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

IBM® IMS™ Configuration Manager for z/OS® (also referred to as IMS Configuration Manager) is a tool that you can use to manage IMS parameters and resources on z/OS.

These topics provide instructions for installing, configuring, and using IMS Configuration Manager.

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

- Plan for the installation of IMS Configuration Manager
- Install and operate IMS Configuration Manager
- Customize your IMS Configuration Manager environment
- Diagnose and recover from IMS Configuration Manager problems
- Use IMS Configuration Manager with other z/OS products

You should have a working knowledge in the following areas to use these topics:

- The z/OS operating system
- ISPF
- IMS systems
- Microsoft Windows operating systems

Always check the IMS Tools Product Documentation page for the most current version of this information:

http://www.ibm.com/software/data/db2imstools/imstools-library.html
Part 1. Getting started

These topics provide an overview of IMS Configuration Manager and help you get started.
Chapter 1. IMS Configuration Manager overview

IBM IMS Configuration Manager for z/OS (also referred to as IMS Configuration Manager) is a configuration management tool that you can use to analyze, modify, and deploy IMS resources and parameters.

IMS Configuration Manager makes changing resources and parameters quicker, easier, and more reliable than using DRD or traditional system generation alone. IMS Configuration Manager builds on the dynamic resource definition (DRD) process by combining DRD with the ability to work with resources offline, apply change control processes, and annotate resource definitions.

IMS Configuration Manager consists of the following components:
- An ISPF dialog for editing resources and parameters.
- An Eclipse plug-in for the Eclipse client for managing systems, resources, and parameters across your enterprise.
- An IMS Configuration Manager repository and batch utilities that help you integrate IMS Configuration Manager into your existing change control practices.

An IMS Configuration Manager repository is easily established using the following features:
- The **autodiscovery** feature, which automatically maps your topology and your resources.
- Batch utilities and macros which **import your resource definitions**

What's new in IMS Configuration Manager

This topic summarizes the functional enhancements for IBM IMS Configuration Manager for z/OS Version 2 Release 1.

**SC19-3228-01**

This edition includes the following changes introduced by APARs PM63371, PM74549, PM74550, PM82911, PM75879, PM95032, PM95429, and PI08303:

**Autodiscovery (PM95429 and PI08303)**

Automate the discovery and definition of IMSplexes and systems in IMS Configuration Manager. Autodiscovery allows you to:
- Rapidly map the topology of your IMS systems
- Explore and highlight configuration differences between systems
- Create an inventory of systems that are not in an IMSplex of a supported IMS version

See "Defining systems and IMSplexes using autodiscovery" on page 43 for further detail.

**Takeup, Compare, and Install (PM82911)**

Receive updates from external sources in the form of stage 1 source or an RDDS, and then automatically build and deploy packages with only those values that have changed. To support this feature, the TAKEUP command has been enhanced, a new COMPARE utility has been added, and INSTALL supports installing the last-created change package. See the following topics for further detail:
• Chapter 7, “Creating automated and repeatable update processes,” on page 105
• “Example JCL for a take-up, compare, and install” on page 221

Backout (PM74549)
Manually back out the full or partial installation of a change package using the BACKOUT batch command. See the following topics for further detail:
• “Backing out a command change package using the ISPF dialog” on page 102
• “Example JCL for a backout” on page 222

Batch command usability enhancements and syntax updates (PM74549)
Usability enhancement and syntax updates for batch commands TAKEUP, INSTALL (IMS V11 or later), GEN, and COPY. See Chapter 19, “IMS Configuration Manager batch utility (GPLUTIL),” on page 215 for further detail.

IMS Connect system support (PM95429)
Automatically discover, define and manage IMS Connect systems in IMS Configuration Manager. See “Defining an IMS Connect system” on page 47 for further detail.

Common Service Layer (CSL) member support (PI08303)
Automatically discover, define and manage CSL members in IMS Configuration Manager. See “Defining a CSL member” on page 48 for further detail.

Enterprise system management with the Eclipse plug-in (PM74550, PI25744, and PI26435)
Manage systems and parameters across your enterprise using the Eclipse plug-in. See Chapter II, “Key features of the Eclipse plug-in,” on page 137 for further detail.

The following changes in IBM Tools Base for z/OS, V1.5 (Tools Base) affect the Eclipse plug-in:
• Tools Base no longer includes an Eclipse rich client platform (RCP) executable into which you install the plug-in. Instead, you install the IMS Configuration Manager plug-in in IBM Explorer for z/OS (z/OS Explorer).
• Tools Base no longer includes a framework common plug-in that you need to install before installing the IMS Configuration Manager plug-in. That functionality is now included in the plug-in software site archive file supplied with IMS Configuration Manager.
• The Tools Base Connection Server, which is the z/OS-based software that enables the plug-in to communicate with IMS Configuration Manager, has been renamed IBM Functional Support Library Server.
• Most of the identifiers that were FUD-prefixed are now FUN-prefixed. For example:
  – The IBM Functional Support Library Server program name is FUNSRV. Related ddnames are also now FUN-prefixed.
  – IBM Functional Support Library Server messages are FUN-prefixed.
• Tools Base V1.5 does not contain a separate user’s guide for IBM Functional Support Library Server corresponding to the Connection Server User’s Guide that was supplied with Tools Base V1.4. Except for the initial SMP/E installation procedure in the Tools Base Program Directory, Tools Base V1.5 contains no documentation for IBM Functional Support Library Server.
The high-level qualifier of the general resource profile that the server uses to perform security checks has changed from FUDPRD to FUNPRD. For details, see “IBM Functional Support Library Server security” on page 34.

IMS V13 and additional PROCLIB member support (PM75879)

CHECK ISPF command support for PROCLIB members CSLOIxxx, CSLRlxxx, CSLSlxxx, DFSDSCMx, DFSDSCTx, and DSPBIxxx. See Chapter 18, “PROCLIB members supported by IMS Configuration Manager,” on page 213 and “Checking the syntax of a member” on page 121 for further detail.

Repository system history records (PM74549)

System history records replace the installation journal. Install history is now stored with the resource definitions in the IMS Configuration Manager repository. This simplifies the administration by consolidating information relating to resource updates.

SC19-3228-00

This edition covers changes introduced by Version 2 Release 1 of IMS Configuration Manager. These changes provide you with the following abilities:

View and manage IMS systems and configurations from the Eclipse plug-in

The Eclipse plug-in provides you with the ability to browse IMS Configuration Manager repositories, as well as manage IMS systems and issue commands against them.

Control access to IMS Configuration Manager resources

You can now define granular access control rules to control who can create, delete, and update definitions in the IMS Configuration Manager repository. Definitions covered by the new access control feature are IMSplexes, IMS systems, resource groups, and change packages. See “Activating IMS Configuration Manager repository access control” on page 26 for further detail.

Extended support for IMS V12 catalog parameters.

DFSDFxxx has two new sections for the IMS catalog. See Chapter 18, “PROCLIB members supported by IMS Configuration Manager,” on page 213 for further detail.

What does IMS Configuration Manager do?

IMS Configuration Manager allows you to manage resources and parameters using an ISPF interface and an Eclipse plug-in.

The resource management features allow you to create a dynamically defined environment that simplifies the process of modifying, migrating, and installing IMS resources. IMS Configuration Manager combines the benefits of a structured and well understood traditional SYSGEN environment with the advantages of a dynamic resource definition process.

The following figure illustrates this relationship. With IMS Configuration Manager you retain the ability to structure and organize your resource definitions and maintain the definitions offline while also gaining the benefits of DRD. IMS
Configuration Manager gives you the ability to quickly introduce changes with minimal impact to running IMS systems.

Figure 1. IMS Configuration Manager combines the benefits of DRD with those of the traditional SYSGEN-based approach

The parameter management features allows you to easily find and edit parameters, coordinate parameter changes across IMSplexes, and ease migration to newer versions of IMS. IMS Configuration Manager helps ensure changes are more reliable by providing syntax and value-checking, context-sensitive help, parameter statement generation, and a history of changes.

The IMS Configuration Manager Eclipse plug-in provides an enterprise-level view of your IMSplexes and systems. The Eclipse plug-in augments the ISPF interface with powerful search and parameter comparison capabilities.

The IMS dynamic resource definition (DRD) process

IMS Version 10 introduced dynamic resource definition (DRD). DRD enables you to dynamically create, update, query, and delete runtime resources and resource descriptors (databases, application programs, transactions, and fast-path routing codes) without using the system definition or online change processes.

DRD means that you no longer need to perform an IMS gen for your MODBLK resources. You can change resources without impacting other resources on the same system, and you get better reporting on the state of runtime resources.

DRD provides the following benefits:
- Greater availability of your IMS systems.
- Simplified management of runtime resources.
- Ability to consolidate IMS systems, in particular in the development context.
- Increased flexibility of your IMS systems.

How does IMS Configuration Manager relate to DRD?

IMS Configuration Manager complements DRD.

While DRD provides a process for updating runtime resources, it is not intended as an end-to-end solution for managing resources offline. For example, your
organization might have established processes built around offline definitions through stage 1 source. Organizations managing resources offline may perform the following tasks:

- Managing change requests.
- Annotating resources.
- Migrating changes between development and production environments.
- Requiring an approval process before implementing changes.
- Requiring different security policies for making a change as opposed to implementing a change.
- Triggering other kinds of automation at the same time that you make change requests or update resources.
- Implementing clear processes for backing out changes.

Finally, if you adopt DRD, business partners and third-party vendors might still provide you with application updates as stage 1 source. As such, you will still need to support and update your live system definitions from this source.

IMS Configuration Manager complements DRD by providing this management process and combining it with the ability to install resources against IMS systems or IMSplexes using an intelligent type-2 command interface called the resource installer.

**IMS Configuration Manager features and benefits**

IMS Configuration Manager makes your IMS environment easier to manage and audit by providing you with utilities for modifying IMS parameters and resource definitions, deploying changes to resource definitions, and recording the results for auditing purposes.

**Resource manager**

The resource manager provides the following features:

- Generates an IMS Configuration Manager repository that retains your comments and the logical organization of your resource definitions. Resource definitions can be imported from stage 1 source, an RDDS, or an IMSRSC repository.
- Stores IMS resource definitions, such as databases, transactions, and programs.
- Allows you to modify resource definitions through a structured ISPF dialog that provides context-sensitive help.
- Allows you to copy resources to other IMS Configuration Manager repositories (for example, from development to production) or within an IMS Configuration Manager repository.
- Allows you to bundle changes into change packages that are installed via the IMS Configuration Manager resource installer.
- Allows you to generate a resource definition data set (RDDS) from a change package.
**Parameter manager**

The parameter manager provides the following features:

- A parameter smart editor that supports most IMS configuration members, including all DFS members.
- Powerful search capabilities to find parameters in any supported member using keywords. For example, identify all members with “DRD” parameters or identify all “IMS V13” parameters, just by entering those terms in a parameter search.
- Parameter listing based on your IMS topology, showing you which members are active on which systems.

**Eclipse plug-in**

The IMS Configuration Manager Eclipse plug-in provides an enterprise-level view of your resources and parameters and allows you to control and manage systems. Use the Eclipse plug-in to perform the following tasks:

- Centralize and consolidate your system and IMSplex configurations.
- Manage IMS systems, resources, and parameters.
- Compare parameters across multiple systems.
- Submit type-2 commands and view the output.
- Use filters to highlight transactions matching certain attributes.
- Identify transactions that can perform commands.
- Identify transactions with a zero queue count.
• List all active parameter members across your enterprise and drill-down to parameter values.
• Export data to external spreadsheet applications for further analysis.

Benefits

The features of IMS Configuration Manager provide the following benefits:

Integrate DRD with your current change control practices
IMS Configuration Manager includes a batch utility to help incorporate DRD into your current change control processes.

Simplify your IMS environment
Quickly identify the topology of your IMS, IMSplex, and IMS Connect environment. Instantly highlight differences and inconsistencies across all your global sites, and provide a path forward for simplifying, consolidating, and leveraging your IMS environment.

Optimize online installation of resources
The IMS Configuration Manager installer dynamically evaluates how to best match the state of a live system to the resources in a change request. This includes:
• Evaluating which resources need to change before changing them.
• Dynamically selecting whether to update or create resources.
• Automatically quiescing some resources, if required.
• Creating an audit log of all install activity.
• Automatically backing out the entire installation if any resources cannot be created, updated, or deleted (optional).

Provide greater autonomy to application developers
IMS Configuration Manager adds another layer of integrity checking and separation between the creation of a change request and its implementation. Using IMS Configuration Manager, you can automate the change request process and allow application developers to autonomously request new definitions. These requests can then be applied to sandbox systems at a fixed schedule or they can be approved by the IMS administrator before being migrated to another IMS Configuration Manager repository.

De-skill the process of managing resources and parameters
IMS Configuration Manager provides help and validation for the offline management of parameters and resources. Using IMS Configuration Manager, your changes become safer, you have context-sensitive help for each and every parameter, and if you make a mistake you can easily back it out.

Make your configuration easier to analyze
The IMS Configuration Manager Eclipse plug-in makes it simpler to interrogate your resource and parameter configuration. Use the Eclipse plug-in to:
• Perform intelligent system comparisons
• Search for highlight important values and apply filters
• Export result sets to external spreadsheet applications
IMS Configuration Manager consists of several components.

The main components of IMS Configuration Manager include:

**ISPF dialog**
The IMS Configuration Manager ISPF dialog provides you with the ability to define and edit systems, resources, change packages, and parameters. You can use the dialog to produce JCL to install IMS resource definitions to systems. Access control allows you to determine who can create, edit, update, or delete definitions in a given IMS Configuration Manager repository. The parameter editor provides search capabilities, context-sensitive parameter help, syntax and value checking, and parameter change history.

**IMS Configuration Manager Eclipse plug-in and IBM Functional Support Library Server**
The IMS Configuration Manager Eclipse plug-in provides you with a consolidated view of your systems and IMSplexes. You can use the Eclipse plug-in to compare parameters across multiple systems, list all active parameter members across your enterprise, and export data to external spreadsheet applications for further analysis.

The IBM Functional Support Library Server provides core IMS Configuration Manager services to the Eclipse plug-in.

**IMS Configuration Manager repository**
A VSAM key-sequenced data set (KSDS) that contains configuration information about your IMS environment, your IMS resource definitions, and a history of any system installation performed by IMS Configuration Manager. You can browse the contents of the repository using the IMS Configuration Manager ISPF dialog and Eclipse plug-in. You can install, copy, and compare resources stored in the IMS Configuration Manager repository via batch utilities. The repository allows you to store historical information about any changes to your PROCLIB members, and provides you with the ability to restore a PROCLIB member to an earlier version.

**Batch commands**
The IMS Configuration Manager batch utility (GPLUTIL) allows you to perform many core functions in batch, allowing you to integrate the product with the batch automation used in your organization.

The batch utility includes the following commands:

- **DISCOVER**
  Automatically discovers IMS components for use in IMS Configuration Manager.

- **TAKEUP**
  Takes up (imports) resources from stage 1 source, an RDDS, or an IMSRSC repository into an IMS Configuration Manager repository.

- **COMPARE**
  Compares two resource groups, create new resource groups from the result, and creates change packages based on the difference.

- **INSTALL**
Installs resources from an IMS Configuration Manager repository into live IMS member systems.

**BACKOUT**

Backs out an installed change package.

**GEN**

Creates a system generation image (stage 1 source or RDDS) for cold-start processing.

**COPY**

Copies resources within an IMS Configuration Manager repository, or from one IMS Configuration Manager repository to another.

The following figure shows the components of IMS Configuration Manager.

*Figure 3. IMS Configuration Manager components*
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

The IMS Tools Product Documentation web page provides current product documentation that you can view, print, and download. To locate publications with the most up-to-date information, refer to the following web page:

http://www.ibm.com/software/data/db2imstools/imstools-library.html

You can also access documentation for many IMS Tools from IBM Knowledge Center:

http://www.ibm.com/support/knowledgecenter

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

http://www.redbooks.ibm.com

The Data Management Tools Solutions website shows how IBM solutions can help IT organizations maximize their investment in IMS databases while staying ahead of today's top data management challenges:


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:

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 online reader comment form, which is located at [http://www.ibm.com/software/data/rcf/](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. See 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.
Chapter 2. Installation

These topics explain how to install and configure the IMS Configuration Manager ISPF dialog and Eclipse plug-in. The Eclipse plug-in is installed into the IBM Functional Support Library Server client.

Upgrading to the latest version

If you already have an IMS Configuration Manager repository and you are upgrading to the latest version, you may need to recreate your repository or review your access control settings.

Consider the following points when upgrading to the latest version of IMS Configuration Manager:

- IMS Configuration Manager is only compatible with IMS Configuration Manager repositories created after the application of APAR PM28699. If you have an IMS Configuration Manager repository from an earlier version, you will need to consult the installation notes for the APAR before upgrading, or you will need to create a new IMS Configuration Manager repository.
- IMS Configuration Manager comes with an access control feature for IMS Configuration Manager repositories. Access control allows you to define who can access which objects in a IMS Configuration Manager repository. By default, this feature is inactive. Access control provides an additional layer of control on top of the VSAM data set security. Users who need to update objects in the IMS Configuration Manager repository will still need UPDATE permission to the VSAM data sets used by this product.

Complete information about installation requirements, prerequisites, and procedures for IMS Configuration Manager is located in the Program Directory for IMS Configuration Manager for z/OS.

Hardware and software prerequisites

Before you install and configure IMS Configuration Manager, make sure that your environment meets the following minimum hardware and software requirements.

To install IMS Configuration Manager, you use SMP/E and standard RECEIVE, APPLY, and ACCEPT processing. For complete information about installation requirements, prerequisites, and procedures for IMS Configuration Manager, see the IMS Configuration Manager Program Directory.

Hardware prerequisites

IMS Configuration Manager V2.1 operates on any hardware configuration that supports the required software.

Software prerequisites

Installation requirements and operating system

- z/OS, V1.12 or later (5694-A01)

Mandatory operational requirements

- One of the following IMS versions:
Conditional operational requirements

- IMS Configuration Manager Eclipse plug-in requires the following software:
  - IBM Functional Support Library Server V1.4

IMS Configuration Manager libraries

The components of the IMS Configuration Manager dialog are delivered in these libraries.

**SGPLEXEC**
- REXX EXECs

**SGPLLINK**
- Executable load modules

**SGPLSAMP**
- Sample utility programs and user macros

**SGPLMENU**
- ISPF messages

**SGPLPENU**
- ISPF panels

**SGPLSENU**
- ISPF skeleton JCL

**SGPLTENU**
- ISPF input tables

Starting IMS Configuration Manager with GPLOREXX

To start the IMS Configuration Manager ISPF dialog, run the GPLOREXX initialization module.

About this task

You can start IMS Configuration Manager by first installing IMS Configuration Manager libraries statically within your ISPF library setup (see “Static setup” on page 17), or you can start IMS Configuration Manager dynamically (see “Dynamic setup” on page 17). Optionally, you can add IMS Configuration Manager to an ISPF menu.

GPLOREXX accepts four parameters:

**prefix** The data set prefix for IMS Configuration Manager data sets. For example, GPL.V2R1M0. Alternatively, specify NODYNAM to tell IMS Configuration Manager to use the existing allocation settings.

**lang** Identifies the national language. The default is ENU (U.S. English). Currently, IMS Configuration Manager only supports U.S. English.

**PASSAPPL**
- Optional. Overrides the enforcement of the default IMS Configuration
Manager application **NEWAPPL(GPLO)**. IMS Configuration Manager uses the invoking application's APPL specification.

**Low-level qualifiers**
Optional. Overrides the default low-level qualifiers for the six IMS Configuration Manager data sets. All six qualifiers must be specified in the correct order, enclosed in brackets and separated by commas. For example:

```plaintext
(EXEC, LINKLIB, MESSAGE, PANEL, SKELETON, TABLE)
```

**Dynamic setup**

The simplest way to start the IMS Configuration Manager ISPF dialog is to allow the startup REXX exec, **GPLOREXX**, to dynamically allocate the IMS Configuration Manager libraries. This is known as *dynamic setup*.

To start IMS Configuration Manager and have the IMS Configuration Manager libraries dynamically set up when the dialog is started, do the following tasks:

1. On the TSO command processor panel (ISPF option 6), enter:
   ```plaintext
   EX 'prefix.SGPLEXEC(GPLOREXX)' 'prefix.lang'
   ```
   For example:
   ```plaintext
   EX 'GPL.V2R1M0.SGPLEXEC(GPLOREXX)' 'GPL.V2R1M0 ENU'
   ```
   If the qualifier for your installation data sets is not GPL.V2R1M0, then alter the command accordingly.

2. To add IMS Configuration Manager to an ISPF menu, set &ZSEL to:
   ```plaintext
   CMD(EX ''prefix.SGPLEXEC(GPLOREXX)'' ''prefix.lang'') NOCHECK
   ```
   NOCHECK is specified to support the entry of concatenated commands through the direct option (trail). Also specify on the calling panel:
   ```plaintext
   &ZTRAIL=.TRAIL
   ```

   **Note:** Dynamic setup requires that the supplied library names are retained. These are listed under "IMS Configuration Manager libraries" on page 16.

**Static setup**

If you prefer not to have the IMS Configuration Manager libraries dynamically allocated each time you start the ISPF dialog, you can instead add the libraries to the appropriate ISPF concatenations in your TSO logon procedure. This is known as *static setup*.

To install the IMS Configuration Manager libraries statically within your ISPF library setup, do the following tasks:

1. Include the library **prefix.SGPLEXEC** in your SYSEXEC or SYSPROC concatenation. This library contains the required EXECs. It is allocated during installation with fixed-block record format and record length 80 bytes (RECFM=FB, LRECL=80).
   
   You must put these libraries in the SYSEXEC concatenation. However, if you want to put them in SYSPROC, it must have a record length of 80 bytes.
   
   Ensure that all libraries contained in your concatenations are in the same record format with the same block size or are in the order of decreasing block size.

2. Add the remaining libraries to your ISPF library setup:
   - Include the link/load module library **prefix.SGPLINK** in the ISPPLIB concatenation.
   - Include the message library **prefix.SGPLMENU** in the ISPMLIB concatenation.
   - Include the panel library **prefix.SGPLPENU** in the ISPPPLIB concatenation.
Include the skeleton library prefix.SGPLSENU in the ISPSLIB concatenation.
Include the table library prefix.SGPLTENU in the ISPTLIB concatenation.

3. On the TSO command processor panel, enter:
   `%GPLOREXX 'NODYNAM lang'

4. To add IMS Configuration Manager to an ISPF menu, set &ZSEL to:
   `CMD(%GPLOREXX ''NODYNAM lang'') NOCHECK`

**Overriding the default application**

You can override the default IMS Configuration Manager application, **GPLO**.

**Procedure**

Use the PASSAPPL parameter in the ISPF menu &ZSEL setting.
For example:
`CMD(EX ''prefix.SGPLEXEC(GPLOREXX)' 'prefix lang PASSAPPL') NOCHECK NEWAPPL(GPLZ)`

IMS Configuration Manager will then use **GPLZ** as the application rather than the default.

**Overriding the data set low-level qualifier**

You can override the IMS Configuration Manager data set low-level qualifiers by specifying the required qualifiers as the last parameter in the ISPF menu &ZSEL setting.

**Procedure**

Specify the required qualifiers as the last parameter in the ISPF menu &ZSEL setting. All six qualifiers must be specified in the correct order, enclosed in brackets and separated by commas.
For example:
`CMD(EX ''prefix.SGPLEXEC(GPLOREXX)' 'prefix lang (EXEC,LNK,MSG,PNL,SKL,TBL)'')`

IMS Configuration Manager will then use the following libraries:
- **prefix.EXEC**
  - REXX EXECs
- **prefix.LNK**
  - Executable load modules
- **prefix.MSG**
  - ISPF messages
- **prefix.PNL**
  - ISPF panels
- **prefix.SKL**
  - ISPF skeletons JCL
- **prefix.TBL**
  - ISPF input tables

**Using the ISPF dialog**

The IMS Configuration Manager ISPF dialog is used to manage IMS resources and parameters. The dialog uses the default Common User Access (CUA) attributes.
Recommended ISPF setup

You can use ISPF standard facilities to customize the dialog. These recommendations help you use IMS Configuration Manager efficiently.

Screen size and scrolling

Set the screen size for your terminal session to 32 lines. IMS Configuration Manager panels are optimized for 32 lines, but accommodate 24 lines by scrolling with the Backward function key (F7) and the Forward function key (F8).

Point-and-shoot fields

Point-and-shoot fields perform an action when you select them. For example, when you select a column heading in a list of PROCLIB members, IMS Configuration Manager sorts the list by that column.

Tabbing to point-and-shoot fields

To make it easier to select point-and-shoot fields, you can include them in the tabbing order when you press the Tab key to skip between fields:
1. Enter the ISPF SETTINGS command to display the ISPF Settings panel.
2. Select Tab to point-and-shoot fields as shown in Figure 5 on page 21.

Highlighting point-and-shoot fields

The dialog uses the default CUA attributes. However, it is recommended that you set the color of point-and-shoot fields to distinguish them from other fields:
1. Enter the ISPF CUAATTR command.
2. Scroll to the Point-and-Shoot panel element, and then enter a color name (for example, YELLOW, as shown in the following figure).
   To make these fields even more distinct, you can also set their highlight attribute to REVERSE (reverse video).
Displaying the command line and long messages

IMS Configuration Manager uses both long and short messages. ISPF displays short messages at the upper right of a panel, next to the panel title. ISPF usually displays long messages in a pop-up window. However, if a long message is less than the screen width, then, by default, ISPF displays it adjacent to the command line.

**Recommendation:** Set the command line to appear at the top of the screen and set long messages to display adjacent to the command line, not in a pop-up. This avoids the potential for message windows to overlay data entry fields and make the field help inaccessible.

To optimize ISPF settings for IMS Configuration Manager:

1. Enter the ISPF SETTINGS command to display the ISPF Settings panel.
2. Ensure **Command line at bottom** and **Long message in pop-up** are *not* selected, as shown in the following figure:
ISPF dialog features

The ISPF dialog contains these features for enhanced usability.

Navigating
To navigate the ISPF dialog, you perform a combination of actions.

Navigating involves the following actions:
- Selecting menu options
- Entering line actions (one- to three-letter commands) next to items in lists
- Entering primary commands on the command line
- Pressing function keys
- Selecting an option from the action bar menu

At any point, you can find out what actions are available to you:
- To display a pop-up menu of available line actions, enter / (a forward slash) next to a list item.
- To get help on the available commands, open the Help menu, and then select Command Help.
- To get help on the available function keys, open the Help menu, and then select Keys Help.

Prompt (F4)
Some entry fields have a Prompt action that allows you to complete the field by selecting a value from a pop-up list of valid values.

Prompt fields are indicated by a plus sign (+) at the end of the field. To display the pop-up list, move the cursor to the field and press the Prompt function key (F4). A list of available values is displayed from which you can select one or more depending on the circumstance.

Prompt fields are automatically completed if you enter enough characters to make the value unique. For example, a field with allowed values YES, NO, NEVER, is automatically completed if you enter Y, NO, NE.
**Action bar**

An action bar is available at the top of panels to assist with navigation and function.

To select an option in the action bar, move the cursor to it and press Enter. A pull-down menu of choices is displayed. To select one, either move the cursor to it, or type the number of your selection, then press Enter.

The action bar options in IMS Configuration Manager are:

- **File**
  - File choices are New, Save, Saveas, Cancel, or Exit. File is available on all panels, but with only some of the choices depending on the function of the panel.

- **Settings**
  - To turn Save and Cancel confirmations on or off in your profile settings bypassing the Primary Menu. Settings is available on system definition and member edit panels.

- **View**
  - Controls the contents displayed in the member list; whether the members are from the PROCLIB, the IMS Configuration Manager repository, or both, or only supported members. View is available from the IMS All Members and PROCLIB member lists.

- **Help**
  - Displays product help information, described in "Online help" on page 23. Help is available on all panels.

**Function keys**

Function keys are used extensively throughout the IMS Configuration Manager dialog.

Until you are familiar with IMS Configuration Manager, it might be helpful to display the function key labels. To display function key labels, enter the ISPF command `PFSHOW ON`. To hide labels, enter `PFSHOW OFF`.

These are the function keys that are available in IMS Configuration Manager:

- **Help (F1)**
  - Displays help information for panels and keywords.

- **Split (F2)**
  - Splits the ISPF screen at the cursor position.

- **Exit (F3)**
  - Exits the current panel and saves the changes. Also, on parameter member edit panels, swaps from standard ISPF edit to assist mode.

- **Prompt (F4)**
  - Displays a selection list of available choices for an entry field. A plus sign (+) adjacent to a field or column heading indicates that prompt is available.

- **Preview (F5)**
  - Swaps from assist mode to standard ISPF edit.

- **Resize (F6)**
  - Removes or restores the window border.

- **Backwards (F7)**
  - Scrolls the list of data backwards.

- **Forwards (F8)**
  - Scrolls the list of data forwards.
Swap (F9)
Swaps between screens when in ISPF split-screen mode.

Left (F10)
Scrolls a section of the panel left to see more data.

Right (F11)
Scrolls a section of the panel right to see more data.

Cancel (F12)
Cancels the panel without saving changes.

Online help
IMS Configuration Manager help is context-sensitive, that is, the information displayed is appropriate to the position of the cursor when you request help.

F1 function key
Function key F1 is the default key to request help.

Extended help is available from the command line of every panel. Move the cursor to the command line and press F1 or enter the HELP command.

Field help is available on every input field. Move the cursor to the field and press F1.

Reference phrases are used to indicate that more information is available on a topic. By default, they are white and highlighted. You can use the ISPF command SETTINGS to change the attributes of reference phrases to ensure that they are easily distinguished from the surrounding text. When a help window is displayed, press the Tab key to move the cursor to a reference phrase then press F1. A pop-up window displays additional information on the topic.

Action bar help
Help in the action bar provides the following types of information to help you use IMS Configuration Manager:

Extended Help
The help information for the currently displayed panel. This describes what the panels does, and the fields that appear on the panel.

Command Help
The commands available on this panel.

Keys Help
The function keys available on this panel. The list shows the default function key assignments, but you can reassign them using the ISPF KEYS and KEYLIST commands.

About IMS Configuration Manager
Information about this release of IMS Configuration Manager.

Parameter help
On the parameter member edit panels, IMS Configuration Manager provides context-sensitive help about the parameter values. It describes the parameter’s relevance to the IMS version and control region type of the IMS system, and provides release-dependent default values and allowed values.
Creating an IMS Configuration Manager repository

The first time you use IMS Configuration Manager you must specify an IMS Configuration Manager repository. The IMS Configuration Manager repository is a VSAM key-sequenced data set (KSDS) that contains an inventory of IMS Configuration Manager definitions.

Procedure

1. On the IMS Configuration Manager Primary Menu, specify the fully qualified data set name of the IMS Configuration Manager repository data set in the Repository field. If you want to change to another IMS Configuration Manager repository, overtype the data set name or press the Prompt function key (F4) to select from a list of previously defined data sets.

   If the data set is not cataloged, you will be prompted to create it when you first attempt to access a product feature that requires the IMS Configuration Manager repository.

2. Complete the fields as required. Press the Help function key (F1) for additional details on each field. If you have selected Edit IDCAMS command, review and modify the output and then enter the command EXEC. Otherwise, press Enter.

   Note: The IMS Configuration Manager repository must be large enough to contain resource definitions, resource change history, and parameter member history. One new record is created for each resource that is processed using the INSTALL batch command. An estimate of the number of resources and the frequency of change for each resource helps determine how large an IMS Configuration Manager repository needs to be, using the contents of your longest transaction (or transaction descriptor) record as a measure of size.

Related concepts:

"Security" on page 25

You can restrict access to IMS Configuration Manager by securing your IMS Configuration Manager repository data set, and by using IMS command security.

Related tasks:
You can restrict access to IMS Configuration Manager by securing your IMS Configuration Manager repository data set, and by using IMS command security.

IMS Configuration Manager honors the data set security policies you configure with your security product. The IMS Configuration Manager resource installer honors the IMS command security profile.

Configure your security product's policies to restrict access to IMS Configuration Manager repository data sets by specific users. Use IMS command security to determine who can update live systems with DRD.

For your PROCLIB data sets, you can continue using the existing security policies for your site. IMS Configuration Manager will not bypass this security.

**Related tasks:**

“Creating an IMS Configuration Manager repository” on page 24

The first time you use IMS Configuration Manager you must specify an IMS Configuration Manager repository. The IMS Configuration Manager repository is a VSAM key-sequenced data set (KSDS) that contains an inventory of IMS Configuration Manager definitions.

“Copying and migrating resource groups using the COPY command” on page 83

Copy resource groups within an IMS Configuration Manager repository, or from one IMS Configuration Manager repository to another using the COPY command.

### IMS command security

The IMS Configuration Manager TAKEUP, INSTALL, and BACKOUT commands use IMS commands to interact with your IMS systems.

In order to successfully use these commands on the IMSplex of your choice, the following authorities are required:

**TAKEUP command**

**Resources requiring READ authority:**

IMS.plexname.QRY.*

**Resources requiring UPDATE authority:**

IMS.plexname.EXP.DEFN (only required when using the EXPORT parameter)

**INSTALL and BACKOUT commands**

**Resources requiring READ authority:**

IMS.plexname.QRY.*

**Resources requiring UPDATE authority:**

IMS.plexname.DBR.DB

IMS.plexname.STA.type where type is DB and TRAN
Related reference:

“TAKEUP command” on page 248
Imports resources from the IMSRSC repository, an RDDS, or stage 1 source to the IMS Configuration Manager repository. The command can also associate systems with resource groups during the take up.

“INSTALL command” on page 245
Installs resources from a command change package into one or more running IMS systems. The INSTALL command generates the required type-2 commands and can roll back commands in the event of a failure.

“BACKOUT command” on page 224
The BACKOUT command allows you to backout an installed command change package.

**IMS Configuration Manager access control**

Access control is an optional feature that allows you to determine who can create, edit, update, or delete objects in an IMS Configuration Manager repository.

In many cases, you do not need to use IMS Configuration Manager access control. In environments where you maintain a development IMS Configuration Manager repository and a production IMS Configuration Manager repository, simply use a combination of data set security and IMS command security. Use data set security to secure your production IMS Configuration Manager repository, and use IMS command security to prevent users from changing IMS.

You only need IMS Configuration Manager access control when you require an additional layer of control above the data set and command security offered by your operational environment.

Use IMS Configuration Manager access control in the following situations:

- You want to allow users to modify MODBLK resources but not system definitions.
- You want to control which users can modify which resource groups within the same repository.
- You want to have specific users responsible for placing resources in change packages or performing certain actions on change packages.

For example, IMS Configuration Manager allows you to establish an access control environment where a system manager can modify IMS systems but not resource groups, or a member of the payroll team can modify payroll resource groups, but not resource groups managed by the billing team.

**Activating IMS Configuration Manager repository access control**

You can use the IMS Configuration Manager ISPF dialog to activate IMS Configuration Manager repository access control.
Procedure

1. If using RACF®, run each job from the SGPLSAMP library prefixed with GPLRACF in the order that they are listed. The comments on the sample jobs provide detailed information about the access control rules, how they are implemented in RACF, and how to perform common RACF administrative functions with respect to the maintenance of these rules.

   **Tip:** The sample jobs are designed for RACF but can be tailored to other SAF-based security managers. Specifically, you must have a SYSTEMOPTS profile defined.

2. From the IMS Configuration Manager Primary Menu, select option A Administer.

3. Enter / next to Activate ICM access control checking. You must use the SAF resource class and access key prefix you configured when using the sample security jobs.

**Related tasks:**

“Creating an IMS Configuration Manager repository” on page 24
The first time you use IMS Configuration Manager you must specify an IMS Configuration Manager repository. The IMS Configuration Manager repository is a VSAM key-sequenced data set (KSDS) that contains an inventory of IMS Configuration Manager definitions.

**Security access authorities and resource names**

This topic describes the rule semantics for configuring access control.

The following table specifies the IMS Configuration Manager repository definition, the action, and the required authorization for the specified action.

<table>
<thead>
<tr>
<th>Definition type</th>
<th>Action</th>
<th>Authority</th>
<th>Resource profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repository</td>
<td>Administer repository (includes activating or deactivating access authority)</td>
<td>UPDATE</td>
<td>prod.SYSTEMOPTS</td>
</tr>
<tr>
<td>IMSplex</td>
<td>Create</td>
<td>UPDATE</td>
<td>prod.repo.PLEX.plex</td>
</tr>
<tr>
<td></td>
<td>Update</td>
<td>UPDATE</td>
<td>prod.repo.PLEX.plex</td>
</tr>
<tr>
<td></td>
<td>Delete</td>
<td>ALTER</td>
<td>prod.repo.PLEX.plex</td>
</tr>
<tr>
<td>System</td>
<td>Create</td>
<td>UPDATE</td>
<td>prod.repo.SYS.plex.sys</td>
</tr>
<tr>
<td></td>
<td>Update</td>
<td>UPDATE</td>
<td>prod.repo.SYS.plex.sys</td>
</tr>
<tr>
<td></td>
<td>Change IMSplex</td>
<td>UPDATE</td>
<td>prod.repo.SYS.original_plex.sys and prod.repo.SYS.target_plex.sys</td>
</tr>
<tr>
<td></td>
<td>Add or remove common resource group from system</td>
<td>UPDATE</td>
<td>prod.repo.SYS.plex.sys</td>
</tr>
<tr>
<td></td>
<td>Delete</td>
<td>ALTER</td>
<td>prod.repo.SYS.original_plex.sys</td>
</tr>
<tr>
<td>Resource group</td>
<td>Create</td>
<td>UPDATE</td>
<td>prod.repo.RG.plex.sys.rg</td>
</tr>
<tr>
<td></td>
<td>Update</td>
<td>UPDATE</td>
<td>prod.repo.RG.plex.sys.rg</td>
</tr>
<tr>
<td></td>
<td>Delete</td>
<td>ALTER</td>
<td>prod.repo.RG.plex.sys.rg</td>
</tr>
</tbody>
</table>
Table 1. Authority for controlling access to resources (continued)

<table>
<thead>
<tr>
<th>Definition type</th>
<th>Action</th>
<th>Authority</th>
<th>Resource profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change package</td>
<td>Create</td>
<td>UPDATE</td>
<td>prod.repoPKG.plex.sys.cp</td>
</tr>
<tr>
<td>Update change package</td>
<td>Update change package description</td>
<td>UPDATE</td>
<td>prod.repoPKG.plex.sys.cp</td>
</tr>
<tr>
<td></td>
<td>Update change package name</td>
<td>UPDATE</td>
<td>prod.repoPKG.plex.sys.original_cp and prod.repoPKG.plex.sys.target_cp</td>
</tr>
<tr>
<td></td>
<td>Add or remove resources from package</td>
<td>UPDATE</td>
<td>prod.repoPKG.plex.sys.cp</td>
</tr>
<tr>
<td>Delete</td>
<td>Delete</td>
<td>ALTER</td>
<td>prod.repoPKG.plex.sys.cp</td>
</tr>
<tr>
<td>Close</td>
<td>Close</td>
<td>UPDATE</td>
<td>prod.repoPKG.plex.sys.cp</td>
</tr>
<tr>
<td>Complete</td>
<td>Complete</td>
<td>UPDATE</td>
<td>prod.repoPKG.plex.sys.cp</td>
</tr>
<tr>
<td>Abort</td>
<td>Abort</td>
<td>UPDATE</td>
<td>prod.repoPKG.plex.sys.cp</td>
</tr>
<tr>
<td>Install</td>
<td>Install</td>
<td>UPDATE</td>
<td>prod.repoPKG.plex.sys.cp</td>
</tr>
<tr>
<td>Schedule</td>
<td>Schedule</td>
<td>UPDATE</td>
<td>prod.repoPKG.plex.sys.cp</td>
</tr>
</tbody>
</table>

In the preceding table, the following notes apply:

1. When referring to the Resource profile column, the following definitions apply:
   - **prod**: User defined IMS Configuration Manager product prefix.
   - **repo**: Optional repository prefix. Set to @NO@ if none specified.
   - **plex**: The name of the IMSplex.
   - **sys**: The name of the system.
   - **rg**: The name of the IMS Configuration Manager resource group.
   - **cp**: The name of the IMS Configuration Manager change package.

   **Note**: Use @NO@ when the node would otherwise be null.

2. To delete an IMSplex record, you must first remove reference to it from all systems. Therefore, IMS Configuration Manager does not need to check system access authority.

3. When you delete a **common** resource group, IMS Configuration Manager only checks ALTER access to the resource group; access authority is not required for the system. When you create a **system** resource group, no system checks are performed as the system name and IMSplex are already part of the resource key.

4. **Common** resource groups have their IMSplex and System always set to @NO@ regardless of the systems with which they are associated. A **system** resource group has the system name and, optionally, the IMSplex of the system as part of the resource key.

You can reduce the number of SAF resources required by using wildcards in the resource name.

Use the character @ in place of disallowed characters such as space.
The optional change package name is used in the profile key. There is no validation of this field by IMS Configuration Manager. As a result, take care when writing rules for change packages and apply appropriate naming conventions.

**Example: Using IMS Configuration Manager to control access by system**

The following example demonstrates how to partition access authority by system. Users can perform any action on a system that they have been given access to.

A typical configuration allows users to perform any action on the systems you specify. For example, use the following permissions for your application development team:

<table>
<thead>
<tr>
<th>Resource profile</th>
<th>Authority</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>prod.repo.RG.plexname.sysname.*</code></td>
<td>UPDATE</td>
<td>Allow users to create common and system-level resource groups for the system specified by <code>sysname</code>.</td>
</tr>
<tr>
<td><code>prod.repo.PKG*.plexname.sysname.*</code></td>
<td>UPDATE</td>
<td>Allow users to create and install change packages for the system specified by <code>sysname</code>.</td>
</tr>
<tr>
<td><code>prod.repo.PLEX.plexname</code></td>
<td>NONE or READ</td>
<td>Prevent users from creating, updating, or deleting the IMSplex specified by <code>plexname</code>.</td>
</tr>
<tr>
<td><code>prod.repo.SYS.plexname.sysname</code></td>
<td>NULL or READ</td>
<td>Prevent users from creating, updating, or deleting the system specified by <code>sysname</code>, or for all systems on <code>plexname</code> using an asterisk (*).</td>
</tr>
</tbody>
</table>

In the preceding table, the following notes apply:

**Note:**

1. To allow the user to delete the object type, change the authority to ALTER.
2. By default, all users have READ access to all objects within an IMS Configuration Manager repository that they have data set authority to access. A READ request does not generate a SAF call.

Use the following permissions for system administration:

<table>
<thead>
<tr>
<th>Resource profile</th>
<th>Authority</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>prod.repo.PLEX.plexname</code></td>
<td>ALTER</td>
<td>Allow system administrators to create, update, or delete the IMSplex specified by <code>plexname</code>.</td>
</tr>
<tr>
<td><code>prod.repo.SYS.plexname.sysname</code></td>
<td>ALTER</td>
<td>Allow system administrators to create, update, or delete the system specified by <code>sysname</code>, or all systems on <code>plexname</code> using an asterisk (*).</td>
</tr>
</tbody>
</table>

**Setting IMS Configuration Manager ISPF profile options**

The IMS Configuration Manager profile allows you to set options such as whether to have a delete confirmation, and what job statement information to use when generating JCL from the dialog.
Procedure
1. From the IMS Configuration Manager Primary Menu, select option 0 Profile.
   The Personal Profile panel is displayed.
2. Edit your profile options as required. Press the Help function key (F1) for additional information.
3. Press the Exit function key (F3) to save the new settings.

Related concepts:
“Deleting resources” on page 77
You can use the IMS Configuration Manager ISPF dialog to delete resources from the IMS Configuration Manager repository.

Related tasks:
“Deleting resource groups” on page 81
You can use the IMS Configuration Manager ISPF dialog to delete resource groups from the IMS Configuration Manager repository.
“Deleting a change package using the ISPF dialog” on page 103
Open change packages that have been created in IMS Configuration Manager can be deleted if no longer required. Change packages cannot be deleted if they are closed or scheduled for installation.
“Deleting a member” on page 125
IMS Configuration Manager also allows you to delete a member from a PROCLIB data set.

Installing IBM Functional Support Library Server

If you want to use the IMS Configuration Manager plug-in for IBM Explorer for z/OS (z/OS Explorer), you need to install IBM Functional Support Library Server on z/OS. The plug-in uses IBM Functional Support Library Server to communicate with IMS Configuration Manager.

About this task
IBM Functional Support Library Server is a component of IBM Tools Base for z/OS, V1.5 (Tools Base), a no-charge product.

