATY8002W **DYNALLOC FAILED FOR ATYOPTS, RC=*rc*, RSN=*rsn***

Explanation

An error was encountered while attempting to dynamically allocate the options data set specified.

System action

The message disposition tables are not loaded or refreshed.

User response

Ensure the proper ATY#OPTS member resides in the IMS control region.

ATY8003W **READ FAILED FOR ATYOPTS OR CCFOPTS, RPLFDBK=*rplfdbk***

Explanation

An error was encountered reading the VSAM options data set. The RPLFDBK is displayed as *rplfdbk*. IMS Administration Tool cannot obtain records from the VSAM options data set.

System action

IMS Administration Tool processes IMS commands and responses. However, it cannot perform the error-handling that is defined in message disposition tables and it cannot write log records to the log stream.

User response

The RPLFDBK field shows the RPL feedback word from the VSAM GET MACRO. Refer to the topic "Record management return and reason codes" in *z/OS DFSMS Macro Instructions for Data Sets*.

Correct the error caused by the non-zero return code and run the job again.

If the problem persists, contact IBM Software Support.

ATY8004W **READ FAILED FOR ATYOPTS OR CCFOPTS, RPLFDBK=*rplfdbk***

Explanation

An error was encountered reading the VSAM options data set. The RPLFDBK is displayed as *rplfdbk*. IMS Administration Tool cannot obtain or refresh the message disposition tables.

System action

IMS Administration Tool processes IMS commands and responses. However, it cannot perform the error-handling that is defined in message disposition tables.

User response

The RPLFDBK field shows the RPL feedback word from the VSAM GET MACRO. Refer to the topic "Record management return and reason codes" in *z/OS DFSMS Macro Instructions for Data Sets*.

Correct the error caused by the non-zero return code and run the job again.

If the problem persists, contact IBM Software Support.

ATY8005W **READ FAILED FOR ATYOPTS OR CCFOPTS, RPLFDBK=*rplfdbk***

Explanation

An error was encountered reading the VSAM options data set. The RPLFDBK is displayed as *rplfdbk*. IMS Administration Tool cannot obtain or refresh the message disposition tables.

System action

IMS Administration Tool processes IMS commands and responses. However, it cannot perform the error-handling that is defined in message disposition tables.

User response

The RPLFDBK field shows the RPL feedback word from the VSAM GET MACRO. Refer to the topic "Record management return and reason codes" in *z/OS DFSMS Macro Instructions for Data Sets*.

Correct the error caused by the non-zero return code and run the job again.

If the problem persists, contact IBM Software Support.

ATY8101I **ATYLOGR INITIALIZATION COMPLETE**

Explanation

The log stream used by IMS Administration Tool for its Message Log has successfully completed initialization. The IMS Administration Tool AOI exit now writes messages to the Message Log.

System action

Processing continues.

User response

N/A

ATY8102I **BAD RETURN CODE FROM NAME/TOKEN SERVICE = *rc***

Explanation

An error was encountered trying to create a z/OS name token entry.

System action

Processing continues, but the IMS Administration Tool Message Log is not available for this IMS.

User response

Contact IBM Software Support.

ATY8103I **IXG*xxxxx* REQUEST=*xxxxxxx* ERROR *rc* / *rsn***

Explanation

An error was encountered attempting to connect, disconnect, or write to the log stream used for IMS Administration Tool Message Log processing using service IXGCONN or IXGWRITE.

System action

Processing continues, but the IMS Administration Tool Message Log is not available for this IMS.

User response

Review the IXGCONN or IXGWRITE return and reason codes contained in *rc* and *rsn*, respectively. Correct the problem and restart IMS.

ATY8104W **EXIT *dfsaoe01* NOT LOADED, NO USER AOI EXIT**

Explanation

The IMS Administration Tool AOI exit (DFSAOE00) has attempted to load a user version of the AOI exit (*dfsaoe01*) but none was found. This is an error only if there should be a user version of the AOI exit. The default name for a user AOI exit is DFSAOE01, but this can be overridden in the IMS record in the options data set.

System action

Processing continues, but IMS Administration Tool does not pass messages to a user AOI exit (DFSAOE00). If AOI exit DFSAOUE0 is present, IMS Administration Tool continues to pass messages to it.

User response

If a user AOI exit is required, either rename the module to DFSAOE01 or update the IMS record in the options data set to reflect the correct exit name, and restart IMS.

ATY8105I **EXIT *exit-name* SUCCESSFULLY LOADED**

Explanation

The AO exit routine was loaded successfully.

System action

Processing continues.

User response

None. This message is informational.

ATY8106I **ATY USING MAXBUFSIZE *xxxxx* LOGSTREAM *log_stream***

Explanation

This information message display the name of the log stream (*log_stream*) used by IMS Administration Tool for the Message Log.

System action

Processing continues.

User response

None. This message is informational.

ATY8107E **IXGWRITE ERROR RC=*rc* RSN=*rsn***

Explanation

An error was encountered attempting to write a message to the log stream used for the IMS Administration Tool message log.

System action

Processing continues.

User response

Review the IXGWRITE return and reason codes contained in *rc* and *rsn*, respectively.

Take corrective action based upon the meaning of the return and reason codes.

ATY8108I ATYAOE00 ANCHOR ESTABLISHED AT *xxxxxxxx*

Explanation

The ATYAOE00 exit initialization completed.

System action

Processing continues.

User response

None. This message is informational.

ATY8109I LOGSTREAM NAME NOT SPECIFIED, ATY MESSAGE LOGGING NOT ACTIVE

Explanation

The log stream name is not specified in the IMS record in the options data set. IMS Administration Tool Message Log is not active for this execution of IMS.

System action

Processing continues but the IMS Administration Tool Message Log is not active.

User response

If IMS Administration Tool Message Log processing is required, use the IMS Administration Tool user interface to specify the name of the log stream in the IMS record, and restart IMS.

ATY8110E ATYAOE00 INITIALIZATION FAILURE

Explanation

The AO exit routine of IMS Administration Tool failed in the initialization process.

System action

IMS Administration Tool stops processing IMS commands for the IMS.

User response

Ensure that the AO exit routine is configured correctly for the IMS. For more information, see "Implementing user exit routines" on page 24.

ATY8111E ATY NOT SUPPORTED FOR THIS IMS VERSION

Explanation

IMS Administration Tool supports IMS 13 and later. The IMS Administration Tool ATYAOE00 exit routine identified that this IMS is non supported version.

System action

The ATYAOE00 exit routine does not process IMS Administration Tool functions for this IMS.

User response

Configure IMS Administration in an IMS whose version/release is supported by IMS Administration Tool.

ATY8112I *function* REQUEST FAILED-COMMAND IN PROGRESS

Explanation

The requested function, which is one of refresh, connect, or disconnect, cannot be processed because another command is in progress.

System action

Skips the command and continues processing the next command.

