IBM IMS Administration Tool for z/OS
Version 1 Release 1

User's Guide and Reference

IBM
IBM IMS Administration Tool for z/OS
Version 1 Release 1

User's Guide and Reference

IBM
Note:
Before using this information and the product it supports, read the "Notices" topic at the end of this information.

Second Edition (May 2018)
This edition applies to Version 1 Release 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 SC27-9011-00.

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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:

http://www-01.ibm.com/support/docview.wss?uid=swg27020942

The IMS Tools Product Documentation web page includes:

- Links to IBM Knowledge Center 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 book!")
- 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,” on page 3
- Chapter 2, “IMS Administration Tool overview,” on page 5
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 23.
- Initial product customization using IMS Tools Setup
  Refer to Chapter 4, “Initial product customization using IMS Tools Setup,” on page 27.
- Additional and optional product configuration
  Refer to Chapter 5, “Additional and optional product configuration,” on page 29.

**Setup and Administration:**
- Global settings
  Refer to Chapter 6, “Global settings,” on page 53.
- Update product registry
  Refer to Chapter 7, “Updating the product registry,” on page 55.
- Register IMS systems
  Refer to Chapter 8, “Registering IMS systems,” on page 71.
- Manage IMS groups
  Refer to Chapter 9, “Managing groups,” on page 79.
- View audit log
  Refer to Chapter 10, “Viewing the audit log,” on page 83.
- Configuring message disposition
  Refer to Chapter 11, “Configuring message disposition,” on page 87.

**Using IMS Administration Tool:**
- Database and Application Administration
  Refer to Part 4, “Database and application administration,” on page 91.
- IMS catalog and ACB Library Management
Refer to Part 5, “IMS catalog management,” on page 103.

- Run IMS Utilities
  Refer to Part 6, “Run IMS utilities (JCL generation),” on page 137.
- IMS SPUFI
  Refer to Part 7, “IMS SPUFI (IMS SQL processing using file input),” on page 165.
- IMS Command Processor
  Refer to Part 8, “IMS command processing,” on page 175.

Troubleshooting:
- Command processing messages (ATY)
  Refer to Chapter 30, “Command processing messages (ATY),” on page 231.
- IMS SPUFI messages (ATYE, ATYT)
  Refer to Chapter 31, “IMS SPUFI messages (ATYE, ATYT),” on page 281.
- Abend codes
  Refer to Chapter 32, “Abend codes,” on page 285.
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” on page 6
• “What does IMS Administration Tool do?” on page 7
• “IMS Administration Tool architecture and process flow” on page 10
• “Service updates and support information” on page 16
• “Product documentation and updates” on page 17
• “Accessibility features” on page 19
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.

SC27-9011-01 - May 2018

- "Job card" changed to "Job statement" throughout.
- Remove "Job Options" references.
- COBOL and PL/1 (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.
- In database and application administration and IMS catalog management, use "IMS directory active and staging data set" terminology.
  APARS PI88592 (ATY ISPF), PI90728 (ATY MC), PI90085 (ATY Discover).
- APAR PI94129 - Support for refreshable user exits for IMS AOI (IMS V14 or later required).
- APAR PI95345 - New field designations and descriptions for Register an IMS Subsystem.
- New topic: The role of dynamic discovery
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 and security 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, change, and delete IMS databases and application views (PSBs). Capabilities include:
- Create, add, delete, alter, migrate, and model IMS DBD and PSB objects.
- Import and export COBOL and PL/1 copybook changes into and from the IMS catalog.
- Run DBDGEN and PSBGEN to update ACBLIB and IMS catalog immediately, or generate JCL that can be run at a later time.
- Manage and track changes that are made to IMS object definitions, and resolve any potential conflicts before running.
- Process dynamic database and application DDL generation (IMS 14+).
- Generate JCL for IMS utilities needed to implement changes to IMS objects (IMS 13+).
- Generate DBDGEN/PSBGEN/ACBGEN control statements for a database or application from the IMS catalog.
- Comprehensive reporting of IMS objects (IMS Library Integrity Utility).
  - Databases (DBD)
  - Applications (PSB)
- Validation of IMS Objects (IMS Library Integrity Utility)
  - DBDLIB and PSBLIB
  - ACBLIB
  - IMS catalog
Database and application (Object) security

The primary goal of the security function within the IMS Administration Tool is to enable IMS DBAs to view who has access to resources in the environment. Capabilities include:

- View existing security authorizations for IMS objects.
- Expand the detail for PSB and DMB objects.

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 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 and PL/1 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.

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 reoccurring 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 function is a feature to help IMS DBAs develop interactive SQL commands, run the SQL commands, and review the resulting output from the SQL command. Capabilities include:

- Develop interactive SQL statements without requiring knowledge of the exact SQL syntax
- Run as a batch job
• Maintain persistence of complicated SQLIMS command sets from session to session (rather than being lost when you exit the program)
• Review the resulting output from the SQLIMS 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
• Build IMS commands to run against databases and tables
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.
- 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 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 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 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 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 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:

What this diagram shows:
- Remote web client access from the Management Console.

Figure 2. IMS Administration Tool in a data sharing environment
- Remote client routing through web server (WebSphere Application Server (WAS) on z/OS and WAS on Windows).
- Web client requests handled through 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:

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:

http://www-01.ibm.com/support/docview.wss?uid=swg27020942

The IMS Tools Product Documentation web page includes:

- Links to IBM Knowledge Center 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 book!")
- Technical notes from IBM Software Support, referred to as "Tech notes"
- 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 is important in helping to provide the most accurate and high-quality information. If you have any comments about this book or any other IBM product documentation, use one of the following options:

- Use the IBM Knowledge Center Contact Us link.
- Use the online reader comment form, which is located at http://www.ibm.com/software/data/rcf/
- Send your comments by email to comments@us.ibm.com Include the name of the book, the part number of the book, the version of the product that you are using, and, if applicable, the specific location of the text you are commenting on, for example, a page number or table number.
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,” on page 23
- Chapter 4, “Initial product customization using IMS Tools Setup,” on page 27
- Chapter 5, “Additional and optional product configuration,” on page 29
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 Tools Base V1.6 (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*

<table>
<thead>
<tr>
<th>Step</th>
<th>Task</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Install IBM Tools Base</td>
<td>Install IBM Tools Base V1.6 or later (SMP/E). Refer to the Tools Base Program Directory for installation requirements and procedures.</td>
</tr>
<tr>
<td>2</td>
<td>Apply updates</td>
<td>Apply the latest maintenance updates (PTFs) for IBM Tools Base V1.6.</td>
</tr>
<tr>
<td>3</td>
<td>Install IMS Administration Tool</td>
<td>Install IMS Administration Tool (SMP/E). Refer to the IMS Administration Tool Program Directory for installation requirements and procedures.</td>
</tr>
<tr>
<td>4</td>
<td>Apply updates</td>
<td>Apply the latest maintenance updates (PTFs) for IMS Administration Tool.</td>
</tr>
<tr>
<td>5</td>
<td>Install IMS Tools solution packs</td>
<td>(Optional) Install any IMS Tools solution packs (SMP/E). Refer to the appropriate product Program Directories.</td>
</tr>
<tr>
<td>6</td>
<td>Apply updates</td>
<td>Apply the latest maintenance updates (PTFs) for the installed IMS Tools solution packs.</td>
</tr>
<tr>
<td>7</td>
<td>Run IMS Tools Setup</td>
<td>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.</td>
</tr>
</tbody>
</table>
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 Tools Base V1.6 and any IMS Tools solution packs or stand-alone IMS Tools products.

Note: 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 Tools Base configuration.

Table 2. Configuration checklist for pre-existing product installations

<table>
<thead>
<tr>
<th>Step</th>
<th>Task</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Apply updates for IBM Tools Base</td>
<td>Apply the latest maintenance updates (PTFs) for IBM Tools Base V1.6 (or later).</td>
</tr>
<tr>
<td>2</td>
<td>Apply updates for IBM Tools solution packs</td>
<td>Apply the latest maintenance updates (PTFs) for the installed IMS Tools solution packs.</td>
</tr>
<tr>
<td>3</td>
<td>Install IMS Administration Tool</td>
<td>Install IMS Administration Tool (SMP/E). Refer to the IMS Administration Tool Program Directory for installation requirements and procedures.</td>
</tr>
<tr>
<td>4</td>
<td>Apply updates for IMS Administration Tool</td>
<td>Apply the latest maintenance updates (PTFs) for IMS Administration Tool.</td>
</tr>
<tr>
<td>5</td>
<td>Run IMS Tools Setup</td>
<td>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.</td>
</tr>
</tbody>
</table>
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 Tools Base Version 1 Release 6 and later releases.

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 Tools Base components are also configured and customized during the IMS Tools Setup process. IBM Tools Base provides important supporting components and infrastructure that are required for the operation of many IMS Tools functions, such as storage repositories, autonomies, 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 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 Tools Base Version 1 Release 6 and later releases. You can start the function by running the following REXX EXEC:

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

Note: Where smpehlq is the high level qualifier for the 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.

**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 "#" and are named in the logical sequence of operation. Any members ending with "@" require manual steps. You must begin with the first #xxxx 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 system-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.
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” on page 30
- “Implementing user exit routines” on page 31
- “Configure VSAM options data set” on page 33
- “Secure the options data set” on page 36
- “Command store/forward: Configure” on page 38
- “Command store/forward: Activate (REDO BMP)” on page 40
- “Command store/forward: Schedule (REDO BMP)” on page 42
- “Command log: Configure a DASD-only log stream” on page 43
- “Command log: Configure a coupling facility log stream” on page 45
- “Command log: Configure data archiving” on page 47
- “Log stream security” on page 49
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 Tools Base SGLXLOAD data set is in the //STEPLIB DD concatenation.
   b. Ensure that all the 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 V14, 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 DFSDFxxx 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 DFSDFxxx 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 ))
   </SECTION>
   ```
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 DFSAOE01.
   (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: DFSAOE01).
   - 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 options data set is a VSAM data set that contains user-customized processing characteristics for IMS Administration Tool.

Technical notes

The options data set contains information such as relevant ddnames, the relevant IMS command interface, error handling, IMS command routing tables, and message disposition tables.

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.

Processing characteristics and environmental data

Processing characteristics and environmental information are stored in the options data set.

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

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

Global options record

The global options record is used to store default processing options.

The 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
- Use DB pre-scan for remote STC

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 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.

The Default IMS Administration Tool group name is used to set a default group when the command driver runs as an IMS BMP or IMS DL/I batch. The default group name is ignored if the command driver runs as a standard z/OS batch job, ISPF interface, or callable interface.

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")
Secure the options data set

In addition to using RACF® (or some other compatible security product) to secure update access to your IMS Administration Tool options data set, you can also use RACF to restrict the use of various IMS Administration Tool ISPF options.

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

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 ISPF option that is being protected.

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

**Restricting access to global options**

You can use RACF to define the entity name that restricts users from using the IMS Administration Tool ISPF interface to update global options by issuing TSO commands that are modeled on the following sample commands:

```plaintext
RDEF FACILITY ATYADMIN.OPTGBL UACC(NONE) OWNER(securitygroup)
P E ATYADMIN.OPTGBL CLASS(FACILITY) ACCESS(READ) ID(atuserid/groupid)
SETR REFRESH RACLIST(FACILITY)
```

**Restricting access to IMS options**

You can use RACF to define the entity name that restricts users from using the IMS Administration Tool ISPF interface to update IMS options by issuing TSO commands that are modeled on the following sample commands:

```plaintext
RDEF FACILITY ATYADMIN.OPTIMS UACC(NONE) OWNER(securitygroup)
P E ATYADMIN.OPTIMS CLASS(FACILITY) ACCESS(READ) ID(atuserid/groupid)
SETR REFRESH RACLIST(FACILITY)
```

**Restricting access to group options**

You can use RACF to define the entity name that restricts users from using the IMS Administration Tool ISPF interface to update group options by issuing TSO commands that are modeled on the following sample commands:

```plaintext
RDEF FACILITY ATYADMIN.OPTGRP UACC(NONE) OWNER(securitygroup)
P E ATYADMIN.OPTGRP CLASS(FACILITY) ACCESS(READ) ID(atuserid/groupid)
SETR REFRESH RACLIST(FACILITY)
```

**Restricting access to the command interface**

You can use RACF to define the entity name that restricts users from using the IMS Administration Tool ISPF interface to issue IMS commands by issuing TSO commands that are modeled on the following sample commands:

```plaintext
RDEF FACILITY ATYADMIN.OPTCMD UACC(NONE) OWNER(securitygroup)
P E ATYADMIN.OPTCMD CLASS(FACILITY) ACCESS(READ) ID(atuserid/groupid)
SETR REFRESH RACLIST(FACILITY)
```
Restricting access to message disposition options

You can use RACF to define the entity name that restricts users from using the IMS Administration Tool ISPF interface to update message disposition options by issuing TSO commands that are modeled on the following sample commands:

RDEF FACILITY ATYADMIN.OPTMSG UACC(NONE) OWNER(securitygroup)
PE ATYADMIN.OPTMSG CLASS(FACILITY) ACCESS(READ) ID(atomyuserid/groupid)
SETR REFRESH RACLIST(FACILITY)

Restricting access to command store/forward options

You can use RACF to define the entity name that restricts users from using the IMS Administration Tool ISPF interface to update command store/forward options by issuing TSO commands that are modeled on the following sample commands.

Restricting view access for reading:

RDEF FACILITY ATYADMIN.OPTSFV UACC(NONE) OWNER(securitygroup)
PE ATYADMIN.OPTSFV CLASS(FACILITY) ACCESS(READ) ID(atomyuserid/groupid)
SETR REFRESH RACLIST(FACILITY)

Restricting edit access for updating:

RDEF FACILITY ATYADMIN.OPTSFE UACC(NONE) OWNER(securitygroup)
PE ATYADMIN.OPTSFE CLASS(FACILITY) ACCESS(READ) ID(atomyuserid/groupid)
SETR REFRESH RACLIST(FACILITY)

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 by issuing TSO commands that are modeled on 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(atomyuserid/groupid)
SETR REFRESH RACLIST(FACILITY)
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.

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 ATYPPOST 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 ATYPPOST 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(AYBMPR).

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

**ATYPRINT**

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**

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**

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:
   
   ```
   /ST0 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
   /STA APPC  (if used)
   /RST LINK ALL  (if used)
   ```

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.

The following conditions apply:

- For commands that are routed using the APPC/IMS connection, a routing error is an APPC failure.
- 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.”

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 IXCMIA PU.

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 45.

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. Choose 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. Choose 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 - ATYA0800 ANCHOR ESTABLISHED AT 10F99000
ATY8406I - ATY LOGSTREAM CONNECTED
ATY8106I - ATY USING MAXBUFFSIZE 560 LOGSTREAM SYSLOG.1EA1.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.”

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.
Command log: Configure data archiving

IMS Administration Tool provides an archive job (ATYARCH0) that copies old log data to a DSORG=PS data set, and simultaneously marks it eligible for deletion.

IMS Administration Tool 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.

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

- Date (default)
- Hours
- Hours within Date
- Number of records
- All old log data
- MAX

Sample JCL for data archiving

Sample JCL for archiving message log data can be found in SATYSAMP(ATYARCH0).

The following table lists the data set definitions that are required by the ATYARCH0 utility:

<table>
<thead>
<tr>
<th>Definition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOGOUT</td>
<td>Describes the output data set where the command log records are 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.</td>
</tr>
<tr>
<td>SYSPRINT</td>
<td>An output data set that provides informational messages about the archive job. SYSPRINT is defined as LRECL=80 and RECFM=FB. The output can be written to SYSOUT or a data set.</td>
</tr>
<tr>
<td>SYSIN</td>
<td>An input data set that contains control cards that specify archiving parameters. SYSIN is defined as LRECL=80 and RECFM=FB.</td>
</tr>
</tbody>
</table>

ATYARCH0 control cards

This section describes the control cards that are valid for the ATYARCH0 utility.
The control cards that are used by ATYARCH0 fit into two categories. They either describe the log stream or they define how much data is to be archived.

The control card that describes the log stream is required (LSN). Other control cards are optional.

Table 4. ATYARCH0 Control Card - definition and values

<table>
<thead>
<tr>
<th>Definition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSN=name</td>
<td>Required. This control card describes the name of the command log. Specify the 1- to 26-byte log stream name.</td>
</tr>
<tr>
<td>DATE</td>
<td>Default. IMS Administration Tool starts archiving from the oldest record in the message log and continues until it encounters a log record with a different date.</td>
</tr>
<tr>
<td>HOURS=nn</td>
<td>IMS Administration Tool 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.</td>
</tr>
<tr>
<td>RECS=nnnnn</td>
<td>IMS Administration Tool starts archiving with the oldest record in the message log, and continues until nnnnn records have been archived, or a log record with the current date has been encountered. Valid values for nnnnn are 1-999999. This control card is not valid with control cards other than LSN.</td>
</tr>
<tr>
<td>ALL</td>
<td>IMS Administration Tool 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 card is not valid with control cards other than LSN.</td>
</tr>
<tr>
<td>MAX</td>
<td>IMS Administration Tool 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 card is not valid with any other control cards.</td>
</tr>
</tbody>
</table>
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.
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 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,” on page 53
- Chapter 7, “Updating the product registry,” on page 55
- Chapter 8, “Registering IMS systems,” on page 71
- Chapter 9, “Managing groups,” on page 79
- Chapter 10, “Viewing the audit log,” on page 83
- Chapter 11, “Configuring message disposition,” on page 87
Chapter 6. Global settings

IMS Administration Tool requires two global settings to be defined.

Global Settings reference

Table 5. Global settings

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITKB Repository</td>
<td>The name of the IMS Tools Knowledge Base repository server for the XCF Group that operates in the same environment as IMS Administration Tool.</td>
</tr>
<tr>
<td></td>
<td>Note: IMS Tools Knowledge Base is a component of IBM Tools Base.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>This value is provided during product startup, and is not configurable from this field.</td>
</tr>
<tr>
<td>Audit Log</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>• The audit log is initially created during z/OS configuration and is defined as a z/OS System Logger log stream data set.</td>
</tr>
<tr>
<td></td>
<td>System Logger is a z/OS component that provides a logging facility for applications that run in a single-system or multi-system sysplex.</td>
</tr>
<tr>
<td></td>
<td>Refer to the appropriate z/OS documentation for information and syntax.</td>
</tr>
<tr>
<td></td>
<td>• Only one audit log serves the entire IMS Administration Tool environment.</td>
</tr>
<tr>
<td></td>
<td>• The audit log is optional.</td>
</tr>
<tr>
<td></td>
<td>You must define and specify the audit log stream to enable logging.</td>
</tr>
</tbody>
</table>

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” on page 56
- “Product registration process flow” on page 57
- “Product functions, templates, and variables” on page 58
- “Rules for DDNAME variables” on page 59
- “Scope designations for products” on page 60
- “Scope designations for templates” on page 62
- “Scope designations for variables” on page 64
- “Product Management reference” on page 66
- “Function and Template Management reference” on page 67
- “Variable Management reference” on page 68
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 3. 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 primary 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, SYSSMAC, USERID, UNIT
- **Registry** (IMS Tools product information)
- **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:
  ```jcl
  //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:
  ```jcl
  //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
  ```
  - Rule=R (Replace) **replaces** any existing allocations of DD1:
  ```jcl
  //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:
  ```jcl
  //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 practise 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.
Template scope example
Example of modifying the scope=GLOBAL template for the single step reorganization function to (additionally / alternatively?) perform multi-step reorganization.
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