Other products also use IBM Functional Support Library Server. If you have already installed the same release of IBM Functional Support Library Server to support another product, you do not need to install the server again: skip the following procedure, and configure your existing server to support IMS Configuration Manager. You can either start separate instances of the server configured for each product, or you can configure the server to support more than one product.

Procedure
To install IBM Functional Support Library Server:
1. Get Tools Base from IBM.
2. Follow the instructions in the Tools Base Program Directory.
   The Program Directory describes how to install all components of Tools Base. If you are installing Tools Base only to use the IMS Configuration Manager plug-in, then you only need to install the IBM Functional Support Library Server component, FMID H30S240.
IBM Functional Support Library Server consists of the following two target libraries:

**SFUNLINK**
Contains IBM Functional Support Library Server load modules. Must be APF-authorized.

**SFUNSAMP**
Contains sample IBM Functional Support Library Server startup JCL and configuration files.

IBM Functional Support Library Server introduces no installation prerequisites beyond those required by IMS Configuration Manager.

**What to do next**
Verify that you have successfully installed IBM Functional Support Library Server.

**Verifying installation of IBM Functional Support Library Server**
You should verify that IBM Functional Support Library Server starts before you configure it to support the IMS Configuration Manager plug-in.

**About this task**
The following procedure describes how to start IBM Functional Support Library Server. This procedure is independent of IMS Configuration Manager. Later procedures describe how to configure the server to work with IMS Configuration Manager.

**Procedure**
1. Copy the following three members from the IBM Functional Support Library Server sample library SFUNSAMP to a data set of your choice, and then edit the copies according to the comments inside each member.

   **FUNSRVST**
   Startup JCL:
   ```plaintext
   //SERVER EXEC PGM=FUNSRV,
   // PARM=('BPECFG=FUNBPECF,FUNCFG=FUNCONFG')
   //*/
   //STEPLIB DD DISP=SHR,DSN=FUNHLQ.SFUNLINK
   //PROCLIB DD DISP=SHR,DSN=MY.FUN.PROCLIB
   ```
   - The PARM parameter specifies the member names of the two configuration files required by IBM Functional Support Library Server. These members must be in the concatenation specified by the PROCLIB DD statement (1). In this example, both members belong to the same data set, MY.FUN.PROCLIB.
   - In this example, FUNHLQ is the high-level qualifier of the data set where you have installed the IBM Functional Support Library Server load module library, SFUNLINK.
   - The PROCLIB DD statement specifies the location of the IBM Functional Support Library Server configuration files.

   **FUNBPECF**
   IMS Base Primitive Environment (BPE) configuration parameter file.
   IBM Functional Support Library Server uses BPE services. The BPE configuration file defines the BPE execution environment settings for the server.
Unless you have a specific requirement to set different tracing options, use the sample member as supplied.

**FUNCONFIG**

IBM Functional Support Library Server configuration file.

You must edit the sample member to specify your own site-specific values for the following parameters:

**SERVER_NAME**

The name of this IBM Functional Support Library Server.

**TCP_PORT**

The TCP/IP port number on which the server listens for messages from the IMS Configuration Manager plug-in.

For the other parameters, you can either use the default values or specify values according to your site-specific requirements.

2. Submit the startup JCL.

3. View the JESMSGLG job output data set.
   - If IBM Functional Support Library Server started successfully, the JESMSGLG data set contains the following message:
     - **FUN3226I** Server start completed

4. Stop the server.
   - For example, enter the following MVS™ operator command:
     - $F jobname,SHUTDOWN

**What to do next**

Configure the IBM Functional Support Library Server startup JCL and IBM Functional Support Library Server configuration file to support the IMS Configuration Manager plug-in.

**BPECFG: IBM Functional Support Library Server BPE configuration file**

You need to configure the IBM Functional Support Library Server by setting options in the BPECFG file.

The BPECFG file can specify the following parameters. For an example file, see member FUNBPECF of the IBM Functional Support Library Server sample library SFUNSAMP.

Unless you have a specific requirement to set different tracing options, use the sample member as supplied.

**LANG=ENU**

The language of BPE and IMS component message text. ENU is for US English, which is currently the only supported language. This parameter is required.

**TRCLEV=(type,level,component,PAGES=num_pages)**

The trace level for a trace table and, optionally, the number of storage pages allocated for the trace table.

The supported values of type are:

- **BPE**  Sets tracing options for the BPE.
FUN Sets tracing options for IBM Functional Support Library Server. It is recommended that you leave these trace levels at high.

**FUNCFG: IBM Functional Support Library Server configuration file**

You need to configure the IBM Functional Support Library Server by setting parameters in the FUNCFG file.

The FUNCFG file can contain the following parameters. For an example configuration file, see member FUNCONFG in the IBM Functional Support Library Server sample library SFUNSAMP.

**SERVER_NAME=name**

1 - 8 alphanumeric character server name. The name must be unique across the sysplex. This is a required parameter.

**PRODUCT=prod**

A 3-character product code representing a product to be supported by the server. For example, GPL for IMS Configuration Manager. A server can support multiple products. Specify a PRODUCT parameter for each product. If you do not specify any products, then you will only have access to basic server administration functions.

**TCP_NAME=name**

A 1 - 8 character name of the TCP/IP stack. If this parameter is omitted or blanks are specified, the server uses the default TCP/IP stack.

**TCP_PORT=port**

The TCP/IP port number that the server listens on: 1 - 65535. This parameter is required. Consult your network administrator to identify a suitable (not in use) port.

**TCP_THREADS=threads**

The maximum number of threads that can accept client connections concurrently: 0 - 64. The default is 16.

**TCP_MAXSOC=sockets**

The maximum number of TCP sockets available for concurrent client connections: 50 - 2048. The default is 50.

**TCP_IPV6=Y|N**

Whether the server supports IPv6 clients. Specify Y to allow IPv6 clients to connect to the server. Your TCP/IP stack must be configured for IPv6; if it is configured to also allow IPv4 clients, then the server will support both. The default is N: the server supports only IPv4 clients, regardless of the stack configuration.

**CCSID=ccsid**

Specifies the coded character set identifier (CCSID) for the server: 1 - 65533. The CCSID must specify a single-byte character set (SBCS) that is supported by z/OS Unicode Services. The special identifiers 0, 65534, and 65535 are not supported. The default is 37.

**SAF_CLASS=class**

The 1 - 8 character SAF security class name, used for product access authorization. If this parameter is omitted or explicitly set to blanks, then product access authorization is not performed.

**SDA_BARLIM=kilobytes**

The Session Data Area (SDA) bar limit size in kilobytes: 64 - 4096. An SDA
is used to hold any incoming client request data and subsequently any
outgoing client response data generated for the request. An SDA of a
length that exceeds the SDA_BARLIM will reside above-the-bar. If this
parameter is omitted the default is 2048 kilobytes.

**SDA_MAXLEN=megabytes**

The Session Data Area (SDA) maximum length in megabytes: 4 - 100. An
SDA is used to hold incoming client request and outgoing client response
data. A client request with data that exceeds the SDA_MAXLEN will fail. If
this parameter is omitted the default is 32 megabytes.

**IBM Functional Support Library Server security**

IBM Functional Support Library Server can check whether users are authorized to
use a product. IBM Functional Support Library Server performs actions according
to the authority of the client user ID.

**Access authorization for basic server functions**

In addition to the products that are specified by the PRODUCT parameter in the
IBM Functional Support Library Server configuration file, IBM Functional Support
Library Server starts its own default product, with product code FUD, that
provides basic functions such as verifying connections with clients. If the IBM
Functional Support Library Server configuration file specifies a SAF_CLASS
parameter, the server performs a security check for that default product using the
following general resource profile:

```
FUNPRD.FUD
```

If the user has at least READ access for this resource profile, IBM Functional
Support Library Server allows access to the basic functions.

Users of the GPL plug-in must have at least READ access to this resource profile.

**Product access authorization**

Products running under IBM Functional Support Library Server manage
authorization internally, within the constraints of the IBM Functional Support
Library Server environment.

Optionally, IBM Functional Support Library Server can restrict access to each
product. If the IBM Functional Support Library Server configuration file specifies a
SAF_CLASS parameter, the server performs a security check using the following
general resource profile:

```
FUNPRD.product
```

where *product* is one of the 3-character product codes specified by the PRODUCT
parameter in the IBM Functional Support Library Server configuration file. For
example, GPL is the product code for IMS Configuration Manager.

If the user has at least READ access for this resource profile, IBM Functional
Support Library Server allows access to that product. Otherwise, IBM Functional
Support Library Server denies access to that product.

Users of the GPL plug-in must have at least READ access to this resource profile.
**Client user ID authentication**

IBM Functional Support Library Server authenticates the client user ID when a client establishes a connection with the server. Client request threads running in the target product are associated with the user ID of the connected client.

**Starting IBM Functional Support Library Server**

To start IBM Functional Support Library Server, you submit an MVS batch job.

**Procedure**

1. Customize the JCL in the FUNSRVST member of the IBM Functional Support Library Server sample library SFUNSAMP.
2. Submit the batch job.

**Stopping IBM Functional Support Library Server**

To stop an instance of IBM Functional Support Library Server, you stop the corresponding MVS batch job.

**Procedure**

Enter one of the following MVS operator MODIFY (F) or STOP (P) commands:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F jobname,SHUTDOWN</td>
<td>Quiesce the server before shutting down.</td>
</tr>
<tr>
<td></td>
<td>The server rejects new client request threads and shuts down when all active client request threads have completed.</td>
</tr>
<tr>
<td>F jobname,SHUTDOWN FORCE</td>
<td>Force the server to shut down immediately, cancelling any active client request threads.</td>
</tr>
<tr>
<td></td>
<td>You can upgrade a quiesce shut down to a forced shut down; see the following command SHUTDOWN FORCE command.</td>
</tr>
<tr>
<td>P jobname</td>
<td>Quiesce the server before shutting down.</td>
</tr>
<tr>
<td></td>
<td>This STOP command is a shorthand alternative to F jobname,SHUTDOWN, with the following difference: the server will not respond to subsequent MODIFY commands, so you cannot upgrade this request to a forced shut down.</td>
</tr>
</tbody>
</table>

where *jobname* refers to the batch job for the instance of the server that you want to stop.

**IBM Functional Support Library Server administrative functions**

IBM Functional Support Library Server provides administrative functions that allow you to control the server and the products it runs.

The IBM Functional Support Library Server accepts operator commands to perform many operations. The format of the command is:

\[ F \text{ servername, command} \]
Where the commands include the following

**DISPLAY PRODUCT** *product_code*
  Displays information about a particular product.

**RESTARTIP**
  Restarts the TCP/IP layer.

**SHUTDOWN**
  Shuts down the server, waiting for any products to complete their functions.

**SHUTDOWN FORCE**
  Forces shut down even if some products have not responded.

**START PRODUCT** *product_code*
  Starts a product with the given code.

**STOP PRODUCT** *product_code*
  Stops a product with the given code.

---

**Installing the plug-in**

The IMS Configuration Manager plug-in for IBM Explorer for z/OS (z/OS Explorer) provides a graphical user interface (GUI) to some of the functions provided by the IMS Configuration Manager ISPF dialog. The plug-in communicates with IMS Configuration Manager via IBM Functional Support Library Server, which is supplied with IBM Tools Base for z/OS (Tools Base).

**Before you begin**

- Install IBM Functional Support Library Server on z/OS.
- Install z/OS Explorer on your PC.

**About this task**

The following figure shows how the environment required to run the plug-in spans systems.

*Figure 7. IMS Configuration Manager plug-in environment*

**Procedure**

1. Configure IBM Functional Support Library Server to support IMS Configuration Manager:
   a. Add the parameter `PRODUCT=GPL` to the IBM Functional Support Library Server configuration file, `FUNCFG`.
   b. Customize the server startup job to include the IMS Configuration Manager link library and IMS RESLIB in the STEPLIB concatenation. Add each IMS
Configuration Manager repository you want to view with the IMS Configuration Manager Eclipse plug-in. In the following example, replace label placeholders as required:

```
//FUNSRV JOB (ACCOUNT), 'NAME'
//SERVER EXEC PGM=FUNSRV,
// PARM=('BPECFG=BPECONFG,FUNCFG=FUNCONFG')
//
//STEPLIB DD DISP=SHR, DSN=FUNHLQ.SFUNLINK
// DD DISP=SHR, DSN=PRDHLQ.SGPLLINK
// DD DISP=SHR, DSN=IMSHLQ.SDFSRESL
//PROCLIB DD DISP=SHR, DSN=FUNHLQ.SFUNSAMP <-- BPE and FUN config.
//GPLCNTL DD * <--- GPL product control parms

REPOSITORY NAME=MYREPOS1, +
 DESC=(A CONFIGURATION REPOSITORY), +
 DSN=REP.HLQ +
REPOSITORY NAME=MYREPOS2, +
 DESC=(ANOTHER REPOSITORY), +
 DSN=REP.HLQ

/GPLPRINT DD SYSOUT=* 
```

where:

1. The IMS Configuration Manager link library.

**Note:** The IMS Configuration Manager link library, and all other libraries in the STEPLIB, must be APF-authorized to successfully start the IBM Functional Support Library Server.

2. The IMS RESLIB.

3. One or more IMS Configuration Manager repositories you want to view in the IMS Configuration Manager Eclipse plug-in.

**Note:** Duplicate IMSplex member systems must not exist across multiple IMS Configuration Manager repositories. Any duplicate IMSplex member system will be reported at start-up time and the corresponding repositories will be closed. See “GPL7312E” on page 191.

2. Follow the instructions in the readme supplied with IMS Configuration Manager in member GPLREAD of library SGPLGENU.

**Related concepts:**

1. Chapter 11, “Key features of the Eclipse plug-in,” on page 137

The IMS Configuration Manager Eclipse plug-in has several powerful features that can help you improve your understanding of your environment.

**Related tasks:**

1. “Enabling autodiscovery” on page 44

Enabling the autodiscovery feature instructs IMS Configuration Manager to automatically detect IMS systems and resources and update the IMS Configuration Manager repository with the definitions when the server first starts up.

**Getting started**

This topic explains how to get started with the IMS Configuration Manager Eclipse plug-in.

**Procedure**

1. Double-click the z/OS Explorer shortcut.
2. Select Window > Open Perspective > Other.
3. Select IMS Configuration Manager, and then click OK.
4. Follow the prompts to complete the **User ID** and **Password** fields using the
TSO credentials you normally use when using the IMS Configuration Manager
ISPF dialog.

**What to do next**

The first time that the IMS Configuration Manager Eclipse plug-in is run, none of
your systems are displayed. See "Connecting to IBM Functional Support Library
Servers" to connect the IMS Configuration Manager Eclipse plug-in with one or
more running instances of the IBM Functional Support Library Server.

**Related concepts:**

Chapter 12, “Exploring your environment,” on page 139

Use the IMS Configuration Manager Eclipse plug-in to explore your systems, list
active parameter members, and to view resources and change packages.

**Connecting to IBM Functional Support Library Servers**

The IMS Configuration Manager Eclipse plug-in requires a connection to a running
instance of the IBM Functional Support Library Server.

**Procedure**

1. In the **Navigation** view, click ![Icon](image), and then click **Functional Support Library
Server**.

2. Enter the details of your IBM Functional Support Library Server as follows:

   **Server Name**
   
   The name of the IBM Functional Support Library Server. This is field is
descriptive only, but must be unique.

   **Host Name**
   
   The host name or IP address of the IBM Functional Support Library
Server.

   **Host Port**
   
   The TCP/IP port of the IBM Functional Support Library Server.

   **Connection Profile**
   
   The **Connection Profile** is a predefined user name and password
combination. If you leave this field blank, the default connection profile
is used. To create a new connection profile or to change the default
connection profile, click the **View Menu** icon, click **Preferences**, and
then click **Connection Profiles**.

   **Test connection**
   
   Tests that the client is able to connect to the server.

   The new server is displayed in the **Functional Support Library Servers** section
of the **Navigation** panel. If you cannot see the IBM Functional Support Library
Servers, you might need to expand the **Functional Support Library Servers**
section of the **Navigation** view.

   **Tip:** The IMS Configuration Manager Eclipse plug-in can be configured to
connect to several IBM Functional Support Library Servers at once. Use this
feature to create a unified view of all your z/OS images across your global
sites.

**Related tasks:**
The IMS Configuration Manager Eclipse plug-in allows you to explore the topology of your systems using the Navigation view.
Part 2. System management

IMS Configuration Manager simplifies the process of managing the configuration of your IMSplexes and member systems.

Systems can be automatically discovered and their definitions imported into the IMS Configuration Manager repository using the autodiscovery feature, or you can define your own systems using the ISPF dialog.

You must define IMSplexes and systems IMS Configuration Manager repository before you can assign resources to resource groups, install resources to live systems, manage parameters, or submit type-2 commands via the IMS Configuration Manager Eclipse plug-in.
Chapter 3. Defining systems and IMSplexes

IMS Configuration Manager allows you to define IMSplexes and systems in the IMS Configuration Manager repository using the autodiscovery method, or by manually creating system definitions through the ISPF dialog.

Related tasks:
- "Exploring the topology of your systems" on page 139
- The IMS Configuration Manager Eclipse plug-in allows you to explore the topology of your systems using the Navigation view.

Defining systems and IMSplexes using autodiscovery

IMS Configuration Manager can automatically discover systems and store their PROCLIB configurations using the autodiscovery feature. You can start autodiscovery as a batch command or as an initialization option for the product whilst running under the IBM Functional Support Library Server.

Related concepts:
- “Defining systems and IMSplexes using the ISPF dialog” on page 45
- You can use the IMS Configuration Manager ISPF dialog to manually define IMSplexes and systems.

Discovering systems using the DISCOVER batch command

The DISCOVER batch command discovers IMS systems, IMS Connect systems, and IMSplex components, and updates the IMS Configuration Manager repository with the definitions.

Before you begin

Systems can also be manually defined using the ISPF dialog. For more information, see “Defining systems and IMSplexes using the ISPF dialog” on page 45.

About this task

The DISCOVER command can identify all systems registered to XCF across MVS images. It can also identify systems that are running outside of an IMSplex on the MVS image that the utility runs on.

Note: Only the DISCOVER command can discover systems running outside of an IMSplex. It cannot be done using the AUTODISCOVER keyword in the IBM Functional Support Library Server startup job.

Procedure

Run the “DISCOVER command” on page 241. Results are stored in the specified IMS Configuration Manager repository.

Related tasks:
- “Importing resources using the DISCOVER command” on page 63
- Import resource definitions from live systems into the IMS Configuration Manager repository using the DISCOVER command.

Related reference:
Autodiscovery using the IBM Functional Support Library Server

You can configure the IBM Functional Support Library Server to automatically discover systems and IMSplexes.

Enabling autodiscovery

Enabling the autodiscovery feature instructs IMS Configuration Manager to automatically detect IMS systems and resources and update the IMS Configuration Manager repository with the definitions when the server first starts up.

Before you begin

- Ensure that the IBM Functional Support Library Server has been installed and configured successfully. See “Installing the plug-in” on page 36.
- If you want to define systems manually, use the ISPF dialog. See “Defining systems and IMSplexes using the ISPF dialog” on page 45.

Procedure

1. Customize the IBM Functional Support Library Server startup job to include the AUTODISCOVER keyword.

```plaintext
//GPLCNTL DD *
REPOSITORY NAME=REPOAME, +
   DESC=(MYREPOSITORY), +
   DSN=TEST.REPOS, +
   AUTODISCOVER
/*
```

2. Submit the server startup job. The results of autodiscovery are stored in the log. See Chapter 21, “Understanding the result of the discovery process,” on page 261.

What to do next

- To rediscover systems and components, restart the server or the IMS Configuration Manager product component (GPL) running under the server.
- To limit the scope of discovery to certain systems and member types, or to discover MODBLK resources, you can specify additional parameters. See “REPOSITORY keyword” on page 257 for additional details.
- To manage systems and parameters across your enterprise, see Part 5, “Enterprise system management with the Eclipse plug-in,” on page 135.

Related tasks:

- “Installing the plug-in” on page 36
- The IMS Configuration Manager plug-in for IBM Explorer for z/OS (z/OS Explorer) provides a graphical user interface (GUI) to some of the functions provided by the IMS Configuration Manager ISPF dialog. The plug-in communicates with IMS Configuration Manager via IBM Functional Support Library Server, which is supplied with IBM Tools Base for z/OS (Tools Base).

Related reference:
Chapter 21, “Understanding the result of the discovery process,” on page 261
Results of the IMS Configuration Manager autodiscovery process are summarized in the log.

“Example JCL for autodiscovery” on page 257
This JCL uses the AUTODISCOVER keyword and the IBM Functional Support Library Server to automatically discover IMS components for use in IMS Configuration Manager.

Disabling autodiscovery
Disabling the autodiscovery feature instructs IMS Configuration Manager to stop detecting IMS systems automatically.

Procedure
Customize the server startup job to remove the AUTODISCOVER keyword and any associated parameters.

What to do next
Systems can be manually defined using the ISPF dialog. For more information, see “Defining systems and IMSplexes using the ISPF dialog.”

Defining systems and IMSplexes using the ISPF dialog
You can use the IMS Configuration Manager ISPF dialog to manually define IMSplexes and systems.

Related concepts:
“Defining systems and IMSplexes using autodiscovery” on page 43
IMS Configuration Manager can automatically discover systems and store their PROCLIB configurations using the autodiscovery feature. You can start autodiscovery as a batch command or as an initialization option for the product whilst running under the IBM Functional Support Library Server.

Defining an IMSplex
You can use the IMS Configuration Manager ISPF dialog to manually define an IMSplex.

Before you begin
Create an IMS Configuration Manager repository. See “Creating an IMS Configuration Manager repository” on page 24.

Procedure
1. From the IMS Configuration Manager Primary Menu, select option 1 IMSplexes. The IMSplex panel is displayed.
2. On the command line, enter NEW. The New IMSplex dialog is displayed.
3. Enter a name and description for the new IMSplex definition. If you intend to use the “INSTALL command” on page 245, the name must match the IMSPLEX parameter in the DFSCGxxx member. See “Resource installation with command change packages” on page 96.
4. To finalize the creation of the new IMSplex definition, press the Exit function key (F3).

What to do next

Add member systems to the new IMSplex. See “Defining an IMS system.”

Defining an IMS system

You can use the IMS Configuration Manager ISPF dialog to manually define an IMS system.

Before you begin

If the IMS system belongs to an IMSplex, you must first define that IMSplex. See “Defining an IMSplex” on page 45.

Procedure

1. From the IMS Configuration Manager Primary Menu, select option 2 Systems. The System Member List panel is displayed.
2. On the command line, enter NEW. The New System Member dialog is displayed.
3. Type a name for the system.
5. Complete the form as required. To use command change packages, the IMS system must be part of an IMSplex and you must select BOTH or CMD as the CP Type Allowed. See Chapter 6, “Deploying resources using change packages,” on page 87.
6. To finalize the creation of the new IMS system definition, press the Exit function key (F3).
What to do next

Add resources to your IMS system definitions. See Part 3, “Resource management,” on page 51.

Defining an IMS Connect system

You can use the IMS Configuration Manager ISPF dialog to manually define an IMS Connect system.

About this task

Defining an IMS Connect system allows you to track the initialization parameters and configuration members used, and the IMSplex connections for each IMS Connect system.

Procedure

1. From the IMS Configuration Manager Primary Menu, select option 2 Systems. The System Member List panel is displayed.
2. On the command line, enter NEW. The New System Member dialog is displayed.
3. Type a name for the system. Enter 2 to specify an IMS Connect system and press Enter. The IMS Connect Settings form is displayed.
4. Select an IMS Connect system and press Enter. The IMS Connect Settings form is displayed.
5. Complete the form as required. Specify the names of the IMS Connect and BPE configuration members in the PROCLIB as well as the PROCLIB data set name. If you have IBM IMS Connect Extensions for z/OS installed, you can also specify the host name and port number of the IMS Connect Extensions console. If you want to add this system to an IMSplex, press the Right function key (F11) and complete the relevant fields.

   Figure 10. Creating a new IMS Connect system definition

6. To finalize the creation of the new IMS Connect system definition, press the Exit function key (F3).
Results

If the IMS Connect system belongs to an IMSplex, the name of the IMSplex is displayed in the IMSplex column. If it belongs to more than one plex, a plus sign (+) is displayed followed by the number of IMSplex associations. An empty field in the IMSplex column signifies that the IMS Connect system does not belong to an IMSplex.

Defining a CSL member

You can use the IMS Configuration Manager ISPF dialog to manually define a Common Service Layer (CSL) member.

Procedure

1. From the IMS Configuration Manager Primary Menu, select option 2 Systems. The System Member List panel is displayed.
2. On the command line, enter NEW. The New System Member dialog is displayed.
3. Type a name for the member. Different member types have different name validation rules.

4. Select the type of CSL member you want to create from the list and press Enter. A form corresponding to the system you selected is displayed.

5. Complete the form. Press the Help function key (F1) on any field to see additional information.

6. Press the Exit function key (F3).

Deleting a system or IMSplex

You can use the IMS Configuration Manager ISPF dialog to delete an IMSplex, an IMS system, or an IMS Connect system through the ISPF dialog.

Before you begin

If you are using the autodiscovery feature, any discoverable systems and IMSplexes you delete will be re-added when the IBM Functional Support Library Server is restarted. For more information, see "Defining systems and IMSplexes using autodiscovery" on page 43.

About this task

When an IMS system is deleted, the following items are also deleted:

- All associated change packages
- All system-specific resource groups

Common resource groups are not deleted.

If you want to delete an IMSplex, it must not be referenced by any member systems. This reference can be eliminated by deleting the referenced systems or by moving them to another IMSplex.

Procedure

1. From the IMS Configuration Manager Primary Menu, select option 1 IMSplexes or option 2 Systems.
2. Enter line action D next to the item you want to delete.
3. If Delete Confirmation is enabled in your profile options, press Enter to confirm deletion of the system. See "Setting IMS Configuration Manager ISPF profile options" on page 29.
Part 3. Resource management

IMS Configuration Manager simplifies the process of managing IMS MODBLK resources and allows you to make the transition to dynamic resource definition (DRD). These topics provide an overview of the IMS Configuration Manager resource management features.
Chapter 4. Determining your resource management strategy

IMS Configuration Manager is designed to complement DRD and non-DRD environments. The following topics provide you with guidance on how to integrate the product with these environments.

Resource management with DRD

You can use IMS Configuration Manager with IMS systems that have dynamic resource definition (DRD) enabled, and that store resource definitions either in a resource definition data set (RDDS) or in the IMSRSC repository.

In this scenario, use IMS Configuration Manager’s resource editor and batch commands to create a structured methodology that dynamically introduces changes.

![Diagram showing the transition to IMS Configuration Manager and DRD](image)

**Figure 13. Transitioning to IMS Configuration Manager and DRD**
Setting up IMS with DRD

Set up your IMS systems using one of the following procedures.

Enabling IMS to use DRD with the IMSRSC repository

The IMS resource definition (IMSRSC) repository is a set of VSAM key sequenced data sets (KSDSs) used to store resource (and descriptor) definitions for IMS databases, transactions, programs, and routing codes.

About this task

The IMSRSC repository is an alternative to the resource definition data set (RDDS) that is used with the dynamic resource definition (DRD) function. For more information about the IMSRSC repository, see the IMS documentation on system definition.

Procedure

1. Shut down IMS normally.
2. Ensure your MODBLKS are up to date with the latest changes in your stage 1 source.
3. Import your stage 1 source into IMS Configuration Manager.

   **Note:** See “Importing resource definitions into IMS Configuration Manager” on page 62 for details.

4. Change MODBLKS=OLC to MODBLKS=DYN in either the COMMON_SERVICE_LAYER section of the DFSDFxxx member or in the DFSCGxxx member in the IMS PROCLIB data set.
5. Specify AUTOIMPORT=AUTO or AUTOIMPORT=REPO in the DYNAMIC_RESOURCES section of the DFSDFxxx member of the IMS PROCLIB data set.
6. Specify the TYPE=IMSRSC keyword in the REPOSITORY section of the DFSDFxxx member of the IMS PROCLIB data set.
7. Cold start IMS, specifying DFSDF=xxx in the control region execution parameters, where xxx identifies the suffix of the DFSDFxxx member of the IMS PROCLIB data set that IMS uses for this startup.

   If AUTOIMPORT=AUTO is specified in the DFSDFxxx member, IMS loads the resource definitions from the IMS.MODBLKS data set, if it exists, because the defined repositories are empty and there are no system resource definition data sets (RDDS). The IMS.MODBLKS data set is used only the first time you implement DRD, except for fallback purposes. IMS uses the resource definitions to create the internal control blocks required to manage the resources. If AUTOIMPORT=REPO is specified, IMS cold starts without any resource definitions because the defined IMSRSC repository is empty.
8. When IMS starts, issue the EXPORT DEFN TARGET(REPO) command to export the resource definitions to the IMSRSC repository.

   **Note:** After IMS starts with DRD enabled, you can no longer use the online change process to add, change, or delete database, application program, route code, or transaction resources or resource definitions. Also, because AUTOIMPORT=AUTO or AUTOIMPORT=REPO is specified and the IMSRSC repository is no longer empty, IMS loads its resource and descriptor definitions from the IMSRSC repository the next time that IMS cold starts.
Enabling IMS to use DRD with an RDDS
To enable IMS to use DRD with a resource definition data set (RDDS), configure your systems as follows.

Procedure
1. Shut down IMS normally.
2. Ensure your MODBLKS are up to date with the latest changes in your stage 1 source and then import that stage 1 source into IMS Configuration Manager.
   
   Note: See “Importing resource definitions into IMS Configuration Manager” on page 62 for details.
3. Change MODBLKS=OLC to MODBLKS=DYN in either the COMMON_SERVICE_LAYER section of the DFSDFxxx member or in the DFSCGxxx member in the IMS PROCLIB data set.
   
   Note: For simplified administration, use the MODBLKS= parameter only in DFSDFxxx.
4. Specify AUTOEXPORT=AUTO, AUTOIMPORT=AUTO, and RDDDSN=(rdds1,rdds2,rdds3) in the DYNAMIC_RESOURCES section of the DFSDFxxx member of the IMS PROCLIB data set.
5. Use either the IEBGENER program or the ALLOCATE function of ISPF utilities to allocate the RDDS data sets.
6. Cold start IMS, specifying DFSDF=xxx in the control region execution parameters, where xxx identifies the suffix of the DFSDFxxx member in the IMS PROCLIB data set that IMS uses for this startup.

   Note: IMS loads the resource definitions from the IMS.MODBLKS data set because the defined RDDSs are empty. The IMS.MODBLKS data set is used only the first time you implement DRD, except for fallback purposes. IMS uses the resource definitions to create the internal control blocks needed to manage the resources. When the initial checkpoint is taken, the resource definitions are automatically written out to one of the defined resource definition data sets (RDDS) because AUTOEXPORT=AUTO is specified.

Managing resources when you are already using an RDDS or IMSRSC repository
If your IMS systems are already using DRD and either an RDDS or IMSRSC repository, you must import your resource definitions into an IMS Configuration Manager repository before you can use the IMS Configuration Manager resource editor.

Procedure
To import an RDDS or IMSRSC repository into an IMS Configuration Manager repository:
1. Ensure you have AUTOEXPORT and AUTOIMPORT configured in your DFSDFxxx member.
   
   Note: See “Enabling IMS to use DRD with the IMSRSC repository” on page 54 and “Enabling IMS to use DRD with an RDDS” for details.
2. Perform a take up of your RDDS or IMSRSC repository using the TAKEUP batch command.

Related concepts:
Before you can manage resources using IMS Configuration Manager, you must import your resource definitions into the IMS Configuration Manager repository.

**Using IMS Configuration Manager with DRD**

Updating IMS systems involves creating or modifying resources and resource groups in IMS Configuration Manager, and then using change packages to install the changes.

**Procedure**

1. Introduce the change in the IMS Configuration Manager repository by adding, updating, or deleting the relevant resources and resource groups with the ISPF dialog.
2. Use a change package to incorporate your changes. There are two types of change package:
   - Use a command change package with the INSTALL command to install changes to live systems.
   - Use a generate change package with the GEN command to build an RDDS of the entire system image. If you are using an IMSRSC repository, IMPORT the RDDS into your IMS system, then EXPORT to your IMSRSC repository.

   **Note:** An RDDS created by IMS Configuration Manager is a “non-system” RDDS. For more information, see the IMS documentation on RDDS.

**Results**

If you are using AUTOEXPORT these changes will be exported into an RDDS at the next system checkpoint and will be available on the next cold or warm start.

**Important:** AUTOEXPORT takes place at the next system checkpoint. If a system checkpoint has not been taken and the system abends, either the IMPORT needs to be repeated or the resource changes recovered from the IMS log.

**Related concepts:**

- Chapter 5, “Managing resources with IMS Configuration Manager,” on page 61
  The IMS Configuration Manager repository contains your system and resource definitions. To manage resources with IMS Configuration Manager, use the IMS Configuration Manager ISPF dialog and the IMS Configuration Manager batch utility.
- Chapter 6, “Deploying resources using change packages,” on page 87
  Resources stored in the IMS Configuration Manager repository are deployed to IMS systems using change packages.
- Chapter 7, “Creating automated and repeatable update processes,” on page 105
  IMS Configuration Manager provides you with the ability to create automated and repeatable system update processes by combining several batch commands in one run.

**Resource management with DRD and MODBLKS**

IMS Configuration Manager can be used with DRD and with MODBLKS in a hybrid model. This option is appropriate if you want to continue using stage 1 source for some applications while introducing new applications in a more dynamic way without a system cold start.
Setting up IMS with DRD, an RDDS, and MODBLKS

To use IMS Configuration Manager with DRD, an RDDS, and MODBLKS, you must first configure your IMS systems.

Procedure

1. Shut down IMS normally.
2. Ensure your MODBLKS are up to date with the latest changes in your stage 1 source and then import that stage 1 source into IMS Configuration Manager.
   
   **Note:** See “Importing resource definitions into IMS Configuration Manager” on page 62 for details.
3. Change MODBLKS=OLC to MODBLKS=DYN in either the COMMON_SERVICE_LAYER section of the DFSDFxxx member or in the DFSGxxx member in the IMS PROCLIB data set.
   
   **Note:** For simplified administration, use the MODBLKS= parameter only in DFSDFxxx.
4. Specify AUTOEXPORT=AUTO, AUTOIMPORT=MODBLKS, and RDDSDSN=(rdds1,rdds2,rdds3) in the DYNAMIC_RESOURCES section of the DFSDFxxx member of the IMS PROCLIB data set.
5. Use either the IEBGENER program or the ALLOCATE function of ISPF utilities to allocate the RDDS data sets.
6. Cold start IMS, specifying DFSDF=xxx in the control region execution parameters, where xxx identifies the suffix of the DFSDFxxx member in the IMS PROCLIB data set that IMS uses for this startup.
   
   **Note:** IMS loads the resource definitions from the IMS.MODBLKS data set. The IMS.MODBLKS data set is used on every cold start and an RDDS provides a backup of all changes performed using IMS Configuration Manager. When the initial checkpoint is taken, the resource definitions are automatically written out to one of the defined resource definition data sets (RDDS) because AUTOEXPORT=AUTO is specified.

Using IMS Configuration Manager with DRD and MODBLKS

You can use IMS Configuration Manager in a hybrid model: with both DRD and MODBLKS.

About this task

In this scenario, IMS Configuration Manager augments your MODBLKS-based resource definitions with IMS Configuration Manager repository-based resource definitions. If your IMS systems use DRD and the MODBLKS data set, use the IMS Configuration Manager’s ISPF dialog to edit new resources stored in IMS Configuration Manager repository whilst continuing to use MODBLKS.

The following figure illustrates this relationship:
Procedure

1. Create and maintain resource definitions for dynamically-introduced applications in IMS Configuration Manager.

2. Use IMS Configuration Manager to create either type of change package:
   a. Use a command change package to install updates to the live IMS system dynamically.
   b. Use a generate change package to create stage 1 macros.

Related concepts:

- Chapter 5, “Managing resources with IMS Configuration Manager,” on page 61
  The IMS Configuration Manager repository contains your system and resource definitions. To manage resources with IMS Configuration Manager, use the IMS Configuration Manager ISPF dialog and the IMS Configuration Manager batch utility.

- Chapter 6, “Deploying resources using change packages,” on page 87
  Resources stored in the IMS Configuration Manager repository are deployed to IMS systems using change packages.

- Chapter 7, “Creating automated and repeatable update processes,” on page 105
  IMS Configuration Manager provides you with the ability to create automated and repeatable system update processes by combining several batch commands in one run.

Resource management without DRD

IMS Configuration Manager can be used with IMS systems that do not have Dynamic Resource Definition (DRD) enabled. To use IMS Configuration Manager without DRD, you do not need to alter your system configuration.
Using IMS Configuration Manager without DRD

In this scenario, use IMS Configuration Manager’s resource editor and GEN command to generate stage 1 macro statements for MODBLK-based resource definitions.

Before you begin

Stage 1 output from IMS Configuration Manager does not contain everything needed to perform a SYSGEN. Save your IMSCTRL and IMSGEN macros, together with any non-resource-related macros before proceeding.

Procedure

1. Import your stage 1 source into IMS Configuration Manager using the TAKEUP command.
2. Add, update, and delete resource definitions stored in the IMS Configuration Manager repository using the IMS Configuration Manager ISPF dialog.
3. Bundle a system image using a generate change package.
4. Before any new IMSGENs, create stage 1 source using the GEN command. To ensure that your stage 1 macro works as expected, take care to concatenate the required IMSGEN macros in the appropriate order.

Figure 15. Using IMS Configuration Manager without DRD

Related concepts:
- “Importing resource definitions into IMS Configuration Manager” on page 62
Before you can manage resources using IMS Configuration Manager, you must import your resource definitions into the IMS Configuration Manager repository.
- “Managing resources using the ISPF dialog” on page 67
You can use IMS Configuration Manager to manually manage the resources defined inside your IMS Configuration Manager repository using the ISPF dialog.

Related tasks:
- “Creating a change package using the ISPF dialog” on page 89
You can use the IMS Configuration Manager ISPF dialog to bundle your resource changes into a change package.
Use the IMS Configuration Manager ISPF dialog to create JCL that generates stage 1 source or an RDDS from a generate change package.

Related reference:

“Example JCL for generating stage 1 source” on page 222
This JCL generates stage 1 source from all resource groups assigned to a system using the GEN batch command. For another example, see GPLGEN in SGPLSAMP.
Chapter 5. Managing resources with IMS Configuration Manager

The IMS Configuration Manager repository contains your system and resource definitions. To manage resources with IMS Configuration Manager, use the IMS Configuration Manager ISPF dialog and the IMS Configuration Manager batch utility.

You can use the IMS Configuration Manager ISPF dialog to manage resources in the following ways:
- Create and edit resources stored in the IMS Configuration Manager repository.
- Package resource changes into change packages.
- Generate JCL that runs the batch utility.

The IMS Configuration Manager batch utility contains the following tools:
- Automatically discover and define IMSplexes, IMS systems, IMS Connect systems, together with Open Database Manager (ODBM), Repository Server (RS), Operations Manager (OM), Resource Manager (RM), and Structured Call Interface (SCI) components into the specified IMS Configuration Manager repository.
- Take up (import) resource definitions from stage 1 source, an RDDS, or an IMSRSC repository.
- Compare two resource groups and create or update a change package with the differences.
- Install resources stored in the IMS Configuration Manager repository to live systems.
- Perform a backout of an installed change package.
- Generate stage 1 source or an RDDS from a change package.
- Copy resource groups from one IMS Configuration Manager repository to another.

Related concepts:
- Chapter 6, “Deploying resources using change packages,” on page 87

Resources stored in the IMS Configuration Manager repository are deployed to IMS systems using change packages.

Related tasks:
- “Using IMS Configuration Manager with DRD” on page 56
  Updating IMS systems involves creating or modifying resources and resource groups in IMS Configuration Manager, and then using change packages to install the changes.
- “Using IMS Configuration Manager with DRD and MODBLKS” on page 57
  You can use IMS Configuration Manager in a hybrid model: with both DRD and MODBLKS.

Resource groups

Resource groups help to identify resources that are related to each other. A resource group can contain any number of resources of any supported type. Every resource must belong to a resource group.
If you have used stage 1 source, you might have used PDS members to logically separate groups of resources. A resource group provides you with similar capability. The following figure illustrates the function of resource groups.

There are two types of resource group:

**Common**
A *common* resource group can be associated with multiple systems.

**System-level**
A *system-level* resource group is a resource group that can only belong to one system. A system-level resource group can be used to override resources defined in a common resource group.

When you associate a resource group with an IMS system, you are specifying to IMS Configuration Manager that the resources within the resource group can be deployed to that system, and any other systems with which the resource group is associated.

**Related concepts:**
“Retaining the logical organization of your resource definitions” on page 64

There are several methods for retaining the logical organization of your resource definitions when performing a TAKEUP into an IMS Configuration Manager repository.

**Importing resource definitions into IMS Configuration Manager**

Before you can manage resources using IMS Configuration Manager, you must import your resource definitions into the IMS Configuration Manager repository.

**Related concepts:**
“Automated updated processes” on page 105

Using the IMS Configuration Manager batch utility, it is possible to create JCL that can automate your system update process.

**Related tasks:**
Managing resources when you are already using an RDDS or IMSRSC repository

If your IMS systems are already using DRD and either an RDDS or IMSRSC repository, you must import your resource definitions into an IMS Configuration Manager repository before you can use the IMS Configuration Manager resource editor.

Using IMS Configuration Manager without DRD

In this scenario, use IMS Configuration Manager's resource editor and GEN command to generate stage 1 macro statements for MODBLK-based resource definitions.

Importing resources using the DISCOVER command

Import resource definitions from live systems into the IMS Configuration Manager repository using the DISCOVER command.

About this task

This procedure performs a system autodiscovery before resources are imported into the IMS Configuration Manager repository. If you want to import resources without discovering systems, see "Importing resources using TAKEUP."

Procedure

Run the "DISCOVER command" on page 241, specifying the RESOURCES keyword. Results are stored in the specified IMS Configuration Manager repository.

Related tasks:

"Discovering systems using the DISCOVER batch command" on page 43
The DISCOVER batch command discovers IMS systems, IMS Connect systems, and IMSplex components, and updates the IMS Configuration Manager repository with the definitions.

Related reference:

"Example JCL for discovery and resource take up" on page 216
This JCL uses the DISCOVER batch command to automatically discover IMS systems and to take up resources associated with those systems.

Importing resources using TAKEUP

Import resource definitions into an IMS Configuration Manager repository from stage 1 source, an RDDS, or an IMSRSC repository using the TAKEUP batch command.

Before you begin

- Create an IMS Configuration Manager repository. See "Creating an IMS Configuration Manager repository" on page 24.
- Determine your resource management strategy. It is important that you understand how you will use IMS Configuration Manager before performing a TAKEUP. See "Determining your resource management strategy," on page 53.
- If you are importing stage 1 source, determine how resources should be assigned to resource groups. Depending on your choice, you might need to edit your stage 1 source. See "Retaining the logical organization of your resource definitions" on page 64.
About this task

IMS Configuration Manager repositories do not store IMS macros that do not relate to application resources. It is the user’s responsibility to maintain these macros outside of IMS Configuration Manager if they are required.

Procedure

1. Run the IMS Configuration Manager [TAKEUP command](#) on page 248. Depending on your import strategy, you might need to execute the command several times.
2. From the IMS Configuration Manager Primary Menu, select option 3 Resources to display a list of resources imported into the IMS Configuration Manager repository.

What to do next

Review the results of the TAKEUP command in the SYSPRINT output data set. Note the return code (RC) and see the ASMPRINT log for additional information if required.

Tip: To quickly find reported errors, page down to the bottom of the ASMPRINT data set and enter FIND 'MNOTE' PREV. Errors are also marked with asterisks. For example: ASMA254I *** MNOTE *** 1147+ 2,ERROR - GPSB REQUIRES LANG.

Related tasks:

“Creating resource groups” on page 68
You can use the IMS Configuration Manager ISPF dialog to manually define a new resource group. Resource groups created using the ISPF dialog are stored in the IMS Configuration Manager repository.

Related reference:

“Example JCL for performing a take-up of stage 1 source” on page 218
This JCL example shows how to use the TAKEUP command with stage 1 source. For another example, see GPLTAKUP in SGPLSAMP.

“Example JCL for performing a take-up of an RDDS” on page 218
This JCL example shows how to use the TAKEUP command with an RDDS.

“Example JCL for performing a take-up of an IMSRSC repository” on page 217
This JCL example shows how to use the TAKEUP command with an IMSRSC repository.