User response

Enter the command again after the command that is currently being processed is completed.

ATY8113I *function* REQUEST FAILED-ALREADY *function*

Explanation

The requested function, which is either connect or disconnect, cannot be processed because the function has already been executed.

System action

Skips the command and continues processing the next command.

User response

None. This message is informational.

ATY8114I - MVS ATTCH FAILED ATTEMPTING ATYREFRESH OR CCFREFRESH RC=*xx*

Explanation

A /LOG ATYREFRESH or CCFREFRESH command was entered. However, the IMS Administration Tool message disposition table could not be refreshed because the ATTACHX macro ended with the indicated return code.

System action

IMS Administration Tool processes IMS commands and responses. However, it cannot perform the error-handling that is defined in message disposition tables.

User response

Contact IBM Software Support.

ATY8202I ARCHIVE STARTED FOR LSN=*lsn*

Explanation

The IMS Administration Tool Message Log archive utility has started processing log stream (*lsn*).

System action

Processing continues.

User response

N/A

ATY8203E ERROR OPENING DD SYSIN

Explanation

An error was encountered attempting to open DDNAME SYSIN. Additional messages might be displayed on the z/OS Syslog.

System action

The job terminates with a completion code of 12.

User response

Add DDNAME SYSIN and run the job again.

ATY8204E ERROR OPENING DD SYSPRINT

Explanation

An error was encountered attempting to open DDNAME SYSPRINT. Additional messages might be displayed on the z/OS Syslog.

System action

The job is terminated with completion code 12.

User response

Add DDNAME SYSPRINT and run the job again.

ATY8205E ERROR OPENING DD LOGOUT

Explanation

An error was encountered attempting to open DDNAME LOGOUT. Additional messages might be displayed on the z/OS Syslog.

System action

The job is terminated with a completion code of 12.

User response

Add DDNAME LOGOUT and run the job again.

ATY8206I ATY LOGGER ARCHIVE COMPLETE

Explanation

The IMS Administration Tool Message Log archive utility successfully completed.

System action

Processing continues.

User response

None. This message is informational.

ATY8207I NO LOG RECORDS TO ARCHIVE

Explanation

There were no records in the IMS Administration Tool Message Log that met the specified search criteria.

System action

Processing continues.

User response

None. This message is informational.

ATY8208E **ERROR ON *service* / *request* RC=*rc*, RSN=*rsn***

Explanation

An error was encountered attempting a z/OS logger service (*service*). The return and reason codes are contained in *rc* and *rsn*, respectively.

System action

The job terminates with a completion code of 12.

User response

Examine the return and reason codes for the failed service, take corrective action, and run the job again.

ATY8209E **ISGENQ ERROR, RC=*XXXXXXXX*, RSN=*XXXXXXXX***

Explanation

An internal error occurred.

System action

Processing continues but the following functions are unavailable:

- IMS command processing function
- Writing log records to the log stream
- Archiving log data

User response

Contact IBM Software Support.

ATY8250E **INPUT PARM MUST START IN COL 1 OR 2**

Explanation

A record read from DDNAME SYSIN did not contain recognizable data. ATYARCH0 expects control cards to start in column 1 or 2.

System action

The job terminates with a completion code of 12.

User response

Correct the control card and run the job again.

ATY8251E **PREVIOUS RECORD CONTAINS INVALID DATA**

Explanation

An error was encountered editing a previous input record.

System action

This job terminates with a completion code of 12.

User response

Correct the control card and run the job again.

ATY8252E **VALID LSN= PARAMETER NOT SPECIFIED**

Explanation

The IMS Administration Tool Message Log archive utility completed reading all control cards, but the required log stream name data was not specified.

System action

The job terminates with a return code of 12.

User response

Add a log stream name control card and run the job again.

ATY8253E **RECS= CANNOT BE SPECIFIED WITH DATE OR HOURS=**

Explanation

The IMS Administration Tool Message Log archive utility encountered conflicting control cards. If specifying the number of records (RECS=) to offload, the DATE and HOURS= parameters are invalid.

System action

The job terminates with a completion code of 12.

User response

Correct the control cards and run the job again.

ATY8254E COLUMN 72 NOT BLANK

Explanation

The IMS Administration Tool Message Log archive utility does not support data in column 72.

System action

The job terminates with completion code of 12.

User response

Correct the control cards and run the job again.

ATY8255E LSN= PARAMETER SPECIFIED MORE THAN ONCE

Explanation

The LSN= control card was specified more than once in DDNAME SYSIN.

System action

The job terminates with completion code of 12.

User response

Correct the control cards and run the job again.

ATY8256E VALUE NOT SPECIFIED FOR LSN= PARM

Explanation

The LSN= parameter did not contain a log stream name.

System action

The job terminates with completion code of 12.

User response

Correct the control cards and run the job again.

ATY8257E HOURS= VALUE SPECIFIED MORE THAN ONCE

Explanation

The HOURS= control card was specified mote than once in DDNAME SYSIN.

System action

The job terminates with completion code of 12.

User response

Correct the control cards and run the job again.

ATY8258E HOURS= MUST BE A 1 OR 2 CHARACTER NUMERIC VALUE

Explanation

A non-numeric value has been specified for the HOURS= parameter. Valid values are 01 – 24.

System action

The job terminates with completion code of 12.

User response

Correct the control cards and run the job again.

ATY8259E HOURS= MUST BE IN THE RANGE OF 1 - 24

Explanation

An invalid value was specified for the HOURS= parameter. Valid values are 01 – 24.

System action

The job terminates with a completion code of 12.

User response

Correct the control cards and run the job again.

ATY8260E RECS= ALREADY SPECIFIED

Explanation

The RECS= control card was specified more than once in DDNAME SYSIN.

System action

The job terminates with a completion code of 12.

User response

Correct the control cards and run the job again.

ATY8261E RECS= MUST BE A 1 - 6 CHARACTER NUMERIC VALUE

Explanation

A non-numeric value was specified in the RECS= parameter. Valid values are 1-999999.

System action

The job terminates with a completion code of 12.

User response

Correct the control cards and run the job again.

ATY8262E RECS= MUST BE IN THE RANGE OF 1 - 999999

Explanation

An invalid value was specified in the RECS= parameter. Valid values are 1-999999.

System action

The job terminates with a completion code of 12.

User response

Correct the control cards and run the job again.

ATY8263E "ALL" PARAMETER NOT VALID WITH RECS=, HOURS= OR DATE

Explanation

An invalid control card combination has been encountered. The ALL parameter is not valid with any other DUMP amounts.

System action

The job terminates with a completion code of 12.

User response

Correct the control cards and run the job again.

ATY8264I DUMP TYPE NOT SPECIFIED, DEFAULT OF DUMP BY DATE USED

Explanation

None of the dump amount options were specified in the control cards read from DDNAME SYSIN. The default dump amount of DATE is used.

System action

Processing continues.

User response

None. This message is informational.