- **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 6. Product Management

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>D (delete)</td>
<td>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.</td>
</tr>
<tr>
<td>M (model)</td>
<td>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</td>
</tr>
<tr>
<td>U (update)</td>
<td>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.</td>
</tr>
<tr>
<td>V (view)</td>
<td>Display product information. No modifications to the product information can be made in this view.</td>
</tr>
</tbody>
</table>
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>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C (create)</td>
<td>Create a new function and template.</td>
</tr>
<tr>
<td>D (delete)</td>
<td>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.</td>
</tr>
<tr>
<td>M (model)</td>
<td>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.</td>
</tr>
<tr>
<td>U (update)</td>
<td>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.</td>
</tr>
<tr>
<td>V (view)</td>
<td>Display the template JCL code for the selected function. No modifications to the template code can be made in this view.</td>
</tr>
</tbody>
</table>

Chapter 7. Updating the product registry
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 8. Variable Management

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDname variables</td>
<td>Add, override, delete DDNAME type variable. DDNAME variables represent data set names such as product load library locations, IMS RESLIB, and RECON data sets.</td>
</tr>
<tr>
<td>Keyword variables</td>
<td>Add, override, delete keyword type variable. Keyword variables represent single value information such as high level qualifiers and IMSIDs.</td>
</tr>
</tbody>
</table>
| 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 |
<p>| 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. |</p>
<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
</table>
| 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” on page 72
- “The role of dynamic discovery” on page 73
- “Register IMS Systems management reference” on page 74
- “Register an IMS Subsystem reference” on page 76
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 9. Register IMS Systems management

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C (Create)</td>
<td>Create and register a new IMS subsystem. Opens the Register an IMS Subsystem panel.</td>
</tr>
<tr>
<td>S (Sort)</td>
<td>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).</td>
</tr>
<tr>
<td>IMSID Filter</td>
<td>Limits the displayed IMSID list according to the characters and wildcards specified as filter criteria. For example: imsl, ims*, *</td>
</tr>
<tr>
<td>D (delete)</td>
<td>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. <strong>Note:</strong> 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.</td>
</tr>
<tr>
<td>M (model)</td>
<td>Create and register a new IMS subsystem using the selected IMS subsystem as a model.</td>
</tr>
<tr>
<td>U (update)</td>
<td>Update any system information for the selected IMS subsystem.</td>
</tr>
<tr>
<td>V (view)</td>
<td>Display system information for the selected IMS subsystem. No changes to the subsystem information can be made in this view.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
</tr>
</tbody>
</table>
| 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 10. Register an IMS Subsystem

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMS Subsystem ID</td>
<td>The 1-4 character name of the IMS subsystem.</td>
</tr>
<tr>
<td></td>
<td>Required.</td>
</tr>
<tr>
<td>User Description</td>
<td>A 1-24 character informative description for the IMS subsystem that indicates its role and function, and is useful to users.</td>
</tr>
<tr>
<td>IMS PROC/JOB DSN</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Required.</td>
</tr>
<tr>
<td></td>
<td>Example: IMS.COMMON.PROCLIB</td>
</tr>
<tr>
<td>Control Region Member</td>
<td>The 1 to 8 character member name that contains the procedure or job JCL used to start the IMS control region.</td>
</tr>
<tr>
<td></td>
<td>Required.</td>
</tr>
<tr>
<td></td>
<td>This member name is required so that IMS Administration Tool can dynamically discover information about the IMS environment when needed.</td>
</tr>
<tr>
<td></td>
<td>Example: IEB8CTL</td>
</tr>
<tr>
<td>IRLM PROC/JOB Member</td>
<td>The 1 to 8 character member name that contains the procedure or job JCL used to start the Internal Resource Lock Manager (IRLM).</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Example: IEB8IRLM</td>
</tr>
<tr>
<td>Control Region UserParms</td>
<td>Additional parameters (up to 60 characters), or overrides to existing parameters (up to 60 characters), that are specified when starting the IMS control region.</td>
</tr>
<tr>
<td></td>
<td>IMS Administration Tool needs to know what these parameters are in order to dynamically discover information about the IMS environment when needed.</td>
</tr>
<tr>
<td></td>
<td>Example: RGSUF=IE2</td>
</tr>
</tbody>
</table>
Table 10. Register an IMS Subsystem (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command Log Stream</td>
<td>IMS command processor setting.</td>
</tr>
<tr>
<td></td>
<td>Specifies the name of the log stream that captures IMS command and response activity for that IMS subsystem.</td>
</tr>
<tr>
<td></td>
<td>Command logging is activated only when a command log stream is specified in this field.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>System Logger is a z/OS component that provides a logging facility for applications that run in a single-system or multi-system sysplex.</td>
</tr>
<tr>
<td></td>
<td>The z/OS System Logger log stream data set is defined using the z/OS IXCMIAPU utility program.</td>
</tr>
<tr>
<td></td>
<td>Example: SYSLOG.IDQ8.ATY LOGGER</td>
</tr>
<tr>
<td>User DFSAOE00 Name</td>
<td>IMS command processor setting.</td>
</tr>
<tr>
<td>Note: Valid only for</td>
<td>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.</td>
</tr>
<tr>
<td>non-refreshable user exit implementation.</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> Beginning with IMS V14, the AOI exit can be implemented as a refreshable exit:</td>
</tr>
<tr>
<td></td>
<td>• The &quot;User DFSAOE00 Name&quot; field is appropriate only for specifying a non-refreshable user exit.</td>
</tr>
<tr>
<td></td>
<td>• If you implement a refreshable user exit, leave this field blank.</td>
</tr>
<tr>
<td></td>
<td>Refer to “Implementing user exit routines” on page 31.</td>
</tr>
</tbody>
</table>
### Table 10. Register an IMS Subsystem (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message Disposition Table</td>
<td>IMS command processor setting.</td>
</tr>
<tr>
<td></td>
<td>The 1 to 8 character name of a message disposition table.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Message disposition processing is intended to help eliminate the need for users to develop and maintain this exit to suppress unwanted messages.</td>
</tr>
<tr>
<td></td>
<td>The message disposition table name is user-defined and is not referred to by any other function.</td>
</tr>
<tr>
<td></td>
<td>For example, the following name might relate to the message disposition table for IMS1: IMS1MSGD</td>
</tr>
</tbody>
</table>
Chapter 9. Managing groups

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

Managing groups overview

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

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

**Table 11. Manage Groups**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C (Create)</td>
<td>Create (define) a new IMS group. Opens the Define a Group panel.</td>
</tr>
<tr>
<td>S (Sort)</td>
<td>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).</td>
</tr>
<tr>
<td>Group Filter</td>
<td>Limits the displayed group list according to the characters and wildcards specified as filter criteria. For example: <code>imsgrp01</code>, <code>imsgrp*</code>, <code>*</code></td>
</tr>
<tr>
<td>D (Delete)</td>
<td>Delete a previously created IMS group. Opens the Delete Group Confirmation panel.</td>
</tr>
<tr>
<td>M (Model)</td>
<td>Create (define) a new group based on (modeled after) the attributes of the selected group. Opens the Define a Group panel and indicates the need to enter a name for the new group that is being created from the model group.</td>
</tr>
<tr>
<td>U (Update)</td>
<td>Modify (update) the attributes of the selected group. Opens the Define a Group panel and shows the existing attributes of the group. You can now add or remove attributes to change the group definition.</td>
</tr>
<tr>
<td>V (View)</td>
<td>Display (view) the attributes of the selected group. No changes to group attributes can be made in this view.</td>
</tr>
</tbody>
</table>
## Define a Group reference

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

### Table 12. Define a Group

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Name</td>
<td>User-provided custom name for the new IMS group.</td>
</tr>
<tr>
<td>Type</td>
<td>Two types of IMS groups are supported:</td>
</tr>
<tr>
<td></td>
<td>• CMD (IMS command group)</td>
</tr>
<tr>
<td></td>
<td>• DSHR (IMS data sharing group)</td>
</tr>
<tr>
<td>Description</td>
<td>Informative description of the group.</td>
</tr>
<tr>
<td>Primary IMSID</td>
<td>Required for the IMS data sharing group type (DSHR).</td>
</tr>
<tr>
<td></td>
<td>Not required (leave empty) for the IMS command group type (CMD).</td>
</tr>
<tr>
<td>IMSIDs</td>
<td>• IMS command group</td>
</tr>
<tr>
<td></td>
<td>1 - 64 IMSIDs allowed for this group type.</td>
</tr>
<tr>
<td></td>
<td>IMSIDs must share the same RECON for IMS command groups.</td>
</tr>
<tr>
<td></td>
<td>• IMS data sharing group</td>
</tr>
<tr>
<td></td>
<td>In addition to the primary IMSID, 0 - 63 additional non-primary IMSIDs are allowed for this group type.</td>
</tr>
</tbody>
</table>
Chapter 10. 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.
View Audit Log reference

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

Table 13. View Audit Log

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audit log</td>
<td>The audit log name displayed is the single global IMS Administration Tool audit log stream predefined in: Setup and Administration &gt; Global Settings &gt; Audit Log</td>
</tr>
<tr>
<td>View options</td>
<td>The IMS Administration Tool audit log captures records of processing activity. You can limit the view results with the following choices:</td>
</tr>
<tr>
<td></td>
<td>• Audit Records (only)</td>
</tr>
<tr>
<td></td>
<td>• Command Records (only)</td>
</tr>
<tr>
<td></td>
<td>• Audit and Command Records</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>If also specified as a command log stream, command logging is activated and the audit log additionally captures IMS command records.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Command log stream configuration:</td>
</tr>
<tr>
<td></td>
<td>Setup and Administration &gt; Register IMS Systems &gt; Create &gt; Register an IMS Subsystem &gt; Command Processor Settings &gt; Command Log Stream</td>
</tr>
<tr>
<td>IMSID</td>
<td>Audit Log Filter</td>
</tr>
<tr>
<td></td>
<td>Limits the view results to the specified IMS subsystem.</td>
</tr>
<tr>
<td>User</td>
<td>Audit Log Filter</td>
</tr>
<tr>
<td></td>
<td>Limits the view results to the specified TSO user ID.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Start Date / Time</td>
<td>Audit Log Filter</td>
</tr>
<tr>
<td></td>
<td>Limits the view results to the specified start and end time and dates.</td>
</tr>
<tr>
<td></td>
<td>Date format: yyyy/mm/dd</td>
</tr>
<tr>
<td></td>
<td>• yyyy is expressed as a 4-digit year.</td>
</tr>
<tr>
<td></td>
<td>• mm is expressed as a 2-digit month between 01 and 12.</td>
</tr>
<tr>
<td></td>
<td>• dd is expressed as a 2-digit day between 01 and 31.</td>
</tr>
<tr>
<td></td>
<td>Time format: hh:mm:ss</td>
</tr>
<tr>
<td></td>
<td>• hh is expressed as a 2-digit value for hours between 00 and 23.</td>
</tr>
<tr>
<td></td>
<td>• mm is expressed as a 2-digit value for minutes between 00 and 59.</td>
</tr>
<tr>
<td></td>
<td>• ss is expressed as a 2-digit value for seconds between 00 and 59.</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Date/Time</th>
<th>User ID</th>
<th>Action</th>
<th>Jobname</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016/11/19 11:06:37</td>
<td>ADNSRV16</td>
<td>ADD</td>
<td>ADN#0001TSSMD</td>
<td>RC=00000000 RSN=0000000</td>
</tr>
<tr>
<td>2016/11/19 17:21:25</td>
<td>ADNSRV16</td>
<td>ADD</td>
<td>ADN#0003PDB1SC</td>
<td>RC=00000000 RSN=0000000</td>
</tr>
<tr>
<td>2016/11/21 17:21:24</td>
<td>IEI8</td>
<td>ADD</td>
<td>ADN#0001TSSMD</td>
<td>Update/add IMS Information</td>
</tr>
<tr>
<td>2016/11/21 17:21:25</td>
<td>IEI8</td>
<td>ADD</td>
<td>ADN#0003PDB1SC</td>
<td>Environment discover fail</td>
</tr>
<tr>
<td>2016/11/21 17:21:25</td>
<td>IEI8</td>
<td>ADD</td>
<td>ADN#0003PDB1SC</td>
<td>ATY3113E - CTLRGN Started Task name IDC7CTL was</td>
</tr>
<tr>
<td>2016/11/28 19:11:42</td>
<td>IEI1</td>
<td>ADD</td>
<td>ADN#0003PDB1SC</td>
<td>RC=00000000 RSN=0000000</td>
</tr>
<tr>
<td>2016/12/06 12:26:32</td>
<td>LHCSRv16</td>
<td>UPDATE</td>
<td>LHC#0002TSLHC</td>
<td>Update/ADD IMS Information</td>
</tr>
<tr>
<td>2016/12/06 12:26:32</td>
<td>LHCSRv16</td>
<td>UPDATE</td>
<td>LHC#0002TSLHC</td>
<td>Environment discover fail</td>
</tr>
<tr>
<td>2016/12/06 12:26:32</td>
<td>LHCSRv16</td>
<td>UPDATE</td>
<td>LHC#0002TSLHC</td>
<td>ATY3113E - CTLRGN Started Task name IDC7CTL was</td>
</tr>
<tr>
<td>2016/12/06 15:00:37</td>
<td>LHCSRv16</td>
<td>UPDATE</td>
<td>LHC#0002TSLHC</td>
<td>Update/ADD IMS Information</td>
</tr>
<tr>
<td>2016/12/06 16:04:09</td>
<td>LHCSRv16</td>
<td>UPDATE</td>
<td>LHC#0002TSLHC</td>
<td>Update/ADD IMS Information</td>
</tr>
<tr>
<td>2016/12/06 16:06:02</td>
<td>LHCSRv16</td>
<td>UPDATE</td>
<td>LHC#0002TSLHC</td>
<td>Update/ADD IMS Information</td>
</tr>
</tbody>
</table>
Chapter 11. 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 above.

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 above).
- 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.
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 14. Configure Message Disposition

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C (Create)</td>
<td>Create (define) a new message disposition table and message ID.</td>
</tr>
<tr>
<td>D (Delete)</td>
<td>Delete a message ID from a message disposition table.</td>
</tr>
</tbody>
</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 15. Create, Update, View Message Disposition

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message Table</td>
<td>User-defined message disposition table name.</td>
</tr>
<tr>
<td></td>
<td>The message table name can be unique to an individual IMS subsystem, or all</td>
</tr>
<tr>
<td></td>
<td>IMS subsystems can share the same table.</td>
</tr>
<tr>
<td>Message ID</td>
<td>Message ID to configure for disposition.</td>
</tr>
<tr>
<td>Suppress Messages</td>
<td>Message disposition configuration:</td>
</tr>
<tr>
<td></td>
<td><strong>IMS Master Terminal (MTO)</strong></td>
</tr>
<tr>
<td></td>
<td>Suppress this message ID if it comes from the IMS master terminal (MTO).</td>
</tr>
<tr>
<td></td>
<td>Y-Yes, N-No</td>
</tr>
<tr>
<td></td>
<td><strong>IMS Secondary Master</strong></td>
</tr>
<tr>
<td></td>
<td>Suppress this message ID if it comes from the IMS secondary master.</td>
</tr>
<tr>
<td></td>
<td><strong>Note</strong>: Suppressing messages from the IMS secondary master is valid only</td>
</tr>
<tr>
<td></td>
<td>for IMS 10.1 and above.</td>
</tr>
<tr>
<td></td>
<td>Y-Yes, N-No</td>
</tr>
<tr>
<td></td>
<td><strong>IMS Administration Tool Logger</strong></td>
</tr>
<tr>
<td></td>
<td>Supress this message ID if it comes from the IMS Administration Tool logger.</td>
</tr>
<tr>
<td></td>
<td>Y-Yes, N-No</td>
</tr>
<tr>
<td>AOITOKEN</td>
<td>Route the message ID to a valid AOI token for any user-written or vendor-</td>
</tr>
<tr>
<td></td>
<td>provided automated operations (AO) application that can process the specified</td>
</tr>
<tr>
<td></td>
<td>message ID.</td>
</tr>
<tr>
<td></td>
<td>The AO application informs IMS what messages it is interested in receiving</td>
</tr>
<tr>
<td></td>
<td>based on the AOITOKEN name.</td>
</tr>
</tbody>
</table>
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:
/L0G 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, change, and delete IMS databases (DBDs) and application views (PSBs).

Topics:
- Chapter 12, “DBD and PSB administration reference,” on page 93
- Chapter 13, “IMS resource change,” on page 99
Chapter 12. DBD and PSB administration reference

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

IMS Administration Tool extracts the DBD and PSB source from either the DBDLIB, PSBLIB, ACBLIB, or IMS catalog depending on how IMS is configured.

For resource change operations, an editable update data set is created to contain the decoded source from the specified library.

After a resource change, you can build JCL to return the changes to the IMS system.

The JCL reads the DBD and PSB source libraries from the update data set, and runs DBDGEN and PSBGEN against these source libraries. You can then control when to run ACBGEN and place resource changes in the ACB staging library of the IMS system.

If the IMS system is configured for IMS management of ACBs (IMS catalog-enabled and ACBs are managed by IMS catalog), you can additionally place resource changes in the IMS directory staging data set.