Retaining the logical organization of your resource definitions

There are several methods for retaining the logical organization of your resource definitions when performing a TAKEUP into an IMS Configuration Manager repository.

Related concepts:

“Resource groups” on page 61
Resource groups help to identify resources that are related to each other. A resource group can contain any number of resources of any supported type. Every resource must belong to a resource group.

Specifying resource groupings by using filtering criteria

The TAKEUP command supports filtering of the input with the INCLUDE parameter. This parameter specifies that only resources matching a particular type or name mask will be taken up.
By specifying multiple TAKEUP commands you can assign resources to different resource groups based on the name mask. This option is appropriate when your organization follows strict naming conventions for resource definitions.

If resource groups of the same name already exist in the IMS Configuration Manager repository, error message "GPL6103E" on page 169 is issued. To avoid this message, ensure that the resource group names do not already exist in the repository, or use the REPLACE parameter to overwrite them.

The following commands create three resource groups. Each resource group contains resources with specific name attributes.

```
TAKEUP FROM(STAGE1, INPUT) TO(REPOSITORY, OUTREPOS) +
   RG(Banking,'Banking application definitions') +
   INCLUDE(TRAN(B*), DB(B*), PGM(B*))
TAKEUP FROM(STAGE1, INPUT) TO(REPOSITORY, OUTREPOS) +
   RG(Payroll,'Payroll application definitions') +
   INCLUDE(TRAN(P*), DB(P*), PGM(P*))
TAKEUP FROM(STAGE1, INPUT) TO(REPOSITORY, OUTREPOS) +
   RG(Common,'Common transactions and programs') +
   INCLUDE(TRAN(C*00%), PGM(C*00%))
```

**Related reference:** 
"TAKEUP command" on page 248

Imports resources from the IMSRSC repository, an RDDS, or stage 1 source to the IMS Configuration Manager repository. The command can also associate systems with resource groups during the take up.

**Specifying resource groupings in stage 1 source with macro statements**

You can specify resource groupings in your stage 1 source by inserting macro statements before you perform a take-up. These macros are used with the RG and DEFRGLVL parameters of the TAKEUP command.

You can insert the following macros into your stage 1 source:

**RG and RGS**

The RG and RGS stage 1 macros signal that all the resource definitions that follow in the stage 1 source belong to the specified resource group.

The RG macro defines the start of a common resource group.

The RGS macro defines the start of a system-level resource group.

When you import your stage 1 source into the IMS Configuration Manager repository, the TAKEUP command interprets these RG and RGS macros and organizes your resource groups accordingly.

**Note:** The TAKEUP command also has a parameter named R6, distinct from the stage 1 RG macro. The R6 parameter of the TAKEUP command provides a default resource group name if none is provided by the RG stage 1 macro. This is known as the primary resource group. The DEFRGLVL parameter of the TAKEUP command allows you to specify whether this default resource group is a common resource group or a system-level resource group.

In the following example, transactions T1, T2, T5, and T6 are automatically inserted into common resource group RG0. Transactions T3 and T4 are
inserted into common resource group RG1. If either resource group does not yet exist it is automatically created in the IMS Configuration Manager repository on take-up.

RG RG0,'Description of RG0'
TRANSACT CODE=T1
TRANSACT CODE=T2

RG RG1,'Description of RG1'
TRANSACT CODE=T3
TRANSACT CODE=T4

RG RG0 .Continuation of RG0
TRANSACT CODE=T5
TRANSACT CODE=T6

END

If you store logically related resources in separate PDS members and use COPY statements, you can insert the macros before each COPY invocation:

RG RG0,'Description of RG0'
COPY ...
RG RG1,'Description of RG1'
COPY ...
END

If you are taking up resources from a very large stage 1 resource, split it across multiple resource groups.

By default, the TAKEUP command begins processing the first stage 1 macro and adds it to the resource group named in the RG keyword on the control statement.

RGOFF

Instructs the TAKEUP command to stop processing resources in your stage 1 source.

The RGOFF macro is useful if your stage 1 source contains resources that you do not want to take up into the IMS Configuration Manager repository. Resources found after the RGOFF macro statement, but before another RG or RGS macro, will not be processed. Use RGOFF to specify the end of a resource group or to otherwise ignore specific resources within your stage 1 source.

Note: RG, RGS, and RGOFF macros can only be used in stage 1 source. They cannot be used in the take-up of an RDDS or IMSRSC repository.

Scenarios

The following list describes several scenarios with strategies for achieving a successful stage 1 take-up.

Scenario: All your IMS systems share the same resources

Simple strategy

Store your definitions in a single common resource group.
Associate the resource group with one or more of your IMS systems.

Use the TAKEUP command with the RG, DEFRGLVL(COMMON), and ASSOCIATE parameters.
You do not need to modify your stage 1 source.

**Advanced strategy**

Store your definitions in multiple common resource groups to create logical partitions. Associate the resource groups with one or more of your IMS systems.

1. Add RGS macro commands to your stage 1 source at the location of each new common resource group. Resources will be added to that group until the TAKEUP command finds another RGS macro, an RGOFF macro, or an RGOFF macro.

2. Use the TAKEUP command, specifying the following information:
   - The name of the primary resource group, using the RG parameter.
   - That the resource group is a common resource group, using the DEFRGLVL(COMMON) parameter.
   - An association between the common resource group and one or more IMS systems using the ASSOCIATE parameter.

**Scenario:** Each system has its own set of resources and resource configurations

Store your definitions in multiple common and system-level resource groups. Associate the resource groups with one or more of your IMS systems.

1. Add RGS macro commands to your stage 1 source at the location of each new system-level resource group, and RG macro commands at the location of each new common resource group. Resources will be added to each group until the TAKEUP command finds another RG macro, an RGS macro, or an RGOFF macro.

2. Use the TAKEUP command, specifying the following information:
   - The name of the primary resource group, using the RG parameter.
   - Whether the primary resource group is a common resource group or a system-level resource group using the DEFRGLVL parameter.
   - If the primary resource group is a common resource group, associate it with one or more IMS systems using the ASSOCIATE parameter.
   - If the primary resource group is a system-level resource group, associate it with an IMS system using the IMSID parameter.

**Note:** If no resource group name is specified by a RG stage 1 macro, the TAKEUP command uses the name defined by the RG parameter passed to the TAKEUP command.

**Related reference:**

“Taking up stage 1 source” on page 254

Take up resources from stage 1 source using the TAKEUP command and the FROM(STAGE1,ddname) option. The TAKEUP command supports source for IMS V9 onward.

---

**Managing resources using the ISPF dialog**

You can use IMS Configuration Manager to manually manage the resources defined inside your IMS Configuration Manager repository using the ISPF dialog.

**Related tasks:**

---
Creating resource groups

You can use the IMS Configuration Manager ISPF dialog to manually define a new resource group. Resource groups created using the ISPF dialog are stored in the IMS Configuration Manager repository.

Before you begin

- If you want to import resources and resource groups instead of creating them manually, see “Importing resource definitions into IMS Configuration Manager” on page 62.
- If you want to migrate resources from one repository to another, see “Copying and migrating resource groups using the COPY command” on page 83.

Procedure

1. From the IMS Configuration Manager Primary Menu, select option 3 Resources. The Resource Groups panel is displayed.
2. On the command line, enter NEW name where name is the name of your new resource group. The New Resource Group panel is displayed with the chosen name.

```
New Resource Group

Press PF3 to create the resource group, PF12 to cancel

Name . . . . BILLING
IMSID . . . . +
Description .

- Add resources via Takeup
  - Input type . . . . 1. Stage 1 macros
    2. RDDS
  - Input file . . .
  - User macro file(s)

- Create notes from comments (stage 1 only)

Figure 17. Defining a new resource group named BILLING.
```

3. To create a system-level resource group, enter an IMS system identifier in the IMSID field, or press the Prompt function key (F4) to see a list of options. To create a common resource group, do not assign a value to the IMSID field. To learn more about system-level and common resource groups, see “Resource groups” on page 61.
4. To automatically add resources using the “TAKEUP command” on page 248, select Add resources via Takeup and complete the relevant fields. The macro
file list must contain the SGPLSAMP library, plus any libraries containing
COPY members referenced by the stage 1 input.

5. To create the new resource group, press the Exit function key (F3). If Add
resources via Takeup was selected, JCL to perform the take-up is displayed.

Important: If you want to submit the JCL generated by the ISPF dialog, be sure
to populate your profile JCL information. See "Setting IMS Configuration
Manager ISPF profile options" on page 29 for details.

Tip: To add additional commands, save the commands generated by the ISPF
dialog to an external file. See Chapter 7, “Creating automated and repeatable
update processes,” on page 105.

Results

<table>
<thead>
<tr>
<th>Command ==&gt;</th>
<th>Resource Groups</th>
<th>Row 1 of 5 More: &lt;=</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter NEW to create a new Resource Group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource Group</td>
<td>IMS</td>
<td>Created</td>
</tr>
<tr>
<td>/ *</td>
<td>*</td>
<td>=*</td>
</tr>
<tr>
<td>BILLING</td>
<td>2013-08-16</td>
<td>2013-08-16</td>
</tr>
<tr>
<td>BILLING</td>
<td>IYYY</td>
<td>2013-08-16</td>
</tr>
<tr>
<td>PAYROLL</td>
<td>IZZZ</td>
<td>2013-08-16</td>
</tr>
<tr>
<td>PAYROLL</td>
<td>2013-08-16</td>
<td>2013-08-16</td>
</tr>
</tbody>
</table>

Figure 18. A list of resource groups created in IMS Configuration Manager. An entry in the
IMS column indicates a “system-level” resource group. Common resource groups have no
IMS entry.

Related tasks:
“Adding resources to a resource group”
You can use the IMS Configuration Manager ISPF dialog to manually add a
resource to a resource groups.

“Importing resources using TAKEUP” on page 63
Import resource definitions into an IMS Configuration Manager repository from
stage 1 source, an RDDS, or an IMSRSC repository using the TAKEUP batch
command.

Adding resources to a resource group
You can use the IMS Configuration Manager ISPF dialog to manually add a
resource to a resource groups.

Before you begin
• If you want to import resources and resource groups instead of creating them
manually, see “Importing resource definitions into IMS Configuration Manager”
on page 62. After you have imported your definitions, use the procedure in this
section to add additional resource definitions.
• If you have not yet defined a resource group, see “Creating resource groups” on
page 68.
Procedure

1. From the IMS Configuration Manager Primary Menu, select option 3 Resources. The Resource Groups panel is displayed.

2. To add resources, enter line action S next to the resource group. The Resources panel is displayed, showing a list of resources (if any) assigned to the selected resource group.

3. On the command line, enter NEW. The New Resource panel is displayed.

4. Enter a Resource Name and a Resource Type for the new resource. When complete, press Enter to create the new resource. A panel is displayed that contains attributes relevant to the chosen resource type.
5. Enter a description for your resource, and define it using the attributes provided. Notes can be added to the resource using the Notes point-and-shoot field.

6. To create the new resource and assign it to the resource group, press the Exit function key (F3).

Results

Additional actions you can perform on the Resources panel:

- Create a new resource with the same attributes as an existing resource by entering line action N next to the resource you want to model.
- To update an existing resource, enter line action E next to the resource.

Related tasks:
Creating resource groups on page 68
You can use the IMS Configuration Manager ISPF dialog to manually define a new resource group. Resource groups created using the ISPF dialog are stored in the IMS Configuration Manager repository.

Associating common resource groups with IMS systems on page 75
You can use the IMS Configuration Manager ISPF dialog to associate common resource groups with IMS systems.

Using the resource filter when viewing a Resource Group
When the number of resource definitions in a resource group grows, you might want to filter which resources appear in the resource group list. You can filter resources by common criteria, such as type, name, user ID or you can filter resources based on the value of any of their type-specific attributes by first filtering by type.

Procedure
1. From the IMS Configuration Manager Primary Menu, select option 3 Resources. The Resource Groups panel is displayed.
2. Enter line action S next to the resource group you want to browse. The Resources panel is displayed.

   File   Help
   EDIT   Resources                    Row 1 of 6 More: <>
   Command ====>     Scroll ====> PAGE
   Enter NEW to create a new resource

   Resource Group . : BILL
   IMSID . . . . : ICXX Version . . : 13.1
   Description . . Billing

   Name Prompt Type D Created Changed ID
   / * * =* =* *
   — DB   DB   N 2013-08-16 2013-08-16 15.48.47 USR
   — NEWDB DB   N 2013-08-23 2013-08-23 10.41.10 USR
   — PGM   PGM N 2013-08-16 2013-08-16 15.48.57 USR
   — TRAN   TRN N 2013-08-16 2013-08-16 15.49.24 USR
   — TRAN2 TRN N 2013-08-23 2013-08-23 10.36.39 USR
   — TRAN3 TRN N 2013-08-23 2013-08-23 10.36.39 USR

   ******************************************* Bottom of data *******************************************

   Figure 23. The Resources panel

3. Enter one or more filtering criteria below the column headings. For example:
   - To view all resource definitions containing the letters DB in the name, enter *DB* below the Name column and press Enter.

   File   Help
   EDIT   Resources                    Row 1 of 6 More: <>
   Command ====>     Scroll ====> PAGE
   Enter NEW to create a new resource

   Resource Group . : BILL
   IMSID . . . . : ICXX Version . . : 13.1
   Description . . Billing

   Name Prompt Type D Created Changed ID
   / * * =* =* *
   — *DB*   DB   N 2013-08-16 2013-08-16 15.48.47 USR
   — NEWDB DB   N 2013-08-23 2013-08-23 10.41.10 USR

   ******************************************* Bottom of data *******************************************

   Figure 24. Filtering resource definitions by Name

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To view only those resource definitions created on a particular date, enter the
date below the Created column and press Enter.

Tip: Substitute the equal sign (=) in the preceding example with a less than
(>) or greater than (>) symbol to display entries before or after a particular
date and time. Combine the date with an asterisk (*) in the Changed column
(for example, >2013-01-01*) to display all resources changed at any time after
a particular date.

4. To filter resources by their type-specific attributes:
   a. Enter a resource definition type in the Type column so that only resource
definitions of a particular type are displayed.
   b. Press the Scroll function key (F11) until the type-specific attribute columns
      are displayed.
   c. Enter your filter criteria below each column heading.

Adding notes (annotations) to resource definitions and
resource groups
You can use the IMS Configuration Manager ISPF dialog to add notes to individual
resource definitions and resource groups.

Before you begin

You can also import notes from stage 1 source using the "TAKEUP command" on
page 248.
About this task

Notes describe the resource definition. Notes are extracted as comments when using the "GEN command" on page 243.

Procedure

1. From the IMS Configuration Manager Primary Menu, select option 3 Resources. The Resource Groups panel is displayed.
2. Use line action S to navigate through the ISPF dialog until you find the resource or resource group you are interested in.
3. Place your cursor on the Notes point-and-shoot field and press Enter.
4. Type a description for the resource or resource group.
5. Press the Exit function key (F3) to save and exit.

   Important: Ensure that you save the definition before exiting. If you cancel, the notes will not be saved.

Copying resource groups

You can use the IMS Configuration Manager ISPF dialog to copy a resource group.

Procedure

1. From the IMS Configuration Manager Primary Menu, select option 3 Resources. The Resource Groups panel is displayed.
2. To copy a resource group, enter line action C next to the resource group. The Copy Resource Group panel is displayed.
3. Enter a Name and a Description for the new resource group. When complete, press the Exit function key (F3) to copy the resource group.
Related tasks:
- "Copying and migrating resource groups using the COPY command" on page 83

Copy resource groups within an IMS Configuration Manager repository, or from one IMS Configuration Manager repository to another using the COPY command.

**Associating common resource groups with IMS systems**

You can use the IMS Configuration Manager ISPF dialog to associate common resource groups with IMS systems.

**About this task**

Only common resource groups are manually associated with IMS systems. A system-level resource group is automatically associated with the IMS system to which it is assigned. See “Resource groups” on page 61.

**Procedure**

1. From the IMS Configuration Manager Primary Menu, select option 2 Systems. The IMS Systems List panel is displayed.
2. Enter line action S next to the system to which you want to add the common resource group. The IMS System panel is displayed.
3. Select option 2 Resources. The IMS System Resource Groups panel is displayed.
4. On the command line, enter ADD to add an existing common resource group to the system. A list of common resource groups is displayed.
5. Enter line action S next to each common resource group you want to add.
6. Press the Exit function key (F3) to create the association. The resource groups you added appear in the list.

**Related tasks:**
- "Adding resources to a resource group" on page 69
  You can use the IMS Configuration Manager ISPF dialog to manually add a resource to a resource groups.
- "Viewing system resources" on page 142
  The IMS Configuration Manager Eclipse plug-in allows you to list resources for individual systems or IMSplexes.
Disassociating common resource groups from IMS systems

You can use the IMS Configuration Manager ISPF dialog to disassociate common resource groups from IMS systems.

About this task

- Disassociating a common resource group from an IMS system deletes all resources contained within the group from that system.
- Only common resource groups are manually disassociated from IMS systems. A system-level resource group must be deleted to remove its association from a system. See “Deleting resource groups” on page 81.

Procedure

1. From the IMS Configuration Manager Primary Menu, select option 2 Systems. The IMS Systems List panel is displayed.
2. Enter line action S next to the system to which you want to remove the common resource group association. The IMS System panel is displayed.
3. Select option 2 Resources. The IMS System Resource Groups panel is displayed.
4. Enter line action D next to the common resource group you want to disassociate. If Delete Confirmation is enabled in your profile options, press Enter again to confirm the disassociation of the resource group. See “Setting IMS Configuration Manager ISPF profile options” on page 29.
5. If you are disassociating a common resource group that is associated with one or more systems that supports command change packages, the Resource Group Deletion Request panel is displayed. This panel allows you to add resource deletion commands to a change package which, when installed, will delete the resources in that resource group from your live IMS system. Press Enter to add resource deletion commands to a command change package.
Important: Even if you do not add the deleted resources to a change package, they are still deleted from the IMS Configuration Manager repository. The resource remains on your live systems but it is no longer displayed by IMS Configuration Manager. Consider your resource management strategy carefully before choosing this option.

6. Enter a change package option for each affected system. Press the Help function key (F1) for additional information.

7. Press the Exit function key (F3).

What to do next

If you added the resource deletions to a command change package, install the new change package to delete the resources from the target IMS system. Until you install the change package, the resources are only deleted from the IMS Configuration Manager repository.

Related tasks:
“Associating common resource groups with IMS systems” on page 75
You can use the IMS Configuration Manager ISPF dialog to associate common resource groups with IMS systems.

“Scheduling a command change package for installation” on page 97
After a command change package has been created and defined, it is ready to be installed. Use the IMS Configuration Manager ISPF dialog to generate and submit JCL immediately, or to schedule the job for later.

Deleting resources

You can use the IMS Configuration Manager ISPF dialog to delete resources from the IMS Configuration Manager repository.

Related tasks:
“Setting IMS Configuration Manager ISPF profile options” on page 29
The IMS Configuration Manager profile allows you to set options such as whether to have a delete confirmation, and what job statement information to use when generating JCL from the dialog.

Deleting resources via the systems view

Use the systems view to delete a resource from a system stored in your IMS Configuration Manager repository.

About this task

If a resource is in both a system-level resource group and a common resource group, IMS Configuration Manager deletes the resource in the system-level resource group, but leaves the resource in the common resource group in place. Deleting a system-level resource removes the overrides specific for that system.

Procedure

1. From the IMS Configuration Manager Primary Menu, select option 2 Systems. The IMS Systems List panel is displayed.

2. Enter line action S next to the system from which you want to delete a resource. The IMS System panel is displayed.

3. Select option 2 Resources. The IMS System Resource Groups panel is displayed.

4. In the View field, select option 2 All System Resources.
5. Enter line action D next to the resource you want to delete. If Delete Confirmation is enabled in your profile options, press Enter again to confirm deletion of the resource. See “Setting IMS Configuration Manager ISPF profile options” on page 29.

6. If you are deleting a resource that is associated with one or more IMS systems that support command change packages, the Resource Deletion Request panel is displayed. This panel allows you to add a resource deletion command to a change package which, when installed, will delete the resource from your live IMS system. Press Enter to add the resource deletion command to a command change package.

**Important:** Even if you do not add the deleted resource to a change package, it is still deleted from the IMS Configuration Manager repository. The resource remains on your live systems but it is no longer displayed by IMS Configuration Manager. Consider your resource management strategy carefully before choosing this option.

7. Enter a change package option for each affected system. Press the Help function key (F1) for additional information.

8. Press the Exit function key (F3).
What to do next

If you added the resource deletion to a command change package, install the new change package to delete the resource from the target IMS system. Until you install the change package, the resource is only deleted from the IMS Configuration Manager repository.

Related tasks:
"Scheduling a command change package for installation" on page 97

After a command change package has been created and defined, it is ready to be installed. Use the IMS Configuration Manager ISPF dialog to generate and submit JCL immediately, or to schedule the job for later.

Deleting resources via the resources view
Use the resources view to delete a resource from a specific resource group.

Procedure
1. From the IMS Configuration Manager Primary Menu, select option 3 Resources. The Resource Groups panel is displayed.
2. Enter an S next to the resource group from which you want to delete a resource. The Resources panel is displayed.

<table>
<thead>
<tr>
<th>Resource</th>
<th>Prompt</th>
<th>Type</th>
<th>L ID</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB</td>
<td>DB</td>
<td>N</td>
<td>USR</td>
<td></td>
</tr>
<tr>
<td>DBDESCR</td>
<td>Deleted</td>
<td>DB</td>
<td>MYRESOURCEGROUP</td>
<td>C USR</td>
</tr>
<tr>
<td>PRG</td>
<td>PGM</td>
<td>N</td>
<td>MYRESOURCEGROUP</td>
<td>C USR</td>
</tr>
<tr>
<td>PROG1</td>
<td>PGM</td>
<td>N</td>
<td>MYRESOURCEGROUP</td>
<td>C USR</td>
</tr>
</tbody>
</table>

Figure 33. The IMS System Resources panel showing that a resource has been deleted
3. Enter line action D next to the resource you want to delete. If **Delete Confirmation** is enabled in your profile options, press Enter again to confirm deletion of the resource. See “Setting IMS Configuration Manager ISPF profile options” on page 29.

4. If you are deleting a resource that is associated with one or more IMS systems that support **command** change packages, the Resource Deletion Request panel is displayed. This panel allows you to add a resource deletion command to a change package which, when installed, will delete the resource from your live IMS system. Press Enter to add the resource deletion command to a command change package.

**Important:** Even if you do not add the deleted resource to a change package, it is still deleted from the IMS Configuration Manager repository. The resource remains on your live systems but it is no longer displayed by IMS Configuration Manager. Consider your resource management strategy carefully before choosing this option.

5. Enter a change package option for each affected system. Press the Help function key (F1) for additional information.

6. Press the Exit function key (F3).

---

**Figure 34. The Resources panel showing all resources in the selected resource group**

**Figure 35. The Resources panel showing that a resource has been deleted**
What to do next

If you added the resource deletion to a command change package, install the new change package to delete the resource from the target IMS system. Until you install the change package, the resource is only deleted from the IMS Configuration Manager repository.

Related tasks:
- “Scheduling a command change package for installation” on page 97

After a command change package has been created and defined, it is ready to be installed. Use the IMS Configuration Manager ISPF dialog to generate and submit JCL immediately, or to schedule the job for later.

Resources shared between resource groups

When a resource exists in both a system-level resource group and a common resource group of the same name, the result of a deletion depends upon which resource is being deleted.

If the resource in the system-level resource group is deleted, then the deletion is converted to an update using the resource definition in the common resource group.

If the resource in the common resource group is deleted, no delete action takes place for the system having a system-level resource group. IMS Configuration Manager assumes the system-level resource is the active resource.

Tip: Use this technique if you want to delete a resource from all but a select number of systems. Create a system-level resource group for each system you want to preserve, copy the resource to that system-level resource group, and then delete the resource from the common resource group.

To delete the resource completely from a system, the resource must be deleted from both the common and the system-level resource groups. When IMS Configuration Manager determines that the resource has been deleted from both groups, an ISPF panel is displayed, prompting you to add the resource deletion to a new command change package which you can then schedule for installation.

Deleting resource groups

You can use the IMS Configuration Manager ISPF dialog to delete resource groups from the IMS Configuration Manager repository.

Before you begin

If you want to restore deleted resource groups, use an archival repository. See “Copying and migrating resource groups using the COPY command” on page 83.

About this task

Deleting a resource group deletes all resources in the group, and any references from systems to that group.

Procedure

1. From the IMS Configuration Manager Primary Menu, select option 3 Resources.
2. Enter line action **D** next to the resource group you want to delete. If **Delete Confirmation** is enabled in your profile options, press Enter again to confirm deletion of the resource group. See “Setting IMS Configuration Manager ISPF profile options” on page 29.

3. If you are deleting a resource group that is associated with one or more systems that supports command change packages, the Resource Group Deletion Request panel is displayed. This panel allows you to add resource deletion commands to a change package which, when installed, will delete the resources in that resource group from your live IMS system. Press Enter to add resource deletion commands to a command change package.

   **Important:** Even if you do not add the deleted resources to a change package, they are still deleted from the IMS Configuration Manager repository. The resource remains on your live systems but it is no longer displayed by IMS Configuration Manager. Consider your resource management strategy carefully before choosing this option.

4. Enter a change package option for each affected system. Press the Help function key (F1) for additional information.

5. Press the Exit function key (F3).

**What to do next**

If you added the resource deletions to a command change package, install the new change package to delete the resources from the target IMS system. Until you install the change package, the resources are only deleted from the IMS Configuration Manager repository.

**Related tasks:**

“Setting IMS Configuration Manager ISPF profile options” on page 29

The IMS Configuration Manager profile allows you to set options such as whether to have a delete confirmation, and what job statement information to use when generating JCL from the dialog.

“Scheduling a command change package for installation” on page 97

After a command change package has been created and defined, it is ready to be installed. Use the IMS Configuration Manager ISPF dialog to generate and submit JCL immediately, or to schedule the job for later.

**Copying resource groups**

You can use the IMS Configuration Manager ISPF dialog to copy a resource group.

**Procedure**

1. From the IMS Configuration Manager Primary Menu, select option 3 **Resources**. The Resource Groups panel is displayed.

2. To copy a resource group, enter line action **C** next to the resource group. The Copy Resource Group panel is displayed.
3. Enter a Name and a Description for the new resource group. When complete, press the Exit function key (F3) to copy the resource group.

Related tasks:
- "Copying and migrating resource groups using the COPY command"

Copy resource groups within an IMS Configuration Manager repository, or from one IMS Configuration Manager repository to another using the COPY command.

---

**Comparing resource groups**

Use the COMPARE command to compare the contents of two resource groups.

**About this task**

The COMPARE command can only be used on resource groups that are stored in one or more IMS Configuration Manager repositories. See “Importing resource definitions into IMS Configuration Manager” on page 62.

**Procedure**

1. Run the “COMPARE command” on page 226, specifying the names of the resource groups you want to compare.
2. View the results of the comparison in the output data set.

Related tasks:
- “Creating a command change package using the COMPARE command” on page 93

Use the COMPARE command to create a command change package using the differences between two resource groups.

Related reference:
- “COMPARE command” on page 226

The COMPARE command allows you to compare the content of two resource groups. Additional options allow you to create new resource groups and change packages based on the differences.

---

**Copying and migrating resource groups using the COPY command**

Copy resource groups within an IMS Configuration Manager repository, or from one IMS Configuration Manager repository to another using the COPY command.
Before you begin

If your destination IMS Configuration Manager repository does not yet exist, you must first create it. See “Creating an IMS Configuration Manager repository” on page 24.

About this task

The COPY command preserves the associations between resource groups and your IMS system definitions. As such, it allows you to safely copy resource groups within a single repository, to an archive repository, or between a development repository and a production repository.

The COPY command allows you to create a development environment where you can create and test your applications prior to deployment. Use a dedicated IMS system to test an application in your development repository before it is deployed to all systems on the IMSplex. Once your application is ready, use the COPY command to transmit the changes to the resource group to the new repository whilst retaining the associations between systems.

Procedure

1. Run the “COPY command” on page 231, specifying the source and destination IMS Configuration Manager repositories, and the details for any objects you wish to copy.
2. If you have copied resource groups from one repository to another, type the new data set name in the Repository field on the IMS Configuration Manager Primary Menu.

Figure 37. Copying resources from a development repository to a production repository
What to do next

Create a change package from the difference between two resource groups using the COMPARE command on page 226.

Related concepts:

“Security” on page 25
You can restrict access to IMS Configuration Manager by securing your IMS Configuration Manager repository data set, and by using IMS command security.

Related tasks:

“Creating an IMS Configuration Manager repository” on page 24
The first time you use IMS Configuration Manager you must specify an IMS Configuration Manager repository. The IMS Configuration Manager repository is a VSAM key-sequenced data set (KSDS) that contains an inventory of IMS Configuration Manager definitions.

“Copying resource groups” on page 74
You can use the IMS Configuration Manager ISPF dialog to copy a resource group.

“Creating a command change package using the COMPARE command” on page 93
Use the COMPARE command to create a command change package using the differences between two resource groups.

Related reference:

“Example JCL for copying resource groups” on page 223
This JCL copies resource groups from one IMS Configuration Manager repository to another IMS Configuration Manager repository using the COPY batch command. The FROM and TO repositories can be the same repository. For more examples, see GPLCOPY in SGPLSAMP.

“COPY command” on page 231
Copies objects between two IMS Configuration Manager repositories or within a single IMS Configuration Manager repository. Use this command to migrate definitions or to create backups and snapshots of your definitions.

“COMPARE command” on page 226
The COMPARE command allows you to compare the content of two resource groups. Additional options allow you to create new resource groups and change packages based on the differences.
Chapter 6. Deploying resources using change packages

Resources stored in the IMS Configuration Manager repository are deployed to IMS systems using change packages.

**Related concepts:**

- Chapter 5, “Managing resources with IMS Configuration Manager,” on page 61
  The IMS Configuration Manager repository contains your system and resource definitions. To manage resources with IMS Configuration Manager, use the IMS Configuration Manager ISPF dialog and the IMS Configuration Manager batch utility.
- Chapter 7, “Creating automated and repeatable update processes,” on page 105
  IMS Configuration Manager provides you with the ability to create automated and repeatable system update processes by combining several batch commands in one run.
- “Determining the status of a change package” on page 265
  Change packages created in IMS Configuration Manager consist of a status field and a condition field. As you create and install change packages, it is important to understand these fields in order to correctly manage your systems and to understand the lifecycle of a change package.

**Related tasks:**

- “Using IMS Configuration Manager with DRD” on page 56
  Updating IMS systems involves creating or modifying resources and resource groups in IMS Configuration Manager, and then using change packages to install the changes.
- “Using IMS Configuration Manager with DRD and MODBLKS” on page 57
  You can use IMS Configuration Manager in a hybrid model: with both DRD and MODBLKS.
- “Viewing change packages” on page 142
  The IMS Configuration Manager Eclipse plug-in allows you to view a list of change packages.

**Working with change packages**

There are two types of change package: *command* and *generate*.

*Command* change packages contain a selection of resource changes that, when used with the "INSTALL command” on page 245, are installed to live systems using type-2 commands. *Command* change packages can be backed out using the "BACKOUT command” on page 224.
Generate change packages contain an entire system image. Use generate change packages with the "GEN command" on page 243 to generate stage 1 source or an RDDS.

Command change packages and generate change packages are created, edited, and deployed in different ways.

In the following table, the check mark (✓) indicates that the task can be performed on the specified change package.
Table 4. Task that can be performed on each type of change package

<table>
<thead>
<tr>
<th>IMS Configuration Manager task</th>
<th>Command change package</th>
<th>Generate change package</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Creating a change package using the ISPF dialog&quot;</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>&quot;Creating a command change package using the COMPARE command&quot; on page 93</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>&quot;Modifying a command change package using the ISPF dialog&quot; on page 94</td>
<td>✓</td>
<td>See note 1</td>
</tr>
<tr>
<td>&quot;Installing a command change package using the ISPF dialog&quot; on page 95</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>&quot;Backing out a command change package using the ISPF dialog&quot; on page 102</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>&quot;Generating stage 1 or an RDDS from a generate change package using the ISPF dialog&quot; on page 100</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>&quot;Marking a change package as complete using the ISPF dialog&quot; on page 101</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>&quot;Aborting a change package using the ISPF dialog&quot; on page 102</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>&quot;Deleting a change package using the ISPF dialog&quot; on page 103</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

where:

1 If you want to modify the contents of a generate change package, update your resource definitions in the IMS Configuration Manager repository and re-create the generate change package. See Chapter 5, “Managing resources with IMS Configuration Manager,” on page 61.

Related concepts:
Chapter 7, “Creating automated and repeatable update processes,” on page 105

IMS Configuration Manager provides you with the ability to create automated and repeatable system update processes by combining several batch commands in one run.

Related tasks:
"Creating a change package using the ISPF dialog"

You can use the IMS Configuration Manager ISPF dialog to bundle your resource changes into a change package.

Creating a change package

There are a number of ways to create a change package using IMS Configuration Manager.

Creating a change package using the ISPF dialog

You can use the IMS Configuration Manager ISPF dialog to bundle your resource changes into a change package.

Before you begin

If required, finalize any updates to your resource definitions. See Chapter 5, “Managing resources with IMS Configuration Manager,” on page 61.

Procedure

1. From the IMS Configuration Manager Primary Menu, select option 4 Packages. The All Change Packages panel is displayed.
2. Enter the NEW name command where name is the name of your new change package. Surround the name in quotation marks if it contains spaces. The Create System Change Package panel is displayed with the chosen name.

3. Select your target IMS system using the IMSID field.

   Note: Only one change package can be open for a selected system at a time. If you have existing change packages for this system with a status of OPEN, you must close them first by using line action C in order to successfully create the new change package.

4. Select either a command change package, or a generate change package. If you have selected a generate change package, you must also select your required output type.

   Tips:
   - Create a command change package if you want to update your systems MODBLKS using the DRD type-2 command interface. Command change packages are created in the OPEN state, meaning that you can edit and add resources to the change package before it is closed.
   - Generate change packages are created with a status of CLOSED. Generate change packages cannot be edited, but can be re-created if required.

5. To create the new change package, press the Exit function key (F3).

Results

Figure 40. Defining a new change package named MYCHANGEPACKAGE

Figure 41. A new, empty command change package created in IMS Configuration Manager
What to do next

If you have created a command change package, you must add resources. See "Modifying a command change package using the ISPF dialog" on page 94.

Related concepts:
"Working with change packages" on page 87
There are two types of change package: command and generate.

Related tasks:
"Creating a command change package using the COMPARE command" on page 93
Use the COMPARE command to create a command change package using the differences between two resource groups.
"Using IMS Configuration Manager without DRD" on page 59
In this scenario, use IMS Configuration Manager's resource editor and GEN command to generate stage 1 macro statements for MODBLK-based resource definitions.
"Modifying a command change package using the ISPF dialog" on page 94
Use the IMS Configuration Manager ISPF dialog to add resources to a command change package.
"Generating stage 1 or an RDDS from a generate change package using the ISPF dialog" on page 100
Use the IMS Configuration Manager ISPF dialog to create JCL that generates stage 1 source or an RDDS from a generate change package.

Creating change packages for an entire IMSplex
You can use the IMS Configuration Manager ISPF dialog to simultaneously create a new change package for each system in an IMSplex.

Before you begin
If required, finalize any updates to your resource definitions. See Chapter 5, "Managing resources with IMS Configuration Manager," on page 61.

About this task
Change packages created using this method have identical timestamps. Use the SCOPE(*) parameter of the INSTALL command to install these change packages in a single job. See "Scheduling a command change package for installation" on page 97 for details.

Procedure
1. From the IMS Configuration Manager Primary Menu, select option 1 IMSplexes. The IMSplex panel is displayed.
2. Enter line action S next to the IMSplex for which you want to generate change packages. The IMSplex - Member Systems panel is displayed.
3. In the View field, select option 2 Change Packages. The Change Packages - Plex View panel is displayed.
4. Enter the **NEW** command where **name** is the name to give each new change package. Surround the name in quotation marks if it contains spaces. The Create Plex Change Package panel is displayed with the chosen name.

5. Select either command change package, or generate change package. If you have selected generate change package, you must also select your required output type.

**Tips:**

- Create command change packages if you want to update your systems MODBLKS using the DRD type-2 command interface. Command change packages are created in the *OPEN* state, meaning that you can edit and add resources to the change package before it is closed.
- Generate change packages are created with a status of *CLOSED*. Generate change packages cannot be edited, but can be re-created if required.

6. To create the change packages, press the Exit function key (F3).
What to do next

If you have created a command change package, you must add resources. See “Modifying a command change package using the ISPF dialog” on page 94.

Creating a command change package using the COMPARE command

Use the COMPARE command to create a command change package using the differences between two resource groups.

About this task

The COMPARE command can only be used on resource groups that are stored in one or more IMS Configuration Manager repositories. To import resource definitions into a repository, see “Importing resource definitions into IMS Configuration Manager” on page 62. To copy a resource group from a development IMS Configuration Manager repository to a temporary resource group in your production repository, see “Copying and migrating resource groups using the COPY command” on page 83.

Procedure

1. Run the “COMPARE command” on page 226 specifying the names of the resource groups you want to compare, and the name of the command change package you want to create.
2. From the IMS Configuration Manager Primary Menu, select option 4 Packages to display a list of change packages in the IMS Configuration Manager repository. The name you selected is displayed in the list.

Related concepts:

Chapter 7, “Creating automated and repeatable update processes,” on page 105
IMS Configuration Manager provides you with the ability to create automated and repeatable system update processes by combining several batch commands in one run.

Related tasks:

“Comparing resource groups” on page 83
Use the COMPARE command to compare the contents of two resource groups.
Copy resource groups within an IMS Configuration Manager repository, or from one IMS Configuration Manager repository to another using the COPY command.

You can use the IMS Configuration Manager ISPF dialog to bundle your resource changes into a change package.

Related reference:
- "COMPARE command" on page 226
  - The COMPARE command allows you to compare the content of two resource groups. Additional options allow you to create new resource groups and change packages based on the differences.

### Modifying a command change package using the ISPF dialog

Use the IMS Configuration Manager ISPF dialog to add resources to a command change package.

**About this task**
- Only command change packages in the OPEN state can be edited. If your change package is CLOSED and you no longer want your changes, abort the change package. See "Aborting a change package using the ISPF dialog" on page 102.
- Generate change packages cannot be edited, only re-created if required. See "Creating a change package using the ISPF dialog" on page 89.

**Procedure**
1. From the IMS Configuration Manager Primary Menu, select option 4 Packages. The All Change Packages panel is displayed.
2. Enter line action E next to the command change package you want to edit. The Change Package Resources panel is displayed.

![Figure 45. Editing a change package](image)

3. To add resources to the change package, enter the PICK command. The Select Change Package Resources panel is displayed.
4. Select the required resources. A list of resource groups is displayed. To add an entire resource group, use line action S. If you want to view and add individual...
resources (instead of an entire resource group), set the View to 2 and select your resources. When you have finished, press the Exit function key (F3).

Tips:
• When selecting resources, only those resources that need to be updated, created, or deleted on the live IMS system will be used during the resource installation process.
• When viewing individual resources, use the cursor-selection column sort function on the Changed date to sort the most recently changed resources to the top. This will help you find the most likely resources for inclusion.

The resources you selected are displayed in the Change Package Resources panel. Select a field in the list of resources and press the Help function key (F1) for additional information.

5. Enter line action / next to a resource to perform additional actions.

Note: When you delete a resource from the IMS Configuration Manager repository, the ISPF dialog prompts you to add the resource deletion request to a command change package. These deletion requests are displayed in the resources list using a Y in the Del column.

If you no longer want to delete the resource from your live IMS system, remove the resource deletion request from the change package entirely using line action D. If you choose this option, you must re-create the resource in your IMS Configuration Manager repository if you want to keep your repository and your live systems synchronized. See “Adding resources to a resource group” on page 69 and “Deleting resources” on page 77 for additional information.

6. To finish editing the change package, press the Exit function key (F3).

Related tasks:
“Creating a change package using the ISPF dialog” on page 89
You can use the IMS Configuration Manager ISPF dialog to bundle your resource changes into a change package.

“Scheduling a command change package for installation” on page 97
After a command change package has been created and defined, it is ready to be installed. Use the IMS Configuration Manager ISPF dialog to generate and submit JCL immediately, or to schedule the job for later.

Installing a command change package using the ISPF dialog

You can use the IMS Configuration Manager ISPF dialog to install command change packages on live IMS systems.
Resource installation with command change packages

Command change packages are installed using the INSTALL command. The INSTALL command automatically determines which DRD commands are required to create and update resource definitions on your live IMS system.

Resource installation consists of several phases:

System check phase

The INSTALL command dynamically assesses exactly what needs to change in order to add the resources in the group to each of the live IMS systems within the scope of the installation. This involves determining which resources require a CREATE and which require an UPDATE; for those resources that require an UPDATE the command determines exactly which attributes need to change.

![Diagram of resource installation process]

Because the optimal commands are evaluated dynamically, you do not need to be concerned about whether resources in the group exist on the target IMS system or which attributes have changed. IMS Configuration Manager records exactly what changes it made and reports to you what occurs during the installation process.

Installation and conditioning phase

The INSTALL command runs IMS type-2 commands against each IMS system within the scope of the installation. Before installation begins, the IMS systems are placed in a state that allows installation to proceed. As the installation proceeds, the IMS Configuration Manager repository is updated with before and after image records, and other runtime information is captured for future reference.

If the ONFAILURE(CONTINUE) parameter is specified, the INSTALL command attempts to install all resources in the change package despite any installation errors it encounters. This can result in a partially installed change package.

Rollback phase

If the ONFAILURE(ROLLBACK) parameter is specified and an installation error occurs, the INSTALL command will attempt to roll back all successful
changes and revert all systems to their pre-installation states. This involves dynamically evaluating the command set necessary to restore each system to its original image.

**Report phase**

The installation utility writes a report summarizing all install activity. For further details, see “Install/backout report reference” on page 270.

**Tip:** If the report points to installation errors caused by environmental problems, reinstall the change package after the environmental problems are resolved.

Command change packages that have been installed or partially installed can be backed out using the “BACKOUT command” on page 224.

**Scheduling a command change package for installation**

After a command change package has been created and defined, it is ready to be installed. Use the IMS Configuration Manager ISPF dialog to generate and submit JCL immediately, or to schedule the job for later.

**Before you begin**

In order to successfully execute an INSTALL command, your user account must have the IMS authorization to submit a number of type-2 commands on the IMS systems specified by the `SCOPE` parameter. See “IMS command security” on page 25.

**Procedure**

1. From the IMS Configuration Manager Primary Menu, select option 4 Packages. The All Change Packages panel is displayed.
2. If the command change package you want to install is not yet closed, enter line action C next to the package to close it. Press the Enter key again to confirm the closure of the change package.

   **Restriction:** A change package must be closed before it can be scheduled for installation. After a change package is closed, it cannot be reopened, and only its name and description can be edited.
3. Enter line action SCH next to the command change package you want to install. The scheduling panel is displayed.
4. Enter your required scheduling options. Select a field and press the Help function key (F1) for additional information.

5. When you are finished, press the Exit function key (F3). JCL to perform the installation is displayed.

Tips:
- If you want to submit the JCL generated by the ISPF dialog, be sure to populate your profile JCL information. See “Setting IMS Configuration Manager ISPF profile options” on page 29 for details. If you choose not to submit the job immediately, edit your JCL and submit the job outside of IMS Configuration Manager.
- The “INSTALL command” on page 245 includes change package validation which ensures that change packages are installed in the order that they are created. If you want to run a change package outside of this sequence, use the FORCE parameter to override this validation.
- If you want use the INSTALL command to install the most recent change package for the IMSID specified in the SCOPE parameter, use CPDATE($LATEST). In this scenario, only one IMSID may be specified in SCOPE.
- If you want use the INSTALL command to install all change packages for an IMSplex in a single run, change the SCOPE(member-name) parameter to SCOPE(*). When using this option, all the change packages you want to install must have identical timestamps. See “Creating change packages for an entire IMSplex” on page 91 for details.

What to do next

Review the results of the job to verify a successful installation.

Related tasks:
“Disassociating common resource groups from IMS systems” on page 76
You can use the IMS Configuration Manager ISPF dialog to disassociate common resource groups from IMS systems.

“Deleting resources via the systems view” on page 77
Use the systems view to delete a resource from a system stored in your IMS Configuration Manager repository.
Use the resources view to delete a resource from a specific resource group.

You can use the IMS Configuration Manager ISPF dialog to delete resource groups from the IMS Configuration Manager repository.

Use the IMS Configuration Manager ISPF dialog to add resources to a command change package.