ATY8265E LOGSTREAM NAME (LSN=) MORE THAN 26 BYTES

Explanation

The log stream name specified as the ATYLOGR= parameter in the IMS PROCLIB member ATYPARMS is longer than the maximum allowed. The maximum length of a log stream name is 26 bytes.

System action

Processing continues, but without writing log records.

User response

Correct the log stream name in the ATYLOGR= control card and restart the IMS Operations Manager.

ATY8266E PARM CONFLICT - "MAX" NOT ALLOWED WHEN OTHER PARMS ARE SPECIFIED

Explanation

A control card conflict has been detected. When control card MAX is specified, no other control cards that define the amount of data to be archived are allowed.

System action

The archive utility terminates with a return code of 12.

User response

Correct the control card conflict and run the job again.

ATY8267E FORMAT= ALREADY SPECIFIED

Explanation

The FORMAT= control statement was specified more than once in the SYSIN DD data set.

System action

The job terminates with a completion code of 12.

User response

Delete unnecessary FORMAT= statements and run the job again.

ATY8268E FORMAT= VALUE MUST BE A OR C

Explanation

An incorrect value is specified to FORMAT=.

System action

The job terminates with a completion code of 12.

User response

Specify A or C to FORMAT= and run the job again.

ATY8269E FILTER= ALREADY SPECIFIED

Explanation

The FILTER control statement is specified more than once in the SYSIN DD data set.

System action

The job terminates with a completion code of 12.

User response

Delete unnecessary FILTER control statements and run the job again.

ATY8270E FILTER= VALUE MUST BE A, C, OR X

Explanation

An incorrect value is specified for the FILTER keyword.

System action

The job terminates with a completion code of 12.

User response

Specify A, C, or X for the FILTER keyword and run the job again.

ATY8271E FORMAT= IS VALID WHEN FILTER=C IS' SPECIFIED

Explanation

FORMAT= is available only when FILTER=C is specified.

System action

The job terminates with a completion code of 12.

User response

Correct the control statements and run the job again.

ATY8301I ATYREFRESH OR CCFREFRESH COMPLETE

Explanation

A /LOG ATYREFRESH or CCFREFRESH command was entered and the IMS Administration Tool message disposition table refresh completed successfully.

System action

Processing continues.

User response

None. This message is informational.

ATY8302E ATY LOGGER CONNECT FAILED, RC=*rsn*, RSN=*rsn*

Explanation

An error occurred attempting to connect the IMS Administration Tool Message Log log stream. The IXGCONN return and reason codes are contained in *rc* and *rsn*, respectively.

System action

Processing continues.

User response

Review the IXGCONN return and reason codes contained in *rc* and *rsn*, respectively. Correct the problem and restart IMS.

ATY8403I ATY LOGSTREAM DISCONNECTED

Explanation

IMS Administration Tool disconnected the log stream successfully.

System action

Processing continues.

User response

None. This message is informational.

ATY8404E ATYLOGC0 CALLED WITHOUT FUNCTION REQUEST

Explanation

An error occurred while connecting or disconnecting the log stream.

System action

Processing continues without writing log records.

User response

Ensure that the log stream name is specified correctly in the ATYLOGR= parameter in the IMS PROCLIB

member ATYPARMS. If it is incorrect, correct it and restart the IMS Operations Manager.

If the log stream is correct and the problem persists, contact to IBM Software Support.

ATY8405W ATY LOGGING INACTIVE

Explanation

IMS Administration Tool cannot write log records because the log stream is inactive. The reason of the error is reported in the prior ATY error messages.

System action

Processing continues without writing log records.

User response

Follow the actions documented in the prior error messages. If the problem persists, contact IBM Software Support.

ATY8406I ATY LOGSTREAM CONNECTED

Explanation

IMS Administration Tool message log initialization completed successfully.

System action

Processing continues.

User response

None. This message is informational.

ATY8407I ATY WAITING FOR LOGSTREAM FORMATTING

Explanation

To complete log stream formatting, IMS Administration Tool is waiting for the "LOGGING STARTED" message to be written to the log stream.

System action

Processing continues.

User response

None. This message is informational.

ATY8408I ATY WAITED *n* OF 240 SECONDS

Explanation

IMS Administration Tool is waiting for the completion of log stream formatting for *n* seconds of 240 seconds.

To complete log stream formatting, IMS Administration Tool is waiting for the "LOGGING STARTED" message to be written to the log stream.

System action

Processing continues.

User response

None. This message is informational.

ATY8409I ATY LOGSTREAM FORMAT WAIT TIME EXPIRED

Explanation

This message is issued after messages ATY8407I and ATY8408I. IMS Administration Tool was waiting for the log stream formatting to complete. However, the log record formatting did not complete and the wait time has expired.

System action

Skips writing the log record, and continues writing the next log records. The next log records will be written when the formatting completes.

User response

None. This message is informational.

ATY9521W NO RECORDS RETURNED

Explanation

There were no records in the store/forward data set for the specified IMS.

System action

The IMS Administration Tool user interface continues.

User response

None. This message is informational.

ATY9999E DECIMAL POINT MUST BE . OR , NON-NUMERIC IN LINES/PAGE NON-NUMERIC IN MAX CHAR FIELD NON-NUMERIC IN MAX NUMERIC FIELD

NON-NUMERIC IN MAX SELECT LINES

Explanation

Detected syntax errors while processing SQL in the IMS SPUFI function.

System action

Skips the SQL statement and continues processing.

User response

Correct the syntax error in the SQL statement.

Messages (ATYA - ATYZ)

IMS Administration Tool issues messages that can help you understand the status of the infrastructure and help you resolve errors.

Message format

ATYA- ATYZ messages adhere to the following format:

```
ATY[E|J|T|Z]nnnx
```

Where:

ATY[E|J|T]
Indicates that the messages are related to IMS SPUFI.

- Message numbers that begin with ATYE communicate information about the TSO attachment facility.
- Message numbers that begin with ATYJ communicate information about the IMS SPUFI processing when the language environment of the application program that runs IMS SPUFI is Java.
- Message numbers that begin with ATYT communicate information about the service controller.

ATYZ
Indicates that the messages are related to IMS Administration Tool product configuration.

nnn
Indicates the message identification number

x
Indicates the severity of the message:

A
Indicates that operator intervention is required before processing can continue.

E
Indicates that an error occurred, which might or might not require operator intervention.

I
Indicates that the message is informational only.

W
Indicates that the message is a warning to alert you to a possible error condition.

Each message also includes the following information:

Explanation:
The Explanation section explains what the message text means, why it occurred, and what its variables represent.

System action:
The System action section explains what the system will do in response to the event that triggered this message.

User response:
The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

ATYE601I **SQLIMS STATEMENTS ASSUMED TO BE BETWEEN COLUMNS *nn* AND *nn***

Explanation

This message indicates which record columns in the input data set are scanned for SQLIMS statements.