Topics:
- “DBD and PSB management reference” on page 94
- “DBD and PSB change management reference” on page 95
DBD and PSB management reference

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

Table 16. DBD and PSB management

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSID</td>
<td>The 1-4 character name of the IMS subsystem.</td>
</tr>
<tr>
<td>Resource type</td>
<td>DBD or PSB object type.</td>
</tr>
<tr>
<td>DBD or PSB filter</td>
<td>Specify a wildcard expression to control the number of DBD or PSB objects that display.</td>
</tr>
<tr>
<td>Decoded source data set</td>
<td>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.</td>
</tr>
<tr>
<td>Updated source data set</td>
<td>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.</td>
</tr>
<tr>
<td>From Library</td>
<td>Library information and status for the selected IMS subsystem:</td>
</tr>
<tr>
<td></td>
<td>- DBD or PSB Library</td>
</tr>
<tr>
<td></td>
<td>Discovered or NA (not available)</td>
</tr>
<tr>
<td></td>
<td>- ACB Active Library</td>
</tr>
<tr>
<td></td>
<td>Discovered or NA (not available)</td>
</tr>
<tr>
<td></td>
<td>- ACB Inactive Library</td>
</tr>
<tr>
<td></td>
<td>Discovered or NA (not available)</td>
</tr>
<tr>
<td></td>
<td>- ACB Staging Library</td>
</tr>
<tr>
<td></td>
<td>Discovered or NA (not available)</td>
</tr>
<tr>
<td></td>
<td>- Directory Active Data Set</td>
</tr>
<tr>
<td></td>
<td>Discovered or NA (not available)</td>
</tr>
<tr>
<td></td>
<td>- ACBs managed by IMS catalog or ACB libraries</td>
</tr>
<tr>
<td></td>
<td>- Directory Staging Data Set</td>
</tr>
<tr>
<td></td>
<td>Discovered or NA (not available)</td>
</tr>
<tr>
<td></td>
<td>- ACBs managed by IMS catalog or ACB libraries</td>
</tr>
<tr>
<td></td>
<td>- Specify other DBDLIB data set names</td>
</tr>
<tr>
<td></td>
<td>Specify DBD or PSB library data set names</td>
</tr>
<tr>
<td></td>
<td>- Specify other ACBLIB data set names</td>
</tr>
<tr>
<td></td>
<td>Specify DBD or PSB library data set names</td>
</tr>
<tr>
<td>Library information</td>
<td>Data set name information for the libraries enabled on this IMS subsystem.</td>
</tr>
</tbody>
</table>

|
**DBD and PSB change management reference**

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

DBD and PSB change management allows you to manage, create, and modify individual DBDs and PSBs, build the appropriate JCL to implement the changes, and run the JCL immediately or save for a future time.

The update data set contains the decoded source from the specified IMS library.

After one or more resource changes, you can build and run JCL to perform DBDGEN, PSBGEN, and ACBGEN. Final options include populating the ACB staging library and the IMS directory staging data set.

*Table 17. DBD and PSB change management*

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create</td>
<td>Create a new DBD or PSB.</td>
</tr>
<tr>
<td>Alter</td>
<td>Update an existing DBD or PSB.</td>
</tr>
<tr>
<td></td>
<td>Alter uses the DBD or PSB copy in the update source data set.</td>
</tr>
<tr>
<td>Model</td>
<td>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.</td>
</tr>
<tr>
<td>Source</td>
<td>View the DBD or PSB code.</td>
</tr>
<tr>
<td></td>
<td>When working with copybooks, the source view can provide detailed DBD segment information.</td>
</tr>
<tr>
<td>Expand info from IMS</td>
<td>Select an object from an active library (ACB active library or IMS directory active data set) to view detailed (expanded) object information.</td>
</tr>
<tr>
<td></td>
<td>The detailed information provides a convenient single view of object attributes gathered from multiple sources. For example:</td>
</tr>
<tr>
<td></td>
<td>• Database level properties</td>
</tr>
<tr>
<td></td>
<td>• Online status</td>
</tr>
<tr>
<td></td>
<td>• Data set level properties</td>
</tr>
<tr>
<td></td>
<td>• Recovery state</td>
</tr>
<tr>
<td>Update data set</td>
<td>The name of the working data set that contains a duplicate of the decode source data set.</td>
</tr>
<tr>
<td></td>
<td>Modifications to DBDs or PSBs can be made to the contents of the update source data set.</td>
</tr>
<tr>
<td>Member</td>
<td>The name of the changed or newly created DBD or PSB.</td>
</tr>
<tr>
<td></td>
<td>The DBD or PSB becomes a member of the update data set.</td>
</tr>
</tbody>
</table>

**Generation options:**

<p>| Execute (run) or build JCL only | After a resource change, you can build JCL to run DBDGEN or PSBGEN, and then ACBGEN (using settings from &quot;Update to:&quot;). Specify to run the JCL immediately, or save to run in the future. |</p>
<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Update to:</td>
<td>After a resource change, and DBDGEN or PSBGEN, specify how the JCL handles ACBGEN:</td>
</tr>
<tr>
<td><strong>ACBLIB (staging)</strong></td>
<td><strong>Yes</strong> Run ACBGEN and place resource changes in the ACB staging library.</td>
</tr>
<tr>
<td></td>
<td><strong>No</strong> Do not run ACBGEN. Resource changes remain in DBDLIB or PSBLIB.</td>
</tr>
<tr>
<td><strong>Directory (staging)</strong></td>
<td><strong>Yes</strong> Populate the IMS directory staging data set from the ACB staging library.</td>
</tr>
<tr>
<td></td>
<td>The ACBLIB (staging) option must be set to “Yes”.</td>
</tr>
<tr>
<td></td>
<td><strong>No</strong> Do not populate the IMS directory staging data set.</td>
</tr>
<tr>
<td>COPYBOOK data set</td>
<td>The name of the data set where the copybook resides.</td>
</tr>
<tr>
<td></td>
<td>This option allows you to import a COBOL or PL/1 copybook that relates to the DBD’s segments.</td>
</tr>
<tr>
<td>COPYBOOK XREF data set</td>
<td>The name of the data set that pairs the DBD with the copybook.</td>
</tr>
<tr>
<td></td>
<td>This option allows you to import a COBOL or PL/1 copybook that relates to the DBD’s segments.</td>
</tr>
<tr>
<td></td>
<td><strong>Example scenario:</strong></td>
</tr>
<tr>
<td></td>
<td>When using import to update or add a DBD in the IMS catalog, you can create the DBD information (FIELD and DFSMARCH statements) from a copybook.</td>
</tr>
<tr>
<td></td>
<td>You then use a copybook cross-reference data set to indicate what copybook belongs to a particular segment.</td>
</tr>
<tr>
<td></td>
<td>1. The COPYBOOK XREF Data Set must be a PDS or PDSE (RECFM=F or FB, LRECL=80).</td>
</tr>
<tr>
<td></td>
<td>2. Establish a relationship between a COPYBOOK and a SEGMENT by creating a member in the XREF data set that has the same name as the DBD.</td>
</tr>
<tr>
<td></td>
<td>This is a manual process.</td>
</tr>
<tr>
<td></td>
<td>3. Inside this member there can be any number of SEGMENT entries. There can be more than one SEGMENT entry for any individual segment in the DBD.</td>
</tr>
<tr>
<td></td>
<td>• A SEGMENT entry has the format of SEGMENT=ssssssss COPYBOOK=cccccccc.</td>
</tr>
<tr>
<td></td>
<td>• sssssss is a 1 to 8 character field that must match the NAME= value on a SEGM statement in the DBD.</td>
</tr>
<tr>
<td></td>
<td>• cccccccc is a 1 to 8 character field that must match a member name in the specified COPYBOOK Data Set.</td>
</tr>
<tr>
<td></td>
<td>4. For the import function, the COPYBOOK Data Set setting and the COPYBOOK XREF Data Set setting are optional. But, if either is specified,</td>
</tr>
<tr>
<td></td>
<td>then both data sets must be specified.</td>
</tr>
<tr>
<td>JCL output options:</td>
<td></td>
</tr>
</tbody>
</table>
Table 17. DBD and PSB change management (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>JCL Output Data Set</td>
<td>The name of the partitioned data set where the generated JCL is stored.</td>
</tr>
<tr>
<td></td>
<td>The data set must be pre-allocated before you can generate the JCL.</td>
</tr>
<tr>
<td>Member</td>
<td>The name of the member in the partitioned data set where the generated JCL is stored.</td>
</tr>
<tr>
<td>Job Statements</td>
<td>Specification of the JOB statement of the JCL.</td>
</tr>
<tr>
<td>Allocate JCL Output Data Set?</td>
<td>Allocate the data set where the generated export JCL is stored.</td>
</tr>
</tbody>
</table>
Chapter 13. IMS resource change

The IMS resource change function allows you to generate a single job JCL to apply multiple DBD and PSB resource changes to the ACB library and the IMS directory.

The JCL is generated from the update data set. The update data set is a copy of the decode source data set and is the data set where changes can be made to the DBD and PSB code.

The decode data set is 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.

After multiple accumulated resource changes, you can build and run JCL to perform DBDGEN, PSBGEN, and ACBGEN. Final options include populating the ACB staging library and the IMS directory staging data set.

Table 18. IMS resource change

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Update Object Selection:</td>
<td></td>
</tr>
<tr>
<td>UPDATE Objects</td>
<td>• DBD</td>
</tr>
<tr>
<td></td>
<td>• PSB</td>
</tr>
<tr>
<td></td>
<td>• Both</td>
</tr>
<tr>
<td>DBD UPDATE Data Set</td>
<td>The name of the working data set that contains a duplicate of the decode source data set. Modifications to DBDs can be made to the contents of the update source data set.</td>
</tr>
<tr>
<td>Select DBDs</td>
<td>Two methods to select DBDs from the DBD update data set:</td>
</tr>
<tr>
<td></td>
<td>• By filter</td>
</tr>
<tr>
<td></td>
<td>Specify a wildcard expression to control the number of DBDs that display.</td>
</tr>
<tr>
<td></td>
<td>• From list</td>
</tr>
<tr>
<td></td>
<td>View and select DBDs to be updated.</td>
</tr>
<tr>
<td>PSB UPDATE Data Set</td>
<td>The name of the working data set that contains a duplicate of the decode source data set. Modifications to PSBs can be made to the contents of the update source data set.</td>
</tr>
<tr>
<td>Select PSBs</td>
<td>Two methods to select PSBs from the PSB update data set:</td>
</tr>
<tr>
<td></td>
<td>• By filter</td>
</tr>
<tr>
<td></td>
<td>Specify a wildcard expression to control the number of PSBs that display.</td>
</tr>
<tr>
<td></td>
<td>• From list</td>
</tr>
<tr>
<td></td>
<td>View and select PSBs to be updated.</td>
</tr>
<tr>
<td>Update Object Options:</td>
<td></td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
</tr>
<tr>
<td>Execute (run) or build JCL only</td>
<td>After multiple resource changes, you can build JCL to run DBDGEN or PSBGEN, and then ACBGEN (using settings from &quot;Update to:&quot;). Specify to run the JCL immediately, or save to run in the future.</td>
</tr>
<tr>
<td>Update to:</td>
<td>After resource changes, and DBDGEN or PSBGEN, specify how the JCL handles ACBGEN:</td>
</tr>
<tr>
<td>ACBLIB (staging)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>Run ACBGEN and place resource changes in the ACB staging library.</td>
</tr>
<tr>
<td>No</td>
<td>Do not run ACBGEN. Resource changes remain in DBDLIB or PSBLIB.</td>
</tr>
<tr>
<td>Directory (staging)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>Populate the IMS directory staging data set from the ACB staging library. The ACBLIB (staging) option must be set to &quot;Yes&quot;.</td>
</tr>
<tr>
<td>No</td>
<td>Do not populate the IMS directory staging data set.</td>
</tr>
<tr>
<td>COPYBOOK data set</td>
<td>The name of the data set where the copybook resides. This option allows you to import a COBOL or PL/1 copybook that relates to the DBD's segments.</td>
</tr>
</tbody>
</table>
Table 18. IMS resource change (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>COPYBOOK XREF data set</td>
<td>The name of the data set that pairs the DBD with the copybook. This option allows you to import a COBOL or PL/1 copybook that relates to the DBD's segments.</td>
</tr>
<tr>
<td><strong>Example scenario:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>When using import to update or add a DBD in the IMS catalog, you can create the DBD information (FIELD and DFSMARCH statements) from a copybook. You then use a copybook cross-reference data set to indicate what copybook belongs to a particular segment.</td>
</tr>
<tr>
<td></td>
<td>1. The COPYBOOK XREF Data Set must be a PDS or PDSE (RECFM=F or FB, LRECL=80).</td>
</tr>
<tr>
<td></td>
<td>2. Establish a relationship between a COPYBOOK and a SEGMENT by creating a member in the XREF data set that has the same name as the DBD. This is a manual process.</td>
</tr>
<tr>
<td></td>
<td>3. Inside this member there can be any number of SEGMENT entries. There can be more than one SEGMENT entry for any individual segment in the DBD.</td>
</tr>
<tr>
<td></td>
<td>• A SEGMENT entry has the format of SEGMENT=ssssssss COPYBOOK=cccccccc.</td>
</tr>
<tr>
<td></td>
<td>• sssssss is a 1 to 8 character field that must match the NAME= value on a SEGM statement in the DBD.</td>
</tr>
<tr>
<td></td>
<td>• cccccc is a 1 to 8 character field that must match a member name in the specified COPYBOOK Data Set.</td>
</tr>
<tr>
<td></td>
<td>4. For the import function, the COPYBOOK Data Set setting and the COPYBOOK XREF Data Set setting are optional. But, if either is specified, then both data sets must be specified.</td>
</tr>
</tbody>
</table>

**JCL output options:**

<table>
<thead>
<tr>
<th>JCL Output Data Set</th>
<th>The name of the partitioned data set where the generated JCL is stored.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The data set must be pre-allocated before you can generate the JCL.</td>
</tr>
<tr>
<td>Member</td>
<td>The name of the member in the partitioned data set where the generated JCL is stored.</td>
</tr>
<tr>
<td>Job Statements</td>
<td>Specification of the JOB statement of the JCL.</td>
</tr>
<tr>
<td>Allocate JCL Output Data Set?</td>
<td>Allocate the data set where the generated export JCL is stored.</td>
</tr>
</tbody>
</table>
Part 5. IMS catalog 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 14, “IMS catalog overview,” on page 105
- Chapter 15, “IMS catalog space analysis and summary reports,” on page 111
- Chapter 16, “DBD/PSB compare,” on page 119
- Chapter 17, “Object export and import reference,” on page 125
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
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 IMS™ directory staging data sets. 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/1 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 15. 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
  DFSDFxxx 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 a 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 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 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 DFSDFxxx 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 16. DBD/PSB compare

The compare function of IMS Administration Tool allows you to compare versions of DBD and PSB resources between the IMS catalog (directory) and the IMS ACB library.

**Compare business scenarios**

You can use the compare function to:

- Confirm consistency of resources between two IMS subsystems (for example, data sharing between two IMS subsystems)
- Confirm consistency of resources in the IMS directory to resources in the ACB library

A common business scenario for this function is to verify the differences (or similarities) between two systems, or within a system, when preparing to migrate from the ACBLIB-managed ACBs to IMS catalog-managed ACBs.

Catalog-managed ACBs (ACBs are managed by the IMS catalog and stored in the IMS directory) have the “master” set of definitions of application control blocks (ACBs) for databases (DBDs) and program views (PSBs) contained in the IMS directory, and not in DBDLIB, PSBLIB, or ACBLIB.

In some cases, even with catalog-managed ACBs, DBDLIB and PSBLIB are still required. The online control region still uses the IMS directory if IMS management of ACBs is active.
The compare function of IMS Administration Tool allows you to compare versions of DBD and PSB resources between the IMS catalog (directory) and the IMS ACB library.

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.

**Table 19. Compare criteria selection**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comparison scope</strong></td>
<td>Options for comparison:</td>
</tr>
<tr>
<td></td>
<td>• Compare a single resource (Compare)</td>
</tr>
<tr>
<td></td>
<td>• Compare multiple resources (Compare All)</td>
</tr>
<tr>
<td></td>
<td>You can choose one more DBDs or PSBs to compare.</td>
</tr>
<tr>
<td></td>
<td>Resources can be selected using filters.</td>
</tr>
<tr>
<td><strong>Resource type</strong></td>
<td>Resource types include:</td>
</tr>
<tr>
<td></td>
<td>• DBD</td>
</tr>
<tr>
<td></td>
<td>• PSB</td>
</tr>
<tr>
<td></td>
<td>You can choose one more DBDs or PSBs to compare.</td>
</tr>
<tr>
<td></td>
<td>Resources can be selected using filters.</td>
</tr>
<tr>
<td><strong>IMS directory resource criteria</strong></td>
<td>The IMSIDs in the selection list are catalog-managed ACBs.</td>
</tr>
<tr>
<td><strong>IMSID (of IMS directory)</strong></td>
<td>Catalog-managed ACBs means the IMS catalog is enabled, ACBs are managed with the IMS catalog, and resources are stored in the IMS directory.</td>
</tr>
<tr>
<td><strong>Resource name</strong></td>
<td>You can choose one more DBDs or PSBs to compare.</td>
</tr>
<tr>
<td></td>
<td>Select a single resource from the IMS directory for single resource comparison.</td>
</tr>
<tr>
<td></td>
<td>Select multiple resources from the IMS directory for multiple resource comparisons.</td>
</tr>
<tr>
<td><strong>Resource (instance) status</strong></td>
<td>The selected DBD or PSB resource instance status can be:</td>
</tr>
<tr>
<td></td>
<td>• Active</td>
</tr>
<tr>
<td></td>
<td>Active instances are stored in the IMS directory active data sets.</td>
</tr>
<tr>
<td></td>
<td>• Staging</td>
</tr>
<tr>
<td></td>
<td>Pending instances are stored in the IMS directory staging data sets.</td>
</tr>
<tr>
<td><strong>ACB library resource criteria</strong></td>
<td></td>
</tr>
</tbody>
</table>
Table 19. Compare criteria selection (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSID (of ACB library)</td>
<td>The IMSIDs in the selection list satisfies the one of the following conditions:</td>
</tr>
<tr>
<td></td>
<td>• IMS catalog is not enabled.</td>
</tr>
<tr>
<td></td>
<td>• IMS catalog is enabled and ACBs are managed with ACB libraries.</td>
</tr>
<tr>
<td></td>
<td>You can alternatively specify another ACBLIB library data set.</td>
</tr>
<tr>
<td>Resource name</td>
<td>You can choose one more DBDs or PSBs to compare.</td>
</tr>
<tr>
<td></td>
<td>Select a single resource from the ACB library for single resource comparison.</td>
</tr>
<tr>
<td></td>
<td>Select multiple resources from the ACB library for multiple resource comparisons.</td>
</tr>
<tr>
<td>Resource (instance) status</td>
<td>When OLC is enabled, the selected DBD or PSB resource instance status can be:</td>
</tr>
<tr>
<td>(Data and time instance)</td>
<td>• Active</td>
</tr>
<tr>
<td></td>
<td>Active instances are in the active ACB libraries.</td>
</tr>
<tr>
<td></td>
<td>• Inactive</td>
</tr>
<tr>
<td></td>
<td>Inactive instances are in the inactive ACB libraries.</td>
</tr>
<tr>
<td></td>
<td>• Staging</td>
</tr>
<tr>
<td></td>
<td>Staging instances are in the staging ACB libraries.</td>
</tr>
</tbody>
</table>
Table 19. Compare criteria selection  (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comparison options</strong></td>
<td>Compare options to ignore certain comparison differences:</td>
</tr>
<tr>
<td><strong>Ignore VERSION= in DBD</strong></td>
<td>Ignore the differences of VERSION= parameter in the DBD statement.</td>
</tr>
<tr>
<td><strong>Note:</strong> VERSION= parameter is different from DBVER= parameter. DBVER is the version number of the database versioning and is always compared.</td>
<td></td>
</tr>
<tr>
<td><strong>Ignore METADATA in DBD and PSB</strong></td>
<td>Ignore the metadata differences in DBD and PSB. The metadata is as follows:</td>
</tr>
<tr>
<td><strong>DBD</strong></td>
<td>- DFSMARSH, DFSMAP, DFSCASE statements</td>
</tr>
<tr>
<td></td>
<td>Includes the statements and any parameters on the statements.</td>
</tr>
<tr>
<td></td>
<td>- FIELD statements</td>
</tr>
<tr>
<td></td>
<td>CASENAME=, DATATYPE=, DEPENDSON=, EXTERNALNAME=, MINOCCURS=,</td>
</tr>
<tr>
<td></td>
<td>MAXOCCURS=, MAXBYTES=, PARENT=, REDEFINES=, RELSTART=, REMARKS=, STARTAFTER=</td>
</tr>
<tr>
<td></td>
<td>- Other statements</td>
</tr>
<tr>
<td></td>
<td>ENCODING=, EXTERNALNAME=, REMARKS=</td>
</tr>
<tr>
<td><strong>PSB</strong></td>
<td>EXTERNALNAME=, REMARKS=</td>
</tr>
<tr>
<td>Ignore PCB Name</td>
<td>Ignore the differences for the NAME= parameter or the label in the PSBGEN statement of the PSB.</td>
</tr>
<tr>
<td>Ignore RMNAME= in DBD</td>
<td>Ignore the differences for the RMNAME= parameter in the DBD statement.</td>
</tr>
<tr>
<td>Ignore Segment/Edit Compression Exit Routine Name</td>
<td>Ignore the differences for the COMPRTN= parameter in the SEGM statement of the DBD.</td>
</tr>
<tr>
<td>Ignore KEYLEN of PCB</td>
<td>Ignore KEYLEN= in the PCB statement of the PSB</td>
</tr>
<tr>
<td>Ignore DEDB AREA Statement</td>
<td>Ignore AREA statements in the DBD and any parameters on the AREA statements.</td>
</tr>
</tbody>
</table>
## 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 20. Compare results