A previously installed command change package can be backed out of associated IMS systems if you wish to undo your changes.

**Related reference:**

- **INSTALL command** on page 245
  Installs resources from a command change package into one or more running IMS systems. The INSTALL command generates the required type-2 commands and can roll back commands in the event of a failure.

- **Change package condition codes reference** on page 266
  The condition (Cond) field provides information about the outcome of processing applied to a change package. This condition code is displayed on the All Change Packages panel when you select option 4 **Packages** from the IMS Configuration Manager Primary Menu.

---

**When not all resources can be installed**

For various reasons, the INSTALL function might fail to install all requested resources.

When a failure is detected, the **INSTALL command** attempts to return the affected resource to its pre-installation state.

If there are any failures during installation, IMS Configuration Manager writes message **GPL6004E** to the SYSPRINT DD.

You then need to identify the cause of the error and, depending on the cause, rerun the installation job. During an installation, IMS Configuration Manager only performs the commands that are required. As a result, running the same INSTALL job more than once is unlikely to introduce new errors.

1. Start by examining the SYSPRINT output of the installation job.
2. If the return code of the job is greater than 4, you will need to search for additional error messages in the output. If the failure is the result of a one or more resources not being installed then the return code is set to 8. See Chapter 15, “IMS Configuration Manager messages,” for additional information.
3. Open the REPORT output data set and scroll through the installation report section searching for a non-zero return code (RC).
4. When you have identified a non-zero return code, scroll right if required to get the output and response from the Common Service Layer (CSL). The following example shows a command that failed because of an invalid program name.
   ```sql
   04 CREATE RTC NAME(TRN1R2) SET( INQ(Y) PGM(PGMNAME1) )
   CSL RC=0200000C/00003004
   CSLN024I No requests were successful.
   MBR RC=00000008/00002123
   Invalid program name
   ```
5. When you have identified the cause of the error, correct it and rerun the job.
Tip: To ensure that all valid resource updates are done, use the 
ONFAILURE(CONTINUE) parameter with your INSTALL command. Any 
remaining errors can be resolved in a new change package. Recall that after a 
change package is closed, it cannot be edited. If you need to install change 
packages out of sequence to resolve this issue, use the FORCE parameter to 
override change package validation.

Related reference:
Chapter 23, “Interpreting INSTALL and BACKOUT reports,” on page 269
Information about the status of installation and backout jobs can be found within 
the SYSPRINT log and the corresponding REPORT data set.

Generating stage 1 or an RDDS from a generate change package using 
the ISPF dialog

Use the IMS Configuration Manager ISPF dialog to create JCL that generates stage 
1 source or an RDDS from a generate change package.

Procedure
1. From the IMS Configuration Manager Primary Menu, select option 4 Packages. 
The All Change Packages panel is displayed.
2. Enter line action SCH next to the generate change package you want to use. The 
scheduling panel is displayed.

```
Schedule a GENERATE Change Package

Specify scheduling information and press PF3 or EXIT to process.
Press PF12 or Cancel to cancel the request.

Create Date .... : 2013-11-19 11.18.45
Change Package . : MYGENCP
Description .... : A generate change package
Type ........... : GEN
IMSID ......... : ICDJ Version ... : 12.1
Submit Immediately 2  1. Yes 2. No  3. Edit
Force ......... : 2  1. Yes 2. No
Output type ... : 1  1. STG1 (Stage 1 macros)
                  2. CRDD (COLD start RDDS)
JCL data set ... 
STAGE1 output DS 
RDDS output DS  ...
```

Figure 49. Scheduling a generate change package

3. Enter your required scheduling options. Select a field and press the Help 
function key (F1) for additional information.
4. When you are finished, press the Exit function key (F3). JCL to perform the 
generation is displayed.

Important: If you want to submit the JCL generated by the ISPF dialog, be sure 
to populate your profile JCL information. See “Setting IMS Configuration 
Manager ISPF profile options” on page 29 for details.

Related tasks:
In this scenario, use IMS Configuration Manager’s resource editor and GEN command to generate stage 1 macro statements for MODBLK-based resource definitions.

You can use the IMS Configuration Manager ISPF dialog to bundle your resource changes into a change package.

Under certain circumstances, change packages that have been installed need to be marked as complete. Marking a change package as complete allows you to install subsequent change packages.

Related reference:
- “GEN command” on page 243
  Allows you to generate stage 1 source or an RDDS from a generate change package. The GEN command creates parameters that are valid for IMS V10, V11, V12, and V13 systems at the highest maintenance level.

Marking a change package as complete using the ISPF dialog

Under certain circumstances, change packages that have been installed need to be marked as complete. Marking a change package as complete allows you to install subsequent change packages.

About this task

Change packages must be marked as complete when:
- The change package is a command change package where some, but not all of the resources were installed via the ONFAILURE(CONTINUE) parameter of the INSTALL command, and the user wants to move on to a new change package to address any failures. Marking a command change package with a status of INSTPART as complete will result in the status changing to COMPART, and will allow subsequent change packages to be installed without having to use the FORCE parameter.
- The change package is a generate change package, and the installation of the resources took place outside of IMS Configuration Manager.

Procedure

1. From the IMS Configuration Manager Primary Menu, select option 4 Packages. The All Change Packages panel is displayed.
2. Enter line action COM next to the change package you want to mark as complete.

Related tasks:
- “Generating stage 1 or an RDDS from a generate change package using the ISPF dialog” on page 100
  Use the IMS Configuration Manager ISPF dialog to create JCL that generates stage 1 source or an RDDS from a generate change package.

Related reference:
- “Change package condition codes reference” on page 266
  The condition (Cond) field provides information about the outcome of processing applied to a change package. This condition code is displayed on the All Change Packages panel when you select option 4 Packages from the IMS Configuration Manager Primary Menu.
### Backing out a command change package using the ISPF dialog

A previously installed command change package can be backed out of associated IMS systems if you wish to undo your changes.

#### Before you begin

To successfully execute a BACKOUT command, your user account must have the IMS authorization to submit a number of type-2 commands on the IMS systems specified by the SCOPE parameter. See “IMS command security” on page 25.

#### Procedure

1. From the IMS Configuration Manager Primary Menu, select option 4 Packages. The All Change Packages panel is displayed.
2. Enter line action **SCH** next to the command change package you want to back out. The scheduling panel is displayed.
3. Enter your required scheduling options. Select a field and press the Help function key (F1) for additional information.
4. When you are finished, press the Exit function key (F3). JCL to perform the backout is displayed.

**Important:** If you want to submit the JCL generated by the ISPF dialog, be sure to populate your profile JCL information. See “Setting IMS Configuration Manager ISPF profile options” on page 29 for details.

**Related tasks:**

- “Scheduling a command change package for installation” on page 97

**Related reference:**

- Chapter 23, “Interpreting INSTALL and BACKOUT reports,” on page 269

Information about the status of installation and backout jobs can be found within the SYSPRINT log and the corresponding REPORT data set.

- “BACKOUT command” on page 224

The BACKOUT command allows you to backout an installed command change package.

### Aborting a change package using the ISPF dialog

There might be times when you have created and closed a change package but, before it has been scheduled for installation, the changes are canceled. Since IMS Configuration Manager requires that change packages be installed or reinstalled in the order of their creation, you must perform an **abort** on the change package you no longer need in order to continue installing subsequent packages.

#### Before you begin

Change packages can only be aborted if they are in the **CLOSED** state, have not been previously installed, or have been installed and then completely backed out. If you want to remove a change package in the **OPEN** state, **delete** the package instead. See “Deleting a change package using the ISPF dialog” on page 103 for further details.
Deleting a change package using the ISPF dialog

Open change packages that have been created in IMS Configuration Manager can be deleted if no longer required. Change packages cannot be deleted if they are closed or scheduled for installation.

Before you begin

- Change packages can only be deleted if they are in the OPEN state, or its condition is ABORTED. If you want to cancel the changes in a closed change package before installation, abort the package first. See “Aborting a change package using the ISPF dialog” on page 102 for further details.
- IMS Configuration Manager prevents deletion of a closed change package to ensure that necessary changes for the target IMS system are not accidentally lost.

Procedure

1. From the IMS Configuration Manager Primary Menu, select option 4 Packages. The All Change Packages panel is displayed.
2. Enter a D next to the change package you want to delete and press Enter. If Delete Confirmation is enabled in your profile options, press Enter again to confirm deletion of the change package. See “Setting IMS Configuration Manager ISPF profile options” on page 29.

Related tasks:

“Setting IMS Configuration Manager ISPF profile options” on page 29

The IMS Configuration Manager profile allows you to set options such as whether to have a delete confirmation, and what job statement information to use when generating JCL from the dialog.
Chapter 7. Creating automated and repeatable update processes

IMS Configuration Manager provides you with the ability to create automated and repeatable system update processes by combining several batch commands in one run.

Related concepts:
- Chapter 6, “Deploying resources using change packages,” on page 87
  Resources stored in the IMS Configuration Manager repository are deployed to IMS systems using change packages.
- “Working with change packages” on page 87
  There are two types of change package: command and generate.

Related tasks:
- “Creating a command change package using the COMPARE command” on page 93
  Use the COMPARE command to create a command change package using the differences between two resource groups.
- “Using IMS Configuration Manager with DRD” on page 56
  Updating IMS systems involves creating or modifying resources and resource groups in IMS Configuration Manager, and then using change packages to install the changes.
- “Using IMS Configuration Manager with DRD and MODBLKS” on page 57
  You can use IMS Configuration Manager in a hybrid model: with both DRD and MODBLKS.

Automated update processes

Using the IMS Configuration Manager batch utility, it is possible to create JCL that can automate your system update process.

The following example demonstrates an automated update process using stage 1 source, the resource groups already stored in your IMS Configuration Manager repository, and commands from the IMS Configuration Manager batch utility:

1. The “TAKEUP command” on page 248 imports your stage 1 source into IMS Configuration Manager into new resource groups.
2. The “COMPARE command” on page 226 performs the following actions:
   a. Compares your existing (old) resource group with your new resource group.
   b. Creates a command change package from the differences between the old and new resource groups.
   c. Updates your existing resource group with the changes, keeping the IMS Configuration Manager repository up to date.
3. The “INSTALL command” on page 245 installs the new command change package into your IMS system using type-2 commands.
To repeat this process, all one has to do is resubmit the JCL against the new stage 1 source. As the COMPARE command has updated your old resource group, the next execution of this process will automatically compare the new stage 1 with your previous installation.

Related concepts:
- “Importing resource definitions into IMS Configuration Manager” on page 62
- “Retaining the logical organization of your resource definitions” on page 64

**Automating updates using the batch utility**

Use this method if your resource updates arrive as stage 1 source from a third-party vendor. All execution steps described here can be run in one execution of the GPLUTIL batch utility.

**Before you begin**
- Import an initial set of resources into your IMS Configuration Manager repository. See “Importing resource definitions into IMS Configuration Manager” on page 62.

**Figure 50. Combining commands from the IMS Configuration Manager batch utility to create an automatic update process**
Procedure

1. Import your stage 1 source into the IMS Configuration Manager repository using the "TAKEUP command" on page 248.

2. Create a new command change package based on the differences between your old and new resource groups, and update the IMS Configuration Manager repository with the differences using the "COMPARE command" on page 226 and the UPDCP and UPDRG parameters.

3. Install your newly created command change package into your target IMS system using the "INSTALL command" on page 245 and the CDATE($LATEST) parameter.

What to do next

Review the results of running commands by viewing the SYSPRINT log.

Related reference:

“Example JCL for a take-up, compare, and install” on page 221
This JCL demonstrates a take-up and install using the COMPARE batch command.
Use this method if your resource updates arrive as stage 1 source from a third-party vendor.
Part 4. Parameter management

IMS Configuration Manager helps control and manage the specification of IMS startup PROCLIB members.

IMS Configuration Manager's parameter manager can be accessed via ISPF dialog or the IMS Configuration Manager Eclipse plug-in.

The following topics provide information about how to use IMS Configuration Manager to manage PROCLIB members.
Chapter 8. Listing and searching parameter members using the ISPF dialog

Use the IMS Configuration Manager ISPF dialog to list and search parameter members based on the systems on which they are active or within a specific PROCLIB.

Regardless of which way you choose to list parameters, IMS Configuration Manager automatically detects and shows placeholders for missing parameter members, allows you to perform semantic searches for parameters and their values, and provides context-sensitive help for each parameter member.

Adding PROCLIB data set names to system definitions

If you want to list parameter members by system or IMSplex, you must first add the PROCLIB data set names to your system definitions.

About this task

The procedure presented here describes how to use the ISPF dialog to add PROCLIB data set names to system definitions. Alternatively, you can use autodiscovery to add the data set names. See "Defining systems and IMSplexes using autodiscovery" on page 43.

Procedure

1. From the IMS Configuration Manager Primary Menu, select option 2 Systems. The IMS Systems List panel is displayed.
2. In the system list, enter an S next to the required system. The IMS System panel is displayed.
3. Select 4 Parameters. The IMS System PROCLIB Parameters panel is displayed.
4. Enter your required configuration options. Press the Help function key (F1) to obtain additional information about each field.
5. Specify the PROCLIB data sets used by this system. IMS Configuration Manager uses the information you supply to parse these PROCLIBs and identify the members used by this IMS system within them.

Note: The PROCLIB data sets must be entered in the order in which they appear in the Control Region STEPLIB DD.
6. Press the Exit function key (F3) to save the new settings.

Related tasks:

"Listing parameter members for all systems in the IMSplex"

The IMS Configuration Manager ISPF dialog allows you to view only those parameter members that are currently in use by each IMS system in the IMSplex using the ISPF dialog.

“Listing parameter members that are used by a system” on page 113

The IMS Configuration Manager ISPF dialog enables the IMS administrator to work with only those parameter members that are currently in use for a particular IMS system.

### Listing parameter members for all systems in the IMSplex

The IMS Configuration Manager ISPF dialog allows you to view only those parameter members that are currently in use by each IMS system in the IMSplex using the ISPF dialog.

#### Before you begin

To view active members, you must specify your PROCLIB settings in the system definition. For details, see “Adding PROCLIB data set names to system definitions” on page 111.

#### Procedure

1. From the IMS Configuration Manager Primary Menu, select option 1 **IMSplexes** to display the IMSplex list. The IMSplex panel is displayed.
2. Enter line action **P** next to the IMSplex you want to examine.

#### Results

The active member list shows all active parameter members for that system that are in all PROCLIBs defined for that system.
Related tasks:

"Adding PROCLIB data set names to system definitions" on page 111
If you want to list parameter members by system or IMSplex, you must first add the PROCLIB data set names to your system definitions.

"Listing active parameter members across your enterprise" on page 141
The IMS Configuration Manager Eclipse plug-in allows you to list all active parameter members from across your enterprise.

**Listing parameter members that are used by a system**

The IMS Configuration Manager ISPF dialog enables the IMS administrator to work with only those parameter members that are currently in use for a particular IMS system.

```
Figure 52. Viewing active parameter members within the entire IMSplex

+ REPO
  - S1XDPRP
    - FRPCFGS1
      - BPECFLPLP
    - S3XDPRP
      - FRPCFGS3
      - BPECFLPLP
**End**
```
Before you begin

To view active members, you must specify your PROCLIB settings in the system definition. See “Adding PROCLIB data set names to system definitions” on page 111.

Procedure

1. From the IMS Configuration Manager Primary Menu, select option 2 Systems to display the IMS System List panel. The IMS Systems List panel is displayed.
2. Enter line action P next to the system you wish to examine.

Results

As shown in the following figure, the active member list displays all active parameter members for that system that are in all PROCLIBs defined for that system.

![Figure 53. The IMS Active Members panel](image)

Placeholder member names in the list can appear with one or more underscores (_) as a suffix or display the text *missing in the Prompt field. These members do not exist, but are put into the list so that you can easily create them. Members that display the *missing text represent a problem in the system definition.

Related tasks:
- “Adding PROCLIB data set names to system definitions” on page 111
- “Viewing parameters for individual systems” on page 144
- “Filtering parameter members” on page 116
Listing parameter members in a PROCLIB

The IMS Configuration Manager ISPF dialog PROCLIB view allows you to browse all members in a PROCLIB data set.

Procedure
1. From the IMS Configuration Manager Primary Menu, select option 5 **PROCLIBs**. The IMS PROCLIBs panel is displayed.
2. Enter line action **S** next to an existing PROCLIB, or use line action **I** to insert a new row and type the name of a new PROCLIB.

Results
As shown in the following figure, the PROCLIB member list displays all members in the PROCLIB.

![PROCLIB Member List](image)

**Figure 54. PROCLIB view of parameter members**

Tip: You can also view the PROCLIB data sets associated with a particular system by selecting a system using Primary Menu option 1 **IMSplexes**, followed by option 4 **Parameters**.

Related tasks:
- “Filtering parameter members” on page 116
- “Searching for members by their parameters and their function” on page 117
Filtering parameter members

The IMS Configuration Manager ISPF dialog allows you to specify masking characters to filter the parameter member list.

**Before you begin**

Display a list of parameter members.

**Procedure**

Enter a filter in the member column heading.

These are some of the patterns you can use:

* (asterisk)

The * matches zero or more characters, no matter what they are. The * can be used alone (to display all members) or in combination with other characters. For example:

- **DFS*** Displays all members starting with DFS.
- **DFS*01** Displays all members starting with DFS and ending with 01. For example, DFSCG01, DFSINT01, and DFSPB001.

% (percent sign)

The % matches exactly one character, no matter what it is. For example:

- **%%** Displays all members of exactly 6 characters.
- **DFS%%** Displays all 8-character members starting with DFS.
- **DFS%%%01** Displays all 8-character members starting with DFS and ending with 01. For example, DFSVSM01, DFSINT01, and DFSSPM01.

**Results**

**Related tasks:**

- "Listing parameter members that are used by a system" on page 113

The IMS Configuration Manager ISPF dialog enables the IMS administrator to work with only those parameter members that are currently in use for a particular IMS system.
The IMS Configuration Manager ISPF dialog PROCLIB view allows you to browse all members in a PROCLIB data set.

Search is available from an active member list for an IMS system, a group, or a PROCLIB using the IMS Configuration Manager ISPF dialog.

The IMS Configuration Manager Eclipse plug-in has a filtering function that allows you to filter and highlight entries according to specified criteria.

### Searching for members by their parameters and their function

Search is available from an active member list for an IMS system, a group, or a PROCLIB using the IMS Configuration Manager ISPF dialog.

#### About this task

Search scans all the members in the list, then displays only those members with parameters that match the specified search arguments.

An example of searching for parameters related to dynamic resource definition (DRD) is shown in the following figure by entering DRD into the Search prompt.

![Figure 56. Searching for DRD parameters using the IMS Configuration Manager ISPF dialog](image)

The preceding search finds all parameters related to DRD. If there is a value for the parameter, the value is shown (1). Parameters where the member does not yet exist are also shown (2). To display help for a parameter, enter line action H next to the parameter.

More examples of search arguments include:
**ODBM or OPEN DATABASE**
Finds all parameters related to IMS Open Database implementation.

**VTAM**
All parameters related to VTAM®.

**IOBF 1024**
The 1 KB OSAM subpool definition.

**FP DATABASE**
All fast-path database related parameters.

**WHATSNEW V13**
All new and changed parameters in IMS V13, useful when migrating to a new release.

**WHATSNEW RACF**
All new and changed parameters related to RACF for all releases of IMS.

**APPC**
All parameters related to APPC.

**APPC=**
The APPC parameter in the PB member. The equal sign searches for an exact parameter match.

Most common IMS terms are supported as search arguments, and abbreviations are supported. For example, **FP, FASTPATH, and FAST PATH** are all allowed arguments for fast path.

Clear the search arguments to reset back to the original member list.

To rebuild the displayed results after you have selected and changed a parameter, use the REFRESH command.

**Related concepts:**
*“Searching for values” on page 148*
The IMS Configuration Manager Eclipse plug-in has two search functions that make finding values easier.

**Related tasks:**
*“Filtering parameter members” on page 116*
The IMS Configuration Manager ISPF dialog allows you to specify masking characters to filter the parameter member list.

*“Listing parameter members that are used by a system” on page 113*
The IMS Configuration Manager ISPF dialog enables the IMS administrator to work with only those parameter members that are currently in use for a particular IMS system.

*“Listing parameter members in a PROCLIB” on page 115*
The IMS Configuration Manager ISPF dialog PROCLIB view allows you to browse all members in a PROCLIB data set.
Chapter 9. Modifying PROCLIB parameters using the ISPF dialog

IMS Configuration Manager allows you to modify parameters using the ISPF dialog.

Related reference:
Chapter 18, “PROCLIB members supported by IMS Configuration Manager,” on page 213

The IMS Configuration Manager ISPF dialog supports a large number of PROCLIB members.

Creating and editing parameter members

IMS Configuration Manager allows you to create new parameter members, or to edit existing members.

**Procedure**

1. Browse and locate the parameter set you are interested in. See Chapter 8, “Listing and searching parameter members using the ISPF dialog,” on page 111 for details.

2. Select from one of the following options:
   - Edit an existing member by entering line action **S** next to the parameter member.
   - Create a new member by enter **S memname** on the command line.

**What to do next**

The IMS Configuration Manager parameter editor provides many of the features of ISPF edit but with the following additional features:

- The **CHECK** command, to check the syntax of a member and highlight syntax errors in context.
- The **MODEL** command, to insert parameters based on a model.
- The **HELP** command, and context-sensitive help for parameters by placing the cursor on the item of interest and pressing the Help function key (F1).
- The **Backup** facility, and retaining a history of your edits.

**Inserting parameters based on a model**

IMS Configuration Manager allows you to quickly insert new parameters by using template models. A template model contains a fragment of correctly formed parameter syntax that contains default and placeholder values that you can replace as you see fit.

**Procedure**

1. Edit the parameter member you are interested in. See “Creating and editing parameter members.”

2. Enter **A** on a line to insert a model template after that line (**A**), or **B** to insert before that line.
3. On the command line, enter `MODEL (2)`, or select the point-and-shoot `MODEL (3)` field.

```
000015 PLEXPARM=(GSTD=B=Y,GSTDAREA=N,GSTSTRAN=N)
000016 SCIPROC=0AAB1234
000017 UOM=MTO
```

Figure 57. Selecting a line to insert after

3. Enter an `S` next to each parameter model you want to insert. When you have finished, press the Exit function key (F3) to insert the parameter models you have selected. The model that has been inserted produces messages that provide additional assistance.

Figure 59. Viewing parameter models

```
000001 *COMMENT
000002 <SECTION=REPOSITORY>...
'''

Figure 58. Selecting the MODEL option

A list of parameter descriptions is displayed.

**Note:** An asterisk (*) beside a parameter indicates that it is not valid for the specified IMS release of the PROCLIB.
5. Replace the default and placeholder values in the model as required.

   **Tip:** To clear all line actions, error messages, and explanatory notes, enter
   RESET on the command line.

### Checking the syntax of a member

To highlight syntax errors in the parameter member that you are editing, enter the
primary command CHECK or use the point-and-shoot CHECK field.

**Procedure**

1. **Edit the parameter member you are interested in.** See "Creating and editing
   parameter members" on page 119.

2. On the command line, enter CHECK, or select the CHECK point-and-shoot
   field. Find errors by scanning the text for the **MSG** prefix which contains
   additional information about the error. The position of the error is marked with
   a + in the previous line.

---

Figure 60. A successfully inserted parameter model (shown in **bold**)

| 000015 PLEXPARM=(GSTSDB=Y,GSTSAREA=N,GSTSTRAN=N) |
| 000016 SCIPROC=@AAB1234 |
| 000017 UOM=MTO |
| 000018 <SECTION=DYNAMIC_RESOURCES> |
| 000019 AUTOEXPORT=AUTO |
| 000020 AUTOIMPORT=AUTO |
| 000021 DCLWA=Y |
| 000022 IMPORTERR=ABORT |
| 000023 RDDSSERR=ABORT |
| 000024 RDDDSN=(_________________<,_________________>) |
| 000025 REPOERR=ABORT |
| **=NOTE= AUTOEXPORT - DEFINITIONS Exported at Checkpoint Time** |
| **=NOTE= AUTOIMPORT - DEFINITIONS Automatically Imported in Cold Start** |
| **=NOTE= DCLWA - Default Log Write Ahead Option for Created Transactions** |
| **=NOTE= AUTO, NO, RDDS, REPO Default AUTO** |
| **=NOTE= Y, N Default Y** |
| **=NOTE= IMPORTERR - Action on Error During Automatic Import** |
| **=NOTE= ABORT, CONTINUE Default ABORT** |
| **=NOTE= RDDSSERR - Action on Error When Accessing RDDS** |
| **=NOTE= ABORT, NOIMPORT Default ABORT** |
| **=NOTE= RDDDSN - List of DSNS for RDDS Processing** |
| **=NOTE= AT LEAST TWO DATA SET NAMES MUST BE SPECIFIED** |
| **=NOTE= REPOERR - Action on Error When Accessing IMS Repository** |
| **=NOTE= ABORT, NOIMPORT Default ABORT** |

****** ************************************* Bottom of Data *************************************
The IMS Configuration Manager ISPF dialog supports a large number of PROCLIB members.

Viewing context-sensitive help for parameters

IMS Configuration Manager contains context-sensitive parameter help that allows you to quickly look up information about parameters.

Procedure

1. Edit the parameter member you are interested in. See "Creating and editing parameter members" on page 119.
2. Select an item and press the Help function key (F1).

Example

The following example shows what happens when you press the Help function key (F1) with the cursor positioned on the RDDSERR parameter of the DFSDFxxx member.

Figure 61. Checking the syntax of a member using the CHECK command
Saving and backing up a member

IMS Configuration Manager allows you to make a backup of the parameter members that you edit.

About this task

The first time that you save a supported member during an edit session, you are prompted to perform a backup of the member. A backup contains a snapshot of the member before the first save in the session.

Procedure

To save and backup a member:

1. Edit the parameter member you are interested in using the procedure described in "Creating and editing parameter members" on page 119.

2. Press the Exit function key (F3) to save your changes. The Confirm Member Save dialog is displayed.

3. Complete the form as required. The Confirm Member Save panel supplies the following information:

```
Command ==> Confirm Member Save

Member to be saved: IMS1.PROCLIB(DFSDFCOM)

/ Perform backup of member prior to save

Backup member to:

Data Set Name . . 'IMS1.PROCLIB'
Member Suffix . . B01 (DFSDFxxx)
Last Changed . . : 2013/10/07 12:58:47