For data sets of type COBOL, columns 8 through 72 are scanned.

For STANDARD data set types, if the LRECL is 79, then columns 1 through 71 are scanned. If the LRECL is 80, then columns 1 through 72 are scanned.

System action:
This message is written to the SPUFI output data set along with other summary messages.

User response

None. This message is informational.

ATYE610I **NUMBER OF ROWS DISPLAYED IS *nn***

Explanation

Running of an SQLIMS SELECT statement causes one or more rows of data to be displayed.

This message appears in the output data set following the returned data for a SELECT.

It gives a count (*nn*) for the number of rows displayed.

System action:
Input data set processing is completed, and this message is included in the ISPUFI output.

User response

None. This message is informational.

ATYE611I **COLUMN HEADER *name* FOR COLUMN NUMBER *nn* WAS TRUNCATED**

Explanation

An SQLIMS SELECT statement was run, but the specified column name, identified by *nn* in the message, was truncated.

This truncation occurred either because the column name was longer than the remaining record width, or because the name was longer than the user-specified maximum field length.

System action:
Input data set processing is completed, and this message is included in the ISPUFI output.

User response

If the truncation is caused by insufficient record width, use a larger LRECL for the output data set, or specify fewer data columns to be returned on the SELECT statement.

If the truncation is caused by the user-specified maximum field length setting, use a larger value for this setting.

ATYE612I **DATA FOR COLUMN HEADER *name* FOR COLUMN NUMBER *nn* WAS TRUNCATED**

Explanation

An SQLIMS SELECT statement was run, but data for the specified column name, identified by *nn* in the message, was truncated.

This truncation occurred either because the data was longer than the remaining record width, or because the data was longer than the user-specified maximum field length.

System action:
Input data set processing is completed, and this message is included in the ISPUFI output.

User response

If the truncation is caused by insufficient record width, use a larger LRECL for the output data set, or specify fewer data columns to be returned on the SELECT statement.

If the truncation is caused by the user-specified maximum field length setting, use a larger value for this setting.

ATYE616I **STATEMENT EXECUTION WAS SUCCESSFUL, SQLIMSCODE IS *sqlims-code***

Explanation

This message is written to the output data set following the successful execution of an SQLIMS statement from the input data set.

The *sqlims-code* value specifies the SQLIMS return code for the statement.

System action:
Input data set processing is completed, and this message is included in the ISPUFI output.

User response

None. This message is informational.

Problem determination:
SQLIMS codes

ATYE620I **NUMBER OF SQLIMS STATEMENTS PROCESSED IS *nn***

Explanation

This message is written to the output data set after processing all SQLIMS statements in the current input data set.

The term *nn* is a count of the number of SQLIMS statements processed.

System action:
Input data set processing is completed, and this message is included in the ISPUFI output.

User response

None. This message is informational.

ATYE621I **NUMBER OF INPUT RECORDS READ IS *nn***

Explanation

This message is written to the output data set after processing all SQLIMS statements in the current input data set.

The term *nn* is a count of the total number of records read from the input data set.

System action:
Input data set processing is completed, and this message is included in the ISPUFI output.

User response

None. This message is informational.

ATYE622I **NUMBER OF OUTPUT RECORDS WRITTEN IS *nn***

Explanation

This message is written to the output data set after processing all SQLIMS statements in the current input data set.

The term *nn* is a count of the total number of records written to the input data set.

System action:
Input data set processing is completed, and this message is included in the ISPUFI output.

User response

None. This message is informational.

ATYE626I **MAXIMUM OUTPUT LINES FOR SELECT STATEMENT REACHED (*number*), PROCESSING FOR CURRENT SELECT STATEMENT TERMINATED**

Explanation

The maximum number of output lines to be displayed for a SELECT statement was reached. Processing of the current SELECT statement is terminated.

The maximum number to display is specified by the ISPUFI user on the CURRENT ISPUFI DEFAULTS panel.

This message appears in the ISPUFI output file.

System action:
Processing of subsequent SQLIMS statements in the input file continues.

User response:
If the number of lines displayed is insufficient, you can increase the maximum number of lines to be displayed for SELECT statements on the CURRENT ISPUFI DEFAULTS panel and re-run the SELECT statement.

ATYE700W **SQLIMS STATEMENTS SKIPPED DUE TO PREVIOUS ERROR.**

Explanation:
One or more errors were detected in SQLIMS statements.

System action:
Processing continues, but SQLIMS statements are ignored.

User response:
Follow User Response for the previous error message.

ATYE999W **INVALID DECIMAL DATA IN 1 OR MORE COLUMNS**

Explanation

Detected packed decimal or zoned decimal data with incorrect values in one or more columns. This data is in the records obtained by running a SQLIMS SELECT statement.

System action

Processing continues. The result of the SQLIMS statement is stored in the ISPUFI output. The first few bytes of data is stored in hexadecimal format.

User response

Review the columns that contain the data in the database selected by the SQLIMS statement. If necessary, consider changing the data.

ATYJ001I **USS FILE *filename* FOUND.**

Explanation

IMS Administration Tool found the indicated z/OS UNIX file in the z/OS UNIX file system.

System action

Processing continues.

User response

None. This message is informational.

ATYJ090E USS FILE *filename* NOT FOUND.

Explanation

The indicated z/OS UNIX file, which is specified in the DFSJVMMS member of the IMS PROCLIB data set, is not found in the z/OS UNIX file system.

System action

Ends the processing for the indicated z/OS UNIX file.

User response

Ensure that the DFSJVMMS member of the IMS PROCLIB data set contains the correct file path for the z/OS UNIX file. Retry the operation.

ATYJ200I NUMBER OF ROWS DISPLAYED IS *number*

Explanation

Running of a SELECT statement causes one or more rows of data to be displayed.

This message appears in the output data set following the returned data for a SELECT.

It gives a count (*number*) for the number of rows displayed.

System action

Input data set processing is completed, and this message is included in the ISPUFI output.

User response

None. This message is informational.

ATYJ201I NUMBER OF ROWS UPDATED/ INSERTED/DELETED IS *number*

Explanation

Running of an INSERT, UPDATE, or DELETE statement causes one or more rows of data to be inserted, updated, or deleted.

This message appears in the output data set following the returned data for a SQL statement.

It gives a count (*number*) for the number of rows processed.

System action

Input data set processing is completed, and this message is included in the ISPUFI output.

User response

None. This message is informational.

ATYJ202I COLUMN HEADER *column_name* FOR COLUMN NUMBER *number* WAS TRUNCATED.

Explanation

A SELECT statement was run, but the specified column name, identified by *number* in the message, was truncated.

This truncation occurred either because the column name was longer than the remaining record width, or because the name was longer than the user-specified maximum field length.

System action

Input data set processing is completed, and this message is included in the ISPUFI output.

User response

If the truncation is caused by insufficient record width, use a larger LRECL for the output data set, or specify fewer data columns to be returned on the SELECT statement.