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compare Results</td>
<td>The initial comparison results report indicates one of the following analysis categories:</td>
</tr>
<tr>
<td></td>
<td><strong>Identical</strong>&lt;br&gt;The resource instances in the IMS directory and in the ACB library are identical.</td>
</tr>
<tr>
<td></td>
<td><strong>Different</strong>&lt;br&gt;The resource instances in the IMS directory and the ACB library are different.</td>
</tr>
<tr>
<td></td>
<td><strong>Unmatched</strong>&lt;br&gt;The resource instance exists in the IMS directory or the ACB library, but not both.</td>
</tr>
</tbody>
</table>

### Comparison results detail

<table>
<thead>
<tr>
<th>NUMBER OF DIFFERENT STATEMENTS</th>
<th>The top header section of the comparison report contains the summary information about statements which were inserted, deleted, or changed.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INSERTED</strong></td>
<td>The number of statements which were found only in the DBDs or the PSBs in the ACB library.</td>
</tr>
<tr>
<td><strong>DELETED</strong></td>
<td>The number of statements which were found only in the DBDs or the PSBs in IMS directory.</td>
</tr>
<tr>
<td><strong>CHANGED</strong></td>
<td>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.</td>
</tr>
</tbody>
</table>

Example:

<table>
<thead>
<tr>
<th>NUMBER OF DIFFERENT STATEMENTS</th>
<th>INSERTED</th>
<th>DELETED</th>
<th>CHANGED</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSERTED</td>
<td>44</td>
<td>8</td>
<td>10</td>
</tr>
</tbody>
</table>
Table 20. Compare results (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
</table>
| 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 : DBFSAM04  
GENERATED : 06/12/2017 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 17. Object export and import reference

The export function, in combination with the import 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.

Topics:
- “Object export and import overview” on page 126
- “Exporting objects reference” on page 128
- “Importing objects reference” on page 131
- “Scenarios for “Overwrite existing objects”” on page 134
Object export and import overview

The export function, in combination with the import 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.

Export and import combinations

An important business scenario for the bulk export and import feature is to synchronize two IMS environments.

Possible export and import combinations include:
- Copy DBDs and PSBs from an IMS subsystem to another IMS subsystem
- Copy DBDs and PSBs from the ACB library to the IMS catalog
- Copy DBDs and PSBs from the IMS catalog to the ACB library
- Copy DBDs and PSBs within the same IMS catalog
- Copy DBDs and PSBs within the same ACB library

The export and import function uses intermediate files (export data set) during the transfer from one location to another location. The intermediate files are DBD source codes and PSB source codes that are decoded from ACB libraries and IMS directory active and staging data sets.

Intermediate files allow you to confirm the contents of the DBDs and PSBs between export and import.

Export and import between differing IMS systems

The export process reads DBD- and PSB-related information from an ACB library or the IMS directory and translates (decodes) that information into DBD and PSB source code. The DBD and PSB source code is placed in an export data set. The import process reads the DBD and PSB source libraries created by the export process, and runs the DBDGEN and PSBGEN process against these source libraries.

An ACBGEN is then performed from the output of the DBDGEN and PSBGEN processes. If the target system is catalog-enabled (IMS management of ACBs), the output is placed in the IMS directory staging data set. If the target system is not catalog-enabled (IMS management of ACBs), the output is place in the ACB staging library.

In this way, import into an IMS environment - that is different in type or in version from the system on which the export was run - is supported.

Additional import capabilities

Importantly, the import function can provide additional capabilities during its processing. Examples of supplementary processing include:
- Update (individually or in bulk) IMS database definitions (DBDs) with schema from COBOL or PL/1 copybooks.
- Process the following management functions:
  - DBDGEN (DBDs to DBD library)
  - PSBGEN (PSBs to PSB library)
  - ACBGEN (PSB and DBD library objects to staging ACB library)
• Perform IMS directory population if the IMS catalog is enabled.

Import performs the complicated generation process in one job step. By using export and import, you can keep DBD, PSB, ACBLIB, and IMS directory synchronized.

**Export/import business scenarios**

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.
  Export/import, at once, all active, inactive, and pending objects into the same sets of libraries or corresponding catalog entries on the system imported to.
• Move the IMS subsystem to a different ACB management environment, for example from ACBLIB to IMS catalog (directory).
• Restore the IMS subsystem from ACB managed with IMS catalog (directory) to ACBLIB.
• Import COBOL or PL/1 copybooks in bulk to the IMS catalog to accommodate a change of application programs and make the information available to Java applications.
Exporting objects reference

The export function, in combination with the import 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 following options allow you to set up the process of exporting selected resource objects to a "staging" export data set. You can then apply the import process to the objects in those data sets.

*Table 21. Exporting objects*

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Object Selection Criteria:</strong></td>
<td></td>
</tr>
<tr>
<td>IMSID</td>
<td>The 1-4 character name of the IMS subsystem to export from.</td>
</tr>
<tr>
<td>Export Objects</td>
<td>Specification of resource types to export (and import):</td>
</tr>
<tr>
<td></td>
<td>• DBD</td>
</tr>
<tr>
<td></td>
<td>• PSB</td>
</tr>
<tr>
<td></td>
<td>• Both (DBD and PSB)</td>
</tr>
<tr>
<td>DBD and PSB Filters</td>
<td>Specify a wildcard expression to control the number of resource objects that display.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Export object options:</strong></td>
<td></td>
</tr>
<tr>
<td>Execute (run) or build JCL only</td>
<td>Run the export job immediately, or save the JCL job and run later.</td>
</tr>
</tbody>
</table>
### Table 21. Exporting objects (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export from and Object status</td>
<td>Export resource objects from the ACB library, or IMS directory, or both:</td>
</tr>
<tr>
<td><strong>ACB library</strong></td>
<td>The ACB library option is available if:</td>
</tr>
<tr>
<td></td>
<td>1. The IMS catalog is enabled and ACBs are managed by ACB library, or</td>
</tr>
<tr>
<td></td>
<td>2. The IMS catalog is not enabled</td>
</tr>
<tr>
<td></td>
<td>Status options for objects in the ACB library:</td>
</tr>
<tr>
<td></td>
<td>• Active</td>
</tr>
<tr>
<td></td>
<td>Active objects are stored in the active ACB library.</td>
</tr>
<tr>
<td></td>
<td>• Inactive</td>
</tr>
<tr>
<td></td>
<td>Inactive objects are stored in the inactive ACB library.</td>
</tr>
<tr>
<td></td>
<td>• Staging</td>
</tr>
<tr>
<td></td>
<td>Staging objects are stored in the staging ACB library.</td>
</tr>
<tr>
<td><strong>IMS directory</strong></td>
<td>The IMS directory option is available if:</td>
</tr>
<tr>
<td></td>
<td>1. The IMS catalog is enabled and ACBs are managed by the IMS catalog, and</td>
</tr>
<tr>
<td></td>
<td>2. ACB library is not specified in the IMS control region PROCLIB</td>
</tr>
<tr>
<td></td>
<td>Status options for objects in the IMS directory:</td>
</tr>
<tr>
<td></td>
<td>• Active</td>
</tr>
<tr>
<td></td>
<td>Active objects are stored in IMS directory active data sets.</td>
</tr>
<tr>
<td></td>
<td>• Staging</td>
</tr>
<tr>
<td></td>
<td>Pending objects are stored in an IMS directory staging data set.</td>
</tr>
<tr>
<td><strong>Both ACB library and IMS directory</strong></td>
<td>Both the ACB library and the IMS directory options are available if:</td>
</tr>
<tr>
<td></td>
<td>1. The IMS catalog is enabled and ACBs are managed by the IMS catalog, and</td>
</tr>
<tr>
<td></td>
<td>2. ACB library is specified in the IMS control region PROCLIB</td>
</tr>
<tr>
<td>Prefix of Export Data Sets</td>
<td>The high-level qualifier prefix of the output data sets that are used for the export process. (35 character maximum)</td>
</tr>
<tr>
<td><strong>Note:</strong></td>
<td>Existing objects in export data sets are deleted before the export process.</td>
</tr>
<tr>
<td></td>
<td><strong>JCL output options:</strong></td>
</tr>
<tr>
<td><strong>JCL Output Data Set</strong></td>
<td>The name of the partitioned data set where the generated export JCL is stored.</td>
</tr>
<tr>
<td></td>
<td>The data set must be pre-allocated before you can generate the JCL</td>
</tr>
<tr>
<td><strong>Member</strong></td>
<td>The name of the member in the partitioned data set where the generated export JCL is stored.</td>
</tr>
<tr>
<td><strong>Job Statements</strong></td>
<td>Specification of the JOB statement of the export JCL.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Allocate data set</td>
<td>Allocate the data set where the generated export JCL is stored.</td>
</tr>
<tr>
<td></td>
<td>Allocate export data sets for:</td>
</tr>
<tr>
<td></td>
<td>• Active DBDs</td>
</tr>
<tr>
<td></td>
<td>• Active PSBs</td>
</tr>
<tr>
<td></td>
<td>• Inactive DBDs</td>
</tr>
<tr>
<td></td>
<td>• Inactive PSBs</td>
</tr>
<tr>
<td></td>
<td>• Staging DBDs</td>
</tr>
<tr>
<td></td>
<td>• Staging PSBs</td>
</tr>
</tbody>
</table>
Importing objects reference

The import function, in combination with the export 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 following options allow you to set up the process of importing selected resource objects from the export output data set to a new target destination.

Table 22. Importing objects

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Object Selection Criteria:</strong></td>
<td></td>
</tr>
<tr>
<td>IMSID</td>
<td>The 1-4 character name of the IMS subsystem to import to.</td>
</tr>
<tr>
<td>Import Objects</td>
<td>Specification of resource types to import from the export output data set:</td>
</tr>
<tr>
<td></td>
<td>• DBD</td>
</tr>
<tr>
<td></td>
<td>• PSB</td>
</tr>
<tr>
<td></td>
<td>• Both (DBD and PSB)</td>
</tr>
<tr>
<td>DBD and PSB Filters</td>
<td>Specify a wildcard expression to control the number of resource objects that display.</td>
</tr>
<tr>
<td><strong>Import object options:</strong></td>
<td></td>
</tr>
<tr>
<td>Execute (run) or build JCL only</td>
<td>Run the export job immediately, or save the JCL job and run later.</td>
</tr>
<tr>
<td>Import to</td>
<td>When you import objects, the imported objects are always placed in the staging ACB library. When you import objects to an IMS catalog-enabled system (IMS management of ACBs), the imported objects are additionally placed in the IMS directory staging data set.</td>
</tr>
<tr>
<td>Initial load</td>
<td>Specify whether to replace or create an IMS directory database or, instead, to add records to an existing IMS directory. This option is not active or available on the user interface if the IMS catalog is not enabled in the IMS environment.</td>
</tr>
<tr>
<td></td>
<td>Yes Replace the existing IMS directory or create a new IMS directory. All existing database records in the IMS directory database are deleted. When Initial Load = Yes, the directory is always created, even when the database uses ACBLIB-managed ACBs.</td>
</tr>
<tr>
<td></td>
<td>No Import database records to an existing IMS directory. When Initial Load = No, the directory is only updated when the database uses catalog-managed ACBs.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Overwrite existing objects</td>
<td>Specify whether to overwrite existing objects or not. The Overwrite existing objects option affects objects in the ACB library only. If ACBLIB does not exist, this option is not active or available on the user interface.</td>
</tr>
<tr>
<td></td>
<td>Yes During an import, overwrite existing objects that have the same name as imported objects.</td>
</tr>
<tr>
<td></td>
<td>No Do not overwrite existing objects during an import.</td>
</tr>
<tr>
<td></td>
<td>See also “Scenarios for &quot;Overwrite existing objects”” on page 134.</td>
</tr>
<tr>
<td>Prefix of Export Data Sets</td>
<td>The high-level qualifier prefix of the export output data sets. (35 character maximum)</td>
</tr>
<tr>
<td></td>
<td>The import process accesses these data sets to find the objects to import.</td>
</tr>
<tr>
<td></td>
<td>The export data sets must be pre-allocated before you submit the import JCL.</td>
</tr>
<tr>
<td></td>
<td>Always confirm the correct full name of the export data sets in the generated export JCL.</td>
</tr>
<tr>
<td>Backup existing objects</td>
<td>To provide rollback capability, backup existing objects in the target data set first before importing.</td>
</tr>
<tr>
<td></td>
<td>• Yes</td>
</tr>
<tr>
<td></td>
<td>• No</td>
</tr>
<tr>
<td>Prefix of backup data sets</td>
<td>The high-level qualifier prefix of the backup data sets that are used to provide rollback capability. (35 character maximum)</td>
</tr>
<tr>
<td>Import with COPYBOOK</td>
<td>Include and update individual (or bulk) IMS database definitions (DBD) with schema from COBOL or PL/1 copybooks during the import process to the IMS catalog.</td>
</tr>
<tr>
<td></td>
<td>Adding or updating schema to individual databases or in bulk can be accomplished either interactively or schedule through a batch process.</td>
</tr>
<tr>
<td></td>
<td>This option is available only for DBD objects.</td>
</tr>
<tr>
<td>COPYBOOK data set</td>
<td>Specify the name of the data set that contains the COBOL or PL/1 copybooks that you want to import.</td>
</tr>
<tr>
<td></td>
<td>Copybooks, written in COBOL or PL/1, provide extended data and description of database segments.</td>
</tr>
<tr>
<td>COPYBOOK Cross Reference Data Set</td>
<td>Specify the name of the data set that contains cross references between a copybook and a segment in the DBD.</td>
</tr>
<tr>
<td></td>
<td>The variables defined in the copybook are captured in the segment of the DBD according to the cross reference.</td>
</tr>
<tr>
<td>JCL output options:</td>
<td></td>
</tr>
<tr>
<td>JCL Output Data Set</td>
<td>The name of the partitioned data set where the generated import JCL is stored.</td>
</tr>
<tr>
<td></td>
<td>The data set must be pre-allocated before you can generate the JCL.</td>
</tr>
<tr>
<td>Member</td>
<td>The name of the member in the partitioned data set where the generated import JCL is stored.</td>
</tr>
</tbody>
</table>
Table 22. Importing objects (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Statements</td>
<td>Specification of the JOB statement of the import JCL.</td>
</tr>
<tr>
<td>Allocate data set</td>
<td>Allocate the data set where the generated import JCL is stored.</td>
</tr>
</tbody>
</table>
Scenarios for "Overwrite existing objects"

During the import operation, the Overwrite existing objects option specifies whether or not to overwrite existing DBD and PSB objects in the ACB library (ACBLIB).

The impact of this option depends on the combination of ACBLIB and IMS catalog being used in your environment.

The Overwrite existing objects option affects objects in the ACB library only. If ACBLIB does not exist, this option is not active or available on the user interface.

The following four scenarios explore the possible object management combinations and describe the effect of this option on each environment.

1) Catalog enabled - No ACBLIB - Catalog managed ACBs

The following conditions apply to this scenario:
- IMS environment is catalog-enabled
- IMS environment does not use ACB library
- ACBs are catalog-managed

How the import operation performs in this scenario:
- Import places new and changed objects in catalog.

Note: However, you must create a staging ACBLIB and either allocate it to the control region with a DDNAME of IMSACB, or create a DFSMDA member for IMSACB that points to the staging ACB library. Without this additional configuration, import will fail for this scenario.
- Import uses the pending IMS catalog for new or changed objects.
- DDL is the only mechanism available to update objects in the catalog.
- Overwrite existing objects option is not active or available because there is no ACBLIB.

2) Catalog enabled - ACBLIB used - Catalog managed ACBs

The following conditions apply to this scenario:
- IMS environment is catalog-enabled
- IMS environment uses ACB library
- ACBs are catalog-managed

How the import operation performs in this scenario:
- Import places new and changed objects in both ACB library and catalog.
- Import uses the staging ACBLIB for new or changed objects.
- Import uses the pending IMS catalog for new or changed objects.
- To update objects in the catalog, use DDL, or alternatively use ACBGEN and Catalog Populate Utilities.
- Overwrite existing objects=N prevents existing objects from being updated in ACBLIB.
- Updates to existing objects in ACBLIB are not reflected in the catalog.
- Overwrite existing objects=Y updates existing objects in ACBLIB.
Updates to existing objects in ACBLIB are available to the catalog.

3) Catalog enabled - ACBLIB used - ACBLIB managed ACBs

The following conditions apply to this scenario:

- IMS environment is catalog-enabled
- IMS environment uses ACB library
- ACBs are ACBLIB-managed

How the import operation performs in this scenario:

- Import places new and changed objects in ACB library only.
- Import uses the staging ACBLIB for new or changed objects.
- The catalog is not automatically updated with the new and updated objects.
- To update objects in the catalog, use DDL, or alternatively use ACBGEN and Catalog Populate Utilities.
- The pending IMS catalog is used for new or changed objects.
- Synchronization of new and updated objects between ACBLIB and catalog is recommended because extended information in DBDs is often required by applications using SQL.
  This extended information comes from the catalog even in an environment with ACBLIB-managed ACBs.
- Overwrite existing objects=N prevents existing objects from being updated in ACBLIB.
  Updates to existing objects in ACBLIB are not reflected in the catalog.
- Overwrite existing objects=Y updates existing objects in ACBLIB.
  Updates to existing objects in ACBLIB are available to the catalog.