Replace like-named member

Press ENTER to confirm save and backup.
Press CANCEL or EXIT to cancel save and backup.
```

Figure 62. An example of context-sensitive parameter help

Figure 63. The Confirm Member Save dialog
Member to be saved
This is indicated by the first field in the panel, which specifies the member you are saving and its PROCLIB. This information cannot be changed.

Perform backup of member prior to save
Enter / next to this field to backup the member. If this field is not selected, all other fields are ignored.

Data Set Name
To save the backup member in an alternative PROCLIB data set, overtype the name of the PROCLIB data set or press the Prompt function key (F4) to select from a list of available PROCLIBs.

Member Suffix
You must enter the suffix for the backup member. Depending on the age of the backup member, a default suffix might have been obtained from the PROCLIB Members list. You can overtype this suffix.

Last Changed
The time stamp of the last time the backup member was saved to the PROCLIB.

Replace like-named member
Enter / next to this field to replace an existing backup if it has the same name as the member about to be saved.

4. Press Enter to confirm the save and backup.

Viewing the history of a member
The history function allows you to examine the contents of back level members, and retrieve old history members to edit and save them back into a PROCLIB.

Before you begin
History is only available for members that have been previously edited with IMS Configuration Manager.

Procedure
1. Use the ISPF dialog to find the member you are interested in. See "Listing and searching parameter members using the ISPF dialog," on page 111.
2. Enter line action H next to a PROCLIB member.
   You can view any member in the history but you cannot edit a history member. To restore a history member use standard ISPF member edit functions to copy the contents of the member to a new member or to overwrite the existing member.
Deleting a member

IMS Configuration Manager also allows you to delete a member from a PROCLIB data set.

Procedure

1. Use the ISPF dialog to find the member you are interested in. See Chapter 8, “Listing and searching parameter members using the ISPF dialog,” on page 111 for further information.

2. Enter line action D next to the PROCLIB member you want to delete and press Enter. If Delete Confirmation is enabled in your profile options, press Enter again to confirm deletion of the resource group. See “Setting IMS Configuration Manager ISPF profile options” on page 29.

Related tasks:

“Setting IMS Configuration Manager ISPF profile options” on page 29

The IMS Configuration Manager profile allows you to set options such as whether to have a delete confirmation, and what job statement information to use when generating JCL from the dialog.
Chapter 10. Managing parameters to improve IMS performance

You can use IMS Configuration Manager with IMS Performance Analyzer to improve IMS performance.

IBM IMS Performance Analyzer for z/OS (program number 5655-R03) is an ISPF application to assist with IMS system performance monitoring and tuning, resource utilization, transaction transit analysis, capacity planning, and management reporting.

IMS Performance Analyzer provides a comprehensive set of reports that help you identify performance problems. Some of the reports can highlight problems that can be solved by modifying IMS setup and performance parameters that are managed by IMS Configuration Manager. For example:

- **“Database buffers” on page 128**
  - IRUR: OSAM Buffer Pool Statistics
- **“VSAM buffers” on page 130**
  - IRUR: VSAM Buffer Pool Statistics
- **“Logging and checkpoints” on page 131**
  - IRUR: Logger Statistics
  - System Checkpoint report

You can use IMS Configuration Manager to search across a system, group of systems, or a PROCLIB to quickly find and easily change parameters that can impact IMS system performance. For example, you can search for all VSAM BUFFER parameters.
You can then use IMS Performance Analyzer to provide an insight into the effect on system performance of particular parameter settings.

**Database buffers**

The PROCLIB member DFSVSMxx defines VSAM, OSAM, and Fast Path DEDB buffer pools.

DFSVSMxx includes the following parameters:

- **VSAM buffer pools**
  - VSRBF
  - POOLID/DDB
  - RESVPOOL
  - OPTIONS

- **OSAM buffer pools**
  - IOBF
  - DBD
- SBONLINE
- FP DEDB buffer pools
  - DEDB
  - DEDBMAS

**IMS Performance Analyzer IRUR: OSAM Buffer Pool Statistics**

This report provides information related to the activity in each OSAM subpool. Subpools with no activity in the reporting period are not reported on. The final report contains cumulative statistics for all of the OSAM buffer pools. This report is similar to the Database Buffer Pool report produced by the IMS DB Monitor.

### Enhanced OSAM Buffer Pool Statistics

<table>
<thead>
<tr>
<th>Subpool ID:</th>
<th>Fix options: Prefix/Buffers</th>
<th>Buffer Size</th>
<th>Buffer count</th>
<th>Locate-type calls</th>
<th>Requests to create new blocks</th>
<th>Buffer alter calls</th>
<th>Purge calls</th>
<th>Locate-type calls, data already in pool</th>
<th>Buffers searched by all locate-type calls</th>
<th>Read I/O requests</th>
<th>Single block writes by buffer steal routine</th>
<th>Blocks written by purge</th>
<th>Total count of OSAM I/O operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subpool ID:</td>
<td>OS4K</td>
<td>N/N</td>
<td>4,096</td>
<td>20</td>
<td>64,456</td>
<td>0</td>
<td>554</td>
<td>457</td>
<td>57,137</td>
<td>72,957</td>
<td>7,317</td>
<td>522</td>
<td>7,839</td>
</tr>
<tr>
<td>Fix options: Prefix/Buffers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buffer Size</td>
<td>4,096</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buffer count</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Locate-type calls</td>
<td>64,456</td>
<td>7.35</td>
<td>53.71</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requests to create new blocks</td>
<td>0</td>
<td>.00</td>
<td>.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buffer alter calls</td>
<td>554</td>
<td>.06</td>
<td>.46</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purge calls</td>
<td>457</td>
<td>.05</td>
<td>.38</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Locate-type calls, data already in pool</td>
<td>57,137</td>
<td>6.51</td>
<td>47.61</td>
<td>88.64% of locate calls</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buffers searched by all locate-type calls</td>
<td>72,957</td>
<td>8.32</td>
<td>60.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Read I/O requests</td>
<td>7,317</td>
<td>.83</td>
<td>6.10</td>
<td>93.34% of OSAM I/O operations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single block writes by buffer steal routine</td>
<td>522</td>
<td>.06</td>
<td>.43</td>
<td>6.66% of OSAM I/O operations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blocks written by purge</td>
<td>7,839</td>
<td>.89</td>
<td>6.53</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 66. IMS Performance Analyzer IRUR: OSAM Buffer Pool Statistics**

A key performance indicator for an OSAM Buffer Pool is the percentage of locate calls where the data was already in the buffer. A high percentage indicates that the OSAM Buffer Pool is satisfying most requests without the need for database I/O.

You can use the report to calculate how many I/O operations were required to read to or write from the OSAM buffer pool. To decrease the number of I/O operations, try increasing the buffer pool size. If the number of I/O operations is increasing over time, you might need to reorganize the database.

When data sharing in IMSplex database environments, there needs to be a balance between maximizing the requests satisfied in the pool and minimizing the occurrence of buffer invalidation.
VSAM buffers

The PROCLIB member DFSVSMxx defines single or multiple VSAM buffer pools.

DFSVSMxx includes the following parameters:

- Reserve pools
- VSAM local shared resource pools
- VSAM shared pools and subpools, linked by Pool ID
- Allocation of data sets to pools, linked by Pool ID
- VSAM performance options such as background write, maximum concurrent requests, fixed blocks

IMS Performance Analyzer IRUR: VSAM Buffer Pool Statistics

One of the Internal Resource Utilization reports (IRUR) is the VSAM Buffer Pool Statistics report. This report provides information related to the activity in each VSAM subpool. Subpools with no activity in the reporting period are not reported on. The final report contains cumulative statistics for all of the VSAM buffer pools. This report is similar to the VSAM Buffer Pool report produced by the IMS DB Monitor. See the IMS Utilities Reference: Database Manager for a description of the meaning of the fields and the uses for this report.

<table>
<thead>
<tr>
<th>Enhanced VSAM Buffer Pool Statistics</th>
<th>Count /Transact /Second</th>
<th>Interval : 1.08.59 (HHHH.MM.SS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared resource pool ID/type</td>
<td>VSBK/D</td>
<td></td>
</tr>
<tr>
<td>Fix option: index/block/data</td>
<td>N/Y/Y</td>
<td></td>
</tr>
<tr>
<td>Buffer size</td>
<td>8,192</td>
<td></td>
</tr>
<tr>
<td>Buffers in subpool</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>HS buffers in subpool</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Write errors</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Largest number of write errors</td>
<td>0</td>
<td>.00</td>
</tr>
<tr>
<td>Retrieve by RBA calls</td>
<td>43,821</td>
<td>4.92</td>
</tr>
<tr>
<td>Retrieve by Key calls</td>
<td>25,653</td>
<td>2.98</td>
</tr>
<tr>
<td>Write errors</td>
<td>7</td>
<td>.00</td>
</tr>
<tr>
<td>Logical records inserted into EDS</td>
<td>1</td>
<td>.00</td>
</tr>
<tr>
<td>Logical records inserted into KDS</td>
<td>7</td>
<td>.00</td>
</tr>
<tr>
<td>Logical records altered in this subpool</td>
<td>1,524</td>
<td>.17</td>
</tr>
<tr>
<td>Total retrieve calls</td>
<td>69,474</td>
<td>7.81</td>
</tr>
<tr>
<td>Total number of updates</td>
<td>1,532</td>
<td>.17</td>
</tr>
<tr>
<td>Nbr of background write requests</td>
<td>9</td>
<td>.00</td>
</tr>
<tr>
<td>Nbr of Synch calls</td>
<td>624</td>
<td>.07</td>
</tr>
<tr>
<td>Nbr of VSAM get calls</td>
<td>65,581</td>
<td>7.37</td>
</tr>
<tr>
<td>Nbr of VSAM search buffer calls</td>
<td>7</td>
<td>.00</td>
</tr>
<tr>
<td>Total Nbr of VSAM calls</td>
<td>66,221</td>
<td>7.44</td>
</tr>
<tr>
<td>Nbr of times VSAM found CI in pool</td>
<td>54,803</td>
<td>6.16</td>
</tr>
<tr>
<td>Nbr of times VSAM read CI from DASD</td>
<td>10,738</td>
<td>1.21</td>
</tr>
<tr>
<td>Nbr of writes initiated by IMS</td>
<td>686</td>
<td>.07</td>
</tr>
<tr>
<td>Nbr of writes initiated by VSAM</td>
<td>96</td>
<td>.15</td>
</tr>
<tr>
<td>Total VSAM I/O operations</td>
<td>11,400</td>
<td>1.28</td>
</tr>
<tr>
<td>Nbr of successful VSAM reads from HS</td>
<td>4,218</td>
<td>.47</td>
</tr>
<tr>
<td>Nbr of failed VSAM writes to HS</td>
<td>14,957</td>
<td>1.68</td>
</tr>
<tr>
<td>Nbr of failed VSAM reads from HS</td>
<td>0</td>
<td>.00</td>
</tr>
<tr>
<td>Nbr of failed VSAM writes to HS</td>
<td>0</td>
<td>.00</td>
</tr>
<tr>
<td>Nbr of PLH waits</td>
<td>0</td>
<td>.00</td>
</tr>
</tbody>
</table>

Figure 67. IMS Performance Analyzer IRUR: VSAM Buffer Pool Statistics

A key performance indicator for a VSAM Buffer Pool is the number of times VSAM found the CI in the pool, rather than reading the CI from DASD.

When data sharing in IMS sysplex database environments, there needs to be a balance between maximizing the requests satisfied in the pool and minimizing the occurrence of buffer invalidation.
Logging and checkpoints

The parameters affecting the performance of logging are spread across two PROCLIB members, PB and VSAM.

DFSPBxxx
  - CPLOG
  - WADS

DFSVSMxx
  - WADSDEF
  - OLDSDEF

IRUR: Logger Statistics

The Logger Statistics report is one of the Internal Resource Utilization reports (IRUR) and provides various statistics describing the performance of the IMS log and write-ahead data set (WADS).

I/O counts and Buffer Wait counts can be used to see if any performance problems are being caused by bad logger or WADS I/O times.

Note: MSC incurs additional forced writes to the log.

<table>
<thead>
<tr>
<th>Logger Statistics</th>
<th>Count /Transact /Second</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logical Logger:</td>
<td></td>
</tr>
<tr>
<td>Records written</td>
<td>212,075</td>
</tr>
<tr>
<td>Check write requests</td>
<td>15,400</td>
</tr>
<tr>
<td>Waits for writes</td>
<td>8</td>
</tr>
<tr>
<td>Buffer waits: chpt invokers</td>
<td>1</td>
</tr>
<tr>
<td>Buffer waits: non-chpt invokers</td>
<td>0</td>
</tr>
<tr>
<td>Ave submitted on wrt</td>
<td>0</td>
</tr>
<tr>
<td>Physical Logger:</td>
<td></td>
</tr>
<tr>
<td>WADS EXCPVRs</td>
<td>8,607</td>
</tr>
<tr>
<td>2K segment writes initiated</td>
<td>24,482</td>
</tr>
<tr>
<td>OLDS writes initiated</td>
<td>1,766</td>
</tr>
<tr>
<td>OLDS reads initiated</td>
<td>2</td>
</tr>
<tr>
<td>Internal checkpoint requests</td>
<td>6</td>
</tr>
<tr>
<td>Accumulative wwt wait time</td>
<td>2,125</td>
</tr>
</tbody>
</table>

Figure 68. IMS Performance Analyzer IRUR: Logger Statistics

A key performance indicator is the number of Logical Logger Buffer waits for non-checkpoint invokers. A high value might indicate that the Log Buffer allocation might be too low.

System Checkpoint report

The second part of the System Checkpoint report summarizes checkpoint activity, including:
  - Average checkpoint duration and frequency
  - Record counts by subtype

The following figure shows an example of a Checkpoint Summary report.
A Checkpoint Summary report is produced for each IMS Subsystem ID and contains the following information:

**Completed Checkpoints**
Number of completed Checkpoints found in the log file. A complete checkpoint is one that starts with a 4001 record and ends with a 4098 record.

**Average Checkpoint Duration**
The average elapsed time per checkpoint in the format $\text{hh:mm:ss.ths}$.

If there are insufficient completed checkpoints to allow a meaningful calculation, the following message is printed: Insufficient Checkpoints to calculate.

**Average Checkpoint Frequency**
The average time between Checkpoints, or how frequently Checkpoints are taken, in the format $\text{hh:mm:ss.ths}$.

If there are insufficient completed checkpoints to allow a meaningful calculation, the following message is printed: Insufficient Checkpoints to calculate.

**CPLOG**
Checkpoint frequency. The average number of log records written between checkpoints.

**Checkpoint**
Start: Checkpoint start date and time.
End: Checkpoint end date and time.
Number: Checkpoint number.

Subtype
Checkpoint record subtype.

Description
Subtype description.

Count
Total number of Checkpoint records of this subtype.

Bytes
Total bytes of Checkpoint records of this subtype.

%Total
Percentage of records of this subtype over all Checkpoint records.

Total
Count
Total number of records in the Checkpoint.

Bytes
Total number of bytes of all records in the Checkpoint.

%Total
Should always be 100.00.

---

**Adjusting parameters to tune system performance**

IMS Performance Analyzer helps you monitor key performance indicators. As a result, you might determine that you need to tune your IMS systems by adjusting startup parameters. You can use the search and locate facilities of IMS Configuration Manager to quickly find the relevant parameters.

**Before you begin**

Ensure that you are familiar with the procedures described in Chapter 8, “Listing and searching parameter members using the ISPF dialog,” on page 111 and Chapter 9, “Modifying PROCLIB parameters using the ISPF dialog,” on page 119.

**Procedure**

1. On the IMS Configuration Manager Primary Menu, select option 2 Systems. The IMS Systems List panel is displayed.
2. Enter line action P next to the system you want to adjust. The IMS Active Members panel is displayed.
3. Enter the search argument for the key performance parameter from the IMS Performance Analyzer report, such as CPLOG, the checkpoint frequency. You can enter the search argument CHECKPOINT to achieve the same result.
4. Enter line action S next to the CPLOG parameter and press Enter.
5. Adjust the CPLOG parameter value.
6. Exit and save changes.
7. After running your IMS systems with the changes, rerun the IMS Performance Analyzer reports to monitor whether the changes achieved the required results.

---

<table>
<thead>
<tr>
<th>Search</th>
<th>CPLOG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>End</strong></td>
<td></td>
</tr>
</tbody>
</table>

*Figure 70. Searching for CPLOG on the IMS Active Members panel in IMS Configuration Manager*
Part 5. Enterprise system management with the Eclipse plug-in

IMS Configuration Manager allows you to manage systems and parameters across your enterprise with the IMS Configuration Manager Eclipse plug-in.
Chapter 11. Key features of the Eclipse plug-in

The IMS Configuration Manager Eclipse plug-in has several powerful features that can help you improve your understanding of your environment.

Perform the following tasks with IMS Configuration Manager Eclipse plug-in:
- Centralize and consolidate your system and IMSplex configuration
- Manage IMS systems, resources, and parameters
- Compare parameters across multiple systems
- Submit IMS commands and view the output
- Use filters to highlight transactions matching certain attributes
- Identify transactions that can perform commands
- Identify transactions with a zero queue count
- List all active parameter members across your enterprise and drill down to parameter values
- Export data to external spreadsheet applications for further analysis

Online help is available throughout the plug-in by clicking the Help button ( ).

Related tasks:
“Installing the plug-in” on page 36

The IMS Configuration Manager plug-in for IBM Explorer for z/OS (z/OS Explorer) provides a graphical user interface (GUI) to some of the functions provided by the IMS Configuration Manager ISPF dialog. The plug-in communicates with IMS Configuration Manager via IBM Functional Support Library Server, which is supplied with IBM Tools Base for z/OS (Tools Base).
Chapter 12. Exploring your environment

Use the IMS Configuration Manager Eclipse plug-in to explore your systems, list active parameter members, and to view resources and change packages.

Related tasks:

"Getting started" on page 37

This topic explains how to get started with the IMS Configuration Manager Eclipse plug-in.

Exploring the topology of your systems

The IMS Configuration Manager Eclipse plug-in allows you to explore the topology of your systems using the Navigation view.

Procedure

Find the system you are interested in by expanding the items in the Navigation view. To do this, move the mouse pointer next to the items (starting with the All Sources entry) and click the symbol that is displayed to expand the tree. Select IMS, IMS Connect, or IMSplex, and double-click the system you want to examine within.

Status icons may appear next to systems in the Navigation view.

Green circle (●)
The system or IMSplex is available.

Red square (■)
The system or IMSplex is unavailable. For an IMSplex, this can occur if the IMSplex is down or there is no Operations Manager (OM) available for communication between the IMSplex and the IBM Functional Support Library Server.

No status (blank)
The status of the system cannot be determined. This can occur if the system is not in an IMSplex, if the IMSplex is not available, or if the system is not found in the IMSplex.

Status information is only displayed for IMS Connect systems that are part of an IMSplex. IBM IMS Connect Extensions for z/OS can extend the status display for systems that are not part of the IMSplex.
What to do next

- Search for a particular IMS system, IMS Connect system, or IMSplex by typing search terms in the first drop-down. A history of search terms can be accessed by clicking the arrow.
- Navigation items can be filtered by selecting an item from the second drop-down. By default, the Navigation view shows <All Source Types>.

Related concepts:
Chapter 3, “Defining systems and IMSplexes,” on page 43
IMS Configuration Manager allows you to define IMSplexes and systems in the IMS Configuration Manager repository using the autodiscovery method, or by manually creating system definitions through the ISPF dialog.

Related tasks:
“Connecting to IBM Functional Support Library Servers” on page 38
The IMS Configuration Manager Eclipse plug-in requires a connection to a running instance of the IBM Functional Support Library Server.
“Viewing system resources” on page 142
The IMS Configuration Manager Eclipse plug-in allows you to list resources for individual systems or IMSplexes.
Listing active parameter members across your enterprise

The IMS Configuration Manager Eclipse plug-in allows you to list all active parameter members from across your enterprise.

Procedure

1. From the Navigation view, double-click All Sources. The Navigation view is usually located on the left side of the screen but can be relocated if required. The All Sources tab is displayed.

2. Click the Refresh button ( ) to load parameters into the All Sources tab.

What to do next

- To sort a column, click the column heading. For example, clicking ChangeTimestamp will sort the entries by the date and time that a parameter was modified.
- Right-click an item to reveal additional options.

Related tasks:
- “Listing parameter members for all systems in the IMSplex” on page 112

The IMS Configuration Manager ISPF dialog allows you to view only those parameter members that are currently in use by each IMS system in the IMSplex using the ISPF dialog.
Viewing system resources

The IMS Configuration Manager Eclipse plug-in allows you to list resources for individual systems or IMSplexes.

Procedure

1. From the Navigation view, double-click a system or IMSplex. The system or IMSplex is displayed in a new tab. Additional tabs are displayed at the bottom: Resources (selected), Parameters, and Commands.
2. In the Type drop-down, select All to show all resource types.
3. In the Show drop-down, select Config. Repository to show the current state of the IMS Configuration Manager repository.
4. Click the Refresh button ( ) to load resources into the Resources tab.

![Image of the IMS Configuration Manager Eclipse plug-in]

Figure 73. Viewing system resources using the plug-in

What to do next

- To sort a column, click the column heading. For example, clicking RepTimeUpdate will sort the entries by the date and time that the listed item was updated in the IMS Configuration Manager repository.
- Right-click an item to reveal additional options.

Related concepts:

- “Managing resources using the ISPF dialog” on page 67
- You can use IMS Configuration Manager to manually manage the resources defined inside your IMS Configuration Manager repository using the ISPF dialog.

- Chapter 13, “Filtering, searching, and saving,” on page 147
- Use the IMS Configuration Manager Eclipse plug-in to filter and search table entries, and to save commonly used displays.

Related tasks:

- “Associating common resource groups with IMS systems” on page 75
- You can use the IMS Configuration Manager ISPF dialog to associate common resource groups with IMS systems.

- “Exploring the topology of your systems” on page 139
- The IMS Configuration Manager Eclipse plug-in allows you to explore the topology of your systems using the Navigation view.

Viewing change packages

The IMS Configuration Manager Eclipse plug-in allows you to view a list of change packages.
Procedure

1. From the Navigation view, double-click a system. The system is displayed in a new tab. Three additional tabs are displayed at the bottom: Resources (selected), Parameters, and Commands.

2. In the Type drop-down, select Change Packages to show all change packages associated with the selected system or IMSplex.

3. In the Show drop-down, select Config. Repository to show the current state of the IMS Configuration Manager repository.

4. Click the Refresh button ( ). To load any associated change packages into the Resources tab.

5. Right-click a listed change package and select Databases, Programs, Routing Codes, or Transactions to view the contents of the change package.

What to do next

- To sort a column, click the column heading. For example, clicking RepTimeUpdate will sort the entries by the date and time that the listed item was updated in the IMS Configuration Manager repository.

Related concepts:

- Chapter 6, “Deploying resources using change packages,” on page 87
  Resources stored in the IMS Configuration Manager repository are deployed to IMS systems using change packages.
- Chapter 13, “Filtering, searching, and saving,” on page 147
  Use the IMS Configuration Manager Eclipse plug-in to filter and search table entries, and to save commonly used displays.

Related tasks:

- “Exploring the topology of your systems” on page 139
  The IMS Configuration Manager Eclipse plug-in allows you to explore the topology of your systems using the Navigation view.

Viewing members of an IMSplex

The IMS Configuration Manager Eclipse plug-in allows you to view the members of your IMSplex.

Procedure

1. From the Navigation view, double-click an IMSplex. The IMSplex is displayed in a new tab. Additional tabs are displayed at the bottom: Resources (selected), Parameters, and Commands.

2. In the Type drop-down, select Members to show all members of the selected IMSplex.

3. In the Show drop-down, select Config. Repository to show the current state of the IMS Configuration Manager repository.

4. Click the Refresh button ( ). The members of the IMSplex are displayed. The Type column states if the member is an IMS system, IMS Connect system, or one of several possible Common Service Layer (CSL) components.

5. To view further detail on a CSL member, right-click the member and select Open.

Related concepts:

- Chapter 13, “Filtering, searching, and saving,” on page 147
  Use the IMS Configuration Manager Eclipse plug-in to filter and search table entries, and to save commonly used displays.
Related tasks:
“Exploring the topology of your systems” on page 139
The IMS Configuration Manager Eclipse plug-in allows you to explore the topology of your systems using the Navigation view.

Viewing parameters for individual systems

The IMS Configuration Manager Eclipse plug-in allows you to view parameters for individual systems.

Procedure
1. From the Navigation view, double-click a system. The system is displayed in a new tab. Additional tabs are displayed at the bottom: Resources, Parameters, and Commands.
2. Click the Parameters tab.
3. Click the Refresh button ( ) to load parameters into the Parameters tab.
4. To view more detail on a particular item, right click the item and select Show Configuration.
5. Optional: For members that support overrides, such as DFSPB, filter the results by selecting an option from the Show list:
   - INEFFECT
     Display a combination of the JCL overrides with the base member to present only values that are “in effect”.
   - JCLOVERRIDES
     Display only the JCL overrides.
   - MEMBER
     Display the value directly in the member.
   - XIMSGEN
     Extract IMSGEN-specific parameters.
   - ALL
     Show all of the options at once. This results in multiple entries for each member.

The ParmSource column identifies where the value was obtained from.

What to do next
- To sort a column, click the column heading. For example, clicking MemberName will sort the entries by the name of the member.
- To access a history of your selections, click the drop-down list in the upper-left corner.

Related concepts:
Chapter 13, “Filtering, searching, and saving,” on page 147
Use the IMS Configuration Manager Eclipse plug-in to filter and search table entries, and to save commonly used displays.

Related tasks:
“Listing parameter members that are used by a system” on page 113
The IMS Configuration Manager ISPF dialog enables the IMS administrator to work with only those parameter members that are currently in use for a particular IMS system.
The IMS Configuration Manager Eclipse plug-in allows you to explore the topology of your systems using the Navigation view.

## Submitting IMS commands

The IMS Configuration Manager Eclipse plug-in allows you to submit IMS command to individual systems or IMSplexes.

### About this task

The Eclipse plug-in issues commands through the Operations Manager (OM) API, which supports all type-2 commands, and many type-1 commands. For a complete list of commands, see the IMS documentation on commands and keywords supported by the OM API.

### Procedure

1. From the Navigation view, double-click a system. A new tab is displayed at the top, showing the system or IMSplex you have selected. Additional tabs are displayed at the bottom: Resources, Parameters, and Commands.
2. Click the Commands tab.
3. Type your command in the Command box. For example, QUERY IMSPLEX SHOW(ALL).

   **Note:** Commands are submitted with the TSO credentials used to connect to the IBM Functional Support Library Server. This TSO userid must be authorized to run the commands using the appropriate IMS command access authority.

4. Press Enter, or click the Refresh button ( ). The results of the query are displayed in the table.

![Figure 74. Viewing command output using the plug-in](image)

### What to do next

- To sort a column, click the column heading. For example, clicking Status will sort the entries by their reported status.
- A history of commands can be found by clicking the Command drop-down list.
- Right-click an item to reveal additional options.

### Related concepts:

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Chapter 12. Exploring your environment 145
Use the IMS Configuration Manager Eclipse plug-in to filter and search table entries, and to save commonly used displays.

Related tasks:

“Exploring the topology of your systems” on page 139

The IMS Configuration Manager Eclipse plug-in allows you to explore the topology of your systems using the **Navigation** view.
Chapter 13. Filtering, searching, and saving

Use the IMS Configuration Manager Eclipse plug-in to filter and search table entries, and to save commonly used displays.

Related tasks:
- "Viewing system resources" on page 142
  The IMS Configuration Manager Eclipse plug-in allows you to list resources for individual systems or IMSplexes.
- "Viewing change packages" on page 142
  The IMS Configuration Manager Eclipse plug-in allows you to view a list of change packages.
- "Viewing members of an IMSplex" on page 143
  The IMS Configuration Manager Eclipse plug-in allows you to view the members of your IMSplex.
- "Viewing parameters for individual systems" on page 144
  The IMS Configuration Manager Eclipse plug-in allows you to view parameters for individual systems.
- "Submitting IMS commands" on page 145
  The IMS Configuration Manager Eclipse plug-in allows you to submit IMS command to individual systems or IMSplexes.

Using the list filter

The IMS Configuration Manager Eclipse plug-in has a filtering function that allows you to filter and highlight entries according to specified criteria.

Procedure

1. Select a system, IMSplex or IMS Connect system, and then load resources, parameters, or command results into the corresponding tab. See "Exploring your environment," on page 139 for details.

2. Click the Manage/Define List Filters button ( ). The Manage List Filters dialog is displayed.
3. Click New to create a new filter. Enter a description for the new list filter and click OK. The new list filter is displayed in the list.
4. Select the check box to activate the filter. The conditions for the list filter can be entered in the space below.
5. Click New to create a new condition for the filter. The conditions you enter take the form of an equation and determine how the list will be filtered or highlighted.
6. Click each column to enter the terms of your condition:
   a. Select a Field (a column heading from your input data set), an Operator, and a Value to use.
   b. Select Highlight? if you want to apply a colored highlight to list entries that match this condition.
   c. Select Case Sensitive? if you want to apply case-sensitivity to the Value field.
7. Click **Save Filter**.
8. Click **OK** to apply the list filter. The results of the filter are displayed in the table.

**Figure 75. Managing list filters in the plug-in**

**Figure 76. Highlighting items in type-2 command output using the plug-in list filter**

**Related tasks:**

- "Filtering parameter members" on page 116

The IMS Configuration Manager ISPF dialog allows you to specify masking characters to filter the parameter member list.

**Searching for values**

The IMS Configuration Manager Eclipse plug-in has two search functions that make finding values easier.
Find value buttons (🔍 and 🔖)

Allows you to search for rows with any column matching the value you specify.

Related tasks:
“Searching for members by their parameters and their function” on page 117

Search is available from an active member list for an IMS system, a group, or a PROCLIB using the IMS Configuration Manager ISPF dialog.

Saving the display

The IMS Configuration Manager Eclipse plug-in allows you to save commonly used resource, parameter, and command displays of your systems. Saving your display allows you to quickly access the data you use most without the need to re-input all of your settings.

Procedure

1. Select a system, IMSplex or IMS Connect system, and then load resources, parameters, or command results into the corresponding tab. See Chapter 12, “Exploring your environment,” on page 139 for details.

2. Click the Save the Current Display button (_attempted to load image). The Save Display dialog is displayed.

3. Enter a name for your saved display.

![Save Display dialog](http://example.com/savedisplay.png)

*Figure 77. Entering a name for the saved display in the plug-in*

4. Click OK to create the saved display. The name is displayed in the history drop-down list in the upper-left corner.
What to do next

- Click the Export button ( cuatro ) to export displayed results to a comma-separated values (CSV) file for further analysis.

- If you no longer want the saved display, click the Delete button ( bote ) to delete it.

Related tasks:

"Using the comparator with a single data source” on page 151

Compare data displayed in a results tab of the IMS Configuration Manager Eclipse plug-in with the comparator.
Chapter 14. Comparing systems and parameters

One of the most powerful features of the IMS Configuration Manager Eclipse plug-in is the ability to compare systems and parameters across your enterprise. Use the comparator to compare parameters across your systems, the result of submitting a type-2 command with another type-2 command, or compare saved views.

Using the comparator with a single data source

Compare data displayed in a results tab of the IMS Configuration Manager Eclipse plug-in with the comparator.

About this task

When using the comparator, a data source refers to the data presented in a tab or saved display of the IMS Configuration Manager Eclipse plug-in. The comparator can compare data within a single data source, or across multiple data sources.

This procedure demonstrates a simple comparison using a single data source. For additional examples using single and multiple data sources, see “Common uses of the Eclipse plug-in comparator” on page 153. For additional information on comparing data sources, see “Comparison criteria” on page 157.

Procedure

1. List resources, parameters, or the results from submitting an IMS command. See Chapter 12, “Exploring your environment,” on page 139 for details.

   In the following examples, the comparison is based on list of parameters associated with a particular IMSplex.

   Figure 79. Viewing the parameters tab using the plug-in

2. Click the Compare button ( ). The Configure Comparison Criteria dialog is displayed, providing suggested comparison criteria based on the result set you selected in step 1. This result set is referred to in the dialog as Data Source 1. The columns contained within that result set are listed as follows.
3. Customize the output of your comparison. For additional detail on the Configure Comparison Criteria dialog, see “Comparison criteria” on page 157.

4. Click OK to perform the comparison.

The results of the comparison are displayed in the Compare tab. Highlights draw your attention to columns where adjacent cells contain different values. In the following example, a highlight is shown in the DESC column to indicate the change in values from row 1 (7) to row 2 (empty).

What to do next

- Click the Compare button ( ) in this tab to change the comparison criteria.
Use the Previous Difference ( ) and Next Difference ( ) buttons to jump between differences and to quickly examine the result set.

Related tasks:
“Saving the display” on page 149

The IMS Configuration Manager Eclipse plug-in allows you to save commonly used resource, parameter, and command displays of your systems. Saving your display allows you to quickly access the data you use most without the need to re-input all of your settings.

Common uses of the Eclipse plug-in comparator

The following section describes common uses of the comparator.

Identifying parameter differences across your enterprise

The IMS Configuration Manager Eclipse plug-in comparator allows you to identify parameter differences across your entire enterprise.

Procedure

1. From the Navigation view, double-click All Sources. The Navigation view is usually located on the left side of the screen but can be relocated if required. The All Sources tab is displayed.

2. Click the Refresh button ( ) to load parameters into the All Sources tab.

3. Right click an item in the MemberName column and then click Show Configuration.

4. Click the Compare button ( ). The Configure Comparison Criteria dialog is displayed.

5. Click OK to perform the comparison using the suggested settings. The results of the comparison are displayed in the Compare tab. A highlight is displayed over two cells within a column where the value changes between rows.

![Figure 82. Comparing parameters across your enterprise using the plug-in comparator](image)

Identifying resource differences between IMS systems in the IMS Configuration Manager repository

Use the IMS Configuration Manager Eclipse plug-in comparator to display resource differences between two or more IMS systems stored in your IMS Configuration Manager repository.
Procedure

1. List the resources for an IMS system. See “Viewing system resources” on page 142 for details.

   ![Figure 83. Two resources associated with IMS system IBDH](image1)

2. List the resources for a second IMS system.

   ![Figure 84. Three resources associated with IMS system IBDJ](image2)

3. Click the Compare button ( ). The Configure Comparison Criteria dialog is displayed.

4. Add your IMS systems as data sources:
   a. Click Add/Remove Data Sources. The Select Data Sources dialog is displayed.
   b. Select the tabs you opened in steps 1 and 2.
5. Select your comparison criteria. An example is provided in Figure 86 on page 156.
   
   a. To compare resources, enter 1 next to Name and then enter 2 next to ResourceType in the Key Sequence column.
      Selecting these fields as the keys instructs Eclipse plug-in to treat a resource as the pairing of its name and type.
   
   b. Click Show Unmatched Keys to display resources that are present in one IMS system but not the other.
   
   c. Select Hide to remove the column from the comparison output.

Figure 85. Selecting comparison data sources using the Eclipse plug-in
6. Click **OK** to perform the comparison. The results of the comparison are displayed in the **Compare** tab.

![Figure 86. Selecting comparison criteria using the Eclipse plug-in](image)

**What to do next**

- To change your comparison criteria, click the **Compare** button ( ). To learn more about the **Configure Comparison Criteria** dialog, see “Comparison criteria” on page 157.
- To add additional IMS systems to the comparison, open new resources tabs and then add them as new data sources at step 4 on page 154. Alternatively, use a saved display in your comparison. To create a saved display, see “Saving the display” on page 149.
Comparison criteria

Use the Configure Comparison Criteria dialog to customize the result of your comparison.

Click the Compare button ( ▶️ ) to display the dialog.

![Configure Comparison Criteria dialog]

Data sources:

In the Eclipse plug-in, a data source is the name given to a set of results displayed in a tab. A data source can be one of the following:

- A tab you have opened containing a set of resources, parameters, or the results return from an IMS command. See Chapter 12, “Exploring your environment,” on page 139.
- A tab you have saved. See “Saving the display” on page 149.

The comparator can compare data within a single data source, or between two or more data sources. When you click the Compare button, Data Source 1 is automatically assigned to the open tab.

Comparing with a single data source allow you to compare between the rows of a result set. Highlighting is applied over table cells where the value between rows has changed.

Comparing with multiple data sources allows you to compare across different open tabs and saved displays. To add additional data sources to your comparison, use the following procedure:

1. Click Add/Remove Data Sources.
2. Select your data sources. The list is derived from the results tabs you currently have open in the Eclipse plug-in and any saved displays you have.
3. Click OK.
For examples using multiple data sources, see "Common uses of the Eclipse plug-in comparator" on page 153.

Table options:

- **Label**: Items in the Label column will appear as column headings in your comparison output. By default they are derived from the column names of Data Source 1, but can be renamed if desired.

- **Key Sequence**: The Key Sequence column controls your comparison output in two important ways:
  - It allows you to bind related items together to form a comparison key.
  - It allows you to sort the output by defining a sequence.

  To sort the output by a particular column, place a 1 in the Key Sequence column next to the label. For example, enter 1 next to the RepTimeUpdate label in Figure 88 on page 157 to sort the output chronologically by repository update time.

  To sort and group related items together, number the items sequentially. For example, resources are uniquely identified by their Name and ResourceType. To bind these items together, enter 1 and 2 next to their respective labels, as shown in Figure 88 on page 157.

  When a new comparison is first created, the Eclipse plug-in suggests default values based on the content of Data Source 1. You can override these values as desired.

- **Ignore**: By default, the comparator places a highlight over two cells in a column that have different values. Select the check box in the Ignore column to disable highlighting in that column.

- **Hide**: Select the check box in the Hide column to remove that column from the output.

- **Data Source n**: A list of column headings in the selected data source. Add additional data sources by clicking the Add/Remove Data Sources button.

  **Advanced**: Use the drop-down lists to perform the following tasks:
  - Change the column ordering.
  - Change the mapping between columns in your data sources. Use this technique if two data sources contain the same data, but use different naming conventions for column headings.

Key matching options:

These options allow you to define the behaviour of the comparator when it searches your data sources for the specified Key Sequence.

- **Show Matched Keys**: Displays items where the key sequence is found in all data sources. For example, if Show Matched Keys was selected in Figure 88 on page 157, the comparison result would show a list of resources that are present in both IMS systems.

- **Show Unmatched Keys**: Displays items where the key sequence is not found in all data
sources. For example, the selections in Figure 88 on page 157 will list all resources, identified as the pairing of Name and ResourceType, that are present in one IMS system but not the other.

Show All
Displays the combination of selecting both Show Matched Keys and Show Unmatched Keys.
Part 6. Troubleshooting

Use these topics to diagnose and correct problems that you experience with IMS Configuration Manager.
Chapter 15. IMS Configuration Manager messages

This topic describes the messages issued by IMS Configuration Manager batch utilities.

Return codes

IMS Configuration Manager sets the following return codes:

0  Operation was successful.
4  Operation completed, but a warning (W) message was issued during processing.
8  Operation may be incomplete. A failure (F) message was issued and IMS Configuration Manager continues processing.
12 Operation may be incomplete. An error (E) condition caused premature termination.
16 Operation is incomplete. A severe error (S) condition occurred.

Message format

IMS Configuration Manager messages begin with a unique message identifier, followed by message text which might contain variable information to identify the particular circumstance that caused the message.

The message identifier has the format GPLnnnx or FUNnnnx where:

GPL or FUN
Three-character prefix to identify the origin of the message.
GPL refers to errors associated with parameter processing or errors associated with IMS Configuration Manager components.
FUN refers to functional support messages issued by IMS Configuration Manager.

nnnx Represents a four-digit message number. The preceding three-character prefix combined with this number uniquely identifies the message.

x Represents a single-letter severity level that indicates the return code, the purpose of the message, and the type of response required from you. The severity levels, from least to most severe, are:

I Information. No action is required.
W Warning. IMS Configuration Manager detected a possible error condition that you should evaluate.
F Failure. IMS Configuration Manager detected a failure condition that you should evaluate.
E Error. Your action is required before IMS Configuration Manager can continue processing.
S Severe. IMS Configuration Manager processing is suspended until you have taken action.
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.

### GPL-prefixed messages

This topic describes messages with the GPLnnn message identifier format.

**GPL5001F**  Selected repository (dsn) is not suitable for this product.

**Explanation:**
The named IMS Configuration Manager repository is from an older version of IMS Configuration Manager and is not supported.

**System action:**
No IMS Configuration Manager can be used.

**User response:**
Create a new IMS Configuration Manager repository data set, or specify an existing data set supported by this version of IMS Configuration Manager and retry the request.

**GPL5002F**  Member (mem), identified by RGSUF, had parameters that were not able to be parsed. Use List of all members (L) to edit member and correct problem.

**Explanation:**
The named member contains syntax errors.

**System action:**
The list of applicable members is not built.

**User response:**
Obtain a list of PROCLIB members via the L line command. Select the named member and correct the syntax errors then retry.

**GPL5003F**  Access denied to parameter data set dsn.

**Explanation:**
The user does not have access to the named repository data set.

**System action:**
The requested product function fails.

**User response:**
Refer the error to your security administrator and request access to the named data set. Alternatively, specify a data set to which you have access.

**GPL5004F**  Invalid parameter data set dsn.

**Explanation:**
Open failed for the above data set for one of the following reasons:

1. Security error
2. Invalid data set organization (not PO)
3. Data set catalogued but does not exist

**System action:**
The requested product function fails.

**User response:**
Examine the job log to determine the cause of the error. Correct the problem and retry the function.

**GPL6000I**  line ctlcd

**Explanation:**
A line of the SYSIN utility parameter file is displayed along with its relative line number within the file.

**System action:**
None. Informational message only.

**User response:**
None. Informational message only.

**GPL6001I**  TAKEUP started for typ input DD=ddname

**Explanation:**
The TAKEUP utility is starting using stage 1 or RDDS input from the ddname displayed.

**System action:**
None. Informational message only.

**User response:**
None. Informational message only.

**GPL6002E**  Leading spaces not allowed in resource group or NEWNAME

**Explanation:**
The resource group name (RG) or its NEWNAME cannot have leading spaces.

**System action:**
The utility stops.

**User response:**
Correct the resource group name and rerun the utility.
Chapter 15. IMS Configuration Manager messages 165

GPL6003I  

**cmd completed RC=rc**  

**Explanation:** The utility has ended with the displayed return code.  

**System action:** If the return code is greater than 4 then the utility stops. Otherwise the utility will process the next defined utility command.  

**User response:** If the return code is greater than 4, review prior messages in SYSPRINT to determine the recovery action.

GPL6004E  

**Utility command cmd failed, RC=rc**  

**Explanation:** The utility has ended with the displayed return code.  

**System action:** If the return code is greater than 4 then the utility job stops. Otherwise the utility will process the next defined utility command.  

**User response:** If the return code is greater than 4, review prior messages in SYSPRINT to determine the recovery action.

GPL6005E  

**Error in the SYSIN control cards, RC=rc**  

**Explanation:** The utility has detected a parameter error.  

**System action:** The utility stops.  

**User response:** Review prior messages in SYSPRINT, correct the indicated error, and rerun the utility.

GPL6006E  

**No parameters in the SYSIN control cards, RC=rc**  

**Explanation:** The utility has detected that there are no SYSIN parameters.  

**System action:** The utility stops.  

**User response:** Enter utility parameters and rerun the IMS Configuration Manager utility.

GPL6007E  

**Processing error rsn. INFO=infoinfo2**  

**Explanation:** The utility has detected an error in a sub component.  

**System action:** The utility stops.  

**User response:** Save all files and job logs. Contact IBM Software Support.

GPL6008W  

**SET MAXCC=mrc, command processing continues**  

**Explanation:** The utility has modified the return code from the prior utility command to the MAXCC value.  

**System action:** Processing continues.  

**User response:** None required. This is a warning message only.

GPL6009E  

**PLEX parameter is required for 'cmd'**  

**Explanation:** The PLEX parameter is required for the INSTALL and BACKOUT utility.  

**System action:** The utility stops.  

**User response:** Supply the PLEX parameter and rerun the utility.

GPL6010I  

**COPY started from DD=ddname1 to DD=ddname2**  

**Explanation:** The utility job is starting to copy from ddname1 to ddname2.  

**System action:** None. Informational message only.  

**User response:** None. Informational message only.

GPL6011E  

**rg must be alphabetic, numeric, rational, "", or space characters. The first character must not be a space**  

**Explanation:** A resource group parameter or NEWNAME contains invalid characters.  

**System action:** The utility stops.  

**User response:** Correct the resource group parameter or NEWNAME parameter so that it contains only uppercase letters and numbers without leading spaces.

GPL6012E  

**PLEX name contains invalid characters**  

**Explanation:** PLEX name must conform to the IMSplex naming convention.  

**System action:** The utility stops.  

**User response:** Correct the IMSplex name and resubmit the utility.

GPL6013I  

**DISCOVER started output to DD=ddname**  

**Explanation:** The DISCOVER utility is starting. Output will be to the IMS Configuration Manager repository ddname.  

**System action:** None. Informational message only.  

**User response:** None. Informational message only.

GPL6014I  

**BACKOUT started for Unit of work 'uow'**  

**Explanation:** The BACKOUT utility command is starting for the unit of work uow.  

**System action:** None. Informational message only.  

**User response:** None. Informational message only.
GPL6015I  GEN started from DD=ddname1 to DD=ddname2
Explanation:  The GEN utility command is starting to GEN from ddname1 to ddname2.
System action:  None. Informational message only.
User response:  None. Informational message only.

GPL6016E  SCOPE is required for GEN
Explanation:  A SCOPE parameter is required for the GEN utility.
System action:  The utility stops.
User response:  Add a SCOPE parameter and rerun the GEN utility.

GPL6019E  SYSTEM and RG parameters are mutually exclusive
Explanation:  SYSTEM and RG parameters are mutually exclusive.
System action:  The utility stops.
User response:  Use either the SYSTEM or RG parameters and rerun the GEN utility.

GPL6020E  DDname ddname not found
Explanation:  A required ddname for the utility is missing.
System action:  The utility stops.
User response:  Supply the required ddname and resubmit the IMS Configuration Manager utility.

GPL6021E  Leading spaces not allowed in prm
Explanation:  The parameter does not allow leading spaces.
System action:  The utility stops.
User response:  Correct the parameter and rerun the utility.

GPL6022E  Error act DDname ddn system code cde
Explanation:  An error has been encountered reading or writing a QSAM utility file.
System action:  The utility stops.
User response:  Correct the problem described in the MVS system code and resubmit the utility.

GPL6023E  Duplicate typ 'obj' in list
Explanation:  A duplicate resource group or NEWNAME was found in a list.
System action:  The utility stops.
User response:  Remove the duplicate resource group or NEWNAME and resubmit the utility.

GPL6024E  Resource group is required for Takeup if no RG macros or unnamed RG macros are in the input STAGE1 deck
Explanation:  A resource group parameter is required for TAKEUP.
System action:  The utility stops.
User response:  If TAKEUP is from an RDDS or the IMSRSC repository, then add an RG parameter to the utility SYS1N parameters. If TAKEUP is from STAGE1, then either add the RG parameter to the utility SYS1N parameters or an RG MACRO to the stage 1 deck. If you are using RG macros in your stage 1 deck, and one of your RG MACROS does not have an RG name, then you must supply a default RG name in the SYS1N parameters.

GPL6026E  prm must be one alphabetic character followed by alphanumeric characters
Explanation:  The parameter contains invalid characters. PLEX and IMSID names, and their new names, must conform to IBM naming conventions.
System action:  The utility stops.
User response:  Correct the parameter and resubmit the utility.

GPL6029E  CPDATE and CPTIME are required parameters
Explanation:  CPDATE and CPTIME parameters are required for INSTALL and BACKOUT.
System action:  The utility stops.
User response:  Add the CPDATE and CPTIME and resubmit.

GPL6030E  IMSID is required for TAKEUP
Explanation:  An IMSID parameter must be supplied for TAKEUP.
System action:  The utility stops.
User response:  Add the IMSID and resubmit the utility.
GPL6031E Invalid change package date
Explanation: The CPDATE parameter is in error. The format of CPDATE is YYYY,MM,DD (year, month, day).
System action: The utility stops.
User response: Fix the CPDATE parameter and resubmit the job.

GPL6032E Invalid change package time
Explanation: The CPTIME parameter is in error. The format of CPTIME is HH,MM,SS (hours, minutes, seconds).
System action: The utility stops.
User response: Fix the CPTIME parameter and resubmit the job.

GPL6034I COMPARE started
Explanation: A compare of IMS Configuration Manager repository objects has started.
System action: None. Informational message only.
User response: None. Informational message only.

GPL6035I cmd started for change packages with timestamp cpdate cptime within requested scope.
Explanation: The INSTALL or BACKOUT utility command is starting for the named change package.
System action: None. Informational message only.
User response: None. Informational message only.

GPL6038E MBRNAME can contain only one trailing asterisk
Explanation: When copying a generic resource group or change package, only one asterisk at the end of the MBRNAME is allowed.
System action: The run stops.
User response: Remove the extra or embedded asterisk and resubmit the COPY.

GPL6039E MBRNAME is required for MBRTYPE(RG)
Explanation: MBRNAME must contain the resource group name when copying a resource group.
System action: The run stops.
User response: Add the MBRNAME parameter and resubmit COPY.

GPL6040E MBRNAME is required for MBRTYPE(CP)
Explanation: MBRNAME must contain the change package time when copying a change package.
System action: The run stops.
User response: Add the MBRNAME parameter and resubmit COPY.

GPL6041E PLEX is required for MBRTYPE(PLEX)
Explanation: MBRNAME must contain the PLEX name when copying an IMSplex.
System action: The run stops.
User response: Add the PLEX parameter and resubmit COPY.

GPL6042E SYSTEM is required for MBRTYPE(SYSTEM) and MBRTYPE(CP)
Explanation: The SYSTEM parameter must contain at least one IMSID or an asterisk when copying an IMS system or a change package.
System action: The run stops.
User response: Add the SYSTEM parameter and resubmit COPY.

GPL6043E When using GENERIC MBRNAME and NEWNAME both must be generic and the same length
Explanation: A resource group can be specified as generic but if the NEWNAME is also specified it must also be generic and the same number of characters.
System action: The utility stops.
User response: Add the SYSTEM parameter and resubmit COPY.

GPL6044E COPY typ requires a MBRNAME less than len characters
Explanation: COPY MBRTYPE(CP) requires a MBRNAME less than 15 characters. COPY MBRTYPE(RGE) requires a MBRNAME less than 9 characters.
System action: The utility stops.
User response: Fix the length of MBRNAME and resubmit COPY.

GPL6045E MBRNAME is required to COPY MBRTYPE(RGE)
Explanation: MBRNAME must be supplied to copy a resource group element (RGE).
System action: The utility stops.
User response: Add the MBRNAME parameter and resubmit COPY.

GPL6046E Resource group name in the RGNAME parameter required to COPY an RGE

Explanation: A resource group name must be supplied in the RGNAME parameter to copy MBRTYPE RGE.

System action: The utility stops.

User response: Add the resource group name to the RGNAME parameter.

GPL6047E Invalid characters in RGE MBRNAME

Explanation: RGE name must conform to IMS resource naming conventions with the exception that a single trailing asterisk can be used to denote a generic RGE copy.

System action: The utility stops.

User response: Correct the MBRNAME and resubmit COPY.

GPL6048E SCOPE required for Install

Explanation: The SCOPE parameter provides the names of IMS systems where the change package will be installed.

System action: The utility stops.

User response: Add the SCOPE parameter and resubmit INSTALL.

GPL6049I TAKEUP started from the IMS repository

Explanation: The TAKEUP from IMSRSC repository utility is starting.

System action: None. Informational message only.

User response: None. Informational message only.

GPL6050I Issuing DRD command 'cmd'

Explanation: A DRD command is being issued by the utility.

System action: None. Informational message only.

User response: None. Informational message only.

GPL6051E Resource group is required for Takeup from an RDDS or the IMSrepos

Explanation: A resource group parameter is required for TAKEUP from RDDS or the IMSRSC repository.

System action: The utility stops.

User response: Add the RG parameter and rerun the utility.

GPL6052E prm 'plx' must conform to IMSplex naming conventions. One optional trailing asterisk is allowed for generic selection

Explanation: The parameter contains invalid characters. The parameter value must be one alphabetic character followed by alphanumeric characters. One trailing asterisk is allowed for generic IMSplex selection.

System action: The utility stops.

User response: Correct the parameter and resubmit the utility.

GPL6053I TAKEUP started from active IMS system

Explanation: TAKEUP from an active IMS system utility is starting.

System action: None. Informational message only.

User response: None. Informational message only.

GPL6054E The RESOURCES parameter can only be specified with DISCOVER PLEX

Explanation: The RESOURCES parameter of DISCOVER is only a allowed with the PLEX parameter.

System action: The DISCOVER utility stops.

User response: Remove the RESOURCES parameter and rerun the utility.

GPL6100I Stage 1 assembly started

Explanation: The assembly of the IMS stage 1 deck has begun.

System action: None. Informational message only.

User response: None. Informational message only.

GPL6101I Stage 1 assembly ended, RC=rc, see ASMPRINT for listing

Explanation: The assembly of the stage 1 deck has completed and the return code is being displayed.

System action: The utility will stop if the return code is greater than 4.

User response: If the return code is greater than 4 then the TAKEUP utility will stop. Review the assembly listing for the reason why the assembly failed, fix the problem, and rerun TAKEUP.
GPL6102E  Duplicate res resource dup
Explanation:  The TAKEUP stage 1 input deck contains a duplicate resource.
System action:  The TAKEUP utility stops.
User response:  Remove the duplicate resource from the stage 1 deck and rerun TAKEUP.

GPL6103E  Resource group 'rg' IMSID 'ims' already exists and REPLACE not specified
Explanation:  The IMS Configuration Manager repository already contains the resource group. The resource group is not replaced because the TAKEUP parameters do not include the REPLACE parameter.
System action:  The utility stops.
User response:  Add the REPLACE parameter to your TAKEUP parameters and rerun TAKEUP.

GPL6104I  TAKEUP has act resource group 'rg' IMSID 'sys'
Explanation:  The resource group has been either created or replaced in the IMS Configuration Manager repository depending on if it already existed.
System action:  None. Informational message only.
User response:  None. Informational message only.

GPL6105I  Counts: DB=dbc PGM=pgc RTC=rtc TRAN=trc SKIP=skp
Explanation:  The number of database, program, route codes, and transaction resources that have been taken-up are displayed. Also displayed is the number of resources skipped because of the INCLUDE parameter.
System action:  None. Informational message only.
User response:  None. Informational message only.

GPL6106E  TAKEUP card in error: card
Explanation:  The ASMPUNCH output from the stage 1 assembly is displayed when there is an internal TAKEUP error.
System action:  The utility stops.
User response:  Save all files and job logs. Contact IBM Software Support.

GPL6107E  Repository call call failed, RC=rc RSN=rsn RG=rg
Explanation:  An error has been encountered accessing the IMS Configuration Manager repository. The type of access is displayed along with the return and reason code and the resource group being processed.
System action:  The utility stops.
User response:  If you are using the INCLUDE parameter consider changing your selection criteria to include resources.

User response:  Save all job logs and report the problem to IBM support.

GPL6108E  Resource= res type=typ
Explanation:  An error has been encountered accessing the IMS Configuration Manager repository. The name and type of resource that was being processed is displayed.
System action:  The utility stops.
User response:  Save all job logs and report the problem to IBM support.

GPL6109I  Resources without RG=nrs
Explanation:  This message displays the count of resources not taken up because the RG parameter was omitted and an inline RG MACRO was not provided in the stage 1 input.
System action:  None. Informational message only.
User response:  None. Informational message only.

GPL6110E  No resource group information. Either provide the RG keyword/parameter in the SYSIN or RG macros in the stage1 input
Explanation:  This message is issued when a resource group was not specified in the SYSIN parameters or using the RG macro in the stage 1 input.
System action:  TAKEUP stops.
User response:  Either supply the RG parameter in the TAKEUP SYSIN parameters or insert the RG macro in the stage 1 input.

GPL6111E  The input RDDS data set does not begin with a valid header record
Explanation:  The TAKEUP utility is trying to read an input RDDS data set that does not have a valid header record.
System action:  TAKEUP stops.
User response:  Rerun the TAKEUP utility with a valid RDDS file.

GPL6112W  No resource definitions were taken up
Explanation:  The TAKEUP RDDS utility did not find any resources that can be taken up.
System action:  TAKEUP ends.