If the truncation is caused by the user-specified maximum field length setting, use a larger value for this setting.

ATYJ203I DATA FOR COLUMN HEADER *column_name* FOR COLUMN NUMBER *number* WAS TRUNCATED.

Explanation

A SELECT statement was run, but data for the specified column name, identified by *number* in the message, was truncated.

This truncation occurred either because the data was longer than the remaining record width, or because the data was longer than the user-specified maximum field length.

System action

Input data set processing is completed, and this message is included in the ISPUFI output.

User response

If the truncation is caused by insufficient record width, use a larger LRECL for the output data set, or specify fewer data columns to be returned on the SELECT statement.

If the truncation is caused by the user-specified maximum field length setting, use a larger value for this setting.

ATYJ204I MAXIMUM OUTPUT LINES FOR SELECT STATEMENT REACHED *number*

Explanation

The maximum number of output lines to be displayed for a SELECT statement was reached. Processing of the current SELECT statement is terminated.

The maximum number to display is specified by the ISPUFI user on the Set IMS SPUFI Options panel of the ISPF interface or the SQL Options panel of the web interface.

This message appears in the ISPUFI output file.

System action

Processing of subsequent SQL statements in the input file continues.

User response

If the number of lines displayed is insufficient, you can increase the maximum number of lines to be displayed for SELECT statements on the Set IMS SPUFI Options panel of the ISPF interface or the SQL options panel of the web interface and re-run the SELECT statement.

ATYJ210I STATEMENT EXECUTION WAS SUCCESSFUL.

Explanation

This message is written to the output data set following the successful execution of an SQL statement from the input data set.

System action

Input data set processing is completed, and this message is included in the ISPUFI output.

User response

None. This message is informational.

ATYJ211W STATEMENT EXECUTION FAILED.

Explanation

This message is written to the output data set following the failed execution of an SQL statement from the input data set.

System action

Input data set processing is completed, and this message is included in the ISPUFI output.

User response

Follow User Response for the previous error message.

ATYJ212W SQL STATEMENTS SKIPPED DUE TO PREVIOUS ERROR.

Explanation

One or more errors were detected in SQL statements.

System action

Processing continues, but SQL statements are ignored.

User response

Follow User Response for the previous error message.

ATYJ213W USER TYPE CONVERTER FOR COLUMN HEADER *column_name* FOR COLUMN NUMBER *number* WAS NOT FOUND. *description*

Explanation

A SELECT statement was run, but the specified column name, identified by *number* in the message, was filled with blank characters because the specified user type converter was not found. *description* provides information about the user type converter.

System action

Input data set processing is completed, and this message is included in the ISPUFI output.

User response

Use the information provided in this message (*description*) and correct the error. After ensuring that the IMS system is configured correctly to use the user type converter in the JBP region, retry the operation.

ATYJ214W DATA CONVERSION FAILED IN 1 OR MORE COLUMNS

Explanation

Failed to convert some portions of data using the converter that is defined to the DBD. The data conversion failed in one or more columns due to inconsistency between the type definition and data format. This data is in the records obtained by running a SELECT statement.

System action

Processing continues. The result of the SQL statement is stored in the IMS SPUFI output. The failed data is stored as "NULL".

User response

To identify the failed data, select COBOL for the language environment and rerun the SELECT statement. When COBOL is selected, the original data in the database is displayed in hexadecimal format. Use the hexadecimal data to identify the failed data. After you identify the failed data, ensure that the data is correct; if not, modify the data so that the type definition and data format match.

ATYJ220I NUMBER OF SQL STATEMENTS PROCESSED IS *number*

Explanation

This message is written to the output data set after processing all SQL statements in the current input data set.

The term *number* is a count of the number of SQL statements processed.

System action

Input data set processing is completed, and this message is included in the ISPUFI output.

User response

None. This message is informational.

ATYJ221I NUMBER OF INPUT RECORDS READ IS *number*

Explanation

This message is written to the output data set after processing all SQL statements in the current input data set.

The term *number* is a count of the total number of records read from the input data set.

System action

Input data set processing is completed, and this message is included in the ISPUFI output.

User response

None. This message is informational.

ATYJ222I NUMBER OF OUTPUT RECORDS WRITTEN IS *number*

Explanation

This message is written to the output data set after processing all SQL statements in the current input data set.

The term *number* is a count of the total number of records written to the input data set.

System action

Input data set processing is completed, and this message is included in the ISPUFI output.

User response

None. This message is informational.

ATYJ290E AN EXCEPTION OCCURRED. *description*

Explanation

An exception occurred while executing the Java program. *description* provides details about the exception.

System action

Stops the SQL processing and ignores all subsequent SQL statements.

User response

Use the information provided in this message (*description*) and correct the error. Retry the operation.

ATYJ291E **COBOL SQL STATEMENT *statement* IS NOT SUPPORTED.**

Explanation

The indicated SQL statement, which is for COBOL, is not supported.

System action

Stops the SQL processing and ignores all subsequent SQL statements.

User response

Remove the SQL statements for COBOL.

ATYJ291E **DDL SQL STATEMENT *statement* IS NOT SUPPORTED.**

Explanation

The indicated SQL statement, which is for DDL, is not supported.

System action

Stops the SQL processing and ignores all subsequent SQL statements.

User response

Remove the SQL statements for DDL.

ATYJ293E **ILLEGAL SYMBOL *symbol* WAS USED.**

Explanation

An illegal symbol (*symbol*) is detected in the SQL statements.

System action

Stops the SQL processing and ignores all subsequent SQL statements.

User response

Correct the symbol and retry the operation.

ATYJ294E **FAILED TO RUN JVM IN JBP REGION.**

Explanation

To execute Java programs in the JBP region, JVM (Java Virtual Machine) must be started. JVM failed to start in the JBP region.

System action

Processing terminates without running the Java program.

User response

Ensure that the IMS system is configured correctly to start the JBP region and that the following IMS Administration Tool resources are configured correctly. For more information, see "Setting up a Java environment for IMS SPUFI JBP" on page 40.

- The Jar file provided by IMS Administration Tool is copied to the correct location (ATYJCOPY sample JCL).
- Required variables, such as ATYJPRE1 and ATYJPRE*x*, are registered to the IMS Tools Knowledge Base repository (ATYJPREF sample JCL).

After ensuring that all the resources are configured correctly, retry the operation.

ATYT408I **SQLIMSCODE = -*xxx*, *explanation***

Explanation

This message contains an SQLIMS return code and a brief explanation, with text inserted from the SQLIMSERRM field.

The SQLIMS return code is negative, indicating that an error has occurred.

For more information about this SQLIMS return code, see *IMS Messages and Codes* (Volume 4), "IMS Component Codes".

System programmer response

Determine the cause for the SQLIMS error by using information about that specific SQLIMSCODE.

Correct the error and rerun the application program or SQLIMS statement.