4) Catalog not enabled - ACBLIB used - ACBLIB managed ACBs

The following conditions apply to this scenario:

- Catalog is not enabled
- IMS environment uses ACB library
- ACBs are ACBLIB-managed

How the import operation performs in this scenario:

- Import places new and changed objects in ACB library.
- Import uses the staging ACBLIB for new or changed objects.
- Overwrite existing objects=N prevents existing objects from being updated in ACBLIB.
- Overwrite existing objects=Y updates existing objects in ACBLIB.
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 reoccurring utility jobs for conditional and routine IMS maintenance tasks.

Topics:
- “JCL generation process flow” on page 143
- Chapter 19, “Object profile overview and reference,” on page 145
- Chapter 20, “Utility profile overview and reference,” on page 153
- Chapter 21, “Job profiles overview and reference,” on page 157
Chapter 18. 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” on page 140
- “Process summary for JCL generation” on page 141
- “JCL generation process flow” on page 143
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 a primary 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 primary database maintenance task by specifying the required functions in the correct sequence.
   **Example utility specification:**
   - Primary 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 primary 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)
• 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 4. JCL generation process flow
Chapter 19. 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 primary database maintenance task for a specific IMS resource.

- The utility profile defines the primary 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:
  - CAGRP
  - DBDSGRP
  - RECOVGRP
  - DBGRP
  - 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.
## 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 23. Manage Object Profiles

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display filters</td>
<td>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:</td>
</tr>
<tr>
<td></td>
<td><strong>IMSID Filter</strong></td>
</tr>
<tr>
<td></td>
<td>Specify an IMSID or IMSID wildcard expression to control the number of object profiles that display.</td>
</tr>
<tr>
<td></td>
<td>Examples: IMS1, IM*, *</td>
</tr>
<tr>
<td></td>
<td><strong>Creator Filter</strong></td>
</tr>
<tr>
<td></td>
<td>Specify an object profile creator name or creator name wildcard expression to control the number of object profiles that display.</td>
</tr>
<tr>
<td></td>
<td>Example: USER*</td>
</tr>
<tr>
<td></td>
<td><strong>Profile Filter</strong></td>
</tr>
<tr>
<td></td>
<td>Specify an object profile name or name wildcard expression to control the number of object profiles that display.</td>
</tr>
<tr>
<td></td>
<td>Example: PROFI*</td>
</tr>
<tr>
<td>Create</td>
<td>Create a new object profile.</td>
</tr>
<tr>
<td></td>
<td>An object profile is created for a single IMS environment (IMSID) and includes specifications for one or more resources (objects) from that environment.</td>
</tr>
<tr>
<td>Sort</td>
<td>Sort the object profile list display.</td>
</tr>
<tr>
<td></td>
<td>Opens the Sort Columns panel.</td>
</tr>
<tr>
<td></td>
<td>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).</td>
</tr>
<tr>
<td>D (delete)</td>
<td>Delete an existing object profile.</td>
</tr>
<tr>
<td></td>
<td>A Delete Confirmation window requests confirmation of the action.</td>
</tr>
<tr>
<td></td>
<td>The profile must have the &quot;Update&quot; access control (Share Option) set to allow this action for users other than the object profile creator.</td>
</tr>
<tr>
<td>M (model)</td>
<td>Create (define) a new object profile based on (modeled after) the attributes of the selected object profile.</td>
</tr>
<tr>
<td></td>
<td>The IMSID Selection List allows you to apply this additional object profile to another IMS environment.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
</tr>
</tbody>
</table>
| 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 24. Create, model, update object profile

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creator</td>
<td>The TSO user ID (owner) of the object profile. This field is pre-populated with the user of the current session.</td>
</tr>
<tr>
<td>IMSID</td>
<td>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.</td>
</tr>
<tr>
<td>Profile name</td>
<td>Any user-defined name for the object profile (maximum of 24 characters).</td>
</tr>
<tr>
<td>Description</td>
<td>A user-defined phrase to describe the object profile (maximum of 24 characters).</td>
</tr>
<tr>
<td>Share option</td>
<td>Access control setting for the management of this object profile by users other than the profile creator.</td>
</tr>
<tr>
<td></td>
<td><strong>Update</strong> Other users can edit (update) and make changes to this object profile.</td>
</tr>
<tr>
<td></td>
<td><strong>View</strong> Other users can only view the object profile details. No changes to the object profile are allowed by users with this access control.</td>
</tr>
<tr>
<td></td>
<td><strong>None</strong> Other users have no edit or view access to this object profile.</td>
</tr>
<tr>
<td>Select One Object Type</td>
<td>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:</td>
</tr>
<tr>
<td></td>
<td>• DBDs (DB)</td>
</tr>
<tr>
<td></td>
<td>• PSBs (PS)</td>
</tr>
<tr>
<td></td>
<td>• DBRC groups:</td>
</tr>
<tr>
<td></td>
<td>− CAGRPS (CG)</td>
</tr>
<tr>
<td></td>
<td>− DBDSGRPS (CD)</td>
</tr>
<tr>
<td></td>
<td>− RECOVGRPS (CR)</td>
</tr>
<tr>
<td></td>
<td>− DBGRPS (CB)</td>
</tr>
<tr>
<td></td>
<td>− All DBRC Groups (DR)</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Define DBD</td>
<td>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:</td>
</tr>
<tr>
<td>Object Rules</td>
<td></td>
</tr>
<tr>
<td><strong>Select by DBD Qualifier</strong></td>
<td>You can specify a single database name or use a wildcard expression to select a wider range of databases.</td>
</tr>
<tr>
<td></td>
<td>Examples: DBDNAME, DB%%<em>, DB</em>, *</td>
</tr>
<tr>
<td><strong>Display DBD List?</strong></td>
<td>Lists the database objects that match the filter criteria of the qualifier name.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Y-Yes, N-No</td>
</tr>
<tr>
<td><strong>Include/Exclude</strong></td>
<td>You can include or exclude any number of database objects from the object profile.</td>
</tr>
<tr>
<td></td>
<td>The best practise procedure is to start with a large group of included objects, and then exclude a few selected objects from the list.</td>
</tr>
<tr>
<td></td>
<td>I-Include, E-Exclude</td>
</tr>
<tr>
<td><strong>Process Dependent Indexes</strong></td>
<td>Specify whether dependent indexes should be processed appropriately according to the task.</td>
</tr>
<tr>
<td></td>
<td>For example, database reorganization requires that dependent indexes be regenerated. However, no dependent index processing is required for an image copy task.</td>
</tr>
<tr>
<td></td>
<td>Therefore a database reorganization job profile should have an object profile containing objects with Process Dependent Indexes set to Yes.</td>
</tr>
<tr>
<td></td>
<td>Y-Yes, N-No</td>
</tr>
<tr>
<td><strong>Process Logical Relations</strong></td>
<td>Specify whether logical relationships between separate databases should be recognized and processed appropriately according to the task.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Y-Yes, N-No</td>
</tr>
</tbody>
</table>
Table 24. Create, model, update object profile (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define PSB Object Rules</td>
<td>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:</td>
</tr>
<tr>
<td></td>
<td><strong>Select by PSB Qualifier</strong></td>
</tr>
<tr>
<td></td>
<td>You can specify a single database name or use a wildcard expression to select a wider range of databases.</td>
</tr>
<tr>
<td></td>
<td>Examples: PSBNAME, PS%%%<em>, PS</em>, *</td>
</tr>
<tr>
<td></td>
<td><strong>Display PSB List?</strong></td>
</tr>
<tr>
<td></td>
<td>Lists the database objects that match the filter criteria of the qualifier name.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Y-Yes, N-No</td>
</tr>
<tr>
<td>Include/Exclude</td>
<td>You can include or exclude any number of database objects from the object profile.</td>
</tr>
<tr>
<td></td>
<td>The best practise procedure is to start with a large group of included objects, and then exclude a few selected objects from the list.</td>
</tr>
<tr>
<td></td>
<td>I-Include, E-Exclude</td>
</tr>
<tr>
<td>Process Dependent Indexes</td>
<td>Specify whether dependent indexes should be processed appropriately according to the task.</td>
</tr>
<tr>
<td></td>
<td>For example, database reorganization requires that dependent indexes be regenerated. However, no dependent index processing is required for an image copy task.</td>
</tr>
<tr>
<td></td>
<td>Therefore a database reorganization job profile should have an object profile containing objects with Process Dependent Indexes set to Yes.</td>
</tr>
<tr>
<td></td>
<td>Y-Yes, N-No</td>
</tr>
<tr>
<td>Process Logical Relations</td>
<td>Specify whether logical relationships between separate databases should be recognized and processed appropriately according to the task.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Y-Yes, N-No</td>
</tr>
</tbody>
</table>
Table 24. Create, model, update object profile (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define DBRC Group Rules</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>DBRC group types include:&lt;br&gt;• CAGRPS (CG)&lt;br&gt;• DBDSGRPS (CD)&lt;br&gt;• RECOVGRPS (CR)&lt;br&gt;• DBGRPS (CB)&lt;br&gt;• All DBRC Groups (DR)&lt;br&gt;The following default filters are set for DBRC group rules:&lt;br&gt;• Only single DBRC objects can be selected; wildcard expressions are not valid.&lt;br&gt;• Include only&lt;br&gt;• Process dependent indexes is set to no&lt;br&gt;• Process logical relationships is set to no</td>
</tr>
<tr>
<td>Expand with All Rules Applied</td>
<td>primary index, secondary index, partition name, area name, DD name</td>
</tr>
</tbody>
</table>
A utility profile is a configuration file that defines a primary 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 primary database maintenance task for a specific IMS resource.

- The utility profile defines the primary 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:

- Primary task: Database reorganization
- Required IMS Tools functions and sequence: 1) unload, 2) load, 3) index build, 4) pointer check, 5) etc.
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 25. Manage Utility Profiles**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display filters</td>
<td>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:</td>
</tr>
<tr>
<td><strong>IMSID Filter</strong></td>
<td>Specify an IMSID or IMSID wildcard expression to control the number of utility profiles that display.</td>
</tr>
<tr>
<td></td>
<td>Examples: IMS1, IM*, *</td>
</tr>
<tr>
<td><strong>Creator Filter</strong></td>
<td>Specify a utility profile creator name or creator name wildcard expression to control the number of utility profiles that display.</td>
</tr>
<tr>
<td></td>
<td>Example: USER*</td>
</tr>
<tr>
<td><strong>Profile Filter</strong></td>
<td>Specify a utility profile name or name wildcard expression to control the number of utility profiles that display.</td>
</tr>
<tr>
<td></td>
<td>Example: PROFI*</td>
</tr>
<tr>
<td>Create</td>
<td>Create a new utility profile.</td>
</tr>
<tr>
<td></td>
<td>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 primary database maintenance task.</td>
</tr>
<tr>
<td>Sort</td>
<td>Sort the utility profile list display.</td>
</tr>
<tr>
<td></td>
<td>Opens the Sort Columns panel.</td>
</tr>
<tr>
<td></td>
<td>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).</td>
</tr>
<tr>
<td>D (delete)</td>
<td>Delete an existing utility profile.</td>
</tr>
<tr>
<td></td>
<td>A Delete Confirmation window requests confirmation of the action.</td>
</tr>
<tr>
<td></td>
<td>The profile must have the &quot;Update&quot; access control (Share Option) set to allow this action for users other than the utility profile creator.</td>
</tr>
<tr>
<td>M (model)</td>
<td>Create (define) a new utility profile based on (modeled after) the attributes of the selected utility profile.</td>
</tr>
<tr>
<td></td>
<td>The IMSID Selection List allows you to apply this additional utility profile to another IMS environment.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
</tbody>
</table>
## Table 25. Manage Utility Profiles (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
</table>
| 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 26. Create, model, update utility profile

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creator</td>
<td>The TSO user ID (owner) of the utility profile. This field is pre-populated with the user of the current session.</td>
</tr>
<tr>
<td>IMSID</td>
<td>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.</td>
</tr>
<tr>
<td>Profile name</td>
<td>Any user-defined name for the utility profile (maximum of 24 characters).</td>
</tr>
<tr>
<td>Description</td>
<td>A user-defined phrase to describe the utility profile (maximum of 24 characters).</td>
</tr>
<tr>
<td>Share option</td>
<td>Access control setting for the management of this utility profile by users other than the profile creator.</td>
</tr>
<tr>
<td></td>
<td><strong>Update</strong> Other users can edit (update) and make changes to this utility profile.</td>
</tr>
<tr>
<td></td>
<td><strong>View</strong> Other users can only view the utility profile details. No changes to the utility profile are allowed by users with this access control.</td>
</tr>
<tr>
<td></td>
<td><strong>None</strong> Other users have no edit or view access to this utility profile.</td>
</tr>
<tr>
<td>Enter sequence numbers</td>
<td>The Utility Profile Options view lists all IMS Tools functions that have been registered to the IMS Administration Tool environment.</td>
</tr>
<tr>
<td>numbers to add functions</td>
<td>Assign sequence numbers to the functions that are required to perform the primary task. The numbers indicate the order in which the functions are to be performed.</td>
</tr>
<tr>
<td></td>
<td>The job profile uses the combination of templates for these functions to build a single JCL job that can perform the primary task for the IMS resource specified in the object profile.</td>
</tr>
<tr>
<td>Update a function</td>
<td>You can edit (update) the JCL code (template) for the selected function.</td>
</tr>
<tr>
<td>template</td>
<td><strong>Update a function template</strong> Display the template to modify the JCL code.</td>
</tr>
<tr>
<td></td>
<td><strong>View a function template</strong> Display the template to view the JCL code only.</td>
</tr>
<tr>
<td></td>
<td><strong>Enter sequence numbers to add and/or resequence functions</strong> Add new sequence numbers, remove sequence numbers, rearrange sequence numbers.</td>
</tr>
</tbody>
</table>

---
Chapter 21. 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 primary 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
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 27. Manage Job Profiles

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display filters</td>
<td>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:</td>
</tr>
<tr>
<td>IMSID Filter</td>
<td>Specify an IMSID or IMSID wildcard expression to control the number of job profiles that display.</td>
</tr>
<tr>
<td>Creator Filter</td>
<td>Specify a utility profile creator name or creator name wildcard expression to control the number of job profiles that display.</td>
</tr>
<tr>
<td>Profile Filter</td>
<td>Specify a utility profile name or name wildcard expression to control the number of job profiles that display.</td>
</tr>
<tr>
<td>Create</td>
<td>Create a new job profile.</td>
</tr>
<tr>
<td>Sort</td>
<td>Sort the job profile list display.</td>
</tr>
<tr>
<td>Delete (D)</td>
<td>Delete an existing job profile.</td>
</tr>
<tr>
<td>Model (M)</td>
<td>Create (define) a new job profile based on (modeled after) the attributes of the selected job profile.</td>
</tr>
</tbody>
</table>

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 27. Manage Job Profiles  (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
</table>
| 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 primary 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 28. Build JCL for Job Profile**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Profile/IMSID</td>
<td>The pre-populated name of the selected job profile and the ID of the IMS environment that the job profile belongs to.</td>
</tr>
<tr>
<td>Creator/Last Updated by/Timestamp</td>
<td>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.</td>
</tr>
<tr>
<td>Execute or Build JCL Only</td>
<td>Select to build and immediately run the JCL, or only build and save the JCL.</td>
</tr>
<tr>
<td></td>
<td>• Execute (run) JCL</td>
</tr>
<tr>
<td></td>
<td>• Build JCL only (run at a later time)</td>
</tr>
<tr>
<td>Edit Generated JCL</td>
<td>Select to edit the generated JCL before it is run.</td>
</tr>
<tr>
<td></td>
<td>• Yes</td>
</tr>
<tr>
<td></td>
<td>• No</td>
</tr>
<tr>
<td>JCL Output Data Set</td>
<td>Specify the name and location of the data set where the JCL output will reside.</td>
</tr>
<tr>
<td>Member</td>
<td>If you use a partition data set, specify the name of the member where the JCL output will reside within the data set.</td>
</tr>
<tr>
<td>Job Statements</td>
<td>Specify the environment-specific job statement information that prefixes the generated JCL.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>However, if you specify alternative job statement information in these fields, the new values override the values from the job statement data set.</td>
</tr>
<tr>
<td>Output Data Set Allocation</td>
<td>If the specified JCL output data set does not exist, the Output Data Set Allocation interface appears.</td>
</tr>
<tr>
<td></td>
<td>Use this interface to confirm or adjust any JCL output data set characteristics and perform the allocation.</td>
</tr>
</tbody>
</table>
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 29. Manage Variables for Job Profile

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create a DDNAME variable</td>
<td>Create a new DDNAME variable and values.</td>
</tr>
<tr>
<td></td>
<td>Values for DDNAME variables can include data set names and the DDNAME parameter itself.</td>
</tr>
<tr>
<td></td>
<td>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:</td>
</tr>
<tr>
<td></td>
<td>• Replace</td>
</tr>
<tr>
<td></td>
<td>The value for this variable replaces any existing value or values.</td>
</tr>
<tr>
<td></td>
<td>• Before</td>
</tr>
<tr>
<td></td>
<td>The value for this variable is applied at the beginning of any existing DDNAME concatenation.</td>
</tr>
<tr>
<td></td>
<td>• After</td>
</tr>
<tr>
<td></td>
<td>The value for this variable is applied at the end of any existing DDNAME concatenation.</td>
</tr>
<tr>
<td>Create a Keyword variable</td>
<td>Create a new keyword variable and value.</td>
</tr>
</tbody>
</table>
Table 29. Manage Variables for Job Profile (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delete</td>
<td>Remove a variable name and value from the IMS Administration Tool environment.</td>
</tr>
<tr>
<td>Model</td>
<td>Create (define) a new variable based on (modeled after) the attributes of the selected variable.</td>
</tr>
<tr>
<td>Update</td>
<td>Update an existing variable value.</td>
</tr>
</tbody>
</table>
Create Job Profile reference

The Manage Job Profiles interface provides the options to create new job profiles in your IMS Administration Tool environment.