User response:  If you are using the INCLUDE parameter consider changing your selection criteria to include resources.
GPL6113E IMS System record not found.

**IMSID=ims**

**Explanation:** The TAKEUP RDDS utility did not find the IMS system record for an IMSID named in the ASSOCIATE or IMSID parameter.

**System action:** TAKEUP stops.

**User response:** Define the IMS system record in the IMS Configuration Manager ISPF dialog and rerun the job.

GPL6115E IMSID is required for RGS MACRO, resource group "rg"

**Explanation:** An IMSID parameter must be supplied in the TAKEUP SYSIN parameters if you supplied an RGS macro in your stage 1 deck.

**System action:** The utility stops.

**User response:** Add the IMSID and resubmit the utility.

GPL6116E The IMSPlex is not connected to the IMS repository

**Explanation:** The IMSPlex specified in the PLEX parameter is not connected to the IMSRSC repository.

**System action:** The utility stops.

**User response:** Connect the IMSPlex to the IMSRSC repository and resubmit the utility.

GPL6117I Issuing command 'cmd' 

**Explanation:** TAKEUP is executing an EXPORT command prior to performing a TAKEUP of resources.

**System action:** None. Informational message only.

**User response:** None. Informational message only.

GPL6118I Replacing resource, Name=nam Type=typ 

**Explanation:** A resource is being replaced with an IMS specific resource definition.

**System action:** The utility job continues.

**User response:** None. Informational message only.

GPL6119I Counts: DBDESC=dbc PGMDESC=pgc RTCDESC=rtc TRANDESC=trc SKIP=skp 

**Explanation:** The number of database, program, route codes, and transaction descriptor that have been taken-up are displayed. Also displayed is the number of descriptor skipped because of the INCLUDE parameter.

**System action:** None. Informational message only.

GPL6120I There are no resource descriptors for this resource Type 'typ' TAKEUP continues

**Explanation:** There are no descriptors defined for the resource type.

**System action:** The utility job continues.

**User response:** None. Informational message only.

GPL6121E PLEX name is required when taking up resources from the IMSrepos or using EXPORT before an RDDS Takeup

**Explanation:** The IMSPlex name is required when taking up resources from an IMSRC repository or when using EXPORT before an RDDS TAKEUP.

**System action:** The utility stops.

**User response:** Supply an IMSPlex name in the utility parameters and resubmit the utility job.

GPL6122E Dynamic typ error DDNAME 'ddn', data set 'dsn'

**Explanation:** Dynamic allocation failed for the named RDDS. One or more dynamic allocation messages precede this message.

**System action:** The TAKEUP utility stops.

**User response:** Determine the cause of the dynamic allocate failure. Correct and restart the utility.

GPL6123E EXPORT DRD command failed

**Explanation:** The EXPORT DRD command has failed.

**System action:** The TAKEUP utility stops.

**User response:** Review the DRD return and reason code displayed in the subsequent message "GPL6201I" on page 171. The EXPORT return and reason code are documented in the IMS command manual.

GPL6124I IMS must be at least version 12 to use TAKEUP from IMSrepos 

**Explanation:** The IMS SSID specified in the IMSID parameter of TAKEUP from IMSRSC repository must be for an IMS system of at least version 12.

**System action:** The TAKEUP utility stops.
User response: Correct the IMSID parameter and resubmit the job.

GPL6126E Descriptors in INCLUDE parameter not allowed with TAKEUP from STAGE1

Explanation: IMS resource descriptors are not in the IMS STAGE1 deck.

System action: The TAKEUP utility stops.

User response: Correct the INCLUDE parameter and resubmit job.

GPL6127I Resource Discovered

Explanation: This message displays the number of resources discovered.

System action: None. Informational message only.

User response: None. Informational message only.

GPL6128I res cnt

Explanation: This message shows the number of IMS resources that were discovered for each resource type.

System action: None. Informational message only.

User response: None. Informational message only.

GPL6130I Resource Group 'rg' IMSID 'ims' already exists. Discovered Resource groups cannot be replaced

Explanation: The IMS Configuration Manager repository already contains the resource group. The resource group is not replaced because autodiscovery does not replace existing resource groups.

System action: Discovery for resources for this IMS stops.

User response: Delete the resource group and restart autodiscovery.

GPL6200W DRD Error for IMS 'ims' typ 'nam' REPORT Sequence 'seq'

Explanation: The INSTALL/BACKOUT utility has encountered a DRD errors. See REPORT for IMSID and Sequence number for more details.

System action: The utility job will attempt to continue depending on the severity of the error and the run time parameter options.

User response: Review the REPORT entry identified by the IMSID and Sequence number and previous error messages in the SYSOUT. Take appropriate action using the REPORT and SYSOUT information.

GPL6201I Service=mod RETC=rc REAS=rsn INFO=info INFO2=info2 ims typ res

Explanation: A call to a low-level service routine has returned an error response.

System action: Depending on the severity of the error and the ONFAILURE parameter options the job may stop. If this message follows "GPL6200W," use the sequence number in that message to navigate to the REPORT entry for the resource in error where further error information will be displayed.

User response: Look at the REPORT entry associated with this message and message "GPL6200W" that is also sometimes issued. The report shows the IMS error messages and condition codes. The IBM documentation for these should provide you with the information to resolve the error.

GPL6203E IMSplex 'plex' does not have any IMS systems defined

Explanation: An attempt to query the IMS systems in an IMSplex has failed: there are no IMS systems defined.

System action: The utility stops.

User response: Consult your IMS systems programmer to see why there are no IMS systems defined.

GPL6204E No IMS systems or change packages selected

Explanation: The INSTALL/BACKOUT utility did not find an eligible IMS system or change package to process.

System action: The utility stops.

User response: See prior messages in SYSOUT for reasons why no change packages were processed.

GPL6205E type text

Explanation: An internal processing error has occurred.

System action: The utility stops.

User response: Report the problem to IBM support.
GPL6206I CP element typ 'res' for IMS 'ims' is committed but Install history is from another change package

Explanation: The INSTALL/BACKOUT utility is processing a change package element that has been previously committed but its last INSTALL/BACKOUT history in the IMS Configuration Manager repository is from a different change package. This may occur if INSTALL and BACKOUT are run with the FORCE parameter since this allows regression of resources.

System action: The utility job continues.
User response: None. Informational message only.

GPL6207W IMS system 'ims' is not in an appropriate state to receive INSTALL requests

Explanation: The named IMS system was not in a READY state when its status was queried during the INSTALL process. If the NOTREADY(STOP) input control statement was supplied to the INSTALL request, this condition will cause the INSTALL request to fail and a message to that effect issued.

System action: The utility stops.
User response: Ignore the message if it is not important. If the information is relevant, either remove the IMS system from the scope list or ensure that is available for processing.

GPL6208I Possible change detected outside of ICM for IMS 'ims' typ 'res'. Reason: rsn

Explanation: INSTALL/BACKOUT has detected that an IMS MODBLK status is different than what IMS Configuration Manager expects based on what is recorded in its repository. This could be because the resource was changed outside of IMS Configuration Manager, for example using the IMS SPOC or INSTALL or BACKOUT was run using FORCE and the MODBLKS have been regressed.

System action: The utility job continues.
User response: None. Informational message only.

GPL6209E IMS XML parse error: text

Explanation: An attempt to parse the response XML from a type-2 command has failed.

System action: The utility stops.
User response: Examine the error, determine the cause, rectify the problem and rerun the utility. This is likely to be an internal error in which case report the problem to IBM support.

GPL6210E Attempt to construct IMS Type 2 command failed. Error offset 'eoff'

Explanation: An attempt to construct the appropriate type-2 command to effect a resource definition change has failed.

System action: The utility stops.
User response: Examine the error, determine the cause, rectify the problem and rerun the utility. This is likely to be an internal error in which case report the problem to IBM support.

GPL6211E Cannot connect to IMSplex 'plex'

Explanation: An IMS Configuration Manager utility attempted to register itself as a DRD client in the named IMSplex. The attempt was not successful.

System action: The utility stops.
User response: Examine the error, determine the cause, rectify the problem and rerun the utility. The most likely reason is that the named IMSplex is either not specified correctly or is inactive. Another reason may be that the IMS RESLIB is not in the utility's STEPLIB or in LINKLST. The installation process requires a complete IMS RESLIB for the highest IMS version in use on the IMSplex. Tip: The JCL generator uses the Profile settings. Installation must run on the same LPAR as the active IMSplex.

GPL6212E IMS 'ims' does not belong to IMSPLEX 'plex'

Explanation: An IMS system specified in the SCOPE parameter is not a member of the IMSplex in the IMS Configuration Manager repository.

System action: The utility stops.
User response: Either remove the IMSID from the SCOPE parameter or connect the IMS system to the PLEX using the IMS Configuration Manager dialog.

GPL6213E Serious error occurred when executing a Type 2 IMS command

Explanation: The INSTALL utility submitted a type-2 command for execution and received an unaccepted response. Message "GPL6201I" on page 171 which follows this message has the return and reason codes from the IMS Configuration Manager type-2 command processor.

System action: The utility stops.
User response: Examine the error, determine the cause, rectify the problem and rerun the utility. This is likely to be an internal error in which case report the problem to IBM support.
**GPL6214E**  Serious CSL error returned from DRD command

**Explanation:** The INSTALL utility submitted a type-2 command for execution and received an error from IMS DRD. Message "[GPL6201I](#)" on page 171 which follows this message has the return and reason codes from the type-2 command processor.

**System action:** The utility stops.

**User response:** Examine the error, determine the cause, rectify the problem and rerun the utility.

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**GPL6215E**  Change Package for IMSID 'ims' cannot be backed out because a more recent CP is not backed out or aborted.

**Explanation:** The BACKOUT utility cannot backout the requested change package because a more recent change package for this IMS system is not backed out or aborted. See the subsequent message "[GPL6218E](#)" for the timestamp of the blocking change package.

**System action:** The utility stops.

**User response:** The blocking change package must be either backed out or aborted before the requested change package can be backed out.

---

**GPL6216E**  IMSplex 'plex' has no member systems.

**Explanation:** An IMS system that was required for processing was not in a suitable state for DRD processing. The input directive NOTREADY(STOP) was specified, which resulted in the utility stopping.

**System action:** The utility stops.

**User response:** Examine the error, determine the cause, rectify the problem, and rerun the utility. If you want the utility to ignore the processing error and continue processing, specify ONFAILURE(CONTINUE).

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**GPL6217I**  Retrying IMS 'ims' typ 'nam' REPORT Sequence 'seq' after sec seconds. Last CC=cc, Time=ttm

**Explanation:** The parameter RETRYCNT has been specified. INSTALL or BACKOUT is retrying the failed DRD command. The command being retried can be found in the REPORT by looking for the sequence number in the message. The DRD condition that is being retried is displayed as well as the time the command was issued.

**System action:** The utility job retries the DRD command until it succeeds or the number of retries exceeds the value of RETRYCNT. Between retries the utility job will wait the amount of time specified in the parameter RETRYWAIT.

**User response:** Informational.

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**GPL6218E**  Change package 'update cptime' for IMSID 'ims' must be backed out or aborted first.

**Explanation:** This message follows "[GPL6216E](#)" and is issued to identify the change package that is blocking the requested change package from being backed out.

**System action:** The utility stops.

**User response:** Backout the change package that is stopping the current change package from being backed out or use the FORCE parameter to ignore error.

---

**GPL6219E**  Change Package for IMSID 'ims' cannot be backed out because its state is 'stat'

**Explanation:** A change package cannot be backed out because it is not in a state that can be backed out. In order for a change package to be backed out it must be in one of the following status as reported on the IMS Configuration Manager dialog change package panel: INSTOK, INSTPART, BACKPART, BACKOUT, or BACKFAIL.

**System action:** The utility stops.

**User response:** Check that you have specified the correct change package and resubmit the job.

---

**GPL6220W**  The FORCE parameter is in effect. Prior error ignored, processing continues.

**Explanation:** The FORCE parameter is causing INSTALL or BACKOUT to continue past a condition that would normally cause an error.

**System action:** The utility job continues.

**User response:** None required. This is a warning message only.

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**GPL6221E**  Unrecoverable DRD error and ONFAILURE(STOP)

**Explanation:** The INSTALL or BACKOUT utility is stopping because of a DRD command that cannot be completed.

**System action:** The utility stops.

**User response:** The error is described in detail in the REPORT file. Correct the problem and rerun or change ONFAILURE(CONTINUE) to bypass problem.

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**GPL6222W**  Skipping IMS 'ims' typ 'nam' REPORT Sequence 'seq' due to DRD error and ONFAILURE(CONTINUE)

**Explanation:** A DRD command cannot complete due to errors. The command is being skipped. See the section in the REPORT output data set containing the listed Sequence number and IMSID.

**System action:** The utility job continues because of the parameter ONFAILURE(CONTINUE).
GPL6223W  IMS system 'ims' is not version 10 or higher, DRD is not supported
Explanation: The named IMS system was not a support DRD version. The IMS system must be V10 or later.
System action: The utility stops.
User response: Remove the IMS system from the SCOPE list.

GPL6224E  IMS system 'ims' in repository is not active in IMSplex 'plex'
Explanation: The named IMS system is not active in the IMSplex.
System action: The utility stops.
User response: Remove the IMS system from the SCOPE list or start the IMS system named in the message. If using SCOPE(*) remove the IMS from the PLEX in the IMS Configuration Manager repository or start the IMS system.

GPL6225I  CP element typ 'res' for IMS 'ims' is in phase1 status
Explanation: A change package element is being reset to its initial, uninstalled state. This can occur if a previous INSTALL or BACKOUT did not complete.
System action: The utility job continues.
User response: None. Informational message only.

GPL6227I  Resetting change package element typ 'res' for IMS 'ims'
Explanation: The change package element is being reset to its initial, uninstalled state. This can occur if a previous INSTALL or BACKOUT did not complete.
System action: The utility job continues.
User response: None. Informational message only.

GPL6228I  IMS system 'ims' is not ready. Processing continues
Explanation: The named IMS system is not in a READY state. NOTREADY(IGNORE) has been specified resulting in the process continuing without this system.
System action: The utility job continues.
User response: Remove the IMS system from the SCOPE list if not required.

GPL6229E  IMS system 'ims' is not ready. Processing terminates
Explanation: The named IMS system is not in a READY state. NOTREADY(STOP) has been specified resulting in the process terminating.
System action: The utility job terminates.
User response: Remove the IMS system from the SCOPE list.

GPL6230I  The latest install history is being deleted for typ 'res' for IMSID 'ims'
because prior update did not complete
Explanation: A prior INSTALL/BACKOUT utility did not complete. The prior history is being deleted because it was not completed.
System action: The utility job continues.
User response: None. Informational message only.

GPL6231W  IMS 'ims' typ 'nam' REPORT SEQ 'seq'
UNDO command is CREATE but MODBLK exists, UPDATE will be issued
Explanation: The BACKOUT command for a previous delete of a MODBLK should be CREATE but the MODBLK already exists.
System action: The utility job changes the CREATE to an UPDATE to restore the MODBLK to its image before it was deleted. The job continues.
User response: This message probably means that updates are being made to resources outside the control of IMS Configuration Manager or the INSTALL or BACKOUT utility is being run with FORCE.

GPL6232E  Authorization failure during query IMSplex 'plex'
Explanation: The security manager has rejected the request with an authorisation failure.
System action: The utility stops.
User response: Grant the userid access to the IMSplex.

GPL6233W  IMS 'ims' typ 'nam' REPORT SEQ 'seq'
UNDO command is UPDATE but MODBLK does not exist, CREATE will be issued
Explanation: The BACKOUT command for a previous UPDATE of a MODBLK should be another UPDATE but the MODBLK does not exist. BACKOUT will re-CREATE the MODBLK to its state before the first change by this change package.
System action: The utility job changes the UPDATE to a CREATE to restore the MODBLK to its image before
it was modified. The job continues.

User response: This message probably means that updates are being made to resources outside the control of IMS Configuration Manager or the INSTALL or BACKOUT utility is being run with FORCE.

GPL6234E IMSplex 'plex' is not active

Explanation: The PLEX parameter cannot specify a generic name. The following examples are all invalid: (*), (*name), (na%), (na+).

System action: The utility stops.

User response: Correct the PLEX parameter.

GPL6236E IMS system 'ims' not found in repository

Explanation: An IMS system name that is in the SCOPE parameter is not defined in the IMS Configuration Manager repository.

System action: The utility stops.

User response: Correct the CPDATE/CPTIME parameters.

GPL6237W IMS 'ims' typ 'nam' REPORT SEQ 'seq'
   DRD command is 'cmd' last command was 'lst'

Explanation: The current INSTALL/BACKOUT utility has calculated the DRD command needed to appropriately update a MODBLK identified in the REPORT by IMSID and Sequence number. However the calculated next DRD command does not follow logically from the last successful DRD applied to the same resource. For example, the last successful command was 'CREATE' but INSTALL is going to issue another 'CREATE' DRD command since the MODBLK does not exist.

System action: The utility job issues the calculated command.

User response: This message probably means that updates are being made to resources outside the control of IMS Configuration Manager or the INSTALL or BACKOUT utility is being run with FORCE.

GPL6238I Attempting DELETE of PGM 'pgm' for IMS 'ims' after deleting trn TRAN and rtc RTC

Explanation: An attempt is being made to delete a PROGRAM after any transactions or ROUTCODEs owned by the program in this change package have been deleted.

System action: The utility job continues.

User response: None. Informational message only.

GPL6239I Queueing typ 'res' for subsequent delete - IMS 'ims'

Explanation: Programs that are to be deleted are queued and deleted after all transactions and ROUTCODEs in the change package. Databases are queued until programs are deleted.

System action: The utility job continues.

User response: None. Informational message only.

GPL6241E Change package 'cpd cpt' not found for IMSID 'ims'

Explanation: The change package specified could not be found in the IMS Configuration Manager repository.

System action: The utility stops.

User response: Correct the CPDATE/CPTIME parameters.

GPL6242E Change package 'cp' does not match the name specified

Explanation: The change package specified has a name that does not match the CPNAME specified as a parameter.

System action: The utility stops.

User response: Correct the CPNAME parameter.

GPL6243E Change package 'cpd cpt' for IMSID 'ims' is not a command package.

Explanation: The change package specified is not a command change package and cannot be installed or backed out via type-2 commands.

System action: The utility stops.

User response: Select a command package to install or back out.

GPL6244E Change package 'cpd cpt' for IMSID 'ims' is not closed

Explanation: The change package specified is not closed. Package must be in a closed state before it can be installed.

System action: The utility stops.

User response: Close the package.

GPL6245E Earlier change package 'cpd cpt' for IMSID 'ims' is open.

Explanation: The change package specified has an earlier change package for the same IMS system that has an OPEN status.

System action: The utility stops.
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<tbody>
<tr>
<td>GPL6246E</td>
<td>Resource 'res' in later change package 'cpd cpt' is installed.</td>
<td>Close the open package.</td>
<td>The resource specified has a version in a later change package (for the same IMS system) that has already been installed. This may cause regression.</td>
<td>The utility stops.</td>
<td>Use the FORCE option if you want this package installed without regard to the later updates.</td>
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<tr>
<td>GPL6247E</td>
<td>Earlier change package 'cpd cpt' for IMSID 'ims' is not installed.</td>
<td></td>
<td>The change package specified has an earlier change package (for the same IMS system) that has not been installed. This may cause regression.</td>
<td>The utility stops.</td>
<td>Use the FORCE option if you want this package installed without regard to the earlier package.</td>
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<tr>
<td>GPL6248I</td>
<td>TRAN EXPRTIME is not supported for IMS 'ims' and will be omitted</td>
<td></td>
<td>A change package is being installed into or backed out of an IMS system that does not support the EXPRTIME transaction keyword. The keyword will be omitted.</td>
<td>The utility job continues.</td>
<td>None. Informational message only.</td>
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</tr>
<tr>
<td>GPL6249E</td>
<td>Repository call call failed, RC=rc RSN=rsn DD=dd</td>
<td></td>
<td>An error was encountered accessing the IMS Configuration Manager repository. The type of access is displayed along with the return and reason code and the ddname of the IMS Configuration Manager repository in error.</td>
<td>The utility stops.</td>
<td>Save all job logs and report problem to IBM support.</td>
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<tr>
<td>GPL6250E</td>
<td>Change package 'cpd cpt' for IMSID 'ims' is in use</td>
<td></td>
<td>The change package specified is in use by the IMS Configuration Manager ISPF dialog or another batch job.</td>
<td>The utility stops.</td>
<td>If another batch job is running then wait until it completes and resubmit the INSTALL utility. If the IMS Configuration Manager ISPF dialog is locking the change package make sure that you exit the &quot;EDIT Install JCL&quot; screen and then resubmit the INSTALL utility.</td>
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<tr>
<td>GPL6251E</td>
<td>Change package 'cpd cpt' for IMSID 'ims' is ABORTED</td>
<td></td>
<td>The change package specified has been ABORTED. An ABORTED change package cannot be installed.</td>
<td>The utility stops.</td>
<td></td>
<td>Create a new change package.</td>
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<tr>
<td>GPL6252E</td>
<td>You are not authorized to INSTALL Change Package 'cpd' for IMSID 'ims'</td>
<td></td>
<td>You are not authorized to install this change package.</td>
<td>The utility stops.</td>
<td></td>
<td>Contact your SAF administrator to request the ability to install this change package.</td>
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<tr>
<td>GPL6253E</td>
<td>SAF error attempting to authorize Change Package 'cpd' for IMSID 'ims'</td>
<td></td>
<td>An attempt to check your ability to INSTALL this change package has failed.</td>
<td>The utility stops.</td>
<td></td>
<td></td>
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<tr>
<td>GPL6254I</td>
<td>IMS 'ims' typ 'nam' REPORT SEQ 'seq' waiting sec seconds for work to complete. Time=tim</td>
<td></td>
<td>The current INSTALL/BACKOUT utility is waiting for a resource to complete its work before updating or deleting it.</td>
<td>The utility job continues.</td>
<td>None. Informational message only.</td>
<td></td>
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</tr>
<tr>
<td>GPL6255I</td>
<td>Begin Rollback for IMS 'ims'</td>
<td></td>
<td>INSTALL/BACKOUT has entered rollback processing for the IMSID specified because of a DRD error and ONFAILURE(ROLLBACK).</td>
<td>The utility job begins rollback.</td>
<td>None. Informational message only.</td>
<td></td>
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</table>
ON FAILURE(ROLLBACK) but nothing to rollback for IMS 'ims'...

Explanation: INSTALL/BACKOUT has entered rollback processing but there is nothing to rollback.
System action: The utility job terminates rollback.
User response: None. Informational message only.

Explanation: INSTALL/BACKOUT has entered rollback processing but there is nothing to rollback. System action: The utility job terminates rollback. User response: None. Informational message only.

Explanation: INSTALL/BACKOUT is searching backwards in its change history for the last change to the resource. Displayed are the history entries before the change. System action: The utility job continues. User response: None. Informational message only.

Explanation: An attempt is being made to delete a database after all programs have been deleted in the same change package. System action: The utility job continues. User response: None. Informational message only.

Explanation: Only one INSTALL or BACKOUT utility per IMSplex is can be running at on time. System action: The utility stops. User response: None. Informational message only.

Explanation: The utility has detected an error. Additional debugging information is provided for the error. System action: The utility stops. User response: Check for additional messages "GPL6200W" on page 171 and "GPL6205E" on page 171.

Explanation: The object is being copied. System action: None. Informational message only. User response: None. Informational message only.
GPL6301I  To target obt 'obn' ob2
Explanation: The resource group is being copied to a new resource group name.
System action: None. Informational message only.
User response: None. Informational message only.

GPL6302E The NEWNAME parameter or NEWSYSTEM parameter is required when copying a resource group to the same repository
Explanation: The same resource group can't be copied to the same IMS Configuration Manager repository.
System action: The COPY utility stops.
User response: If copying a common resource group, add the NEWNAME parameter with a different resource group name. If copying a system resource group, specify a new resource group name in the NEWNAME parameter or a new IMSID in the NEWSYSTEM parameter.

GPL6303W obt 'obn' ob2 exists and REPLACE not specified. Not copied
Explanation: The IMS Configuration Manager repository already contains the object. The object is not replaced because the COPY parameters do not include the REPLACE parameter.
System action: The copy of the object is skipped.
User response: Add the REPLACE parameter to your parameters and rerun COPY.

GPL6304I COPY has act obt 'obn' ob2
Explanation: The object has been either created or replaced in the IMS Configuration Manager repository depending on if it already existed.
System action: None. Informational message only.
User response: None. Informational message only.

GPL6305I Counts: DB=dbc PGM=pgc RTC=rtc TRAN=trc SKIP=skp
Explanation: The number of database, program, route codes and transaction resources that have been copied are displayed.
System action: None. Informational message only.
User response: None. Informational message only.

GPL6306E The NEWNAME or NEWSYSTEM parameter must be different from the MBRNAME or SYSTEM name when copying to the same repository
Explanation: The COPY NEWNAME parameter must not be the same as the resource group name when copying a common resource group to the same IMS Configuration Manager repository. When copying a system-level resource group either the NEWNAME must be different or the NEWSYSTEM must specify a different system.
System action: The utility stops.
User response: Correct the RG and NEWNAME parameters and rerun COPY.

GPL6307E Repository call call failed, RC=rc RSN=rsn DD=dd
Explanation: An error has been encountered accessing the IMS Configuration Manager repository. The type of access is displayed along with the return and reason code and the ddname of the IMS Configuration Manager repository in error.
System action: The utility stops.
User response: Save all job logs and report problem to IBM support.

GPL6308E Resource=obn ob2 res Type=obt
Explanation: An error has been encountered accessing the IMS Configuration Manager repository. The name and type of resource that was being processed is displayed.
System action: The utility stops.
User response: Save all job logs and report problem to IBM support.

GPL6309E The NEWSYSTEM parameter is required when copying an IMS system to the same repository
Explanation: IMS systems cannot be copied to the same IMS Configuration Manager repository unless they are going to be renamed.
System action: The utility stops.
User response: Add a new system name in the NEWSYSTEM parameter and rerun the utility.

GPL6310E Generic COPY is not allowed to the same repository
Explanation: Generic COPY cannot be used when copying resource groups to the same IMS Configuration Manager repository.
System action: The utility stops.
User response: Change the TO ddname to another IMS Configuration Manager repository and rerun COPY.
GPL6311W  No Resource Groups were selected for copy
Explanation: The COPY utility did not copy any resource groups. This message can be issued if there is a prior error or if the generic RG mask values did not match any resource groups.
System action: The utility stops.
User response: If you are using a generic RG you may need to adjust your mask values so that resource groups are selected.

GPL6312W  No Resource definitions copied for obt 'obm' ob2
Explanation: The COPY utility did not copy any resource group elements for this object. This message can be issued if there was a prior error or if the MBRNAME mask did not match any resources.
System action: The utility stops.
User response: If you are using an INCLUDE parameter to select certain resource elements you will need to modify the filter mask so that elements are selected.

GPL6313E  Resource group 'rg' ims not found in DDname=dd
Explanation: The COPY utility did not find the resource group in the IMS Configuration Manager repository that was requested for copy.
System action: The utility stops.
User response: Correct the RGNAME parameter and rerun COPY.

GPL6315E  The NEWPLEX parameter must be different from the IMSPLEX name when copying to the same repository
Explanation: The COPY PLEX parameter must not be the same as the IMSplex name when copying to the same IMS Configuration Manager repository.
System action: The utility stops.
User response: Correct the PLEX and NEWPLEX parameters and rerun COPY.

GPL6316E  The number of characters in the NEWNAME mask must equal the number of characters in the MBRNAME mask
Explanation: If a mask is used in both the MBRNAME and the NEWNAME parameters, then the same number of characters before the asterisk (*) must be specified in both parameters.
System action: The utility stops.
User response: Correct the MBRNAME and NEWNAME parameters and rerun COPY.

GPL6317I  Copying typ nam
Explanation: The named object is being copied.
System action: None. Informational message only.
User response: None. Informational message only.

GPL6318E  System sys not found in target DDname=dd
Explanation: The COPY utility did not find the IMS system in the target IMS Configuration Manager repository. A resource group or change package cannot be selected for copy if the IMS system is not in the target IMS Configuration Manager repository.
System action: The utility stops.
User response: Correct the SYSTEM or NEWSYSTEM parameter and rerun COPY.

GPL6319E  The NEWPLEX parameter is required when copying an IMSplex to the same repository
Explanation: The NEWPLEX parameter is required when copying a new IMSplex to the same IMS Configuration Manager repository.
System action: The COPY utility stops.
User response: Add the NEWPLEX parameter and rerun COPY.

GPL6321E  IMSplex 'plx' not found in DDname=dd: PLX = Plex nam
Explanation: The COPY utility did not find the IMSplex name in the file that was requested for copy.
System action: The utility stops.
User response: Correct the PLEX name parameter and rerun COPY.

GPL6322W  No Change packages were selected for copy
Explanation: The COPY utility did not copy any change packages. This message can be issued if there is a prior error or if the a generic change package mask in the MBRNAME parameter match any resource groups.
System action: The utility stops.
User response: If you are using a generic mask you may need to adjust your mask value so that change packages are selected.
GPL6324I  COPY has act IMSplex plx
Explanation: The IMSplex has been either created or replaced in the IMS Configuration Manager repository depending on if it already existed.
System action: None. Informational message only.
User response: None. Informational message only.

GPL6325E The NEWSYSTEM parameter is required when copying a change package to the same repository
Explanation: The NEWSYSTEM parameter is required when copying a change package to the same IMS Configuration Manager repository.
System action: The COPY utility stops.
User response: Add the NEWSYSTEM parameter with a different IMSID value to copy a change package to the same IMS Configuration Manager repository.

GPL6326E The NEWSYSTEM parameter is required when copying a System to the same repository
Explanation: The NEWSYSTEM parameter is required when copying a system to the same IMS Configuration Manager repository.
System action: The COPY utility stops.
User response: Add the NEWSYSTEM parameter and rerun COPY.

GPL6328E The NEWSYSTEM parameter(s) must be different from the SYSTEM name when copying to the same repository
Explanation: The COPY NEWSYSTEM parameter must not be the same as the SYSTEM name when copying to the same IMS Configuration Manager repository.
System action: The utility stops.
User response: Correct the SYSTEM and NEWSYSTEM parameters and rerun COPY.

GPL6329E The NEWSYSTEM new IMSID name must be different from the old SYSTEM name when copying a change package to the same repository
Explanation: The new NEWSYSTEM IMSID name must not be the same as the IMSID name when copying to the same IMS Configuration Manager repository.
System action: The utility stops.
User response: Correct the SYSTEM and NEWSYSTEM parameters and rerun COPY.

GPL6330E The NEWSYSTEM parameter or NEWRGNM parameter with different parameter values is required when copying an IMS resource to the same repository
Explanation: The same IMS resource can't be copied to the same IMS Configuration Manager repository unless it is renamed or copied to a different resource group.
System action: The COPY utility stops.
User response: Use the NEWSYSTEM to rename the resource or the NEWRGNM to change the resource group name.

GPL6331E The NEWSYSTEM parameter must have the same number of IMSID names as the SYSTEM parameter
Explanation: The NEWSYSTEM parameter, if used, must have the same number of IMSIDs specified as the SYSTEM parameter.
System action: The COPY utility stops.
User response: Change the NEWSYSTEM parameter so that there is one new IMSID name for each IMSID in the SYSTEM parameter. Use a comma for any IMSID name you do not want to rename.

GPL6332E The NEWSYSTEM parameter cannot be specified when SYSTEM(*)
Explanation: The NEWSYSTEM parameter cannot be used with a generic SYSTEM parameter.
System action: The COPY utility stops.
User response: Remove the NEWSYSTEM parameter and resubmit the job.

GPL6333W No matching mbr found in DDname=d
Explanation: No members matching the MBRTYPE were found in the input file.
System action: The job ends.
User response: Correct the COPY selection parameters and resubmit the job.

GPL6334I mbr copied=cnt
Explanation: The number of PLEX and SYSTEMs copied are displayed.
System action: None. Informational message only.
User response: None. Informational message only.
GPL6335E Copy 'FROM' and 'TO' data set names are the same and a new name not specified

Explanation: COPY to the same data set cannot be performed unless a new name for the objects is provided.

System action: COPY stops.
User response: Add the appropriate NEWPLEX, NEWSYSTEM or NEWNAME parameter and resubmit COPY.

GPL6336E A SYSTEM parameter or COMMON(YES) is required to copy Resource groups

Explanation: To successfully COPY a resource group either specify a SYSTEM parameter to match system-level resource groups or specify COMMON(YES). A COMMON(YES) and a SYSTEM parameter can also be specified together to copy both common and system-level resource groups.

System action: COPY stops.
User response: Add the SYSTEM parameter, the COMMON(YES) parameter or both and resubmit COPY.

GPL6337E The NEWSYSTEM parameter cannot be specified without a SYSTEM parameter

Explanation: The NEWSYSTEM parameter of the COPY utility can not out specified without the SYSTEM parameter. The NEWSYSTEM parameter is used to change the name of a system during the COPY operation.

System action: COPY stops.
User response: Remove the NEWSYSTEM parameter and resubmit COPY.

GPL6338E Your userid is not authorized to modify a GPL repository object

Explanation: An attempt to change an object in a IMS Configuration Manager repository has been denied by IMS Configuration Manager access control.

System action: Utility stops.
User response: Contact your SAF administrator for more information.

GPL6339E A SAF error has been detected trying to authorize access to a GPL repository object, SAF RC=rc

Explanation: An attempt to change an object in a IMS Configuration Manager repository has resulted in a SAF error.

System action: The utility stops.

User response: Contact your SAF administrator for more information.

GPL6340E SAF Entity: ent

Explanation: This message follows "GPL6338E" and "GPL6339E" to display the RACROUTE entity that failed.

System action: The utility stops.
User response: Contact your SAF administrator for more information.

GPL6341E The NEWPLEX parameter cannot be used with a generic PLEX copy

Explanation: The COPY NEWPLEX parameter cannot be used with PLEX(*).

System action: The utility stops.
User response: Remove the NEWPLEX parameter and rerun COPY.

GPL6342E The PLEX(*) parameter cannot be used to copy to the same repository

Explanation: The COPY PLEX(*) parameter cannot be used to copy to the same IMS Configuration Manager repository.

System action: The utility stops.
User response: Correct the PLEX parameter and rerun COPY.

GPL6343I Counts: DBDESC=dbc PGMDESC=pgc RTCDESC=rtc TRANDESC=trc SKIP=skp DUP=dup

Explanation: The number of database, program, route codes, and transaction descriptors that have been copied are displayed. Also displayed is the number of descriptors skipped because of the INCLUDE parameter and the number of duplicate descriptors not copied.

System action: None. Informational message only.
User response: None. Informational message only.

GPL6400I act change package 'cpd cpt' for IMSID 'ims'

Explanation: A change package is being read or generated.
System action: None. Informational message only.
User response: None. Informational message only.
GPL6401W  Duplicate res resource dup ignored. Also occurs in change package 'ims'
Explanation: The input to GEN contains a duplicate resource.
System action: The utility stops.
User response: Remove the duplicate resource from the IMS Configuration Manager repository and rerun GEN.

GPL6402W  No Resource definitions generated for IMSID ims
Explanation: The GEN utility did not generate any resource definitions for this IMSID. This message can be issued if there was a prior error or if the include masks did not match any resources.
System action: The utility stops.
User response: If you are using the INCLUDE parameter to select certain resource definitions you will need to modify the filter mask so that elements are selected.

GPL6403W  Program pgm not found for rge resource nam
Explanation: The GEN utility could not find the program that is associated with the TRANSACT or RTCODE resource.
System action: The utility stops.
User response: Add the program to your IMS Configuration Manager repository and rerun the utility.

GPL6404I  GEN has generated change package for IMSID ims
Explanation: The change package for the IMS system has been created.
System action: None. Informational message only.
User response: None. Informational message only.

GPL6405I  Counts: DB=dbc PGM=pgc RTC=rtc
          TRAN=trc SKIP=skp DUP=dup
Explanation: The number of database, program, route codes, and transaction resources that have been generated are displayed. Also displayed is the number of resources skipped because of the INCLUDE parameter and the number of duplicate resources not generated.
System action: None. Informational message only.
User response: None. Informational message only.

GPL6406E  Plex (plx) not found in the repository
Explanation: The IMSplex name was not found in the IMS Configuration Manager repository.
System action: The utility stops.
User response: Correct the PLEX parameter and resubmit the utility.

GPL6407E  Repository call call failed, RC=rc
          RSN=rsn DD=rg
Explanation: An error has been encountered accessing the IMS Configuration Manager repository. The type of access is displayed along with the return and reason code and the ddname of the IMS Configuration Manager repository in error.
System action: The utility stops.
User response: Save all job logs and report the problem to IBM support.

GPL6408E  Resource=res type=typ
Explanation: An error has been encountered accessing the IMS Configuration Manager repository. The name and type of resource that was being processed is displayed.
System action: The utility stops.
User response: Save all job logs and report the problem to IBM support.

GPL6409W  No change packages were selected for generation
Explanation: The GEN utility did not generate any change packages. This message can be issued if there is a prior error.
System action: The utility stops.
User response: Review prior error messages, fix the problems and resubmit GEN.

GPL6410E  Change package for IMSID ims not found in fil
Explanation: The GEN utility did not find the change package in the repository that was requested for GEN.
System action: The utility stops.
User response: Correct the change package date and time and rerun GEN.

GPL6411W  No change packages assigned to Plex (plx) in the repository
Explanation: There are no change packages in the repository that are associated with this PLEX.
System action: The utility ends.
GPL6414W  res resource ren reassigned to change package for ims

Explanation: The TRAN or RTC has been reassigned to a program in another IMS change package. This can happen if there was not a matching program in the current change package or the program in the current change package was ignored because it duplicated a program in a previous change package.

System action: The resource is assigned to the new program.

User response: None required. This is a warning message only.

GPL6415I  Reprocessing unmatched resources in change package in ims

Explanation: There are TRAN or RTC resources that did not have a matching PROGRAM resource when the change package was first read. The utility is trying to match the resources to PROGRAMS in other change packages.

System action: None. Informational message only.

User response: None. Informational message only.

GPL6416W  Resource name name is not valid for a type

Explanation: A new resource name was specified that is not valid for the specified resource type.

System action: The resource is not copied.

User response: Specify a valid resource name and rerun.

GPL6417I  Counts: DBDESC=dbc PGMDESC=pgc RTCDESC=rtc TRANDESC=trc SKIP=skp DUP=dup

Explanation: The number of database, program, route codes, and transaction resources that have been generated are displayed. Also displayed is the number of resources skipped because of the INCLUDE parameter and the number of duplicate resources not generated.

System action: None. Informational message only.

User response: None. Informational message only.

GPL6500E  Error reading inp RC=rc RSN=rsn

Explanation: An error was encountered reading one of the COMPARE inputs.

System action: The COMPARE stops.

User response: Review prior SYSOUT messages for the reason for the error. Correct and resubmit the utility.

GPL6501E  Only one RG or CP disposition allowed

Explanation: When defining resource group and change package COMPARE outputs only one of CREATE or REPLACE is allowed on the UPDCP and UPDRG statements.

System action: The COMPARE stops.

User response: Decide if you want to CREATE or REPLACE the resource group or change package. COMPARE output object and code the appropriate value.

GPL6502I  act Change Package for IMS 'ims' CP timestamp 'cpd cpd'

Explanation: A change package is being created or updated by the COMPARE utility.

System action: None. Informational message only.

User response: None. Informational message only.

GPL6503I  act RG 'rg' fims 'ims'

Explanation: A resource group is being created or updated by the COMPARE utility.

System action: None. Informational message only.

User response: None. Informational message only.

GPL6504E  The IMSID in the 'prm' parameter is not in repository, DDNAME=dd

Explanation: The IMSID specified in either the UPDCP or UPDRG parameter of the COMPARE utility does not exist in the IMS Configuration Manager repository.

System action: The COMPARE utility stops.

User response: Define the IMS system using the IMS Configuration Manager ISPF dialog and resubmit the job.

GPL6505E  The UPDRG parameter cannot be specified without the UPDCP parameter

Explanation: The COMPARE utility UPDRG parameter cannot be specified without the UPDCP parameter.

System action: The COMPARE utility stops.

User response: Define the UPDCP parameter and resubmit the job.

GPL6506E  IMS system 'ims' not found in repository. DDNAME=dd

Explanation: An IMS system name that is in the SCOPE parameter is not defined in the IMS Configuration Manager repository.
GPL6507E  Resource group ‘rg’ found in repository DDNAME=dd
Explanation: An input resource group is not found in the IMS Configuration Manager repository by the COMPARE utility.
System action: The utility stops.
User response: Specify an input resource group that exists and rerun the COMPARE utility.

GPL6508E  'RG' is required for INPUT1, INPUT2
Explanation: An RG parameter is required for COMPARE on INPUT1 and INPUT2.
System action: The utility stops.
User response: Enter the RG parameter and rerun the COMPARE utility.

GPL6509E  IMSID is required for UPDCP
Explanation: An IMSID parameter is required when the UPDCP parameter is coded for the COMPARE utility.
System action: The utility stops.
User response: Enter the IMSID parameter and rerun the COMPARE utility.

GPL6510E  'NAME' is required for UPDRG
Explanation: A NAME parameter is required for UPDRG.
System action: The utility stops.
User response: Enter the NAME parameter and rerun the COMPARE utility.

GPL7001I  prf txt
Explanation: This message displays the sysout lines returned by autodiscovery.
System action: None. Informational message only.
User response: None. Informational message only.

GPL7002I  Discovered obj JOB 'job' XCF Name 'mem'
Version 'ver' in IMSPLEX 'plx' on OS 'os'
Explanation: This message displays the IMS objects discovered by autodiscovery.
System action: None. Informational message only.
User response: None. Informational message only.

GPL7003I  IMSplex 'plx' has no active or eligible IMS components
Explanation: There are no active IMS components for this IMSplex or none match the MBRTYPE criteria.
System action: Autodiscovery continues with the next IMSplex.
User response: None. Informational message only.

GPL7004E  txt
Explanation: A request to the JES subsystem to process a job has failed. The message describes the system service and error codes associated with the problem.
System action: Autodiscovery stops.
User response: Check the JES service error codes to determine the reason for the problem. Common problems include:
• For Function=SSST, see SYS1.MACLIB(IAZSSST) for errors returned in STATREAS. Common errors are:
  – =08 Invalid job id - not in "JOB01234" format
  – =2C Invalid job name
• For Function=SSJI, see SYS1.MACLIB(IAZSSJI or IAZSPLIO) for errors returned in SSJIRETN. Common errors are:
  – =28 RACF authorization error.

GPL7005W  Address space 'job' not found
Explanation: The address space named in a QUERY IMSPLEX DRD command is no longer active.
System action: Autodiscovery continues with the next member.
User response: Determine why the job has abended and restart the IMS component and rerun autodiscovery.

GPL7006I  JESJCL file in address space 'job' not found
Explanation: The JESJCL file in a job cannot be found.
System action: Autodiscovery continues with the next member.
User response: None. Informational message only.
Explanation: This message displays the IMS objects added or updated in the IMS Configuration Manager repository during autodiscovery.

System action: None. Informational message only.

User response: None. Informational message only.

GPL7008I

<table>
<thead>
<tr>
<th>Explanation:</th>
<th>This message displays the PARM= string from the IMS component discovered by autodiscovery.</th>
</tr>
</thead>
<tbody>
<tr>
<td>System action:</td>
<td>None. Informational message only.</td>
</tr>
<tr>
<td>User response:</td>
<td>None. Informational message only.</td>
</tr>
</tbody>
</table>

GPL7009I

<table>
<thead>
<tr>
<th>Explanation:</th>
<th>This message displays the data set names from the IMS component discovered by autodiscovery.</th>
</tr>
</thead>
<tbody>
<tr>
<td>System action:</td>
<td>None. Informational message only.</td>
</tr>
<tr>
<td>User response:</td>
<td>None. Informational message only.</td>
</tr>
</tbody>
</table>

GPL7010E

<table>
<thead>
<tr>
<th>Explanation:</th>
<th>DISCOVER parameter TYPE values ALL and PLEX are mutually exclusive and cannot be entered with any other TYPE values like IMS or IMSCON, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>System action:</td>
<td>The DISCOVER utility stops.</td>
</tr>
<tr>
<td>User response:</td>
<td>Correct the TYPE parameter and rerun the utility.</td>
</tr>
</tbody>
</table>

GPL7011I

<table>
<thead>
<tr>
<th>Explanation:</th>
<th>Autodiscovery is looking for IMSCON regions in a XCF group.</th>
</tr>
</thead>
<tbody>
<tr>
<td>System action:</td>
<td>None. Informational message only.</td>
</tr>
<tr>
<td>User response:</td>
<td>None. Informational message only.</td>
</tr>
</tbody>
</table>

GPL7012I

<table>
<thead>
<tr>
<th>Explanation:</th>
<th>This message displays the IMS objects discovered by autodiscovery outside of an IMSplex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>System action:</td>
<td>None. Informational message only.</td>
</tr>
<tr>
<td>User response:</td>
<td>None. Informational message only.</td>
</tr>
</tbody>
</table>

GPL7013I

<table>
<thead>
<tr>
<th>Explanation:</th>
<th>This message indicates that DISCOVER is starting the phase when discovered IMS components are added to the IMS Configuration Manager repository.</th>
</tr>
</thead>
<tbody>
<tr>
<td>System action:</td>
<td>None. Informational message only.</td>
</tr>
<tr>
<td>User response:</td>
<td>None. Informational message only.</td>
</tr>
</tbody>
</table>

GPL7014I

<table>
<thead>
<tr>
<th>Explanation:</th>
<th>This message displays the IMS objects to be updated, added or ignored by autodiscovery.</th>
</tr>
</thead>
<tbody>
<tr>
<td>System action:</td>
<td>None. Informational message only.</td>
</tr>
<tr>
<td>User response:</td>
<td>None. Informational message only.</td>
</tr>
</tbody>
</table>

GPL7015I

<table>
<thead>
<tr>
<th>MBRTYPE</th>
<th>Discovered</th>
<th>Added</th>
<th>Updated</th>
<th>No change</th>
<th>Skipped</th>
<th>Error</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Explanation: This message is the heading row for a table that summarizes the results of autodiscovery.

MBRTYPE

- The type of component that has been discovered by IMS Configuration Manager.
- Possible values are PLEX (IMSplex), IMS, IMSCON (IMS Connect), ODBM (Open Database Manager), REPO (Repository Server (RS)), OM (Operations Manager), RM (Resource Manager) and SCI (Structured Call Interface).

Discovered

- The number of components of each MBRTYPE found

Added

- The number of components that were new to the IMS Configuration Manager repository.

Updated

- The number of components that were already in the IMS Configuration Manager repository and were changed.

No change

- The number of components already in the IMS Configuration Manager repository but are unchanged since the last time autodiscovery was executed.

Skipped

- The number of components that were not processed. There are several reasons a component may be skipped:
  1. An IMSplex does not have any active components.
  2. An IMS is in an IMSplex but NOPLEX processing is being done.
  3. The version of a component cannot be determined.
4. An IMS Connect (IMSCON) is not associated with any IMS system that has been discovered.

**Error** The number of components that could not be processed further because of an error. Some reasons why a component can’t be processed further are:

1. The component address space is not found.
2. JESJCL cannot be parsed.
3. A PROCLIB member cannot be read.
4. A component parameter string cannot be parsed.
5. Component STEPLIB tables cannot be loaded.

**System action:** None. Informational message only.

**User response:** None. Informational message only.

**Related reference:** Chapter 21, “Understanding the result of the discovery process,” on page 261

Results of the IMS Configuration Manager autodiscovery process are summarized in the log.

**GPL7016W** No IMS components discovered

**Explanation:** This message indicates that DISCOVER did not discover any IMS components.

**System action:** None required. This is a warning message only.

**User response:** None required. This is a warning message only.

**GPL7017I** Reading IMS Proclib member 'pmb' for obj JOB 'job'

**Explanation:** This message is issued when autodiscovery is reading an IMS proclib member.

**System action:** None. Informational message only.

**User response:** None. Informational message only.

**GPL7018E** Proclib member 'pmb' not found for obj JOB 'job'

**Explanation:** This message is issued if a PROCLIB member cannot be read from the data sets on an IMS component JOB’s PROCLIB DD statement.

**System action:** Autodiscovery continues.

**User response:** Determine why the PROCLIB member is not in the data sets specified on the JOB’s PROCLIB DD statement and rerun autodiscovery.
GPL7025W No IMSPLEX discovered
Explanation: DISCOVER did not find any IMSPLEX in the sysplex. This can result if the PLEX parameter is used and none match IMSPLEX actually defined to XCF.
System action: The autodiscovery stops.
User response: Correct the PLEX parameter and rerun.

GPL7026I Load of IMS table 'tab' from 'ddn' failed.
RC=rc RSN=rsn
Explanation: A load of an IMS table out of an IMS component's library failed.
System action: Autodiscovery continues with the next component.
User response: Return code 4 indicates that the IMS table is not in the library of the IMS component that is being discovered. Add the library with the module that is missing to the IMS component's STEPLIB and rerun autodiscovery.

GPL7027I CQS JOB 'job' XCF Name 'mem' OS Name 'os' associated with IMS 'ims' in IMSPlex 'plx'
Explanation: A CQS component is being associated with an IMS region in the same plex on the same OS image.
System action: None. Informational message only.
User response: None. Informational message only.

GPL7028E Only MBRTYPES 'IMS' and 'IMSCON' allowed with the NOPLEX option
Explanation: The NOPLEX option only captures IMS and IMSCON components that are not part of an IMSplex.
System action: Autodiscovery stops.
User response: Correct the MBRTYPE parameter and rerun.

GPL7029E The PLEX parameter cannot be specified with the NOPLEX option
Explanation: The NOPLEX option is mutually exclusive with the PLEX parameter.
System action: Autodiscovery stops.
User response: Remove the PLEX parameter and rerun.

GPL7030I Discovered IMS JOB 'job' IMSID 'ims' in subsystem name table
Explanation: This message displays the IMS regions found through the MVS Subsystem Name Table.
System action: None. Informational message only.
User response: None. Informational message only.

GPL7031I IMSID 'ims' is in IMSPLEX 'plx'. This IMS is being skipped
Explanation: The NOPLEX option of autodiscovery ignores IMS systems that are in an IMSplex.
System action: The IMS is skipped. Autodiscovery continues.
User response: None. Informational message only.

GPL7032I IMSID 'ims' The suffix for 'mbr' is not available in PARM or PB member
Explanation: Autodiscovery is skipping reading of this parameter member because the suffix is not in IMS parameters or PB member.
System action: None. Informational message only.
User response: None. Informational message only.

GPL7033I CQS PROCLIB DSN 'dsn' txt 'ims' PROCLIB DD
Explanation: Autodiscovery is skipping or adding a CQS PROCLIB dataset to the IMS PROCLIB concatenation based on if the CQS PROCLIB is already in the IMS PROCLIB concatenation.
System action: None. Informational message only.
User response: None. Informational message only.

GPL7034I IMSCON JOB 'job' is connected to IMSID 'ims' in IMSPLEX 'plx'
Explanation: Autodiscovery has found that an ICON region is connected to an IMS region though the TMEMBER name in the HWS DATASTORE parameter.
System action: None. Informational message only.
User response: None. Informational message only.

GPL7035I IMSCON 'job' XCF NAME 'mem' is not connected to any IMS system discovered, skipping
Explanation: Autodiscovery has not found any connections between an IMSCON region and the IMS regions captured in this invocation of autodiscovery. The IMSCON region is skipped.
System action: None. Informational message only.
User response: None. Informational message only.

Explanation: A CSL command has failed. Displayed is the CSL command and return and reason code.

System action: Autodiscovery continues with the next IMSplex.

User response: Fix the problem indicated by the IMS CSL return and reason codes displayed in message and rerun autodiscovery.

Explanation: Autodiscovery has encountered an error communicating with an IMSplex using CSL.

System action: Autodiscovery continues with the next IMSplex.

User response: Fix the problem indicated by the IMS CSL return and reason codes displayed in message and rerun autodiscovery.

Explanation: Autodiscovery is unable to retrieve the name token for a CQS address space.

System action: Autodiscovery cannot retrieve CQS information for the IMS system.

User response: The return code is documented in the Assembler services guide for the IEANTRT callable service.

Explanation: Autodiscovery is unable to retrieve the name token for a CQS address space.

System action: Autodiscovery continues but cannot retrieve CQS information for the IMS system.

User response: Start the CQS region and rerun autodiscovery.

Explanation: The IMS system discovered does not have a CQSSID defined in the SQ or DF members of the IMS PROCLIB.

System action: None. Informational message only.

User response: None. Informational message only.
**GPL7047I**  IXCQUERY ERROR.  RC=rc  RSN=rsn  XCF group 'grp'

**Explanation:** A XCF query command has failed. The IXCQUERY return and reason code are displayed and the XCF group name.

**System action:** Autodiscovery continues.

**User response:** Fix the problem indicated by the IXCQUERY return and reason codes displayed in message and rerun autodiscovery.

---

**GPL7048I**  txt

**Explanation:** Autodiscovery has encountered an error issuing an XCF QUERY.

**System action:** Autodiscovery continues with the next IMSplex.

**User response:** Fix the problem indicated by the IXCQUERY return and reason codes displayed in message "GPL7047I" and rerun autodiscovery.

---

**GPL7049I**  Found 'rcn' DSN 'dsn' in DBRC 'ddn' for IMSID 'ims'

**Explanation:** Autodiscovery has found a RECON dataset for an IMSID by loading MDA blocks from STEPLIB or IMSDALIB in the DBRC region.

**System action:** None. Informational message only.

**User response:** None. Informational message only.

---

**GPL7050I**  Discovered obj JOB 'job' associated with IMS 'ims'

**Explanation:** This message displays the DBRC region that is associated with an IMS system.

**System action:** None. Informational message only.

**User response:** None. Informational message only.

---

**GPL7051I**  Found 'ddn' DSN 'dsn' in DBRC JOB 'job'

**Explanation:** Autodiscovery has found a RECON dataset for an IMSID in the DBRC region's JCL.

**System action:** None. Informational message only.

**User response:** None. Informational message only.

---

**GPL7052I**  Error finding IMSCON Name 'hws'  IMSPlax relationships.  RC=rc  RSN=rsn

**Explanation:** An attempt to find the IMSplex for an IMSCON has failed. The return and reason codes are displayed.

**System action:** Autodiscovery continues.

**User response:** Save all job logs. Contact IBM Software Support.

---

**GPL7053I**  IMSCON 'hws' IMSPlax associations with 'plx'

**Explanation:** This message shows the first five IMSplex and IMSplex member associations with the IMSCON region whose name is displayed.

**System action:** None. Informational message only.

**User response:** None. Informational message only.

---

**GPL7054I**  obj JOB 'job' in IMSPLEX 'plx' on OS 'os'  the VERSION is zero. Skipping

**Explanation:** A discovered object has a zero version.

**System action:** The object is skipped.

**User response:** When autodiscovery detects a zero version for a discovered object, it is usually because the IMSplex is in an unstable state. Processing for this object is skipped. The user should rerun autodiscovery for the IMSplex, when the IMSplex environment is stable, to ensure completeness.

---

**GPL7055I**  Loading IMS SCD 'scd' from the IMS JOB STEPLIB

**Explanation:** Autodiscovery is loading the suffixed SCD module.

**System action:** None. Informational message only.

**User response:** None. Informational message only.

---

**GPL7056I**  Reading CQS Proclib member 'pmb' for obj JOB 'job'

**Explanation:** This message is issued when autodiscovery is reading a CQS proclib member.

**System action:** None. Informational message only.

**User response:** None. Informational message only.

---

**GPL7057I**  To discover the CQSSN 'cqs' connected to IMS 'ims' Auto Discovery must be run on OSNAME 'os'

**Explanation:** This message is issued when autodiscovery is trying to discover a CQS system not in an IMSplex and not on the same OS system as autodiscovery.

**System action:** The CQS information is not captured but autodiscovery continues.

**User response:** Run autodiscovery on the OS named in the message.
<table>
<thead>
<tr>
<th>Message</th>
<th>Explanation</th>
<th>System action</th>
<th>User response</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPL7058I</td>
<td>Searching for CQS connections to IMS systems</td>