Problem determination

Collect the following diagnostic items:

- Console output from the system on which the job was run, and a listing of the SYSLOG data set for the period of time spanning the failure
- Dynamic dump, taken to SYS1.DUMP*xx* data set
- Listing of SYS1.LOGREC data set, obtained by running IFCEREP1

- Listing of the results produced by the SQLIMS statements
- Source listing of the failing application program

ATYT415I **SQLIMSERRP = *xxxx*, SQLIMS PROCEDURE DETECTING ERROR**

Explanation:
The name of the procedure detecting the error is provided in the SQLIMSERRP.

System programmer response

(The SQLIMS procedure detecting the error might be of help in diagnosing an error or warning).

Correct the error if there is one noted in other messages. Rerun the program or SQLIMS statement.

ATYT416I **NUMBER OF ROWS UPDATED/ INSERTED/DELETED *nn***

Explanation:
Number of rows inserted, updated, or deleted following an INSERT, UPDATE, or DELETE statement.

System action:
Processing continues.

ATYT417I **SQLIMSWARN*n-n* SQLIMS WARNINGS**

Explanation

At least one of the 11 warning values is not the expected value (a blank).

A non-blank value in one of the 11 warning fields has the following meaning:

SQLWARN0
Any other warning code is set.

SQLWARN1
String truncation.

SQLWARN2
Reserved.

SQLWARN3
The number of result columns is larger than the number of host variables.

SQLWARN4
No WHERE clause on UPDATE or DELETE.

SQLWARN5
Not a valid SQL statement in IMS.

SQLWARN6
A field is not initialized with the proper format for the INSERT statement because the field overlays with another field that is of a different type.

ZONEDDECIMAL and PACKEDDECIMAL fields are initialized during the processing of an INSERT statement.

If the field is overlaid by another field and the field cannot be initialized, W is set for the statement during the EXECUTE call.

SQLWARN7
Reserved.

SQLWARN8
Reserved.

SQLWARN9
Reserved.

SQLWARNA
Reserved.

User response

The SQLIMS warning information might be of help in diagnosing an error or in indicating the results of successful execution.

If this warning should occur, correct the error and rerun the program or SQLIMS statement.

See the topic "SQL communication area (SQLIMSCA)" in *IMS Application Programming APIs*.

ATYT418I **SQLIMSSTATE = *sqlimsstate*, SQLIMSSTATE RETURN CODE**

Explanation

The SQLIMSSTATE is a return code that indicates the outcome of the most recently executed SQLIMS statement.

The running of every SQLIMS statement sets SQLIMSSTATE to a five-digit code in the range of 00000 to 65535.

This has no effect on the existing use of any other field in the SQLIMSCA.

User response:
The reason the build phase failed is identified by the reason code, which is described in *IMS Messages and Codes* (Volume 4), "IMS Component Codes - SQL Codes".

ATYZ001E **Tools Base modules can not be loaded. RC = *&atyrc*.**

Explanation

Failed to load the modules of IMS Tools Base.

System action

The process terminates.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATYZ002E **DAI SSI Environment is not active. RC = *&atyrc*. SSIRC = *&atyssirc*. SSIRN = *&atyssirn*.**

Explanation

The DAI SSI environment is not active.

System action

The process terminates.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATYZ003E **ISPF VDEFINE failed at initialization. RC = *&atyrc*.**

Explanation

ISPF VDEFINE failed at initialization.

System action

The process terminates.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATYZ004E **XCF Group query failed. RC = *&ATYRC*. SSIRC = *&ATYSSIRC*. SSIRN = *&ATYSSIRN*.**

Explanation

XCF group query failed.

System action

The process terminates.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATYZ005E **DAI XCF group with AII prefix is not found. RC = *&ATYRC*. SSIRC = *&ATYSSIRC*. SSIRN = *&ATYSSIRN*.**

Explanation

DAI XCF group with AII prefix is not found.

System action

The process terminates.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATYZ006E **Free Query XCF group storage failed. RC = *&ATYRC*. SSIRC = *&ATYSSIRC*. SSIRN = *&ATYSSIRN*.**

Explanation

Failed to free the Query XCF group storage.

System action

The process terminates.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATYZ007E **DAI XCF group *&atyxcf.* is not active. Please select one XCF from the XCF Group list.**

Explanation

The DAI XCF group is not active.

System action

The process terminates.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATYZ008E **Join XCF group failed. RC = *&ATYRC*. SSIRC = *&ATYSSIRC*. SSIRN = *&ATYSSIRN*.**

Explanation

Failed to join the XCF group.

System action

The process terminates.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATYZ009E **Find DAI TAS XCF member failed. RC = *&ATYRC*. SSIRC = *&ATYSSIRC*. SSIRN = *&ATYSSIRN*.**

Explanation

Failed to find the DAI TAS XCF member.

System action

The process terminates.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATYZ010E **Tools Access Server (TAS) is not up.**

Explanation

The Tools Access Server (TAS) is not started.

System action

The process terminates.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATYZ011E **Free Storage Procedure "QRYTAS" failed. RC = *&ATYRC*. SSIRC = *&ATYSSIRC*. SSIRN = *&ATYSSIRN*.**

Explanation

Free Storage Procedure "QRYTAS" failed.

System action

The process terminates.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATYZ013E **Receive response failed. GetAWE failed. RC = *&ATYRC*. SSIRC = *&ATYSSIRC*. SSIRN = *&ATYSSIRN*. Check if Tool Base is active.**

Explanation

Receive response failed. GetAWE failed.

System action

The process terminates.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATYZ014E **Receive response failed. Unexpected AWE function type. RC = *&ATYRC*. SSIRC = *&ATYSSIRC*. SSIRN = *&ATYSSIRN*. DataH1 = *&ATYDataH1*.**

Explanation

Receive response failed. Unexpected AWE function type.

System action

The process terminates.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATYZ015E **Invalid response received. RC = *&ATYRC*. SSIRC = *&ATYSSIRC*. SSIRN = *&ATYSSIRN*.**

Explanation

Invalid response received.

System action

The process terminates.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATYZ016E **Message verification failed. RC = *&ATYRC*. SSIRC = *&ATYSSIRC*. SSIRN = *&ATYSSIRN*.**

Explanation

Message verification failed.

System action

The process terminates.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATYZ017E **Response from XCF group exit received. RC = *&ATYRC*. SSIRC = *&ATYSSIRC*. SSIRN = *&ATYSSIRN*.**

Explanation

Received a response from the XCF group exit.

System action

The process terminates.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATYZ018E **Tools Access Server(TAS) is not responding. Check console log for TAS status. Exit the application and try again later.**

Explanation

The Tools Access Server (TAS) is not responding.

System action

The process terminates.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATYZ019E **DAI Server detected an error. RC = *&ATYRC*. SSIRC = *&ATYSSIRC*. SSIRN = *&ATYSSIRN*.**

Explanation

The DAI server detected an error.