Table 30. Create Job Profile

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creator</td>
<td>The TSO user ID (owner) of the job profile.</td>
</tr>
<tr>
<td></td>
<td>This field is pre-populated with the user of the current session.</td>
</tr>
<tr>
<td>IMSID</td>
<td>The 1-4 character name of the IMS subsystem where this job profile applies.</td>
</tr>
<tr>
<td></td>
<td>This field is populated with the IMSID previously selected for this job profile.</td>
</tr>
<tr>
<td>Profile name</td>
<td>Any user-defined name for the job profile (maximum of 24 characters).</td>
</tr>
<tr>
<td>Description</td>
<td>A user-defined phrase to describe the job profile (maximum of 24 characters).</td>
</tr>
<tr>
<td>Share option</td>
<td>Access control setting for the management of this job profile by users other than the profile creator.</td>
</tr>
<tr>
<td></td>
<td><strong>Update</strong> Other users can edit (update) and make changes to this job profile.</td>
</tr>
<tr>
<td></td>
<td><strong>View</strong> Other users can only view the job profile details.</td>
</tr>
<tr>
<td></td>
<td>No changes to the job profile are allowed by users with this access control.</td>
</tr>
<tr>
<td></td>
<td><strong>None</strong> Other users have no edit or view access to this job profile.</td>
</tr>
<tr>
<td>Add one Object Profile</td>
<td>Select one object profile from the list of profiles available for this IMS environment (IMSID).</td>
</tr>
<tr>
<td></td>
<td>You can use wildcard expressions to filter the list by the Creator ID and/or Profile name.</td>
</tr>
<tr>
<td></td>
<td>You can also arrange the list display by specifying the sequence and order of items under each column header.</td>
</tr>
<tr>
<td>Add one Utility Profile</td>
<td>Select one utility profile from the list of profiles available for this IMS environment (IMSID).</td>
</tr>
<tr>
<td></td>
<td>You can use wildcard expressions to filter the list by the Creator ID and/or Profile name.</td>
</tr>
<tr>
<td></td>
<td>You can also arrange the list display by specifying the sequence and order of items under each column header.</td>
</tr>
<tr>
<td>Generate job if errors</td>
<td>Select an option that specifies how an error is handled when the JCL is generated.</td>
</tr>
<tr>
<td></td>
<td><strong>Y-Yes</strong> If an error occurs, continue to generate the JCL.</td>
</tr>
<tr>
<td></td>
<td><strong>N-No</strong> If an error occurs, do not generate the JCL.</td>
</tr>
<tr>
<td></td>
<td><strong>W-Warning</strong> If an error occurs,</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Job Statement Data Set</td>
<td>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.</td>
</tr>
<tr>
<td>Data Set Name</td>
<td>The name and location of the data set where the job statement information resides.</td>
</tr>
<tr>
<td>Member</td>
<td>If you use a partition data set, the name of the member where the job statement information resides within the data set.</td>
</tr>
</tbody>
</table>
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 22, “IMS SPUFI overview,” on page 167
- Chapter 23, “Set IMS SPUFI options reference,” on page 171
- Chapter 24, “Run IMS SPUFI statements reference,” on page 173
Chapter 22. IMS SPUFI overview

IMS™ SQL processing using file input (SPUFI) function allows you to directly interact with an IMS™ system by developing and running interactive SQL commands and reviewing the resulting output.

About Structured Query Language for IMS (SQLIMS)

SQLIMS is a standardized language for defining and manipulating data in an IMS™ database. The language consists of SQL statements (such as SELECT, INSERT, UPDATE, DELETE). SQL statements can be used to view, retrieve, insert, update, or delete data in IMS databases.

Support for SQLIMS can be found in programming languages such as Java, .NET, C++, COBOL, and PL/I. IMS™ Administration Tool IMS™ SPUFI uses COBOL to process SQLIMS statements.

Because an IMS™ database is hierarchical in structure, IMS™ database elements must be mapped to relational database elements when using SQLIMS.

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>
<thead>
<tr>
<th>Relational DB</th>
<th>IMS DB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table</td>
<td>Segment</td>
</tr>
<tr>
<td>Column</td>
<td>Field</td>
</tr>
<tr>
<td>Row</td>
<td>Segment instance</td>
</tr>
<tr>
<td>Scheme</td>
<td>PCB</td>
</tr>
<tr>
<td>Table primary key</td>
<td>Segment unique key</td>
</tr>
</tbody>
</table>

When you write an SQLIMS 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 SQLIMS 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 PCB’s 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 GET, REPLACE, INSERT, and DELETE. To use SQLIMS 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 holds the metadata for databases and PSBs. It is accessed by using the Java Database Connectivity (JDBC) drivers and is also available to any tool or application.

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 SQLIMS queries to access IMS™ data based on the metadata information available in the catalog database. IMS™ SPUFI requires that the IMS™ catalog be enabled and loaded with the database metadata needed by the SQL queries.

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 SQLIMS 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 SQLIMS statements.
- Click on the Issue SQL button.
  
  The Management Console uses temporary output data sets to record and display SQLIMS output.
- The History tab retains the current and previous SQLIMS 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 SQLIMS 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 SQLIMS commands can persist from session to session rather than being lost upon exit.
- Enter or edit the SQLIMS statements.
The standard ISPF editor is opened on the input data set.

- Enter EXEC SQL on the command line to process the SQLIMS statements.
  The ISPF interface uses the configured input and output data sets to record SQLIMS statements and display SQLIMS 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 23. Set IMS SPUFI options reference

Options are available to specify SQL statement characteristics and output formatting characteristics.

**SQL Statement Characteristics**

*Table 32. SQL Statement Characteristics*

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQL Terminator</td>
<td>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</td>
</tr>
<tr>
<td>Max SELECT Lines</td>
<td>Specifies the maximum number of lines (rows) that a SELECT statement can return to the caller. Valid values = 1-99999 Default value = 250</td>
</tr>
</tbody>
</table>

**Output Formatting Characteristics**

*Table 33. Output Formatting Characteristics*

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decimal Point</td>
<td>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</td>
</tr>
<tr>
<td>MAX Numeric Field Width</td>
<td>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</td>
</tr>
</tbody>
</table>
Table 33. Output Formatting Characteristics (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAX CHAR Field Width</td>
<td>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</td>
</tr>
<tr>
<td>Lines/Page of Listing</td>
<td>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</td>
</tr>
</tbody>
</table>
Chapter 24. 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 34. IMS SPUFI PSB and Data Set Settings*

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSID</td>
<td>Specify the ID of the IMS™ subsystem to interact with.</td>
</tr>
<tr>
<td></td>
<td>Enter a '?' to list the active IMS™ V13.0+ systems within the same LPAR.</td>
</tr>
<tr>
<td>PSB Name</td>
<td>Specify a PSB name associated with this IMSID.</td>
</tr>
<tr>
<td></td>
<td>PSB selection methods:</td>
</tr>
<tr>
<td></td>
<td><strong>Management Console</strong></td>
</tr>
<tr>
<td></td>
<td>• Select the Program View tab.</td>
</tr>
<tr>
<td></td>
<td>• The Program View (PSB Name) column loads the list of PSBs associated with</td>
</tr>
<tr>
<td></td>
<td>the selected IMS™ subsystem.</td>
</tr>
<tr>
<td></td>
<td>• Select a PSB to further expand PSB and PCB details.</td>
</tr>
<tr>
<td></td>
<td>The PSB program view provides the information detail that can help you</td>
</tr>
<tr>
<td></td>
<td>construct valid SQL statements.</td>
</tr>
<tr>
<td></td>
<td>• Type the name of the appropriate PSB in the PSB Name field.</td>
</tr>
<tr>
<td></td>
<td><strong>ISPF</strong></td>
</tr>
<tr>
<td></td>
<td>• Enter ? to display the list of PSBs associated with the selected IMS™</td>
</tr>
<tr>
<td></td>
<td>subsystem.</td>
</tr>
<tr>
<td></td>
<td>• Select the name of the appropriate PSB from the PSB list.</td>
</tr>
<tr>
<td></td>
<td>• From the PSB list, use the Expand line command to display the program</td>
</tr>
<tr>
<td></td>
<td>view that provides further PSB and PCB details.</td>
</tr>
<tr>
<td></td>
<td>The PSB program view provides the information detail required to help you</td>
</tr>
<tr>
<td></td>
<td>construct valid SQL statements.</td>
</tr>
</tbody>
</table>

**Note:** If the selected IMS™ subsystem is not catalog-enabled, the detailed program view cannot be obtained.
<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input Data Set Name</strong></td>
<td>Specify the data set member name that contains the stored SQL statements to run.</td>
</tr>
<tr>
<td><strong>Member</strong></td>
<td>• 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).</td>
</tr>
<tr>
<td></td>
<td>• Specify the PDS name along with the member name, or a sequential data set name with no member name.</td>
</tr>
<tr>
<td></td>
<td>• The specified data set contains the stored SQL statements to run.</td>
</tr>
<tr>
<td></td>
<td>• The SQL statements in the data set can be edited before running.</td>
</tr>
<tr>
<td></td>
<td>• There is no &quot;list&quot; (?) support for the member name field.</td>
</tr>
<tr>
<td><strong>Output Data Set Name</strong></td>
<td>Optionally specify the pre-allocated sequential data set name for SQL output.</td>
</tr>
<tr>
<td><strong>(ISPF only)</strong></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>• Space Units</td>
</tr>
<tr>
<td></td>
<td>• Primary Amount</td>
</tr>
<tr>
<td></td>
<td>• Secondary Amount Record Length</td>
</tr>
<tr>
<td></td>
<td>• Record Format</td>
</tr>
<tr>
<td></td>
<td>• Device Type</td>
</tr>
<tr>
<td><strong>History</strong></td>
<td>The History tab retains the current and previous SQLIMS statement sessions, and allows easy access to regularly used statements during future use.</td>
</tr>
<tr>
<td><strong>(Management Console only)</strong></td>
<td></td>
</tr>
</tbody>
</table>
Part 8. IMS command processing

You can issue IMS commands and review responses from the IMS Administration Tool user interface.

Topics:

- Chapter 25, “IMS command processor overview,” on page 177
- Chapter 26, “Using IMS Command Processor reference,” on page 191
- Chapter 27, “Using IMS Command Processor - batch processing,” on page 201
- Chapter 28, “Predefined procedures and commands,” on page 209
- Chapter 29, “Command processor API,” on page 217
Chapter 25. 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” on page 178
- “IMS command driver operation” on page 179
- “IMS command processor configurations” on page 181
- “IMS command groups overview” on page 184
- “IMS command log (and audit log) overview” on page 185
- “Command store/forward overview” on page 188
- “Message disposition overview” on page 189
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 (dependent upon setup options).
- 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
  - 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 driver 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.
IMS command driver operation

The IMS Administration Tool command driver controls the issuing of commands to IMS.

Topics:
- “Supported environments for issuing commands”
- “IMS command routing interfaces”

Supported environments for issuing commands

The IMS Administration Tool command driver can issue commands in the following environments:

- **Batch program**
  When run as a batch program, the IMS command driver 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 regions.

- **ISPF dialog**
  When run as an ISPF dialog, the IMS command driver routes the operator-entered command to either a specific IMS region, or to a set of IMS regions that are contained in an IMS command group.

- **Callable application programming interface (API)**
  When run as a callable API, the IMS command driver routes the command that was passed by the calling program to either a specific IMS region or to a set of IMS regions that are contained in an IMS Administration Tool group.

For all environments, IMS Administration Tool can issue commands either to an individual IMS region or up to 64 IMS regions in an IMS command group. Applicable IMS region types include DBCTL, DCCTL, and DB/DC.

Depending on the specifications in the options data set, the IMS command driver can issue commands to IMS regions that are running in different z/OS images within a sysplex or to z/OS images that are not part of the local sysplex.

IMS command routing interfaces

The IMS command driver must communicate across an appropriate interface when it issues commands to an IMS server.

Every IMS system on which IMS Administration Tool issues commands requires an IMS options data set record that indicates the type of command interface that IMS Administration Tool should use.

IMS Administration Tool supports the following interfaces to route IMS commands:

- **IMS Operations Manager (OM)**
  IMS Operations Manager is an optional component of the IMS base product. IMS Operations Manager communicates with Structured Call Interface (SCI) address spaces on each LPAR in the sysplex.
  IMS Administration Tool can pass IMS commands to the SCI address space on the LPAR where the TSO user or batch job is running.
  IMS OM and SCI address spaces communicate through XCF to process an IMS command. The command response is then routed back to IMS Administration Tool to be returned to the user.
• Local BMP (ICMD/RCMD calls)

If an IMS Administration Tool TSO user or batch job is running on the same LPAR that IMS is running on, the TSO user or batch job can dynamically connect to the IMS system as a BMP.

While dynamically connected, the IMS Issue Command (ICMD) and Retrieve Command (RCMD) DL/I calls are used to process an IMS command to retrieve the command output.
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**
  The command processor issues commands to the IMS Operations Manager address space.

- **Local BMP configuration** on page 182
  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.

---

![Diagram](image-url)

*Figure 5. 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.
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.

IMS command groups can be categorized as:
- IMS Operations Manager command groups
- Non-IMS Operations Manager command groups

Both IMS OM and non-IMS OM command groups consist of 1 to 64 IMS regions where commands can be distributed for processing. Typically these IMS regions share resources and keep events synchronized.

IMS OM command groups consist only of the members that are defined in the command group. However, when IMS OM command groups are used, IMS Administration Tool routes the command to the IMS OM.

The IMS OM 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.

Command groups are set up from the IMS Administration Tool Setup and Administration > Manage Groups menu.
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 above.

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 above).
Chapter 26. 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 global options” on page 192
- “Issuing IMS commands” on page 196
- “View the IMS command log” on page 197
Specifying 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.

General Processing Options

Table 35. General Processing Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command Input DDNAME</td>
<td>The ddname that defines the data set or in-stream command input to the command processor batch process.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>Command Output DDNAME</td>
<td>The ddname that defines the output data set where all issued commands and output are displayed.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
</tbody>
</table>

General Processing Options - Command Retry Options

Table 36. General Processing Options - Command Retry Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attempts</td>
<td>The command processor retries unsuccessful database commands up to the number specified (0-99). If 0 is specified, no retry is attempted.</td>
</tr>
<tr>
<td></td>
<td>Use this parameter in conjunction with the Command Retry Interval.</td>
</tr>
<tr>
<td>Interval(Sec)</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Use this parameter in conjunction with the Command Retry Attempts.</td>
</tr>
</tbody>
</table>

General Processing Options - Abend/RC Failure Options

Table 37. General Processing Options - Abend/RC Failure Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABEND</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>If a value is not specified (0000), the default of 4070 is used.</td>
</tr>
<tr>
<td>Return Code</td>
<td>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.</td>
</tr>
</tbody>
</table>

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 38. Failure options - General

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABEND</td>
<td>Abend after an unexpected return code.</td>
</tr>
<tr>
<td>Return Code</td>
<td>Set a non-zero job step condition code after an unexpected return code.</td>
</tr>
<tr>
<td>Issue WTO</td>
<td>Issue a WTO and wait for an operator reply to determine the course of action after an unexpected return code.</td>
</tr>
<tr>
<td>Ignore</td>
<td>Ignore the error.</td>
</tr>
</tbody>
</table>

Failure options - Routing

You can instruct IMS Administration Tool how to handle APPC/IMS or IMS OM routing error conditions by specifying one of the following options.

Table 39. Failure options - Routing

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABEND</td>
<td>Abend after an unexpected error from using APPC/IMS or IMS OM.</td>
</tr>
<tr>
<td>Return Code</td>
<td>Set a non-zero job step condition code after an unexpected error from using APPC/IMS or IMS OM.</td>
</tr>
<tr>
<td>Issue WTO</td>
<td>Issue a WTO and wait for an operator reply to determine the course of action after an unexpected error from using APPC/IMS or IMS OM.</td>
</tr>
<tr>
<td>Ignore</td>
<td>Ignore the error.</td>
</tr>
</tbody>
</table>

Failure options - DFS0488I

You can instruct IMS Administration Tool how to handle an unacceptable return code by specifying one of the following options.

Table 40. Failure options - DFS0488I

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABEND</td>
<td>Abend after an unexpected return code.</td>
</tr>
<tr>
<td>Return Code</td>
<td>Set a non-zero job step condition code after an unexpected return code.</td>
</tr>
<tr>
<td>Issue WTO</td>
<td>Issue a WTO and wait for an operator reply to determine the course of action after an unexpected return code.</td>
</tr>
<tr>
<td>Ignore</td>
<td>Ignore the error.</td>
</tr>
</tbody>
</table>

Failure options - DBRC

When option 1, 2 or 3 is selected, IMS Administration Tool verifies the state of the database in DBRC after /DBD and /DBR commands. Options 1, 2 and 3 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 4 sets DBRC validation off.

Table 41. Failure options - DBRC

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABEND</td>
<td>Abend after a database command is issued which shows the database in an unexpected status.</td>
</tr>
<tr>
<td>Return Code</td>
<td>Set a non-zero job step condition code after a database command is issued which shows the database in an unexpected status.</td>
</tr>
</tbody>
</table>
Table 41. Failure options - DBRC (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue WT</td>
<td>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.</td>
</tr>
<tr>
<td>NODBRC</td>
<td>Do not use DBRC to verify the status of the database.</td>
</tr>
</tbody>
</table>

/ATYMOD Options

You can instruct the command processor how to handle error conditions when attempting to use the /ATYMOD online change procedure.

Table 42. /ATYMOD Options.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ATYMOD Failures</td>
<td>• 1 ABEND If an unexpected error condition occurs while attempting to use the /ATYMOD online change procedure, the command processor should abend the job.</td>
</tr>
<tr>
<td></td>
<td>• 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.</td>
</tr>
<tr>
<td>/ATYMOD COMMIT Reversal?</td>
<td>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 subsystems in the IMS command group where the /ATYMOD online change procedure is being attempted.</td>
</tr>
<tr>
<td></td>
<td>If 'N' is specified, no online change reversal is attempted.</td>
</tr>
</tbody>
</table>

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.

Table 43. Database Options - Return Codes.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid DFS0488I Return Codes</td>
<td>Specify 1-20 acceptable non-zero return codes (2 character length).</td>
</tr>
<tr>
<td>Valid IMS OM Return Codes</td>
<td>Specify 1-5 acceptable non-zero return codes (4 character length).</td>
</tr>
</tbody>
</table>

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.
### Table 44. Database Options - /*START DB ACCESS.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Use SYSGEN</td>
<td>The command processor reads your staging MODBLKS data set to determine access based on how the database stage 1 macro was coded.</td>
</tr>
<tr>
<td>2 Use DBRC</td>
<td>The command processor reviews the output of a LIST.DB command to determine the access to the database.</td>
</tr>
<tr>
<td></td>
<td>If the database was defined with sharlevl(3), the command processor issues /STA DB x ACCESS=UP on all systems.</td>
</tr>
<tr>
<td></td>
<td>If sharlevl (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.</td>
</tr>
<tr>
<td>3 As coded</td>
<td>The command processor processes the command as it is coded.</td>
</tr>
</tbody>
</table>

### Database Options - Questions

Preference settings for database options.