<td>None. Informational message only.</td>
<td>None. Informational message only.</td>
</tr>
<tr>
<td></td>
<td>This message is issued when auto discovery is beginning to search for CQS connection to IMS systems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPL7059E</td>
<td>A work RDDS must be supplied on a GPLRDDS DD card to discover IMS resources</td>
<td>Autodiscovery terminates.</td>
<td>Add a work RDDS to the JCL and rerun autodiscovery.</td>
</tr>
<tr>
<td></td>
<td>This message is issued when autodiscovery is trying to discover IMS resources but a work RDDS has not been supplied.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPL7060I</td>
<td>Discovering resources for IMSID 'ims' PLEX 'plx'</td>
<td>None. Informational message only.</td>
<td>None. Informational message only.</td>
</tr>
<tr>
<td></td>
<td>This message is issued when autodiscovery is about to discover resources for an IMS system.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPL7061E</td>
<td>Error processing an IMS SCD 'scd'. RC=rc RSN=rsn</td>
<td>Autodiscovery continues.</td>
<td>Save all job logs and contact IBM technical support.</td>
</tr>
<tr>
<td></td>
<td>An attempt to extract the IMMSGEN parameters from the SCD has failed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPL7062I</td>
<td>IMS 'ims' is searching for a CQSX using SSN 'ssn'</td>
<td>None. Informational message only.</td>
<td>None. Informational message only.</td>
</tr>
<tr>
<td></td>
<td>An attempt is being made to connect an IMS system to a CQS as part of autodiscovery.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPL7063E</td>
<td>Error parsing a spool buffer. INFO=ed</td>
<td>Autodiscovery skips the affected spool buffer and continues.</td>
<td>Save all files and job logs and contact IBM software support.</td>
</tr>
<tr>
<td></td>
<td>An unexpected condition was encountered while parsing a spool buffer.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPL7300E</td>
<td>Unable to open file dsn - DD statement missing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DD statement is missing from the JCL.</td>
<td>IMS Configuration Manager fails to initialize.</td>
<td>Add the missing DD card to the server JCL.</td>
</tr>
<tr>
<td>GPL7301E</td>
<td>No valid repositories defined</td>
<td>IMS Configuration Manager fails to initialize.</td>
<td>Define at least one IMS Configuration Manager repository via GPLCNTL.</td>
</tr>
<tr>
<td></td>
<td>GPLCNTL contains no IMS Configuration Manager repository definitions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPL7302E</td>
<td>Required load module mod not found</td>
<td>IMS Configuration Manager fails to initialize.</td>
<td>Add the required library to the server STEPLIB.</td>
</tr>
<tr>
<td></td>
<td>The required load module was not found.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPL7303E</td>
<td>Syntax error(s) in GPLCNTL control cards</td>
<td>IMS Configuration Manager fails to initialize.</td>
<td>The cause of the syntax errors will be listed above this message. Correct and restart the server.</td>
</tr>
<tr>
<td></td>
<td>GPLCNTL contains invalid control cards.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPL7304E</td>
<td>Dynamic allocation failed for repository rep, data set dsn</td>
<td>IMS Configuration Manager fails to initialize.</td>
<td>Determine the cause of the dynamic allocate failure. Correct and restart the product.</td>
</tr>
<tr>
<td></td>
<td>Dynamic allocation failed for the named IMS Configuration Manager repository. One or more dynamic allocation messages precede this message.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPL7305I</td>
<td>rep repository act, data set dsn</td>
<td>IMS Configuration Manager initialization continues but the named IMS Configuration Manager repository is not available.</td>
<td>Processing continues.</td>
</tr>
<tr>
<td></td>
<td>The named IMS Configuration Manager repository data set was successfully allocated, freed, closed or initialized.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>User response: None. Informational message only.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPL7306E</td>
<td>Repository &lt;i&gt;typ dup&lt;/i&gt; is a duplicate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explanation: The IMS Configuration Manager repository name or data set name has been duplicated.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System action: IMS Configuration Manager fails to initialize.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User response: Remove the duplicate specification.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPL7307E</td>
<td>Initialization failed for repository &lt;i&gt;rep&lt;/i&gt;, data set &lt;i&gt;dsn&lt;/i&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explanation: Initialization failed for the named IMS Configuration Manager repository. One or more messages precede this message.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System action: IMS Configuration Manager initialization continues but the named IMS Configuration Manager repository is not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User response: Determine the cause of the IMS Configuration Manager repository failure. Correct and restart the product.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPL7308I</td>
<td>IMS Configuration Manager product &lt;i&gt;act&lt;/i&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explanation: Information messages regarding the state of the product.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System action: Processing continues.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User response: None. Informational message only.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPL7309I</td>
<td>Line GPLCNTL: card</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explanation: Information message echoing the GPLCNTL input control cards.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System action: Processing continues.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User response: None. Informational message only.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPL7310I</td>
<td>Unable to load CSLSRG00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explanation: An IMS Configuration Manager Eclipse plug-in command failed in the command parser.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System action: The command is rejected.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User response: Probable user error. Correct and retry the request.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPL7311I</td>
<td>Repository unavailable - &lt;i&gt;name&lt;/i&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explanation: An IMS Configuration Manager Eclipse plug-in command specified an IMS Configuration Manager repository which is not known to the IBM Functional Support Library Server, or is unavailable.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System action: The command is rejected.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPL7312E</td>
<td>Repositories &lt;i&gt;rep1&lt;/i&gt; and &lt;i&gt;rep2&lt;/i&gt; have duplicate systems, &lt;i&gt;imsplex&lt;/i&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explanation: The two named IMS Configuration Manager repositories have duplicate entries. The IMSID and IMSplex names are the same. This is not supported.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System action: Both IMS Configuration Manager repositories are flagged in error and are not available for processing.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPL7313I</td>
<td>No records found</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explanation: The server received a valid request but no data was found to match the specified parameters.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System action: A null response (including the error message and headers) is returned.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPL7314I</td>
<td>Response length exceeds the server's configured maximum length of &lt;i&gt;maxlen&lt;/i&gt;M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explanation: The server is unable to respond to the command as the response length exceeds the server's configured maximum length.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System action: A null response (including the error message and headers) is returned.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPL7315I</td>
<td>Invalid command - &lt;i&gt;type&lt;/i&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explanation: An IMS Configuration Manager Eclipse plug-in command is invalid for a given reason.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System action: The command is rejected with a response that includes this information message.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User response: Probable user error. Correct and retry the request.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPL7316I</td>
<td>The command entered has invalid syntax or contains an invalid keyword</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explanation: An IMS Configuration Manager Eclipse plug-in command failed in the command parser.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System action: The command is rejected with a response that includes this information message.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User response: Probable user error. Correct and retry the request.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPL7317I</td>
<td>SCI is not active for &lt;i&gt;PLEX&lt;/i&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explanation: An IMS Configuration Manager Eclipse plug-in IMSCOMMAND for the given IMSplex name failed as the IMSplex is not active.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System action: The command is rejected.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**GPL7318E**  SCI registration error for PLEX *plex*,
   RC=rc  RSN=rs

**Explanation:** The server was unable to register the
named IMSplex with SCI.

**System action:** No type-2 commands can be issued.

**GPL7319E**  Processing error  rsn. INFO=info/info2

**Explanation:** Generic error message capturing the
error module, reason and associated feedback
information.

**System action:** Processing continues.

**User response:** Probable server logic error. Capture
information to assist in problem diagnosis.

**GPL7320I**  Conversation subtask initialization
   error. Subtask: tskid

**Explanation:** Product subtask initialization has
encountered an error.

**System action:** Product subtask will be stopped and
the associated request will be rejected.

**User response:** Probable server logic error. Capture
information to assist in problem diagnosis.

**GPL7321I**  Repository  rep
   AUTODISCOVER(PLEX(xnm))
   duplication ignored

**Explanation:** The AUTODISCOVER parameter on the
given repository’s GPLCNTL card has a duplicate PLEX
name listed. The duplicate name value will be ignored.

**System action:** Initialization for the IMS Configuration
Manager repository continues.

**User response:** Remove the duplicate specification to
avoid this message in the future.

**GPL7322I**  Repository  rep
   AUTODISCOVER(MBRTYPE(ALL))
   specified. Other MBRTYPE values ignored

**Explanation:** The AUTODISCOVER parameter on the
given repository’s GPLCNTL card has MBRTYPE(ALL) as
well as other MBRTYPE values listed. MBRTYPE(ALL)
incorporates all other values, so the other specified
values are ignored.

**System action:** Initialization for the IMS Configuration
Manager repository continues.

**User response:** Remove the duplicate specification to
avoid this message in the future.

**GPL7323I**  Repository  rep
   AUTODISCOVER(MBRTYPE(ALL))
   specified. Other MBRTYPE values ignored

**Explanation:** The AUTODISCOVER parameter on the
given repository’s GPLCNTL card has
MBRTYPE(ALL) as
well as other MBRTYPE values listed. MBRTYPE(ALL)
incorporates all other values, so the other specified
values are ignored.

**System action:** Initialization for the IMS Configuration
Manager repository continues.

**User response:** Remove the duplicate specification to
avoid this message in the future.

**GPL7325I**  Autodiscovery successful for repository  rep

**Explanation:** Autodiscovery was performed
successfully for the name IMS Configuration Manager
repository.

**System action:** Processing continues.

**User response:** None. Informational message only.

**GPL7326I**  Autodiscovery failed for repository  rep

**Explanation:** Autodiscovery failed for the named IMS
Configuration Manager repository. One or more
messages preceded this message.

**System action:** Initialization continues but the named
IMS Configuration Manager repository is not available.

**User response:** Determine the cause of the
autodiscovery failure. Correct and restart the product.

**GPL7327E**  SCI query for PLEX *plex*, RC=rc  RSN=rs

**Explanation:** The server was unable to query the
named IMSplex.

**System action:** IMSplex member status can not be
determined.

**GPL7328W**  Auto discovery of RESOURCES request
   ignored - RDDS name is required

**Explanation:** AUTODISCOVER(RESOURCES) was requested
but an RDDS name was not specified. The request for
autodiscovery of IMS resources will be ignored.

**System action:** IMS Configuration Manager
initialization for the IMS Configuration Manager repository continues.

**User response:** Supply the RDDS name and restart the product, or remove the RESOURCES specification to avoid this message in the future.

---

**GPL7329W**  Auto discovery of RESOURCES request ignored - DDname GPLRDDS is in use

**Explanation:** AUTODISCOVER(RESOURCES) was requested but the GPLRDDS DD is already allocated to the server. The request for autodiscovery of IMS resources will be ignored.

**System action:** IMS Configuration Manager initialization for the IMS Configuration Manager repository continues.

**User response:** Correct the specification of the RDDS name and restart the product, or remove the RESOURCES specification to avoid this message in the future.

---

**GPL7330W**  Auto discovery of RESOURCES request ignored - RDDS allocation failed

**Explanation:** AUTODISCOVER(RESOURCES) was requested but allocation failed for the given RDDS name. One or more dynamic allocation messages precede this message. The request for autodiscovery of resources will be ignored.

**System action:** IMS Configuration Manager initialization for the IMS Configuration Manager repository continues.

**User response:** Correct the specification of the RDDS name and restart the product, or remove the RESOURCES specification to avoid this message in the future.

---

**GPL7331I**  RDDS for auto discovery of RESOURCES has been act, data set dsn

**Explanation:** The RDDS specified for autodiscovery of IMS resources in the named IMS Configuration Manager repository was successfully allocated or freed. The request for autodiscovery of resources will be ignored.

**System action:** IMS Configuration Manager initialization for the IMS Configuration Manager repository continues.

**User response:** Remove the GPLRDDS DD from the server JCL and restart the server, or remove the RESOURCES specification to avoid this message in the future.

---

**GPL7332I**  RDDS for auto discovery of RESOURCES ignored - RDDS allocation failed

**Explanation:** There is a missing parameter for this job.

**System action:** IMS Configuration Manager initialization for the IMS Configuration Manager repository continues.

**User response:** Correct the specification of the RDDS name and restart the product, or remove the RESOURCES specification to avoid this message in the future.

---

**FUN1003I**  Processing event at time

**Explanation:** These are startup and shutdown information messages. *event* identifies ‘started’ or ‘ended’.

**System action:** The job continues.

**User response:** None. Informational message only.

---

**FUN1004I**  Message file DD dname reason - records action

**Explanation:** The output message file is in error or cannot be found and the records have been suppressed or lost. *dname* identifies the output file. *reason* identifies ‘not found’ or ‘in error’ and *action* the action taken with the records.

**System action:** The job continues.

**User response:** None. Informational message only.

---

**FUN1005W**  Message data with destination dest has been lost

**Explanation:** Output message data for the specified destination *dest* has been lost.

**System action:** The job continues.

**User response:** None required. This is a warning message only.

---

**FUN1006S**  Internal logic error rsn, INFO=info/info2

**Explanation:** The functional support environment has detected an internal error and is about to quiesce its functionality.

**System action:** The functional support environment quiesces.

**User response:** Gather the following documentary evidence at the time the problem occurs: copy of the job output, the PRINT data set and a portion of the JES syslog. Contact IBM Software Support.

---

**FUN1007E**  Processing error rsn, INFO=info/info2

**Explanation:** The functional support environment has detected an internal processing error and is about to quiesce its functionality.

**System action:** The functional support environment quiesces.

**User response:** Gather the following documentary evidence at the time the problem occurs: copy of the job output, the PRINT data set and a portion of the JES syslog. Contact IBM Software Support.

---

**FUN1008E**  JCL parameter parm is missing or invalid

**Explanation:** There is a missing parameter for this job.
**FUN1009E • FUN2060E**

**System action:** The job will not run.

**User response:** See the instructions for running the job and then resubmit the job.

---

**FUN1009E** Unable to function module name.

**INFO=info**

**Explanation:** The functional support environment could not find the specified module. *func* identifies the function being performed and *name* the module name. *info* identifies the reason code.

**System action:** The functional support environment quiesces.

**User response:** Gather the following documentary evidence at the time the problem occurs: copy of the job output, the PRINT data set and a portion of the JES syslog. Contact IBM Software Support.

---

**FUN1010E** Insufficient storage available.

**INFO=info/info2**

**Explanation:** The functional support environment was unable to acquire sufficient storage. *info* identifies the amount of storage requested.

**System action:** The functional support environment quiesces.

**User response:** Increase the region size parameter for the job and restart.

---

**FUN2051E** Error on VSAM file *dsname*, VSAM request is *func*, return code = *rc*, reason code = *rsn*

**Explanation:** The functional support environment has detected an error with the specified VSAM file *dsname*. *func* identifies the VSAM macro that failed, for example OPEN, GET, PUT, ERASE. *rc* and *rsn* identify the VSAM Macro return and reason codes.

**System action:** The functional support environment stops processing.

**User response:** Ensure the file is a valid VSAM file and resubmit the job. If it fails repeatedly, see the DFSMS/MVS Macro Instructions for Data Sets (SC26-4913) for an explanation of the VSAM Macro Return and Reason Codes. If you cannot correct the problem, contact the IBM Support Centre.

---

**FUN2052E** Unable to open VSAM file *ddname* - DD statement missing

**Explanation:** The functional support environment cannot open a VSAM file because the DD statement is missing. *ddname* identifies the VSAM file.

**System action:** The functional support environment stops processing.

---

**FUN2053E** *dsname* is not a VSAM KSDS

**Explanation:** The functional support environment has identified that the specified file *dsname* is not a VSAM file.

**System action:** The functional support environment stops processing.

**User response:** Ensure the file is defined correctly as a VSAM file and resubmit the job.

---

**FUN2055E** VSAM file *dsname* data component has shareoptions *dataopt1* *dataopt2*, index has *idxopt1* *idxopt2*

**Explanation:** The functional support environment has identified that the shareoptions for the data component and the index component are not the same. *dsname* identifies the VSAM file, *dataopt1* and *dataopt2* the shareoptions for the data component and *idxopt1* and *idxopt2* the shareoptions for the index component.

**System action:** The functional support environment stops processing.

**User response:** The shareoptions must be the same for the data and index components. Ensure the file is defined correctly and resubmit the job.

---

**FUN2056E** VSAM file defined with shareoptions *opt1* *opt2* instead of (4 3)

**Explanation:** The functional support environment has identified that the shareoptions for the data component and the index component are not the same. *dsname* identifies the VSAM file and *opt1* and *opt2* the shareoptions. The shareoptions must be defined (4 3).

**System action:** The functional support environment stops processing.

**User response:** Ensure the file is defined with the correct shareoptions and resubmit the job.

---

**FUN2060E** VSAM file *dsname* defined with incorrect key *length* *offset* instead of (64 0)

**Explanation:** The functional support environment has identified an incorrect key for the VSAM file. *length* and *offset* identify the invalid key values.

**System action:** The functional support environment stops processing.

**User response:** Ensure the file is defined with a key of (64 0) and resubmit the job.
### Chapter 15. IMS Configuration Manager messages

<table>
<thead>
<tr>
<th>Message ID</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUN2100F</td>
<td>Failed to format a message. The message ID is messageid. Reason: reason.</td>
</tr>
<tr>
<td></td>
<td>Explanation: The functional support environment failed to format a message.</td>
</tr>
<tr>
<td></td>
<td>System action: Processing continues.</td>
</tr>
<tr>
<td></td>
<td>User response: Gather the following documentary evidence at the time the problem occurs: copy of the job output, the PRINT data set and a portion of the JES syslog. Contact IBM Software Support.</td>
</tr>
<tr>
<td>FUN2101F</td>
<td>Syntax error at end of input: string or comment terminator missing.</td>
</tr>
<tr>
<td></td>
<td>Explanation: The Parameter Parser has reached the end of the input parameters while trying to locate the end of a string or a comment.</td>
</tr>
<tr>
<td></td>
<td>System action: The Parameter Parser stops processing.</td>
</tr>
<tr>
<td></td>
<td>User response: Add the missing delimiter and resubmit the job.</td>
</tr>
<tr>
<td>FUN2111F</td>
<td>Syntax error at line records: the input command is not a known command.</td>
</tr>
<tr>
<td></td>
<td>Explanation: The Parameter Parser has detected an unexpected command. command identifies the command and record identifies the record number containing the unexpected command.</td>
</tr>
<tr>
<td></td>
<td>System action: The Parameter Parser continues.</td>
</tr>
<tr>
<td></td>
<td>User response: None. Informational message only.</td>
</tr>
<tr>
<td>FUN2112F</td>
<td>Syntax error at end of input: record continuation on last record.</td>
</tr>
<tr>
<td></td>
<td>Explanation: The Parameter Parser encountered a continuation character on the last record of the input parameters.</td>
</tr>
<tr>
<td></td>
<td>System action: The Parameter Parser stops processing.</td>
</tr>
<tr>
<td></td>
<td>User response: Remove the incorrect continuation and resubmit the job.</td>
</tr>
<tr>
<td>FUN2113F</td>
<td>Syntax error at line records: input does not match known keywords or positional parameters. Input string='input'.</td>
</tr>
<tr>
<td></td>
<td>Explanation: The Parameter Parser has detected an unexpected parameter. input identifies the unknown parameter or keyword, and record identifies the record number where the error was found.</td>
</tr>
<tr>
<td></td>
<td>System action: The Parameter Parser stops processing.</td>
</tr>
<tr>
<td></td>
<td>User response: Edit the input and resubmit the job.</td>
</tr>
<tr>
<td>FUN2114F</td>
<td>Syntax error: the command command is required.</td>
</tr>
<tr>
<td></td>
<td>Explanation: The Parameter Parser has detected a missing mandatory command. command identifies the input containing the missing command.</td>
</tr>
<tr>
<td></td>
<td>System action: The Parameter Parser stops processing.</td>
</tr>
<tr>
<td></td>
<td>User response: Add the mandatory command and resubmit the job.</td>
</tr>
<tr>
<td>FUN2115F</td>
<td>Syntax error: required keyword/parameter is not present. Option=option.</td>
</tr>
<tr>
<td></td>
<td>Explanation: The Parameter Parser has detected a missing mandatory option. option identifies the input containing the missing option.</td>
</tr>
<tr>
<td></td>
<td>System action: The Parameter Parser stops processing.</td>
</tr>
<tr>
<td></td>
<td>User response: Add the mandatory option and resubmit the job.</td>
</tr>
<tr>
<td>FUN2116F</td>
<td>Syntax error at line records: the command command may not be repeated.</td>
</tr>
<tr>
<td></td>
<td>Explanation: The Parameter Parser has detected multiple commands command where only a single command is allowed. record identifies the record number where the second or subsequent command was found.</td>
</tr>
<tr>
<td></td>
<td>System action: The Parameter Parser stops processing.</td>
</tr>
<tr>
<td></td>
<td>User response: Remove the multiple entries and resubmit the job.</td>
</tr>
<tr>
<td>FUN2117F</td>
<td>Syntax error at line records: the keyword/parameter option may not be repeated.</td>
</tr>
<tr>
<td></td>
<td>Explanation: The Parameter Parser has detected multiple keywords or parameters option where only a single keyword or parameter is allowed. record identifies the record number where the second or subsequent keyword or parameter was found.</td>
</tr>
<tr>
<td></td>
<td>System action: The Parameter Parser stops processing.</td>
</tr>
<tr>
<td></td>
<td>User response: Remove the multiple entries and resubmit the job.</td>
</tr>
<tr>
<td>FUN2118F</td>
<td>Syntax error at line records: invalid length for option. Value=option.</td>
</tr>
<tr>
<td></td>
<td>Explanation: The Parameter Parser has detected input values that do not match expected length parameters. option identifies the option where the invalid length was found, input identifies the input string containing the invalid value, and record identifies the record number where the error was found. length identifies the length specified, and min and max respectively identify</td>
</tr>
</tbody>
</table>
the minimum and maximum allowable lengths of the
string.

System action: The Parameter Parser stops processing.
User response: Correct the value to conform to the
expected length and resubmit the job.

---

**FUN2219F** Syntax error at line record: Invalid
datatype for option. Value=input.

Explanation: The Parameter Parser has detected an
input parameter option with a specified value that has
an invalid data type.

System action: The Parameter Parser stops processing.
User response: Correct the value to conform to the
expected data type and resubmit the job.

---

**FUN2220F** Syntax error at line record: input value
does not match the allowed syntax for
option. Input=input.

Explanation: The Parameter Parser has detected
parameter option that has invalid syntax. input indicates
the string in error and record identifies the record where
the error was detected.

System action: The Parameter Parser stops processing.
User response: Edit the input and resubmit the job.

---

**FUN2221F** Syntax error at line record: invalid value
for option. Value=input.

Explanation: The Parameter Parser has detected
parameter option that has been specified with an invalid
value. input indicates the string containing the invalid
value and record indicates the record where the error
was detected.

System action: The Parameter Parser stops processing.
User response: Correct the parameter to specify a
valid value and resubmit the job.

---

**FUN2222F** Syntax error at line record: number of
values for parameter option exceed the
list limit

Explanation: The Parameter Parser has detected a
larger number of items in a list than expected. option
identifies the input string containing the items, and
record identifies the record where the error was
detected.

System action: The Parameter Parser stops processing.
User response: Edit the list of items and resubmit the
job.

---

**FUN2223F** Syntax error at line record: invalid value
for option

Explanation: The Parameter Parser has detected an
invalid parameter. option identifies the input string
containing the error, and record identifies the record
where the error was detected.

System action: The Parameter Parser stops processing.
User response: Edit the input and resubmit the job.

---

**FUN2224F** Syntax error at line record: unmatched
parenthesis. Input=input.

Explanation: The Parameter Parser has detected a
missing parenthesis. input identifies the input string
containing the missing parenthesis, and record identifies
the record where the error was detected.

System action: The Parameter Parser stops processing.
User response: Add the missing parenthesis and
resubmit the job.

---

**FUN2225F** Syntax error at line record: unexpected
data command expected. Input=input.

Explanation: The Parameter Parser has detected a
missing command. input identifies the input string
containing the missing command, and record identifies
the record where the error was detected.

System action: The Parameter Parser stops processing.
User response: Add the missing command and
resubmit the job.

---

**FUN2226F** Syntax error at line record: command
command is out of sequence

Explanation: The Parameter Parser has detected an
out of sequence command. command identifies the input
string containing the sequence error, and record
identifies the record where the error was detected.

System action: The Parameter Parser stops processing.
User response: Put the command in sequence and
resubmit the job.

---

**FUN2227F** Syntax error at line record: invalid
delimiter for option. Value=val.

Explanation: The Parameter Parser has detected an
invalid delimiter. command identifies the input string
containing the error, and record identifies the record
where the error was detected.

System action: The Parameter Parser stops processing.
User response: Put the command in sequence and
resubmit the job.
**FUN3001E** Server terminating due to an error condition.

**Feedback:** feedback1: module_id/rsn_code feedback2 feedback3

**Explanation:** An unsupported error condition has occurred. The server must terminate as its integrity is unknown. The feedback words contain IBM diagnostic and debugging information: the module ID and internal reason code for the module in which the error is generated.

**System action:** Processing ends unconditionally and the server terminates.

**User response:** Contact IBM Software Support.

**FUN3002E** The server experienced an error condition.

**Feedback:** feedback1: module_id/rsn_code feedback2 feedback3

**Explanation:** An unsupported error condition has occurred in the server. The server can continue processing. The feedback words contain IBM diagnostic and debugging information: the module ID and internal reason code for the module in which the error is generated.

**System action:** Processing ends for the affected thread but the server attempts to continue processing.

**User response:** Contact IBM Software Support.

**FUN3003E** Unable to load module module: description

**Explanation:** module Name of the module that could not be loaded.

description One of the following:

- Module not found
- BLDL for module failed
- LOAD for module failed
- BPELOAD RC=BPE return code

As part of FSL server or product initialization, a LOAD for a required load module failed.

**System action:** If the routine is a required FSL server module, the server will issue a FUN3001E error message and will terminate.

If the routine is a product-based required module, the product will fail initialization and will be stopped.

**User response:** If possible, resolve the condition and restart the server or product. Otherwise, contact IBM Software Support.

**FUN3004I** DUMPTRACE command ignored as optional DD ddname is not present

**Explanation:** A DUMPTRACE modify command was issued but the optional destination FUNDIAG DD is not present in the server job, so the command has been ignored.

**System action:** The command is ignored. The server continues.

**User response:** Information only; no response needed.

**FUN3005I** DUMPSTATS command ignored as optional DD ddname is not present

**Explanation:** A DUMPSTATS modify command was issued but the optional destination FUNSTATS DD is not present in the server job, so the command has been ignored.

**System action:** The command is ignored. The server continues.

**User response:** Information only; no response needed.

**FUN3006E** Product task abnormal termination.

**Product:** product code

**Symptom:** CODE=completion code from the trapped abend

**REASON=**reason code from the trapped abend

**Component:** product component name

**Explanation:** The server has recovered from an abend in a product task.

**System action:** The product will be stopped. Server processing will continue.

**User response:** Contact IBM Software Support.

**FUN3007E** Conversation subtask abnormal termination

**Subtask:** product subtask identifier

**Symptom:** CODE=completion code from the trapped abend

**REASON=**reason code from the trapped abend

**Component:** product component name

**Explanation:** The server has recovered from an abend in a product subtask.

**System action:** The failing product subtask will be restarted. Product processing will continue.

**User response:** Contact IBM Software Support.

**FUN3008I** Server in final termination phase, command ignored

**Explanation:** A command was issued after the FSL server had reached the final termination phase. Command processing is suspended for the server when
it is in this final phase, so the command has been ignored.

**System action:** The command is ignored. Server termination continues.

**User response:** Information only; no response needed.

---

**FUN3009E**  
Server address space MEMLIMIT exceeded. Requested size: n MB

**Explanation:** A MEMLIMIT error condition has occurred in the server. The server can continue processing.

**System action:** Processing ends for the affected thread but the server attempts to continue processing.

**User response:** Raise the MEMLIMIT value for the address space to accommodate its storage needs. The server MEMLIMIT must match, or exceed, the server configuration specification for SDA_MAXLEN.

---

**FUN3010I**  
F command verb,command parameters (if any)

**Explanation:** A modify command was issued and has been acknowledged by the server.

**System action:** Server command processing continues.

**User response:** Information only; no response needed.

---

**FUN3011W**  
Listener socket connection dropped out.  
New client connections are suspended

**Explanation:** Due to events external to the FSL server, the Listener socket connection has dropped out.

**System action:** Without the Listener socket connection the server is unable to accept new client connections. Existing client connections may be able to continue depending on the event that has caused the Listener socket to be dropped. For example, if the cause was that TCP has ended, then all client connections will have been dropped too.

**User response:** Use the RESTARTIP command, or recycle the FSL server, to reestablish the Listener socket connection.

---

**FUN3012I**  
Insufficient access authority - UserID=\*  
SAF class: SAF class Access intent: access intent  
Resource: resource profile

**Explanation:** This message is issued when the FSL server detects an unauthorized request (a violation) made by a user.

**System action:** The user request will be rejected.

**User response:** Follow the security procedures established for your installation. If no such procedures have been established, report the complete text of this message to the security administrator.

---

**FUN3013E**  
Maximum initialization time exceeded for product 'product code'

**Explanation:** FSL server has attempted to start the given product. However, the product failed to initialize in the maximum time allowed.

**System action:** The product will be stopped. Server processing will continue.

**User response:** Attempt to identify the cause of the product initialization delay in order to correct the issue. If possible, resolve the condition and restart the server or product. Otherwise, contact IBM Software Support.

---

**FUN3014I**  
DISPLAY PRODUCT product code

**Status........: status indicator**

**Explanation:** Result of a console DISPLAY command: F server,DISPLAY PRODUCT product

**System action:** None.

**User response:** Information only; no response needed.

---

**FUN3015I**  
In-core user security profiles refreshed

**Explanation:** Result of a console SECURITY command: F server,SECURITY REFRESH

**System action:** None.

**User response:** Information only; no response needed.

---

**FUN3101E**  
Configuration error: description

**Explanation:** An error in the JCL initialization script prevented the server from initializing. The error can be one of the following:
- FUNCFG keyword missing, check PARM in JCL
- FUNCFG parameter missing, check PARM in JCL
- FUNCFG parameter must specify a PDS member name

**System action:** The server will terminate.

**User response:** Review the startup JCL and ensure all parameters are valid and rerun the job.

---

**FUN3102E**  
Error processing PROCLIB member member

**Description: description**

**Explanation:**
- FSL server configuration member

The server configuration parameter member is in error. The error can be one of the following:
- PROCLIB OPEN failed
• PROCLIB not in fixed format
• Member not found
• Member read failed
• Unsupported record format
• PROCLIB not LRECL=80
• Member too large

System action: The server will terminate.
User response: Review the startup JCL and ensure all parameters are valid and rerun the job.

---

**FUN3103E** Error parsing PROCLIB member *member*, BPEPARSE RC=rc

Explanation:

*member*  FSL server configuration member
rc  BPEPARSE return code

The server configuration parameter member is in error. BPE0003E console messages are issued with details of the error identified by the BPE parameter parser.

System action: The server will terminate.
User response: Review the FSL server configuration member and ensure that all parameters are valid. Rerun the job.

---

**FUN3104E** TCP PORT is a required parameter. Specify a value in the range 1 through 65535

Explanation: The TCP PORT server configuration parameter value was not specified, or was specified as zero. A value is required and must be in the range 1 - 65535.

System action: The server will terminate.
User response: Correct the parameter value and rerun the job.

---

**FUN3105E** Invalid maximum number of TCP input-threads: *n*. Valid range is 1 through 64

Explanation:

*n*  The TCP THREADS value specified in the FSL server configuration member

The TCP THREADS server configuration parameter value is invalid. If specified, the value must be in the range 1 - 64. The default is 16.

System action: The server will terminate.
User response: Correct the parameter value and rerun the job.

---

**FUN3106E** Invalid server CCSID: *CCSID* - *description*

Explanation:

*CCSID*  The CCSID value specified in the FSL server configuration member

The CCSID server configuration parameter value is invalid. This represents the CCSID used by the server and is utilized for SDA data translation, when applicable. If specified, the CCSID must represent a single byte character set (SBCS) supported by z/OS Unicode Services. By default, a value of of 37 is used. That is, COM EUROPE EBCDIC.

System action: The server will terminate.
User response: Correct the parameter value and rerun the job.

---

**FUN3107E** Invalid SDA bar-limit: *n*. Valid range is 64 through 4096 (K)

Explanation:

*n*  The SDA BARLIM value specified in the FSL server configuration member

The SDA BARLIM server configuration parameter value is invalid. If specified, the value must be in the range 64 - 4096 KB. By default, a limit value of 2048 KB is used.

System action: The server will terminate.
User response: Correct the parameter value and rerun the job.

---

**FUN3108E** Invalid maximum SDA size: *n*. Valid range is 4 through 100 (M)

Explanation:

*n*  The SDA MAXLEN value specified in the FSL server configuration member

The SDA MAXLEN server configuration parameter value is invalid. If specified, the value must be in the range 4 - 100 MB. By default, a maximum value of 32 MB is used.

System action: The server will terminate.
User response: Correct the parameter value and rerun the job.

---

**FUN3109E** Invalid SAF class name: *name*

Explanation:

*name*  The SAF CLASS value specified in the FSL server configuration member

The specified SAF class is not a valid SAF class name.
FUN3110E  SAF class not defined: name
Explanation:
name  The SAF_CLASS value specified in the FSL server configuration member

The SAF class could not be identified. Possible reasons:
• SAF-enabled security (RACF or similar) is not installed.
• The class was not defined.

System action:  The server will terminate.
User response:  Correct the FSL server configuration parameter member if the SAF class is not as expected, or make sure the SAF class is defined.

---

FUN3111E  Invalid SERVER_NAME value: name
Explanation:
name  The SERVER_NAME value specified in the FSL server configuration member

The specified server name is not a valid name. A name name must be 1-8 alphanumeric characters with no imbedded blanks. However, the name cannot start with a numeric character. The characters '@', '#' and '$ are also allowable and are treated as alphabetic.

System action:  The server will terminate.
User response:  Correct the parameter value and rerun the job.

---

FUN3112E  Invalid maximum number of TCP sockets: n. Valid range is 50 through 2000
Explanation:
n  The TCP_MAXSOC value specified in the FSL server configuration member

The TCP_MAXSOC server configuration parameter value is invalid. If specified, the value must be in the range 50 - 2000. The default is 50.

System action:  The server will terminate.
User response:  Correct the parameter value and rerun the job.

---

FUN3113I  Duplicate PRODUCT code 'code' will be ignored
Explanation:

code  The PRODUCT value specified in the FSL server configuration member

The specified PRODUCT code is a duplicate of an earlier configuration parameter and will be ignored.

System action:  The server will continue.
User response:  Remove the duplicate parameter value to avoid this notification.

---

FUN3114E  Invalid or unsupported PRODUCT code: 'code'
Explanation:

n  The PRODUCT value specified in the FSL server configuration member

The specified PRODUCT code is invalid, or at least does not represent a product supported by the server.

System action:  The server will terminate.
User response:  Correct the parameter value and rerun the job.

---

FUN3118E  Invalid TCP_RCVTIMEO value: x. Valid are 0 (no limit), or 100000 through 1000000 microseconds
Explanation:
n  The TCP_RCVTIMEO value specified in the FSL server configuration member

The TCP_RCVTIMEO server configuration parameter value is invalid. If specified, the value must be 0 (no limit), or in the range 100,000 - 1,000,000. By default a value of 250,000 is used (0.25 seconds).

System action:  The server will terminate.
User response:  Correct the parameter value and rerun the job.

---

FUN3119E  Invalid TCP_SNDTIMEO value: x. Valid are 0 (no limit), or 100000 through 1000000 microseconds
Explanation:
n  The TCP_SNDTIMEO value specified in the FSL server configuration member

The TCP_SNDTIMEO server configuration parameter value is invalid. If specified, the value must be 0 (no limit), or in the range 100,000 - 1,000,000. By default a value of 250,000 is used. Ie. 1/4 of a second.

System action:  The server will terminate.
User response:  Correct the parameter value and rerun the job.
FUN3120E Invalid PRD_MAXCNVQ# value: n. Use a value in the range 1 through 255

Explanation:

n The PRD_MAXCNVQ# value specified in the FSL server configuration member

The PRD_MAXCNVQ# server configuration parameter value is invalid. If specified, the value must be in the range 1 - 255. By default a value of 64 is used.

System action: The server will terminate.

User response: Correct the parameter value and rerun the job.

FUN3121E Server instance is already active for SERVER_NAME=name

Explanation:

name The SERVER_NAME value specified in the FSL server configuration member

A FSL server instance with the same SERVER_NAME is already active. The server name must be unique across the sysplex.

System action: The server will terminate.

User response: Correct the parameter value and rerun the job.

FUN3122E SERVER_NAME is a required parameter. Specify a 1 to 8 character name

Explanation: The SERVER_NAME server configuration parameter value was not specified, or was specified as blanks. A 1 - 8 alphanumeric character name is required.

System action: The server will terminate.

User response: Correct the parameter value and rerun the job.

FUN3123E Invalid TCP_NAME value: name

Explanation:

name The TCP_NAME value specified in the FSL server configuration member

The specified TCP/IP stack name is not a valid name. A name must be 1 - 8 alphanumeric characters with no embedded blanks. However, the name cannot start with a numeric character. The characters @, #, and $ are also allowed and are treated as alphabetic.

System action: The server will terminate.

User response: Correct the parameter value and rerun the job.

FUN3124E Invalid TCP_IPV6 value: 'value'. Use Y/N

Explanation:

value The TCP_IPV6 value specified in the FSL server configuration member

The specified TCP_IPV6 value is invalid. Specify Y or N.

System action: The server will terminate.

User response: Correct the parameter value and rerun the job.

FUN3205I Shutdown command received, server terminating

Explanation: The server has received a SHUTDOWN command or console stop request and has commenced termination.

System action: Server termination continues.

User response: Information only; no response needed.

FUN3206I SHUTDOWN FORCE command received, server terminating

Explanation: The server has received a SHUTDOWN FORCE command and has either commenced server termination with FORCE, or upgraded an earlier shutdown request to use FORCE.

The FORCE option immediately terminates any outstanding client conversations that might be responsible for delaying server termination.

System action: Server termination continues.

User response: Information only; no response needed.

FUN3208E TCP address space name is not available, server terminating

Explanation:

name The TCP address space name specified in the FSL server configuration member

The given TCP address space name is invalid.

System action: The server will terminate.

User response: Make the TCP address space available, or change the TCP_NAME parameter of the configuration member to the name of a TCP address space that is available. Alternatively the TCP_NAME configuration parameter can be removed, which will result in the system's default TCP address space being selected.
FUN3209E  TCP/IP port \( n \) in use
Explanation:
\( n \)  The TCP/IP port number value specified in the FSL server configuration member
The specified TCP/IP port is currently in use.
System action:  Server continues without TCP/IP support.
User response:  Retry as TCP/IP can take up to 2 minutes to free a port. Change the TCP_PORT parameter of the configuration member.

FUN3210I  TCP/IP using port \( n \)
Explanation:
\( n \)  The TCP/IP port number value specified in the FSL server configuration member
The given TCP/IP port is being used by the server.
System action:  None. Server continues.
User response:  None. Information only.

FUN3211E  Shutdown command rejected, shutdown in progress
Explanation:  The server has received a SHUTDOWN command after it had already commenced server termination.
System action:  Server termination continues.
User response:  Information only; no response needed.

FUN3212I  RESTARTIP initiated
Explanation:  The server has initiated the process to perform a RESTARTIP action.
System action:  The asynchronous process to perform the RESTARTIP action continues.
User response:  Information only; no response needed.

FUN3213I  SECURITY REFRESH initiated
Explanation:  The server has initiated the process to perform a SECURITY REFRESH action.
System action:  The asynchronous process to perform the SECURITY REFRESH action continues.
User response:  Information only; no response needed.

FUN3214I  Product code stop initiated
Explanation:  The server has initiated the process to perform a product STOP action for the named product.
System action:  None.
User response:  Information only; no response needed.

FUN3215I  Product code stopped
Explanation:  The named product has been stopped.
System action:  None.
User response:  Information only; no response needed.

FUN3216I  Unable to stop product code, status: state
Explanation:  The server cannot STOP the named product at this time due to the product's given status.
System action:  The asynchronous process to perform the STOP action terminates.
User response:  Information only; no response needed.

FUN3217I  Unable to perform action, shutdown in progress
Explanation:  The server cannot perform the named action as the server is in shutdown.
System action:  The asynchronous process to perform the name action terminates.
User response:  Information only; no response needed.

FUN3218I  Unable to start product code, shutdown in progress
Explanation:  The server cannot START the named product at this time as the server is shutting down.
System action:  The asynchronous process to perform the START action terminates.
User response:  Information only; no response needed.

FUN3219I  Product code start initiated
Explanation:  The server has initiated the process to perform a product START action for the named product.
System action:  The asynchronous process to perform the START action continues.
User response:  Information only; no response needed.
FUN3222I  Unable to start product code, status: state
Explanation: The server cannot START the named product at this time due to the product’s given status.
System action: The asynchronous process to perform the START action terminates.
User response: Information only; no response needed.

FUN3223E  DISPLAY\START\STOP command failed due to an invalid product specification
Valid products: products
Explanation: The command could not be performed because the product specification is invalid, or at least does not identify one of the products configured for the server.
"Valid products: NONE" is possible for START or STOP commands where no products have been configured for the server.
System action: None.
User response: Correct the product specification and reissue the command.

FUN3224I  Command ignored, product code status: state
Explanation: The command has been ignored as it is not applicable to the current state of the given product.
System action: None.
User response: Information only; no response needed.

FUN3225I  command command ignored, shutdown in progress
Explanation: The command has been ignored as it is not available during server shutdown.
System action: None.
User response: Information only; no response needed.

FUN3226I  Server start completed
Explanation: The server is now ready to accept client connections.
System action: None.
User response: Information only; no response needed.

FUN3227I  Product code initialization failed
Explanation: Initialization has failed for the named product. This could be due to a number of reasons:
• Load failure for required product programs.
• Product CPROG rejected product INIT or failed.

   • FUN definition or environment error.
   Earlier messages should have been written identifying the cause of the initialization failure.

System action: The product will be stopped.
User response: Information only; no response needed.

FUN3228I  Product code stopping
Explanation: The server has commenced the process of stopping the named product.
System action: Product STOP processing continues. Note that a product cannot stop while active request threads are outstanding, so the STOP process can be prolonged. No new external client requests will be accepted for the product at this stage.
User response: Information only; no response needed.

FUN3231E  UNIX System Services callable service name not found
Explanation: The named USS callable service could not be found. This is a z/OS environmental error.
System action: Server processing continues.
User response: Consult your z/OS System Administrator to ensure that UNIX System Services (USS) has been properly installed and configured.

FUN3232E  UNIX System Services callable service service (function) RETURN_CODE return code, REASON_CODE reason code
Explanation:
function  The TCP/IP function that was attempted
service  The function’s USS callable service
return code  The return code as a decimal number
reason code  Further qualifies the RETURN_CODE value, given as a hexadecimal value ccccrrrr. cccc is a halfword reason code qualifier generally used to identify the issuing module and rrrr is the halfword reason code as described in the UNIX System Services Messages and Codes manual.

IBM Functional Support Library Server received an unexpected return code attempting to perform the given TCP/IP callable service.
System action: Server processing continues.
User response: Look up the USS return code in z/OS UNIX System Services Messages and Codes.
IBM Functional Support Library Server received an unexpected error attempting to perform the named TCP/IP function.

**System action:** Server processing continues.

**User response:** Look up the sockets return codes (ERRNOs) in z/OS Communications Server IP Sockets Application Programming Interface Guide and Reference.

---

**Explanation:** A PassTicket generation request has failed.

**RC** Return code from the RACF routine:
- 04 Incorrect PassTicket.
- 08 No PTKTDATA profile found for the application.
- 12 No task or address space ACEE found.
- 16 Caller is not authorized.
- 20 The RACF PTKTDATA class is not active.
- 24 Error in the session key generator process.

**UserID** The user ID associated with the failed request.

**ApplName** The application name associated with the failed request.

**System action:** The processing thread that requested the PassTicket is terminated.

**User response:** Contact IBM Software Support.

---

**Explanation:** The required load module was not found.

**System action:** The FSL server’s default product (FUD) will be stopped and the FSL server will terminate.

**User response:** Add the required library to the server STEPLIB.

---

**Explanation:** GUI client command is invalid for a given reason.

**System action:** The command is rejected with a response that includes this error message.

**User response:** Probable syntax error. Correct and redrive the request.

---

**Explanation:** GUI client command specified failed in the command parser.

**System action:** The command is rejected with a response that includes this error message.

**User response:** Probable syntax error. Correct and redrive the request.

---

**Explanation:** FSL server’s default product (FUD) initialization has encountered an error.

**System action:** The FSL server’s default product (FUD) will be stopped and the FSL server will terminate.

**User response:** Probable server logic error. Capture information to assist in problem diagnosis.

---

**Explanation:** Product subtask initialization has encountered an error.

**System action:** Product subtask will be stopped and the associated request will be rejected.

**User response:** Probable server logic error. Capture information to assist in problem diagnosis.

---

**Explanation:** No data was found to match the specified parameters.

**System action:** A null response (including this informational message and headers) is returned.

**User response:** None.

---

**Explanation:** Information messages regarding the state of the FSL server’s default product (FUD).

**System action:** Processing continues.

**User response:** None.
FUN3307E  Dynamic allocation type failed for DSN=dsn, UID=uid

Explanation: Dynamic allocation failed for the named object, where the allocation request was driven as part of user request processing. One or more dynamic allocation messages precede this message.

System action: Processing continues but the user request associated with the dynamic allocation fails.

User response: Determine the cause of the dynamic allocation failure. Correct and retry the user request.

FUN3308E  JCLIN data set is not a card-image PDS, DSN=dsn

Explanation: For a FUDSUBMIT request, the specified JCLIN data set was found not to be a card-image (LRECL=80) PDS.

System action: The FUDSUBMIT request fails.

User response: Specify a card-image PDS and retry the request.

FUN3309E  Access denied to JCLIN data set, DSN=dsn

Explanation: For a FUDSUBMIT request, the requesting user is not authorized to read from the JCLIN data set.

System action: The FUDSUBMIT request fails.

User response: Correct the user authorization or modify the data set specification and retry the request.

FUN3310E  JCLIN member mbr not found, or found to be empty

Explanation: For a FUDSUBMIT request the specified JCLIN data set member was not found, or was found but had no records.

System action: The FUDSUBMIT request fails.

User response: Modify or respecify the JCLIN member and retry the request.

FUN3311E  JCL submitted to INTRDR but no job resulted

Explanation: For a FUDSUBMIT request the specified JCLIN data set member was tailored and submitted. However, no job resulted, which is indicative of invalid JCL with no JOB card.

System action: The FUDSUBMIT request fails.

User response: Modify or respecify the JCLIN member and retry the request.

FUN3312I  Job jobid submitted

Explanation: Job submission has been successful. The job identifier for the submitted job is given. However, if multiple jobs were submitted via a single JCLIN member, then only the last job identifier is returned.

System action: None.

User response: None.

FUN3399E  Processing error rsn. INFO=info1/info2

Explanation: Generic error message capturing the error module, reason and associated feedback information.

System action: Processing continues.

You can use several methods to search for messages and codes.

**Searching an information center**

In the search box that is located in the top left toolbar of any Eclipse help system, such as the IBM Information Management Software for z/OS Solutions Information Center, enter the number of the message that you want to locate. For example, you can enter DFS1065A in the search field.

Use the following tips to improve your message searches:
- You can search for information on codes by entering the code; for example, enter -327.
- Enter the complete or partial message number. You can use the asterisk wildcard character (*) to represent multiple characters, and you can use the question mark wildcard character (?) to represent a single character.

The information center contains the latest message information for all of the Information Management products that are included in the information center.

**Searching for messages on the web**

You can use any of the popular search engines that are available on the web to search for message explanations. When you type the specific message number or code into the search engine, you are presented with links to the message information in IBM information centers.
Chapter 17. Gathering diagnostic information

Before you report a problem with IMS Configuration Manager to IBM Software Support, you need to gather the appropriate diagnostic information.

Procedure

Provide the following information for all IMS Configuration Manager problems:

- 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 DB2/IMS that you are using and the type and version of the operating system that you are using

Provide additional information based on the type of problem that you experienced:

For online abends, provide the following information:

- A screen capture 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 data sets that were used during the processing
Part 7. Reference

These topics provide reference information for IMS Configuration Manager
The IMS Configuration Manager ISPF dialog supports a large number of PROCLIB members.

PROCLIB members that are not supported by IMS Configuration Manager are not checked when using the CHECK function but can still be used.

In the following list of member names, x represents any of the following suffix characters: A-Z, 0-9, @, #, or $.

- **BPE configuration member**
  - BPE configuration member

- **BPE Exit List member**
  - BPE Exit List member

- **CQSIxxx**
  - CQS initialization

- **CQSSGxxx**
  - Global structure definition

- **CQSSLxxx**
  - Local structure definition

- **CSLDCxxx**
  - Open Database Manager (ODBM) configuration member

- **CSLDIxxx**
  - ODBM initialization member

- **CSLOIxxx**
  - Parameters that initialize the Operations Manager (OM) address space

- **CSDLRxxx**
  - Parameters that initialize RM

- **CSLSIxxx**
  - Parameters related to initialization of the SCI address space

- **DBFMSDBx**
  - Main storage databases (MSDB)

- **DFSCGxxx**
  - Common Services Layer

- **DFSDCxxx**
  - Data Communications

- **DFSDFxxx**
  - Processing options for the IMS Common Service Layer (CSL), shared queues, databases, Restart exit routines, dynamic resource definition (DRD), the fast-path 64-bit buffer manager, and the IMS abend search and notification procedure

- **DFSDRFxx**
  - Disabled Reference (DREF) storage requirements

- **DFSDSCMx**
  - Descriptors for the Extended Terminal Option (ETO)

- **DFSDSTCx**
  - Override descriptors for the Extended Terminal Option (ETO)

- **DFSFDRxx**
  - Fast Database Recovery (FDBR)

- **DFSFIXxx**
  - Fixed pages in the IMS control region
DFS HSBxx
  Extended Recovery Facility (XRF)
DFS INTxx
  Preinitialization modules for dependent regions
DFS JVMAP
  Maps IMS Java™ application names to their OMVS path name
DFS MPLxx
  Make resident high-use program modules
DFSORSxx
  Online Recovery Services (ORS)
DFSPBxxx
  Execution parameters for the control region
DFS RSRxx
  Remote Site Recovery (RSR)
DFSSPMxx
  Buffer definitions for the DFSPOOL storage manager pools
DFSSQxxx
  Shared message queues and the CQS address space
DFS VSMxx
  Database buffer pools and other IMS initialization options
DFSY DTx
  OTMA descriptors
DFS62DTx
  LU 6.2 device descriptors
DSPBIxxx
  Parameters that initialize the DBRC address space
FRPCFG
  Repository Server configuration member
HWSCFG
  IMS Connect configuration member
SSM:imid ssid
  External subsystems

Related concepts:
  Chapter 9, “Modifying PROCLIB parameters using the ISPF dialog,” on page 119
IMS Configuration Manager allows you to modify parameters using the ISPF dialog.

Related tasks:
  “Checking the syntax of a member” on page 121
To highlight syntax errors in the parameter member that you are editing, enter the primary command CHECK or use the point-and-shoot CHECK field.
Chapter 19. IMS Configuration Manager batch utility (GPLUTIL)

The IMS Configuration Manager batch utility allows you to perform IMS Configuration Manager functions in batch.

The GPLUTIL batch utility includes the following commands:

- **BACKOUT**: Backs out an installed change package.
- **COMPARE**: Compares two resource groups, create new resource groups from the result, and create change packages based on the difference.
- **COPY**: Copies resources within an IMS Configuration Manager repository, or from one IMS Configuration Manager repository to another.
- **DISCOVER**: Automatically discovers IMS, IMS Connect, and IMSplexes for use in IMS Configuration Manager.
- **GEN**: Creates a system generation image as stage 1 source or an RDDS for cold-start processing.
- **INSTALL**: Installs resources via command change packages from an IMS Configuration Manager repository to live IMS member systems. INSTALL requires IMS V11 or later.
- **TAKEUP**: Takes up (imports) resources from stage 1 source, an RDDS, or an IMSRSC repository into an IMS Configuration Manager repository.

JCL specifications and examples

This topic provides example JCL for the various commands the IMS Configuration Manager utility supports. Some commands require specific DD statement placement to work. However, you can combine all commands in a single job as long as you specify the DD statements required for all the commands that you are running.

**Example JCL for discovering systems and IMSplexes**

This JCL uses the DISCOVER batch command to automatically discover IMS components for use in IMS Configuration Manager.