System action

The process terminates.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATYZ020E ***&usrtxt01***

Explanation

Self-explanatory.

System action

The process terminates.

User response

If the cause of the error cannot be determined, contact IBM Software Support.

ATYZ023E **Default ITKB name is not found. Check with System Administrator.**

Explanation

The IMS Tools Knowledge Base server is not configured correctly for IMS Administration Tool.

System action

The process terminates.

User response

Ensure that the expected IMS Tools Knowledge Base repository server is configured correctly and active.

ATYZ024E **Can not connect to DAI server. Check DAI server availability.**

Explanation

The DAI server is not configured correctly for IMS Administration Tool.

System action

The process terminates.

User response

Ensure that the expected DAI server is configured correctly and active.

ATYZ025E **Unauthorized to access IMS Administration Tool. Check with System Administrator.**

Explanation

Error in the RACROUTE call issued by IMS Administration Tool. The user attempt to use the IMS commands function has been denied due to the access authority reason.

System action

IMS Administration Tool terminates.

User response

Ensure that the access authority is granted to the user.

ATYZ026E **Tools Base product version is not V1.6.0 or higher. Check with System Administrator.**

Explanation

IMS Tools Base is not at the required maintenance level.

System action

IMS Administration Tool terminates.

User response

Ensure that the IMS Tools Base product version is updated to the recent version.

ATYZ028E **Product High Level Qualifier not specified**

Explanation

Product high-level qualifier is not specified.

System action

IMS Administration Tool terminates.

User response

Ensure that the correct product high-level qualifier is specified.

ATYZ029E **Tools Base DAI (SAIILINK) data set name is not specified**

Explanation

IMS Tools Base DAI (SAIILINK) data set name is not specified.

System action

IMS Administration Tool terminates.

User response

Ensure that the correct IMS Tools Base DAI (SAIILINK) data set name is specified.

ATYZ032E **Exec data set *&ATYEXEC* not found**

Explanation

EXEC library data set name (SATYCEXE) is not found.

System action

IMS Administration Tool terminates.

User response

Ensure that the correct EXEC library data set name (SATYCEXE) is specified.

ATYZ034E **Loadlib data set *&ATYLLIB* not found**

Explanation

LOADLIB library data set name (SATYLOAD) is not found.

System action

IMS Administration Tool terminates.

User response

Ensure that the correct LOADLIB library data set name (SATYLOAD) is specified.

ATYZ035E **ISPF message data set *&ATYMLIB* not found**

Explanation

ISPMLIB library data set name (SATYMENU) is not found.

System action

IMS Administration Tool terminates.

User response

Ensure that the correct ISPMLIB library data set name (SATYMENU) is specified.

ATYZ036E **ISPF panel data set *&ATYPLIB* not found**

Explanation

ISPPLIB library data set name (SATYPENU) is not found.

System action

IMS Administration Tool terminates.

User response

Ensure that the correct ISPPLIB library data set name (SATYPENU) is specified.

ATYZ038E **ISPF table data set *&ATYTLIB* not found**

Explanation

ISPTLIB library data set name (SATYTENU) is not found.

System action

IMS Administration Tool terminates.

User response

Ensure that the correct ISPTLIB library data set name (SATYTENU) is specified.

ATYZ039E **Loadlib data set *&TEMPLLIB* not found**

Explanation

IMS Tools Base DAI (SAIILINK) data set name is not specified.

System action

IMS Administration Tool terminates.

User response

Ensure that the correct IMS Tools Base DAI (SAIILINK) data set name is specified.

ATYZ040E **IMS Administration Tool library version is inconsistent with ISPF panel version. Check with System Administrator. Current Administration Tool library data sets are "*&ATYLLIB*".**

Explanation

The version of IMS Administration Tool library is inconsistent with the version of the ISPF panels.

System action

The process terminates.

User response

Ensure that the IMS Administration Tool product version is updated to the recent version.

ATYZ041E **Administration Tool is not registered in product registration. Review the IMS Tools SETUP CUSTJCL or the ATYITKB member in Admin Tool SATYSAMP for product registration.**

Explanation

IMS Administration Tool is not registered in product registration.

System action

The process terminates.

User response

Review the IMS Tools SETUP CUSTJCL or the ATYITKB member in the IMS Administration Tool sample library (SATYSAMP) for product registration.

ATYZ042E **Admin Tool load library (SATYLOAD) data set does not exist. Review the IMS Tools SETUP CUSTJCL or the ATYITKB member in Admin Tool SATYSAMP for product registration.**

Explanation

The load library data set (SATYLOAD) of IMS Administration Tool does not exist.

System action

The process terminates.

User response

Review the IMS Tools SETUP CUSTJCL or the ATYITKB member in the IMS Administration Tool sample library (SATYSAMP) for product registration.

ATYZ043E **Some crucial Admin Tool members are not found in the Admin Tool load library (SATYLOAD). The SATYLOAD data set might not be correct. Review the IMS Tools SETUP CUSTJCL or the ATYITKB member in Admin Tool SATYSAMP for product registration.**

Explanation

Some crucial members of IMS Administration Tool are not found in the IMS Administration Tool load library (SATYLOAD).

System action

The process terminates.

User response

Review the IMS Tools SETUP CUSTJCL or the ATYITKB member in the IMS Administration Tool sample library (SATYSAMP) for product registration.

ATYZ044I **SYSLOAD dataset does not exist and has been ignored.**

Explanation

SYSLOAD data set does not exist.

System action

The process continues.

User response

Under DDNAME Variable Management in Update Product Registry, ensure that the data set specified for the SYSLOAD variable is correct.

Abend codes

This reference section provides detailed information about IMS Administration Tool abend codes.

For each abend code, the following information is provided where applicable:

Explanation:
The Explanation section explains what the abend code means, why it occurred, and what its variable entry fields are (if any)

System Action:
The System Action section explains what the system does next

User Response:
The User Response section describes whether a response is necessary, what the appropriate response is, and how the response affects the system or program

1000

Explanation

An internal ATY error occurred.

System action

The job step terminates abnormally with a U1000 completion code.

User response

Contact IBM Software Support.

2000

Explanation

An internal ATY error occurred.

System action

The job step terminates abnormally with a U2000 completion code.

User response

Contact IBM Software Support.

4044

Explanation

An error occurred attempting to register to the IMS SCI address space.

System action

ATY processing terminates with a U4044 abend.

User response

Ensure that the SCI address space is available, and the SDFSERESL is included in the ATY job, or ISPF task.

4070

Explanation

An unexpected condition occurred for which the IMS Administration Tool options in effect requested an abnormal termination.

This abend code is used when the user-defined abend has not been specified, or is specified as 0000.

System action

The job step terminates abnormally with a U4070 completion code.

User response

Find the preceding message that describes the reason for the abend, correct the condition, and run the command again.

4080

Explanation

An unexpected error occurred during DBRC processing.