### Table 45. Database Options - Questions

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>WTO Database command?</td>
<td>For IMS/TM systems only, specify either Y or N if database commands should be displayed in SYSLOG through WTO.</td>
</tr>
<tr>
<td>Expand DATAGRP commands?</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Specify N if database commands with the DATAGRP keyword should be issued by the command processor as coded.</td>
</tr>
<tr>
<td>Treat DFS3466I as an error?</td>
<td>Specify either Y or N if the command processor should treat any DFS3466I message as an error condition after any database command.</td>
</tr>
<tr>
<td>Add NOFEOV to /DBD and /DBR?</td>
<td>Specify either Y or N if the command processor should append the NOFEOV keyword after any /DBR or /DBD command.</td>
</tr>
<tr>
<td>Set rc/ABEND when DB/AREA ALL fails?</td>
<td>Specify either Y or N if the command processor should analyze responses to Database/AREA commands when the ALL parameter is used.</td>
</tr>
</tbody>
</table>
## 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 46. Issue IMS commands*

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
</table>
| 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:  
    **Setup and Administration > Manage 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>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
</table>
| 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:  
**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. |
| 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. |
Table 47. IMS Command Log Filters (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
</table>
| 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 27. 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:
- “Batch processing overview” on page 202
- “IMS Administration Tool-specific DD statements” on page 203
- “Runtime options for batch jobs” on page 204
- “ATYOPTS ddname input statements” on page 205
- “Creating a ddname table” on page 206
- “Error handling in a batch environment” on page 208
Batch processing overview

When the IMS Administration Tool command driver 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 command driver runs as a standard z/OS batch job, command routing is determined by the EXEC statement PARM specification.

When the command driver is run as an IMS BMP or IMS DL/I batch job, command routing is determined by one of the following:

- APARM specification, if present.
- The IMSID from the PARM statement is used, if present. Otherwise the IMSID is obtained from SDFSRESL(DFSVC000).

IMS Administration Tool reads the IMS record in the options data set. If the record has a default IMS Administration Tool group defined, commands are routed to all members of the command group. Otherwise, the commands are routed to the specific IMS system.

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 (file name ATYBMP.txt) from the SATYSAMP sample library contains a few options specified for the ATYOPTS ddname input statement, including the PRESCAN option:

```plaintext
//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=DFSRRC08, */ /* 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 */ /* STAB DB DI2IPART ACCESS UP */```
IMS Administration Tool-specific DD statements

IMS Administration Tool uses four DD statements to control product behavior. Some statements are required, some are optional, and some are dynamically allocated.

**Required DD statements**

IMS Administration Tool requires an input DD statement that defines the file from which the IMS commands are read, and an output DD statement that defines the file to which the IMS command responses are written. You can override the default ddnames, ATYSYSIN and ATYLIST, as needed for your environment.

**ATYSYSIN**

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**

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 statement**

**ATYOPTS**

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**

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 batch jobs

You can use global options to define certain processing characteristics for all jobs. You can override most processing options by defining the options for a specific job name record in the options data set.

You set the default processing options for all batch jobs in the options data set global options record.

You can override the default options that are specified in the global options record by specifying a job name options record or by specifying ATYOPTS ddname input statements. Any options that are specified as ATYOPTS ddname statements will override any previously specified processing options.

ddbname 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. Global options record:
   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 record.

3. Ddbname table (ATYDDTBL):
   You can create a ddbname table to hold the multiple ddbname listings.
   Sample JCL is located in the SATYSAMP member ATYDDTBL.
**ATYOPTS ddname input statements**

You can use ATYOPTS ddname input statements to override values in the global options record for specific batch jobs.

When you run IMS Administration Tool as a batch job (IMS BMP, IMS DL/I batch, or standard z/OS batch), you can manipulate how values from the options data set are used.

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. All of the other values that are specified for ATYOPTS ddname input statements override any values that were specified in the options data set.

The following table lists the ddname input statements and describes the valid values.

*Table 48. ATYOPTS ddname input statements: definition and values from the global options record*

<table>
<thead>
<tr>
<th>ddname input statements</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABEND</td>
<td>Abend code</td>
</tr>
<tr>
<td>CHKDBALL</td>
<td>Analyze Database/AREA command output when the ALL parameter is used</td>
</tr>
<tr>
<td>DATAGRPEXP</td>
<td>Expand DATAGR command</td>
</tr>
<tr>
<td>DBACCESS</td>
<td>/START DB ACCESS</td>
</tr>
<tr>
<td>DBRC</td>
<td>DBRC errors</td>
</tr>
<tr>
<td>DDNINP</td>
<td>DD name of the command input data set</td>
</tr>
<tr>
<td>DDNOUT</td>
<td>DD name of the command listings output</td>
</tr>
<tr>
<td>DFS0488I</td>
<td>Valid DFS0488I return codes</td>
</tr>
<tr>
<td>ERR0488I</td>
<td>DFS0488I errors</td>
</tr>
<tr>
<td>ERR3466</td>
<td>Treat DFS3466I as an error</td>
</tr>
<tr>
<td>GENERAL</td>
<td>General errors</td>
</tr>
<tr>
<td>MODFAIL</td>
<td>/ATYMOD failures</td>
</tr>
<tr>
<td>MODREVERSE</td>
<td>/ATYMOD commit reversal</td>
</tr>
<tr>
<td>NOFEOV</td>
<td>Add NOFEOV to /DBD and /DBR</td>
</tr>
<tr>
<td>OPMGRRC</td>
<td>Valid IMS Operations Manager return codes</td>
</tr>
<tr>
<td>PRESCAN</td>
<td>Use DB pre-scan for remote-STC</td>
</tr>
<tr>
<td>RETRYATT</td>
<td>Attempts</td>
</tr>
<tr>
<td>RETRYSEC</td>
<td>Interval</td>
</tr>
<tr>
<td>ROUTING</td>
<td>Routing errors</td>
</tr>
<tr>
<td>SETRC</td>
<td>Return code</td>
</tr>
<tr>
<td>SYNTAXERR</td>
<td>Use GENERAL error option when IMS returns a DFS107I message</td>
</tr>
<tr>
<td>WTOODBCMD</td>
<td>WTO database command</td>
</tr>
</tbody>
</table>
Creating a ddname table

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 Administration Tool, which can be copied into any library.

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 member.
6. Modify the SET SATYLOAD= statement to specify the data set name of your SATYLOAD member.
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:

\begin{table}[h]
\begin{tabular}{|l|l|}
\hline
\textbf{Option} & \textbf{Description} \\
\hline
HELP & Use the HELP option to have information displayed in your assembly output. This macro is typically coded as: ATYDD HELP=[YES|NO] \\
\hline
ddbname 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 \\
\hline
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 \\
\hline
\end{tabular}
\end{table}

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.

```c
//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 SATYLOAD=SATYLOAD SET TO DSN OF YOUR SATYLOAD
//*
//ASMA90 EXEC PGM=ASMA90,PARM='NOUSING,ALIGN,OBJEC'T'
//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,BLKSIZ=3200,DSORG=PS)
//SYSIN DD *

* GENERATE THE DOCUMENTATION
* ATYDD HELP=YES
* DONAMES USED BY OLD IM COMMAND PROCESSOR NUMBER 1
* ATYDD TYPE=INPUT,DD=CMDIN
  ATYDD TYPE=OUTPUT,DD=CMDOUT
* DONAMES 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=&SATYLOAD,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 DFS0488I 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 28. 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).

Topics:
- “Predefined procedures overview” on page 210
- “Automated online change processing (/ATYMOD)” on page 211
- “Dead letter queue cleanup (/ATYDEADQ)” on page 212
- “/ATYWAIT command” on page 213
- “Command list processors” on page 214
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.
Command list processors

A command list processor reads a data set and processes one or many IMS commands stored in that data set.

There are two valid IMS Administration Tool command list processors:

• "/DSN command list processor"
• "/ATYPROC command list processor"

/DSN command list processor

The /DSN command causes IMS Administration Tool to read the data set (dsn) and process the commands contained within these data sets.

The commands can be processed by a single IMS or a command group of IMS regions.

The /DSN command is allowed only when the command driver runs from the ISPF dialog.

Command format:
/DSN=dsn

Note that dsn must be a fully qualified data set name. For example:
/DSN="USER.PDS.CNTL(COMMAND1)"

The data set specified by dsn must be LRECL=80.

/ATYPROC command list processor

The /ATYPROC command causes IMS Administration Tool to read a member of a PDS and replace variables within the member with data entered in the command.

The /ATYPROC command is allowed only when the command driver runs from the ISPF dialog.

This command requires ddname ATYPROC be pre-allocated to the ISPF session.

Command format:
/ATYPROC mbr var1 var2 var3 var4 var5 var6 var7 var8 var9

mbr      Specifies the name of the member from the ATYPROC PDS to process.
var1-var9 Specifies the variable names that will replace symbolic names contained in the ATYPROC PDS member. For example, name var1 replaces &ATYUSYM1, and var2 replaces &ATYUSYM2, and so on.

Example:
1. Data set allocated to ATYPROC ddname contains member DEQUSER.
2. DEQUSER contains:
   • /STO USER &ATYUSYM1
   • /DEQ USER &ATYUSYM1 PURGE
   • /STA USER &ATYUSYM1
3. Command /ATYPROC DEQUSER USER01 is issued from ISPF.
4. IMS Administration Tool issues:
   • /STO USER USER01
   • /DEQ USER USER01 PURGE
   • /STA USER USER01

The ATYPROC PDS member can contain up to nine symbolic names for variable replacement (&ATYUSYM1 - &ATYUSYM9). They must be used in sequence (for example, &ATYUSYM1 is replaced by the first parameter value, and &ATYUSYM2 by the second, and so on).

Any symbolic for which a parameter has not been entered is replaced by blanks.

For example, if the ATYPROC member had coded &ATYUSYM1 and &ATYUSYM2, but the entered command provided only one parameter, then &ATYUSYM2 is blanked out.

The data set allocated to this ddname must be LRECL=80.
Chapter 29. 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” on page 218
• “Invoking ATYCAPI0: Assembler example” on page 219
• “Invoking ATYCAPI0: COBOL example” on page 222
• “Invoking ATYCAPI0: REXX example” on page 224
• “Command processor API interface block” on page 227
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 source below.

```
ATYAPIAS CSECT ,
ATYAPIAS AMODE 31
ATYAPIAS RMODE ANY
BAKR R14,0
    LR R12,R15
    USING ATYAPIAS,R12
    USING SAVWKA,R13
    LA R3,SAVWKALL
LA R0,0H
STORAGE OBTAIN,LENGTH=(R3),ADDR=(R2),LOC=BELOW
LA R13,实型数
XR R15,R15
MVCL R2,R14
    ZEROES TO SAVE/WORK AREA
    MCV 4(L'F1SA),=A(F1SA)
F1SA EQU C'F1SA',4
    LINKAGE STACK IN USE
    F1SA EQU C'F1SA',4
MVI OUTCC,X'40'
    OUTPUT CARRIAGE CONTROL
FISA EQU C'FISA',4
    LOAD EP=ATYCAPI0
    LOAD ATY
    STCM R0,15,0
    SUB SAVE ADDR OF ATY API
    OPNINP DS OH
MVCL XXDCBINP(LLDCBINP),MMDCBINP
    DCB TO WORKAREA
MVCL 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 OH
    *
    OPNPRT DS OH
MVCL XXDCBPRT(LLDCBPRT),MMDCBPRT
    DCB TO WORKAREA
MVCL 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 OH
    *
    * GET CMD INPUT ROUTINE
    * GETINP DS OH
        GET XXDCBINP,INPREC
        GET A RECORD
    TYPECMD EQU C'CMD ',4
    MVC AOITYPE,=AL4(TYPECMD)
    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,'INPDATA'           ACTUAL LENGTH OF INP CMD
ICM R15,B'1000',=X'40'           PAD IT WITH SPACES
MVCL    R0,R14                 MOVE TO INTF BLOCK

*   ICM R15,15,0SUB               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
TYPEGCM  EQU C'GCMD',4
MVC A0ITYPE,=AL4(TYPEGCM) API GET A RESPONSE
ICM    R15,15,0SUB              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 A0ITYPE,=AL4(TYPETERM) ISSUE API - CLEANUP
ICM    R15,15,0SUB              ADDR OF ATY API
CALL   (15),ATYAPIIB,MF=(E,PLSUB) CALL API NOW

    DELETE EP=ATYCAPIO         DELETE MODULE NOW
    XC 0SUB,0SUB            CLEAR ITS OLD ADDR

*   RETURN  DS 0H
    STCM R15,15,RETCODE      SAVE REG15

*   CLOSE INPUT

*   CLSINP  DS 0H
    TM XXDCBINP+DCBFLGS-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+DCBFLGS-IHADCB,DCBOFOPN STILL OPEN?
    BZ CLSPRTX              ZERO MEANS NO
    CLOSE (XXDCBPRT),MODE=31,MF=(E,XXOPNPRT)

CLSPRTX  DS 0H

*   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,
                   DSORG=PS,MACRF=PM,RECFM=FBA,LRECL=L'AOIDATA+1

MMDCBINP DCB DDNAME=SYSINTR,
                   DCBE=MMDCBINP,
                   DSORG=PS,MACRF=GM,RECFM=FB,LRECL=80

MMDCBINP DCB EODAD=GETINPX

X
X
YREGS
LTORG

* COMBO SAVE AND WORK AREA

SAWWA 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 CLB CMD DESTINATION IMSID OR GROUP
AOINAME DS CLB 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 OCL1
OUTCC DS CL1
OUTDATA DS CL(L’AOIDATA)

* INPRECS DS OCL80
INPDEST DS CL8
INPNAME DS CL8
INPDATA DS CL(INPDLEN)
INPDLEN EQU L’INPRECS-(INPDATA-INPRECS)

* SAWWKALL EQU -*SAWWA

* DCBD DSORG=DA IHADCBE

* END ATYAPIAS

Chapter 29. Command processor API
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 source below.

```
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 TYPEGCMOD    PIC X(4) VALUE 'GCMD'.
77 TYPETERM     PIC X(4) VALUE 'TERM'.

01 ATYAPIIB.
  05 AOITYPE     PIC X(4).
  05 AOIRETCOD   PIC X(4).
  05 AOIRSCOD    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.
```
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 ATYCAPIO USING ATYAPIIB.
   MOVE SPACE TO PRT-OUT-CC.
   MOVE AOIDATA TO PRT-OUT-DATA.
   WRITE PRT-OUT-REC.

   200-GETRESP.
      MOVE TYPECMD TO AOITYPE.
      CALL ATYCAPIO 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 ATYCAPIO USING ATYAPIIB.
      CANCEL ATYCAPIO.
      GOBACK.
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 source below.

```rexx
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,' ')
```

IMS Administration Tool User's Guide and Reference
ADDRESS LINKPGM "ATYCAPIO  APIIB"
if (rc == 0) then
  do
    say 'ATYCAPIO 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 "ATYCAPIO  APIIB"
if (rc == 0) then
  do
    APIIB = INSERT('TERM',APIIB,0,4,' ') /* AOITYPE */
    ADDRESS LINKPGM "ATYCAPIO  APIIB"
    signal ccfrd
  END
  cmdret = substr(apiib,52,256)
  say cmdret
  signal ccfcmd
ATYEND:
  /*
  /* EDF
  /*
  */
  SAY 'ATYIN End of File'
ATYRET:
  return
The above REXX procedure can be invoke from batch using the following sample
JCL as a model:
//ATYBATRX JOB (TECH),ATYBATRX,CLASS=A,MSGCLASS=X,
  // REGION=OM,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 */
The following table provides details for the callable API interface block.

**Table 50. Callable API interface block**

<table>
<thead>
<tr>
<th>Field</th>
<th>Field Type</th>
<th>Length</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOITYPE</td>
<td>Supplied</td>
<td>4</td>
<td>Specify one of the following character call types padded to 4 bytes with spaces:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• CMD Issue IMS command</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• GCMD Get IMS command response</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• TERM Cleanup</td>
</tr>
<tr>
<td>AOIRETCD</td>
<td>Returned</td>
<td>4</td>
<td>4 byte binary return code from ATYCAPI0.</td>
</tr>
<tr>
<td>AOIRSNCD</td>
<td>Returned</td>
<td>4</td>
<td>4 byte binary return code from ATYCAPI0.</td>
</tr>
<tr>
<td>AOIDEST</td>
<td>Supplied</td>
<td>8</td>
<td>Specify one of the following character command destination types padded to 8 bytes with spaces:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• IMSID The command should be routed to a specific IMS system.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• GROUP The command should be routed to all IMS systems defined for a ATY group.</td>
</tr>
<tr>
<td>AOINAME</td>
<td>Supplied</td>
<td>8</td>
<td>If IMSID is specified for AOIDEST, caller must initialize this field with a 4 character IMSID padded to eight characters with spaces.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>AOIRESV</td>
<td>Reserved</td>
<td>24</td>
<td>24 bytes reserved for use by ATYCAPI0.</td>
</tr>
<tr>
<td>AOIDATA</td>
<td>Supplied/Returned</td>
<td>256</td>
<td>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.</td>
</tr>
</tbody>
</table>
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 30, “Command processing messages (ATY),” on page 231
- Chapter 31, “IMS SPUFI messages (ATYE, ATYT),” on page 281
- Chapter 32, “Abend codes,” on page 285
- Chapter 33, “Wildcard support,” on page 287
- Chapter 34, “Gathering diagnostic information,” on page 293
Chapter 30. Command processing messages (ATY)

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 command processing messages adhere to the following format:

\[ ATYnnnnx \]

Where:

- **ATY** Indicates that the message was issued by IMS Administration Tool command processing
- **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 • ATY0114E

ATY0105I /ATYWAIT VALUE MUST BE 1-10 - DEFAULT WAIT OF 5 SECONDS WILL BE USED
Explanation: A /ATYWAIT 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: N/A

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 the 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: Reallocation of 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: Reallocation of 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:** No action is required.

**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 = ins NOT FOUND IN OPTIONS DATA SET**

**Explanation:** There is no IMS record for ins 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 ins using the IMS Administration Tool user interface, or correct the name specified for ins 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.
Command has been bypassed.

**Explanation**: An error occurred attempting to build the wildcard table. The error should be described by a prior error message.

**System action**: Processing continues.

**User response**: Follow the actions documented in the prior error message.

---

**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 the IMS Messages and Codes manual, 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.

---

**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: imss

**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
ATY0331E • ATY0345E

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 command 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
try 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 ENCONCERED 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 message 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:** Review the prior response messages and 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 if 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.
**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.

**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.

**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.

**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 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.

**Explanation:** DBRC shows that all database commands executed successfully.

**System action:** The job step continues processing.

**User response:** N/A
command needs to be manually entered for all failed systems.

**ATY0378I**  
**FOLLOWING COMMAND SAVED IN STORE/FORWARD FOR IMS: ins**

**Explanation:** The following command encountered routing errors on IMS (ins) 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:** No action is required.

**ATY0381I**  
**PRE-SCAN STARTED ON IMS: ins**

**Explanation:** Database pre-scan processing has started for IMS (ins).

**System action:** The job step continues processing.

**User response:** No action required.

**ATY0382I**  
**PRE-SCAN ENDED ON IMS: ins**

**Explanation:** Database pre-scan processing has completed for IMS (ins).

**System action:** The job step continues processing.

**User response:** No action required.

**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=rsnt**

**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 (rsnt) 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 the IMS messages and codes manual, correct the error, and retry the command.

**ATY0399E**  
**ERROR ENCOUNTERED ON RCMD CALL, RC=rc REASON=rsnt**

**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 (rsnt) 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 the IMS messages and codes manual, 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  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.

**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:** To allow this job to run, specify DBACCESS=ASIS or DBACCESS=DBRC. Contact IBM Software Support to resolve the original error.
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**  
**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**  
**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**  
**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**  
**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**  
**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**  
**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**  
**Explanation:** The command requested /ATYMOD be routed to a specific IMS system. IMS Administration Tool does not support routing the /ATYMOD 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**  
**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**  
**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.

---

**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 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.
**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.

**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.

**Explanation:** Parameters were supplied on the /ATYDEADQ 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.

**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.

**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.

**Explanation:** Correct the invalid LTERM name parameter and run the job again.

**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 DATAGRPH 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 DATAGRPH to DBRC, or add the correct RECON data sets to the STEPLIB concatenation, and run the job again.

**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.

**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.

**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 DATAGRPA: 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 DATAGRPA: 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 DSPURX00 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.

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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

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

ATY5001E ATYPINR OPEN FAILED

Explanation: The REDO BMP encountered an error attempting to open DDNAME ATYPINR. 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, RETURN CODE=rc

Explanation: IMS Administration Tool was unable to open the data set associated with the DDNAME ATYSTFWD. 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

Explanation: The REDO BMP encountered an error attempting to open DDNAME ATYPRE. This is probably due to erroneous DCB parameters. Additional messages might be displayed on the z/OS Syslog.

System action: Processing continues without ATYPRE 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 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: No action is required.

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.

**Explanation**: Program ATyreD0 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.

**System action**: The REDO BMP has started processing all commands from DDNAME ATYPRE.

**User response**: No action is required.

**Explanation**: The REDO BMP has completed processing the commands read from DDNAME ATYPRE.

**System action**: Processing continues.

**User response**: No action is required.

**System action**: The REDO BMP has started processing all commands from DDNAME ATYPRE.

**User response**: No action is required.

**System action**: Processing continues.

**User response**: Correct the error caused by the non-zero return code and run the job again.

**Explanation**: The REDO BMP encountered an error reading the store/forward data set. The VSAM return code and RPLFDBK are represented by rc and rplfblk, respectively.

**System action**: The REDO BMP terminates with a return code of 12.

**User response**: No action is required.

**System action**: Processing continues.

**User response**: No action is required.

**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**: No action is required.
**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:** No action is required.

---

**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:** No action is required.

---

**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:** No action is required.

---

**ATY5026I**  
**stfrec

**Explanation:** This message lists the record described by previous message ATY5025I.

**System action:** Processing continues.

**User response:** No action is required.

---

**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:** No action is required.

---

**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 insid 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 route 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 route 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

**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 • ATY6011E**

**ATY5040W**  
**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**  
**CSLOMCMC 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 CSLSQGRY 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:** No action is required.

**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:** No action is required.

**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:** No action is required.

**ATY6010I**  
**ERRORS : ABEND=Ucode SETRC=rc ERRORS : GENERAL=opt ROUTING=opt ERR488=opt DBRC=opt RETRY OPTIONS ...... RETRYATT=att RETRYSEC=sec /ATYMOD OPTIONS ... : MODFAIL=modfail MODREVERSE=modrev DATABASE OPTIONS ... : WTDDBCMD=wtod DATAGRPEXP=grpexp DBACCESS=ASIS NOFEOV=Y ERR3466=X PRESCAN=X DFS0488I: rc rc rc rc rc rc rc rc rc rc rc OPERATIONS MANAGER RETURN CODE: omrc omrc omrc omrc omrc omrc JOB= MASK=mask route=name OPTIONS DATA SET NAME = dsn IMS LIST:**  
**Explanation:** This message lists all of the options in effect for this job.  
**System action:** Processing continues.  
**User response:** No action is required.

**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=dns

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=iii

Explanation: A request was made to issue a command to an IMS system (iii) 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=iii 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.

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.

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=iii 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 iii.

System action: IMS (iii) 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 iii.

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.

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**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: xxxx**

**Explanation:** This message lists a parameter, or ATYOPTS 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 name record in the ATY options data set matched the JES2 job name.

**System action:** ATY runtime options are obtained from the matching ATY Job name record in the ATY options data set.

**User response:** No action is required.

---

**ATY6026I • JOB RECORD FOUND - MASK=xxxxxxx**

**Explanation:** A Job name record in the ATY options data set containing wildcards matched the JES2 job name. The ATY Job name record is displayed in the MASK=xxxxxxx field.

**System action:** ATY runtime options are obtained from the matching ATY Job name record in the ATY options data set.

**User response:** No action is required.

---

**ATY6027W • ATYOPTS "GROUP=" SPECIFICATION IGNORED**

**Explanation:** A Job name record in the ATY options data set containing wildcards matched the JES2 job name. The ATY Job name record is displayed in the MASK=xxxxxxx field.

**System action:** ATY runtime options are obtained from the matching ATY Job name record in the ATY options data set.

**User response:** No action is required.

---

**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.

---

**ATY6030W • ATYOPTS "LOCAL" ALREADY SPECIFIED**

**Explanation:** TBA

**System action:** TBA

**User response:** TBA

---

**ATY6031W • ATYOPTS "LOCAL" SPECIFICATION IGNORED**

**Explanation:** TBA

**System action:** TBA

**User response:** TBA
Chapter 30. Command processing messages (ATY)

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 "GROUP=" ALREADY SPECIFIED
Explanation: A GROUP= statement has already been specified.
System action: The new specification attempt is ignored.
User response: None.

ATY6037W  ATYOPTS "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  RETRYS= VALUE MUST BE NUMERIC BETWEEN 1-999
Explanation: The RETRYS= 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 RETRYS= 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.
**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.

---

**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:** 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=rsh**

**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** **ATYSAM EMPTY KSDS INIT SUCCESSFUL**

**Explanation:** The options data set has been initialized.

**System action:** The user interface continues.

**User response:** N/A

---

**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=rsh**

**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).
Tool options data set initialization utility (ATYUODI0).

**ATY611E**  **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.

**ATY612E**  **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 text message.

**ATY615E**  **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.

**ATY6151I**  **ATY IMS COMMAND PROCESSING COMPLETE**

**Explanation:** The user interface function that issues IMS commands completed successfully.

**System action:** The user interface continues.

**User response:** N/A

**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).

**ATY6159E**  **COMMAND IS NOT ALLOWED FROM ISPF**

**Explanation:** The IMS Administration Tool user interface function disallows certain IMS commands that would prevent the use of the IMS Administration Tool user interface. Examples of such commands include /CHE FREEZE and /STOP APPC.

**System action:** The user interface continues.

**User response:** Specify a valid and/or allowed command, and retry.

**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** IMSID/GROUP NAME NOT DEFINED IN ATY OPTIONS DATA SET

Explanation: The IMS Administration Tool user interface function did not locate the IMS record in the options data set that matched the IMSID specified in the command panel.

System action: The user interface continues.

User response: Correct or remove the entry 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=r15 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 DSNAMEl 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.

### 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 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 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 text of the message.

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=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.

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=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.

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  •  ATY6501I

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=rsh
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=rsh
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=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.

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
**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.

---

**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.

---

**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.

---

**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

---

**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

---

**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:** 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 (ATYUODIO).
**ATY6703E**  ATYVSAM SVC99 R15=r15 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=rsh

**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=rcc RSN=rss 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=rcc RSN=rss - 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=rcc RSN=rss

**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=Scode1 Ucode2

**Explanation:** The IMS Administration Tool remote STC BMP abended 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.

ATY7010E  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.

ATY7012E  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.

ATY7013E  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.

ATY7014W  COMMAND STORE/FORWARD DATA SET ALREADY INITIALIZED
Explanation: An attempt was made to initialize 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 AOI TOKEN 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 CSLSCQRY 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.

**ATY7410W**  
**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**

**DATAGR P NOT DEFINED, JOB TERMINATING DUE TO ERR488= SPECIFICATION**

**Explanation:** DATAGR PEXP=Y is in effect, but IMS Administration Tool could not obtain a list of database names from DBRC. This might be due to the DATAGR P 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 DATAGR PEXP, define the DATAGR P 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, CSLOMCM DC RC=rc RSN=rsh**

**Explanation:** An error was encountered processing a /MOD PREPARE command using the CSLOMCM DC call. The return and reason codes are contained in rc and rsh, 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.

---

**Reference. Correct the reason for the failure and run the job again.**

**ATY7415I**

**DATAGR P NOT DEFINED, BYPASSING COMMAND DUE TO ERR488= SPECIFICATION**

**Explanation:** DATAGR PEXP=Y is in effect, but IMS Administration Tool could not obtain a list of database names from DBRC. This might be due to the DATAGR P 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 DATAGR PEXP, define the DATAGR P to DBRC, or add the correct RECON data sets to the STEPLIB concatenation, and run the job again.

---

**ATY7416E**

**CSLOMCM DC COMMAND ISSUED RC=rc RSN=rsh**

**Explanation:** An error was encountered while attempting a command using the CSLOMCM DC call. The return and reason codes are contained in rc and rsh, 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.

---

**Reference. Correct the reason for the failure and run the job again.**

**ATY7417W**

**CSLOMCM DC COMMAND ISSUED RC=rc RSN=rsh**

**Explanation:** An error was encountered while attempting a command using the CSLOMCM DC call. The return and reason codes are contained in rc and rsh, 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.

---

**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 im**

**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.
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.
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

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.

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.

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 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.

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.

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

DBRC VALIDATION SUCCESSFUL

Explanation: DBRC validation successfully completed.

System action: Processing continues.

User response: N/A

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

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 DBRC= option.

User response: If DBRC usage is required, add IMS SDIFSRESL to the STEPLIB. If DBRC usage is not required, set options DBRC=NODBRC.

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 run the job again.

---

**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: No action is required.

---

**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 LISTDB 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: No action required.

---

**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.

---

**ATY7460A**
REPLY "C" TO CANCEL, "S" TO SKIP OR "R" TO RETRY COMMAND

**Explanation:** This message accompanies one of several 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.

---

**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: No action required.

**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:** No action required.

User response: Correct the JCL and run the job again.

**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.

**Explanation:** IMS Administration Tool was unable to load the options data set dynamic allocation member ATY#OPTS.

**System action:** The Message Disposition tables are not loaded or refreshed.

**User response:** Ensure the proper ATY#OPTS member is present in the STEPLIB of the IMS control region.

**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.

**Explanation:** An error was encountered reading the options data set. The RPLFDBK is displayed as rplfdbk.

**System action:** The Message Disposition tables are not loaded or refreshed.

**User response:** Correct the error caused by the non-zero return code and run the job again.

**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.

**Explanation:** An error was encountered attempting to connect to the log stream used for IMS Administration Tool Message Log processing using service IXGCONN REQUEST=CONNECT.

**System action:** Processing continues, but the IMS Administration Tool Message Log is not available for this IMS.

**User response:** Review the IXGCONN 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 (DFSAOUE0). 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.

### ATY8106I
**ATY USING LOGSTREAM lsn**

**Explanation:** This information message display the name of the log stream (lsn) used by IMS Administration Tool for the Message Log.

**System action:** Processing continues.

**User response:** N/A

### 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.

### 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.

### 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:** No action is required.

### 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:** No action is required.
**ATTY8208E** • **ATTY8258E**

<table>
<thead>
<tr>
<th>Code</th>
<th>Message Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTY8208E</td>
<td>ERROR ON service / request RC=rc, RSN=rsn</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>An error was encountered attempting a z/OS logger service (service). The return and reason codes are contained in rc and rsn, respectively.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>The job terminates with a completion code of 12.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Examine the return and reason codes for the failed service, take corrective action, and run the job again.</td>
</tr>
</tbody>
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<thead>
<tr>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>ATTY8250E</td>
<td>INPUT PARM MUST START IN COL 1 OR 2</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>A record read from DDNAME SYSIN did not contain recognizable data. ATYARCH0 expects control cards to start in column 1 or 2.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>The job terminates with a completion code of 12.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Correct the control card and run the job again.</td>
</tr>
</tbody>
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<tr>
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<tbody>
<tr>
<td>ATTY8251E</td>
<td>PREVIOUS RECORD CONTAINS INVALID DATA</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>An error was encountered editing a previous input record.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>This job terminates with a completion code of 12.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Correct the control card and run the job again.</td>
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<tbody>
<tr>
<td>ATTY8252E</td>
<td>VALID LSN= PARAMETER NOT SPECIFIED</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The IMS Administration Tool Message Log archive utility completed reading all control cards, but the required log stream name data was not specified.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>The job terminates with a return code of 12.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Add a log stream name control card and run the job again.</td>
</tr>
</tbody>
</table>

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<tr>
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</thead>
<tbody>
<tr>
<td>ATTY8253E</td>
<td>RECS= CANNOT BE SPECIFIED WITH DATE OR HOURS=</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>The job terminates with a completion code of 12.</td>
</tr>
</tbody>
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<tbody>
<tr>
<td>ATTY8254E</td>
<td>COLUMN 72 NOT BLANK</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The IMS Administration Tool Message Log archive utility does not support data in column 72.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>The job terminates with completion code of 12.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Correct the control cards and run the job again.</td>
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<tr>
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<tbody>
<tr>
<td>ATTY8255E</td>
<td>LSN= PARAMETER SPECIFIED MORE THAN ONCE</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The LSN= control card was specified more than once in DDNAME SYSIN.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>The job terminates with completion code of 12.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Correct the control cards and run the job again.</td>
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<tbody>
<tr>
<td>ATTY8256E</td>
<td>VALUE NOT SPECIFIED FOR LSN= PARM</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The LSN= parameter did not contain a log stream name.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>The job terminates with completion code of 12.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Correct the control cards and run the job again.</td>
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<tbody>
<tr>
<td>ATTY8257E</td>
<td>HOURS= VALUE SPECIFIED MORE THAN ONCE</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The HOURS= control card was specified more than once in DDNAME SYSIN.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>The job terminates with completion code of 12.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Correct the control cards and run the job again.</td>
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<tr>
<td>ATTY8258E</td>
<td>HOURS= MUST BE A 1 OR 2 CHARACTER NUMERIC VALUE</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>A non-numeric value has been specified for the HOURS= parameter. Valid values are 01 – 24.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>The job terminates with completion code of 12.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Correct the control cards and run the job again.</td>
</tr>
</tbody>
</table>
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: No action is required.

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.

ATY8301I  ATYREFRESH COMPLETE
Explanation: A /LOG ATYREFRESH command was entered and the IMS Administration Tool Message Disposition table refresh completed successfully.
System action: Processing continues.
User response: No action is required.

ATY8302E  ATY LOGGER CONNECT FAILED, RC=rc, 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.

ATY8406I  ATY LOGSTREAM CONNECTED
Explanation: IMS Administration Tool message log initialization completed successfully.
System action: Processing continues.
User response: No action is required.

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: No action is required.

**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: No action is required.

**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: No action is required.
Chapter 31. IMS SPUFI messages (ATYE, ATYT)

IMS Administration Tool issues messages that can help you understand the status of the infrastructure and help you resolve errors

Message format

IMS SPUFI messages adhere to the following format:

ATY[E|T]nnnx

Where:

ATY[E|T]
Indicates that the message was issued by IMS SPUFI.

Message numbers that begin with ATYE communicate information about the TSO attachment facility.

Message numbers that begin with ATYT communicate information about the service controller.

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.
**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.

---

**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.

---

**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.

---

**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.

---

**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.
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.

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 Messages and Codes Vol 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.DUMPxx 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

SQLIMSWARN0-11 SQLIMS WARNINGS

Explanation: At least one of the 11 warning values is not the expected value (a blank).

A nonblank 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, IMS Application Programming APIs, "SQL communication area (SQLIMSCA)".

---

**ATYT418I**

**SQLIMSSA = sqlimssstate,**

**SQLIMSSA RETURN CODE**

**Explanation:** The SQLIMSSA is a return code that indicates the outcome of the most recently executed SQLIMS statement.

The running of every SQLIMS statement sets SQLIMSSA 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".
## Chapter 32. 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

<table>
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<tr>
<th>Abend Code</th>
<th>Explanation</th>
<th>System Action</th>
<th>User Response</th>
</tr>
</thead>
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<tr>
<td>1000</td>
<td>An internal ATY error occurred.</td>
<td>The job step terminates abnormally with a U1000 completion code.</td>
<td>Find the preceding message that describes the reason for the abend, correct the condition, and run the command again.</td>
</tr>
<tr>
<td>2000</td>
<td>An internal ATY error occurred.</td>
<td>The job step terminates abnormally with a U2000 completion code.</td>
<td>Contact the IBM Software Support.</td>
</tr>
<tr>
<td>4044</td>
<td>An error occurred attempting to register to the IMS SCI address space.</td>
<td>ATY processing terminates with a U4044 abend.</td>
<td>Contact the IBM Software Support.</td>
</tr>
<tr>
<td>4070</td>
<td>An unexpected condition occurred for which the IMS Administration Tool options in effect requested an abnormal termination.</td>
<td>The job step terminates abnormally with a U4070 completion code.</td>
<td>Ensure that the SCI address space is available, and the SDFSERESL is included in the ATY job, or ISPF task.</td>
</tr>
<tr>
<td>4071</td>
<td>ATYAPPC0 received an unexpected return code after an ATBGETC call. Message ATY4071E precedes the abend when the return code from the ATBGETC call.</td>
<td>The job step terminates abnormally with a U4071 completion code.</td>
<td>Find the description of the non-zero return code in the manual <em>Writing Transaction Programs for APPC</em>, correct the error, and run the command again.</td>
</tr>
<tr>
<td>4072</td>
<td>ATYAPPC0 received an unexpected return code after an ATBRCVW call. Message ATY4072E precedes the abend with the return code from the ATBRCVW call.</td>
<td>The job step terminates abnormally with a U4072 completion code.</td>
<td>Find the description of the non-zero return code in the manual <em>Writing Transaction Programs for APPC</em>, correct the error, and run the command again.</td>
</tr>
<tr>
<td>4073</td>
<td>ATYAPPC0 received an unexpected return code after an ATBSSEND call. Message ATY4073E precedes the abend with the return code from the ATBSSEND call.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
System action: The job step terminates abnormally with a U4073 completion code.

User response: Find the description of the non-zero return code in the manual Writing Transaction Programs for APPC, correct the error, and run the command again.

4075

Explanation: ATYAPPC0 received an unexpected return code after an IMS INQY call. R14 and R15 contain the AICREASN and AIBRETRN codes, respectively.

System action: The job step terminates abnormally with a U4075 completion code.

User response: Find the description of the non-zero return and reason codes in IMS Messages and Codes, correct the problem, 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 the 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 the IBM Software Support.

4082

Explanation: An unexpected error occurred while trying to call the APPC/MVS error extract service, ATBEES3.

System action: The job step terminates abnormally with a U4082.

User response: Take appropriate corrective action, and run the command again. If the problem persists, contact the 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 the 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 the IBM Software Support.
Chapter 33. 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” on page 288
- “Wildcard support for /DISPLAY commands” on page 289
- “Wildcard support for Non-/DISPLAY commands” on page 290
- “Commands with wildcard support” on page 291
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 DFSIVPB DFSIVPC DFSIVPD DFSIVPE ... 

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 34. 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
Part 10. Appendixes
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