System action

The job step terminates abnormally with a U4080.

User response

As a workaround, turn off all DBRC options in effect, run the command again, and contact IBM Software Support.

4081

Explanation

An error occurred while reading the DBRC listing. An unrecognized value was found in the number of authorized subsystems field.

System action

The job step terminates abnormally with a U4081.

User response

As a workaround, turn off all DBRC options in effect, run the command again, and contact IBM Software Support.

4083

Explanation

An internal IMS Administration Tool error occurred.

System action

The job step terminates abnormally with a U4083 completion code.

User response

Contact IBM Software Support.

4095

Explanation

An internal IMS Administration Tool error occurred.

System action

The job step terminates abnormally with a U4095 completion code.

User response

Contact IBM Software Support.

Chapter 36. Wildcard support

IMS Administration Tool provides wildcard support for type-1 commands in addition to the support already provided by IMS.

Topics:

Wildcard support overview

In addition to the wildcard support offered by IMS, IMS Administration Tool supports wildcards on database, AREA, PROG, and additional TRAN commands.

Wildcards are supported when the command driver runs as a batch (IMS BMP, IMS DL/I batch or standard z/OS batch), ISPF dialog, or callable interface.

IMS Administration Tool uses the same characters for wildcards as IMS uses for its generic commands:

- An asterisk is used to represent 0 to one or more characters.
- A percent sign is used to represent a single character.

Note: Because IMS supports wildcards for most commands with the TRANSACTION keyword, IMS Administration Tool passes those commands directly to IMS for processing. The only time IMS Administration Tool performs any special processing of commands with the TRANSACTION keyword is when a wildcard is used on an IMS /ASSIGN command.

The first time IMS Administration Tool command driver encounters a wildcard in one of its supported commands, the command driver builds a resource list by issuing a /DIS xx ALL command to the first IMS system in the IMS Administration Tool group. The command driver then uses the resource list to determine which resources match the wildcard pattern and issues the original command for each name that matches the pattern.

To improve performance, the command driver places as many resource names on each command as can fit.

Wildcard support for /DISPLAY commands

When a /DISPLAY AREA/DB/PROG command contains a wildcard, IMS Administration Tool issues a /DISPLAY AREA/DB/PROG ALL command to IMS.

IMS Administration Tool compares the returned names with the wildcard mask and displays only the matching names.

If the command is being issued to an IMS Administration Tool group, the /DISPLAY x ALL command is sent to each member of the group.

Wildcard support for Non-/DISPLAY commands

When wildcards are detected in non-/DISPLAY commands, IMS Administration Tool builds a table of resource names (for example, AREA/DB/PROG/TRAN) by issuing a /DISPLAY AREA/DB/PROG/TRAN ALL command.

IMS Administration Tool then uses the table of names to build and execute the original command. IMS Administration Tool populates the command with as many matching names as can fit, and issues multiple commands if required.

If the command is being issued to an IMS Administration Tool group, the table is built by issuing the /DISPLAY x ALL command to the first IMS in the group. In order to get the proper results when using wildcards, IMS Administration Tool expects all members of a IMS Administration Tool group to contain identical resource definitions.

When the command driver runs as a batch job (IMS BMP, IMS D/LI batch, or standard z/OS batch), IMS Administration Tool issues the /DISPLAY x ALL command only once. The table is retained for future commands that might also contain wildcards.

When the command driver runs from ISPF or the callable interface, it is possible that the IMS Administration Tool group might change. IMS Administration Tool still creates the table of names when processing the first command with a wildcard, and still retains the table for future use.

However, if IMS Administration Tool detects a wildcard command is issued using a different IMS Administration Tool group, the original table is freed and IMS Administration Tool issues the /DISPLAY x ALL command to the first IMS in the new IMS Administration Tool group.

Example:

1. IMS Administration Tool group contains:

   ```
   IMS1, IMS2, and IMS3
   ```

2. Command entered:

   ```
   /STA PROG DFS*
   ```

3. IMS Administration Tool will:

   ```
   /DIS PROG ALL command on IMS1
   ```

4. Issue to IMS1, IMS2, and IMS3 (include all names that matched the pattern):

   ```
   /STA PROG DFSIVPA DFSIPVB DFSIVPC DFSIVP0 DFSIVP1 ...
   ```

IMS Administration Tool issues multiple commands if more names match the pattern than fit on a single command.

Commands with wildcard support

IMS Administration Tool provides wildcard support for the following commands:

- /ASS CPRI *xx* TRAN *yy*
- /ASS LMCT *xx* TRAN *yy*
- /ASS LPRI *xx* TRAN *yy*
- /ASS NPRI *xx* TRAN *yy*
- /ASS PARLIM *xx* TRAN *yy*
- /ASS PLMCT *xx* TRAN *yy*
- /ASS SEGNO *xx* TRAN *yy*
- /ASS SEGSIZE *xx* TRAN *yy*
- /ASS TRAN *yy* CLASS *xx*
- /DIS AREA
- /DIS DATABASE
- /DIS PROGRAM
- /DBD AREA
- /DBD DATABASE
- /DBR AREA

- /DBR DB
- /STA AREA
- /STA DATABASE
- /STA PROGRAM
- /STO AREA
- /STO DATABASE
- /STO PROGRAM

Chapter 37. Gathering diagnostic information

Before you report a problem with IMS Administration Tool to IBM Software Support, you need to gather the appropriate diagnostic information.

For each IMS Administration Tool problem, be prepared to provide the following information:

- A clear description of the problem and the steps that are required to re-create the problem
- All messages that were issued as a result of the problem
- Product release number and the number of the last program temporary fix (PTF) that was installed
- The version of IMS that you are using and the type and version of the operating system that you are using
- A copy of the *userid*.ADFYTRACE trace data set captured at the time of the failure

Problem Type 1: IMS Administration Tool appears to have incorrectly processed

Provide the following types of data:

- The entire job output including JCL, control cards, allocation messaging, and reports
- Output from any diagnostic report (if it is requested)
- Any other material that indicates a discrepancy between results that were expected and the results that were created
- An IDCAMS print of the ATY OPTIONS data set

Problem Type 2: IMS Administration Tool abends

Provide the following types of data:

- The entire failing job output, including SYSUDUMP output, JCL, control cards, allocation messaging, and reports
- Output from any diagnostic report (if it is requested)
- A console hardcopy of events that might indicate the reason for the product failure
- Screen prints or line commands that demonstrate the product failure
- Special DUMP or TRACE information might be requested in some instances
- An IDCAMS print of the ATY OPTIONS data set

Additional information:

For online abends, provide the following information

- A screen shot of the panel that you were using when the abend occurred
- The job log from the TSO session that encountered the abend
- The job log from the server
- A description of the task that you were doing before the abend occurred

For errors in batch processing, provide the following information

- The complete job log
- Print output
- Contents of the any data sets that were used during the processing

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