```
//GPLUTIL EXEC PGM=GPLUTIL
//STEPLIB DD DISP=SHR,DSN=HLQ.V2R1M0.SGPLLINK
// DD DISP=SHR,DSN=HLQ.VnRnMn.SDFSRESL
//SYSIN DD *

* 
DISCOVER MBRTYPE(imscomponenttype) +
   TO(REPOSITORY,GPLREPOS) +
   PLEX(plex) +

/*
```
Example JCL for discovery and resource take up

This JCL uses the DISCOVER batch command to automatically discover IMS systems and to take up resources associated with those systems.

```
//GPLUTIL EXEC PGM=GPLUTIL
/STEPLIB DD DISP=SHR, DSN=HLQ.V2R1M0.SGPLLINK 1
//DD DISP=SHR, DSN=HLQ.VnRnMn.SDFSRESL 2
//SYSIN DD *

* DISCOVER MBRTYPE(imscomponenttype) +
  TO(REPOSITORY,GPLREPOS) +
  PLEX(plex) +
  RESOURCES
/*
//GPLREPOS DD DISP=SHR,
// DSN=HLQ.V2R1M0.REPOSTRY 3
//GPLRDDS DD DISP=SHR,
// DSN=HLQ.WORK.RDDS 4
//SYSPRINT DD SYSOUT=* 5
```

where:

1. The IMS Configuration Manager link library.
   
   **Note:** The IMS Configuration Manager link library, and all other libraries in the STEPLIB, must be AFP-authorized.

2. The IMS RESLIB.

3. Use RESOURCES to discover IMS resources associated with discovered systems and add them to the IMS Configuration Manager repository.

4. The IMS Configuration Manager repository to use to store your definitions.

5. The IMS RESLIB.
When using the RESOURCES parameter, a work RDDS must be supplied on a GPLRDDS DD card. IMS must also be given authorization to write to the work RDDS.

**Related tasks:**
- "Discovering systems using the DISCOVER batch command" on page 43
  The DISCOVER batch command discovers IMS systems, IMS Connect systems, and IMSplex components, and updates the IMS Configuration Manager repository with the definitions.
- "Importing resources using the DISCOVER command" on page 63
  Import resource definitions from live systems into the IMS Configuration Manager repository using the DISCOVER command.

**Related reference:**
- "DISCOVER command" on page 241
  Automatically discover IMS components and resources for use in IMS Configuration Manager.

### Example JCL for performing a take-up of an IMSRSC repository

This JCL example shows how to use the TAKEUP command with an IMSRSC repository.

```
//GPLUTIL EXEC PGM=GPLUTIL
//STEPLIB DD DISP=SHR,DSN=HLQ.V2R1M0.SGPLINK
// DD DISP=SHR,DSN=IMSHLQ.RESLIB
//SYSIN DD *
TAKEUP FROM(IMSREPOS) +
   TO(REPOSITORY,OUTREPOS) +
   RG('Your RG IMSREPOS','Takeup of IMS repository') +
   PLEX(plex) +
   IMSID(imsid) +
   DEFRGLVL(SYSTEM) +
   REPLACE
/*
//OUTREPOS DD DISP=SHR,
   DSN=HLQ.V2R1M0.REPOSITORY
//SYSPRINT DD SYSOUT=""
```

**where:**

1. The EXEC program name: GPLUTIL. Place the IMS Configuration Manager link library in the STEPLIB DD statement.
2. The IMS RESLIB.
3. The "TAKEUP command" on page 248 requesting take up from an IMSRSC repository.
4. The IMS Configuration Manager repository to use when storing the definitions found within the IMSRSC repository. You can use any ddname but you must reference that ddname in the TO keyword of the TAKEUP command.

**Related tasks:**
- "Importing resources using TAKEUP" on page 63
  Import resource definitions into an IMS Configuration Manager repository from stage 1 source, an RDDS, or an IMSRSC repository using the TAKEUP batch command.

**Related reference:**
Take up resources from an IMSRSC repository using the TAKEUP command and the FROM(IMSREPOS) option.

Example JCL for performing a take-up of an RDDS

This JCL example shows how to use the TAKEUP command with an RDDS.

```jcl
//GPLUTIL EXEC PGM=GPLUTIL
//STEPLIB DD DISP=SHR, DSN=HLQ.V2R1M0.SGPLLINK
//SYSIN DD *
TAKEUP FROM(RDDS,MYRDDS) +
TO(REPOSITORY,MYREPOS) +
DEFRGLVL(SYSTEM) +
PLEX(plexname) +
IMSID(imsid) +
EXPORT +
RG('Your RG RDDS','Takeup of RDDS')
/*
/*MYRDDS DD DISP=SHR,
// DSN=HLQ.RDDSO1
/*MYREPOS DD DISP=SHR,
// DSN=HLQ.V2R1M0.REPOSTRY
/*SYSPRINT DD SYSOUT=* 
```

where:

1. The EXEC program name: GPLUTIL. Place the IMS Configuration Manager link library in the STEPLIB DD statement.
2. The IMS RESLIB.
3. The "TAKEUP command" on page 248, requesting take up from an RDDS.
4. Issue an IMS DRD EXPORT command to populate the IMS RDDS specified by FROM with resources from the active IMS region before take-up into the IMS Configuration Manager repository. When using this option, you must specify the IMS RESLIB in the STEPLIB concatenation.
5. The RDDS to take up into IMS Configuration Manager. You can use any ddname but you must reference that ddname in the FROM keyword of the TAKEUP command.
6. The IMS Configuration Manager repository to use when storing the definitions found within the RDDS. You can use any ddname but you must reference that ddname in the TO keyword of the TAKEUP command.

Related tasks:

- "Importing resources using TAKEUP" on page 63
- Related reference:

Example JCL for performing a take-up of stage 1 source

This JCL example shows how to use the TAKEUP command with stage 1 source. For another example, see GPLTAKUP in SGPLSAMP.
//IMSCM EXEC PGM=GPLUTIL
//STEPLIB DD DISP=SHR,DSN=hlq.SGPLLINK
//SYSPRINT DD SYSOUT=* 
//REPOSDD DD DISP=SHR, 
// DSN=repository
//STAGE1DD DD DISP=SHR, 
// DSN=stage1.source
//ASMLIB DD DISP=SHR,DSN=hlq.SGPLSAMP
// DD DISP=SHR,DSN=hlq.COPYLIB
// DD DISP=SHR,DSN=IMS.GEN.SOURCE
//SYSUT1 DD UNIT=SYSDA,SPACE=(CYL,(1,1))
//ASMPUNCH DD UNIT=SYSDA,SPACE=(CYL,(1,1))
//ASMPRINT DD SYSOUT=* 
//SYSIN DD *
TAKEUP 
RG(RES_GRP_1) 
FROM(STAGE1,STAGE1DD) 
TO(REPOSITORY,REPOSDD)

where:

1. The EXEC program name: GPLUTIL. Place the IMS Configuration Manager link library in the STEPLIB DD statement.
2. The name of the IMS Configuration Manager repository into which you are taking up the definitions. You can use any ddname but you must reference that ddname in the TO keyword of the TAKEUP command.
3. The name of the file containing the definitions you are taking up, in stage 1 macro format. You can use any ddname but you must reference that ddname in the FROM keyword of the TAKEUP command.
4. You must create an ASMLIB DD statement containing the IMS Configuration Manager sample library (SGPLSAMP). If the definitions you are taking up contain copy statements, then also include the names of any libraries from which macros are copied here.
5. SYSUT1, ASMPUNCH, and ASMPRINT are all libraries that are required by the take-up assembly process. You must use the ddnames shown.
6. Shown is an example of the "TAKEUP command" on page 248. The command uses the file specified in the STAGE1DD DD statement as input and puts resource definitions into the IMS Configuration Manager repository specified by the REPOSDD DD statement. Resource definitions are imported into resource group RES_GRP_1.

Related tasks:
“Importing resources using TAKEUP” on page 63
Import resource definitions into an IMS Configuration Manager repository from stage 1 source, an RDDS, or an IMSRSC repository using the TAKEUP batch command.

Related reference:
“Taking up stage 1 source” on page 254
Take up resources from stage 1 source using the TAKEUP command and the FROM(STAGE1,ddname) option. The TAKEUP command supports source for IMS V9 onward.
Example JCL for installing resources

This JCL uses the INSTALL batch command to install one command change package into one IMS system. For another example, see GPLINSTL in SGPLSAMP.

```
//USR1J1 JOB (ACCOUNT), 'ICM INSTALL',
// CLASS=T,
// MSGLEVEL=(1,1),
// REGION=0M,
// MSGCLASS=X
//IMSCM EXEC PGM/GPLUTIL
//STEPLIB DD DISP=SHR, DSN=GPL210.SGPLLINK
// DD DISP=SHR, DSN=IMS.V10.SDFSRESL
//ICMREPOS DD DISP=SHR,
// DSN=ICM.REPOSTRY
//SYSPRINT DD SYSOUT=*
//REPORT DD SYSOUT=*
//SYSIN DD *
* COMMENT - THIS JOB INSTALLS ONE CP FOR ONE IMS INSTALL
 CPNAME('CREATE MFG APP')
 CPDATE(2012.09.17)
 CPTIME(10.36.03)
 PLEX(PLXXX)
 SCOPE(IXXX)
 NOTREADY(STOP)
 ONFAILURE(CONTINUE)
 RETRYWAIT(1)
 RETRYCNT(10)
 FORCE
 FROM(REPOSITORY, ICMREPOS)
```

where:

1. The EXEC program name: GPLUTIL. Place the IMS Configuration Manager link library in the STEPLIB DD followed by the SDFSRESL library for the highest IMS version into which you are installing.

2. The name of the IMS Configuration Manager repository containing the definitions you are installing. You can use any ddname but you must reference that ddname correctly in the FROM keyword.

3. The command provides a report of all actions taken during install. You must specify a report DD statement for this output.

4. An example of the "TAKEUP command" on page 248. The command uses the change package with the matching date and time in the ICMREPOS as input and puts those resource definitions into the assigned system on PLXXX.

5. To install all change packages for an IMSplex that have the same date-timestamp, use SCOPE(*). See "Creating change packages for an entire IMSplex" on page 91 for details.

Related reference:

- "INSTALL command" on page 245
Installs resources from a command change package into one or more running IMS systems. The INSTALL command generates the required type-2 commands and can roll back commands in the event of a failure.
Example JCL for a take-up, compare, and install

This JCL demonstrates a take-up and install using the COMPARE batch command. Use this method if your resource updates arrive as stage 1 source from a third-party vendor.

TAKEUP FROM(STAGE1,STAGE1DD) +
TO(REPOSITORY,GPLREPOS) +
RG(new rg name) +
DEFRLVL(COMMON) +
REPLACE

COMPARE INPUT1(RG(new rg name),
DONAME(REPOSITORY,GPLREPOS)), +
INPUT2(RG(existing rg name),
DONAME(REPOSITORY,GPLREPOS)), +
UPDCP(NAME(new cp name),
IMSID(IMSID),
UPDREPOS(INPUT2)), +
UPDRG(NAME(existing rg name),
UPDREPOS(INPUT2),
REPLACE)

INSTALL CPDATE($LATEST) +
CPTIME(IGNORED) +
FROM(REPOSITORY,GPLREPOS) +
ONFAILURE(ROLLBACK) +
PLEX(IMSPLEX) +
SCOPE(IMSID)

/ *
//GPLREPOS DD DISP=SHR,
// DSN=HLQ.V2R1M0.REPOSTRY
//STAGE1DD DD DISP=SHR,
// DSN=HLQ.STAGE1.SOURCE(member)
//SYSPRINT DD SYSOUT=*
//REPORT DD SYSOUT=*
/*

where:

1. Uses the "TAKEUP command" on page 248 to input the stage 1 source into a new resource group.
2. Uses the "COMPARE command" on page 226 to perform the following actions:
   2a. Specifies UPDCP to create a command change package with the differences.
   2b. Specifies UPDRG to update the original resource group with the changes.
3. Uses the "INSTALL command" on page 245 to install the change package you created in 2.

Repeat steps 2 and 3 for each IMS system.

Related tasks: "Automating updates using the batch utility" on page 106

Use this method if your resource updates arrive as stage 1 source from a third-party vendor. All execution steps described here can be run in one execution of the GPLUTIL batch utility.

Related reference:
“INSTALL command” on page 245
Installs resources from a command change package into one or more running IMS systems. The INSTALL command generates the required type-2 commands and can roll back commands in the event of a failure.

“Taking up stage 1 source” on page 254
Take up resources from stage 1 source using the TAKEUP command and the \FROM(STAGE1,ddname) option. The TAKEUP command supports source for IMS V9 onward.

“COMPARE command” on page 226
The COMPARE command allows you to compare the content of two resource groups. Additional options allow you to create new resource groups and change packages based on the differences.

Example JCL for a backout
This JCL performs a backout of an installed or partially installed change package using the BACKOUT batch command.

```
//GPLUTIL EXEC PGM=GPLUTIL
//STEPLIB DD DISP=SHR,DSN=HLQ.V2R1M0.SGPLLINK
// DD DISP=SHR,DSN=HLQ.VnRnMn.SDFSRESL
//SYSIN DD *
//BACKOUT
//CPNAME('name')
//CPDATE(YYYY.MM.DD)
//CPTIME(HH.MM.SS)
//PLEX(plex)
//SCOPE(imsid)
//NOTREADY(STOP)
//ONFAILURE(STOP)
//FROM(REPOSITORY,GPLREPOS)
/*
//GPLREPOS DD DISP=SHR,
// DSN=HLQ.V2R1M0.REPOSTRY
//SYSPRINT DD SYSOUT=* 
//REPORT DD SYSOUT=* 
Related reference:
“BACKOUT command” on page 224
The BACKOUT command allows you to backout an installed command change package.

Example JCL for generating stage 1 source
This JCL generates stage 1 source from all resource groups assigned to a system using the GEN batch command. For another example, see GPLGEN in SGPLSAMP.

```
//IMSCM EXEC PGM=GPLUTIL
//STEPLIB DD DISP=SHR,DSN=hlq.SGPLLINK
//SYSIN DD *
//GEN CPDATE(2013.11.11)
//CPTIME(12.22.55.12)
//FROM(REPOSITORY,INREPOS)
//TO(STAGE1,OUTFILE)
/*
//INREPOS DD DISP=SHR,
// DSN=hlq.REPOSTRY
//OUTFILE DD DISP=SHR,
// DSN=OUTFILE
//SYSPRINT DD SYSOUT=* 
Related tasks:
In this scenario, use IMS Configuration Manager’s resource editor and GEN command to generate stage 1 macro statements for MODBLK-based resource definitions.

**Related reference:**

- **GEN command** on page 243

  Allows you to generate stage 1 source or an RDDS from a generate change package. The GEN command creates parameters that are valid for IMS V10, V11, V12, and V13 systems at the highest maintenance level.

### Example JCL for generating an RDDS

This JCL generates an RDDS from all resource groups assigned to a system using the GEN batch command.

```ml
//IMSCM EXEC PGM=GPLUTIL
//STEBIB DD DISP=SHR, DSN=hlq.SGPLINK
//SYSIN DD *

GEN CPDATE(2013.11.11) +
  CPTIME(12.22.55.12) +
  FROM(REPOSITORY,INREPOS) +
  TO(COLDRDDS,OUTFILE)
/*

//INREPOS DD DISP=SHR,
// DSN=input.repo
//OUTFILE DD DISP=SHR,
// DSN=output.file
//SYSPRINT DD SYSOUT=* 

Use the TO(COLDRDDS,OUTFILE) option to create a cold start RDDS that contains all your resource definitions. Copy the RDDS to an IMS system RDDS with the option to update the RDDS header date set to YES. This copy and time stamp update must be done after the system is brought down so that the date in the system RDDS to use in the cold start has the most recent time stamp of all the RDDSs. When the system comes up, it looks for the most recent time stamp and uses that RDDS to read in the resource definitions.

### Example JCL for copying resource groups

This JCL copies resource groups from one IMS Configuration Manager repository to another IMS Configuration Manager repository using the COPY batch command. The FROM and TO repositories can be the same repository. For more examples, see GPLCOPY in SGPLSAMP.

```ml
//IMSCM EXEC PGM=GPLUTIL
//STEBIB DD DISP=SHR, DSN=hlq.SGPLINK
//SYSIN DD *
COPY MBRTYPE(RG) +
  MBNAME(oldname) +
  FROM(REPOSITORY,INREPOS) +
  TO(REPOSITORY,OUTREPOS) +
  NEWNAME(newname) +
  REMOVE

//INREPOS DD DISP=SHR,
// DSN=input.repo
//OUTREPOS DD DISP=SHR,
// DSN=output.repo
//SYSPRINT DD SYSOUT=* 

Related tasks:

- **"Copying and migrating resource groups using the COPY command"** on page 83

Copy resource groups within an IMS Configuration Manager repository, or from
one IMS Configuration Manager repository to another using the COPY command.

Related reference:
“COPY command” on page 231

Copies objects between two IMS Configuration Manager repositories or within a single IMS Configuration Manager repository. Use this command to migrate definitions or to create backups and snapshots of your definitions.

BACKOUT command
The BACKOUT command allows you to backout an installed command change package.

Syntax

```plaintext
BACKOUT CPDATE(yyyy.mm.dd) CPTIME(hh.mm.ss) CPNAME(cpname)

FROM(REPOSITORY,ddname) PLEX(imsplex)

SCOPED (member-name)
SCOPED (*)

RETRYCNT(number)
RETRYWAIT(seconds)
ONFAILURE(STOP)
ONFAILURE(CONTINUE)
ONFAILURE(ROLLBACK)

NOTREADY(STOP)
NOTREADY(IGNORE)
CMDTIMEOUT(seconds)
CHECK
FORCE
```

Parameters

**CPDATE(yyyy.mm.dd)**
- The date of the command change package to backout.

**CPTIME(hh.mm.ss)**
- The time of the command change package to backout.

**CPNAME(cpname)**
- The name of the command change package to backout. The `cpname` specified must match the name of the change package in the IMS Configuration Manager repository exactly or it will not be processed.

**FROM(REPOSITORY,ddname)**
- Specifies the `ddname` of the IMS Configuration Manager repository containing the command change package and resource definitions. For example:

```
FROM(REPOSITORY,GPLDD)
```

**PLEX(imsplex)**
- The name of the IMSplex that contains the system or systems that are being updated by the command change package.

**SCOPE(parameters)**
- A list of one or more systems to update.
Specify one of the following values:

- Update all systems in the IMSplex specified by PLEX.

member-name,...

Update only the specified systems.

Systems that do not have a change package with the specified CPDATE and CPTIME are skipped.

If you omit the SCOPE parameter, IMS Configuration Manager uses the contents of the change package to determine which systems require updates.

RETRYCNT(number)
The number of times to retry the command if a failure occurs. Default: 3.

RETRYWAIT(seconds)
The number of seconds to wait before retrying the command after a failure occurs. Seconds must be an integer. Default: 1 second.

NOTREADY(STOP|IGNORE)
The action to perform if the system being updated reports that it is “not ready”. Specify one of the following values:

STOP
Stop the update and perform no further processing. This is the default behavior.

IGNORE
Ignore the “not ready” error and process the next system defined in the SCOPE parameter, if one exists.

ONFAILURE(STOP|CONTINUE|ROLLBACK)
The action to perform if the system reports a failure. Possible values are:

STOP
Stop the update. Changes made successfully before the failure occurred are retained. This is the default behavior.

CONTINUE
Skip errors and continue the update with the next resource in the change package.

ROLLBACK
Stop the update and roll back the system. Changes made successfully before the failure occurred are rolled back to a state before the job began. Other systems listed in the SCOPE parameter are unaffected.

CMDTIMEOUT(seconds)
The number of seconds to wait before aborting the update if no response has been received by the system. Seconds must be an integer. Default: 300 second.

CHECK
When specified, CHECK instructs the batch utility to dynamically evaluate and report on the type-2 commands required to create and update resource definitions without modifying your live systems. Use CHECK to conduct a “dry run” that allows you to review proposed actions prior to submitting the final job.

FORCE
Use with caution. Bypass IMS Configuration Manager pre-validation checks and proceed with resource updates. By default, IMS Configuration Manager ensures that change packages are installed in the order of their creation, and
backed out in the reverse order of their installation. The FORCE parameter allows you to override the default behavior.

Related concepts:

- "IMS command security" on page 25
  The IMS Configuration Manager TAKEUP, INSTALL, and BACKOUT commands use IMS commands to interact with your IMS systems.

Related tasks:

- "Backing out a command change package using the ISPF dialog" on page 102
  A previously installed command change package can be backed out of associated IMS systems if you wish to undo your changes.

Related reference:

- "SYSPRINT install/backout log reference" on page 269
  The SYSPRINT log provides summary status of the INSTALL or BACKOUT job.

- "Install/backout report reference" on page 270
  This topic provides a general overview of the REPORT data set. This report is generated by the INSTALL and BACKOUT commands.

- "Example JCL for a backout" on page 222
  This JCL performs a backout of an installed or partially installed change package using the BACKOUT batch command.

- "INSTALL command" on page 245
  Installs resources from a command change package into one or more running IMS systems. The INSTALL command generates the required type-2 commands and can roll back commands in the event of a failure.

### COMPARE command

The COMPARE command allows you to compare the content of two resource groups. Additional options allow you to create new resource groups and change packages based on the differences.

**Syntax**

```plaintext
<table>
<thead>
<tr>
<th>COMPARE</th>
<th>Resource group 1</th>
<th>Resource group 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Update change package</td>
<td>Update resource group</td>
</tr>
</tbody>
</table>

Resource group 1:

```plaintext
| INPUT1( RG(rgname1) , IMSID(imsid) , DDNAME(REPOSITORY,ddname) ) |
```

Resource group 2:

```plaintext
| INPUT2( RG(rgname2) , IMSID(imsid) , DDNAME(REPOSITORY,ddname) ) |
```

Update change package:
Update resource group:

Update resource group:

Parameters

\( \text{INPUT}n() \)

The COMPARE command compares the resource group specified in the \( \text{INPUT}1 \) statement with the resource group specified in the \( \text{INPUT}2 \) statement. Both the \( \text{INPUT}1 \) and \( \text{INPUT}2 \) statements must be present, and their command syntax is the same. The following options are available for an \( \text{INPUT}1 \) or \( \text{INPUT}2 \) statement:

\( \text{RG}(\text{rgname}) \)

The name of the common or system-level resource group to be compared. If specifying a system-level resource group, the IMSID parameter is required.

\( \text{IMSID}(\text{imsid}) \)

Only specify the IMSID if you have specified a system-level resource group in the RG parameter. Do not include the IMSID parameter if the resource group is simply associated with a particular IMS system.

\( \text{DDNAME(REPOSITORY, ddname)} \)

Identifies the ddname of the IMS Configuration Manager repository containing the specified resource group. For example, if the ddname of the IMS Configuration Manager repository is specified as:

```
//GPLREPOS DD DISP=SHR,
// DSN=GPL.V210.MYREPOS
```

then specify:

\( \text{DDNAME(REPOSITORY, GPLREPOS)} \)
The following example is a complete COMPARE command that uses the INPUT1 and INPUT2 statements:

```plaintext
COMPARE  INPUT1(RG('UPDATED'), +
            DONAME(REPOSITORY,REPOS1)), +
          INPUT2(RG('ORIGINAL'), +
            IMSID(ICXX), +
            DONAME(REPOSITORY,REPOS1))
```

**UPDCP()**

The UPDCP parameter creates a new command change package based on the difference between the resource group specified in INPUT1 statement, and the resource group specified in the INPUT2 statement. The following options are available for a UPDCP statement:

**NAME(cpname)**

The NAME parameter is an optional statement that allows you to place a description of your change package within the command. Change packages are automatically named with the current date and time by IMS Configuration Manager.

**IMSID(imsid)**

The ID of the IMS system on which to deploy the newly created change package.

**MATCH(INPUTn)**

Specify which input resource group (INPUT1 or INPUT2) takes priority when a resource is found in both groups with the same name and type, but with different attributes. For example, if the INPUT1 and INPUT2 resource groups have a number of matching resources, specify MATCH(INPUT2) to select the resources from INPUT2 for use in the change package.

Default: INPUT1

**NOMATCH(INPUT2(action),INPUT1(action))**

When comparing resource groups, situations can occur where resources might be present in one group but not the other (for example, a new resource is added to the INPUT1 resource group which is not present in the existing resource group, INPUT2). When the COMPARE command encounters a resource that is found in one group but not the other, the NOMATCH parameter is used to specify the user's required course of action when creating the change package.

The NOMATCH parameter requires the user to specify an action for both the INPUT2 and INPUT1 resource groups. The action specified for each group instructs IMS Configuration Manager on how to handle a resource when it is found within that group. Users have two options for action:

**CREATE_RES**

Create an entry in the change package that adds the resource from the input resource group.

**DELETE_RES**

Create an entry in the change package that will delete the resource.

For example, to create a change package that adds all the “new” resources in INPUT1 and removes all the “old” resources in INPUT2, use

NOMATCH(INPUT2(DELETE_RES),INPUT1(CREATE_RES)).

Default: NOMATCH(INPUT2(DELETE_RES),INPUT1(CREATE_RES)) if NOMATCH parameter not specified.
**UPDREPOS** *(INPUTn)*  
The IMS Configuration Manager repository (specified as INPUT1 or INPUT2) in which to store the new change package.  
Default: INPUT2

The following examples are of complete COMPARE commands that use the UPDCP statement:

**Example 1**
```
COMPARE INPUT1(RG('NEW TAKEUP'), +  
    DDNAME(REPOSITORY,ICMREP01)), +
    INPUT2(RG('EXISTING RG'), +  
    DDNAME(REPOSITORY,ICMREP01)), +
    UPDCP(NAME('IMSC CP 2013 JAN'), +  
    IMSID(IMS1), +  
    UPDREPOS(INPUT2))
```

**Example 2**
```
COMPARE INPUT1(RG('UPDATED'), +  
    DDNAME(REPOSITORY,REPOS1)), +
    INPUT2(RG('ORIGINAL'), +  
    IMSID(ICXX), +  
    DDNAME(REPOSITORY,REPOS1)), +
    UPDCP(NAME('UPDATED CP'), +  
    IMSID(ICXX), +  
    MATCH(INPUT1), +  
    NOMATCH(INPUT2(DELETE_RES),INPUT1(CREATE_RES)), +  
    UPDREPOS(INPUT1))
```

**UPDRG()**  
The UPDRG parameter creates a new resource group (or updates an existing one) based on the difference between the resource group specified in INPUT1 statement, and the resource group specified in the INPUT2 statement. When using the UPDRG parameter, an UPDCP statement must also be present.

**NAME(rgname)**  
The name of the new resource group.

**IMSID(imsid)**  
The ID of the IMS system on which to deploy the newly created (or updated) resource group.

**MATCH(INPUTn)**  
Specify which input resource group (INPUT1 or INPUT2) takes priority when a resource is found in both groups with the same name and type, but with different attributes. For example, if the INPUT1 and INPUT2 resource groups have a number of matching resources, specify MATCH(INPUT2) to select the resources from INPUT2 for use in the new (or updated) resource group.  
Default: INPUT1

**NOMATCH(INPUT2(action),INPUT1(action))**  
When comparing resource groups, situations can occur where resources might be present in one group but not the other (for example, a new resource is added to the INPUT1 resource group which is not present in the existing resource group, INPUT2). When the COMPARE command encounters a resource that is found in one group but not the other, the NOMATCH parameter is used to specify the users required course of action when creating the new (or updated) resource group.
The NOMATCH parameter requires the user to specify an action for both the INPUT2 and INPUT1 resource groups. The action specified for each group instructs IMS Configuration Manager on how to handle a resource when it is found within that group. Users have two options for action:

**CREATE_RES**
- Adds the resource to the new resource group.

**DELETE_RES**
- Deletes the resource from the new resource group.

For example, to create a new (or updated) resource group that adds all the “new” resources in INPUT1 and removes all the “old” resources in INPUT2, use

```
NOMATCH(INPUT2(DELETE_RES),INPUT1(CREATE_RES)).
```

Default: NOMATCH(INPUT2(DELETE_RES),INPUT1(CREATE_RES)).

**UPDREPOS(INPUTn)**
- The IMS Configuration Manager repository (specified as INPUT1 or INPUT2) in which to store the new (or updated) resource group.

Default: INPUT2

**REPLACE**
- If the resource group specified with the NAME parameter already exists, specifying REPLACE allows that resource group to be replaced with the new resource group. If, in this scenario, the REPLACE parameter is not specified, the COMPARE command will fail.

The following examples are of complete COMPARE commands that use the UPDRG statement:

**Example 1**
```
COMPARE INPUT1(RG('NEW TAKEUP'), + 
  DDNAME(REPOSITORY,ICMREP01)), + 
 INPUT2(RG('EXISTING RG'), + 
  DDNAME(REPOSITORY,ICMREP01)), + 
 UPDCP(NAME('IMSC CP 2013 JAN'), + 
  IMSID(IMS1), + 
  UPDREPOS(INPUT2)), + 
 UPDRG(NAME('EXISTING RG'), + 
  UPDREPOS(INPUT2), + 
  REPLACE)
```

**Example 2**
```
COMPARE INPUT1(RG('UPDATED'), + 
  DDNAME(REPOSITORY,REPOS1)), + 
 INPUT2(RG('ORIGINAL'), + 
  IMSID(ICXX), + 
  DDNAME(REPOSITORY,REPOS1)), + 
 UPDCP(NAME('UPDATED CP'), + 
  IMSID(ICXX), + 
  MATCH(INPUT1), + 
  NOMATCH(INPUT2(DELETE_RES),INPUT1(CREATE_RES)), + 
  UPDREPOS(INPUT1)), + 
 UPDRG(NAME('ORIGINAL'), + 
  IMSID(ICXX), + 
  MATCH(INPUT2), + 
  NOMATCH(INPUT2(DELETE_RES),INPUT1(CREATE_RES)), + 
  UPDREPOS(INPUT1), + 
  REPLACE)
```

Related tasks:
Use the COMPARE command to compare the contents of two resource groups.

Copy resource groups within an IMS Configuration Manager repository, or from one IMS Configuration Manager repository to another using the COPY command.

Use the COMPARE command to create a command change package using the differences between two resource groups.

Related reference:

“Example JCL for a take-up, compare, and install” on page 221
This JCL demonstrates a take-up and install using the COMPARE batch command. Use this method if your resource updates arrive as stage 1 source from a third-party vendor.

COPY command

Copies objects between two IMS Configuration Manager repositories or within a single IMS Configuration Manager repository. Use this command to migrate definitions or to create backups and snapshots of your definitions.

Syntax

```
COPY MBRTYPE(RGE) FROM(REPOSITORY,ddname) FROM options 
  MBRTYPE(RG) 
  MBRTYPE(SYSTEM) 
  MBRTYPE(PLEX) 
  MBRTYPE(CP) 

COPY MBRTYPE(RGE) TO(REPOSITORY,ddname) TO options 
```  

Related tasks:

“Copying and migrating resource groups using the COPY command” on page 83
Copy resource groups within an IMS Configuration Manager repository, or from one IMS Configuration Manager repository to another using the COPY command.

Related reference:

“Example JCL for copying resource groups” on page 223
This JCL copies resource groups from one IMS Configuration Manager repository to another IMS Configuration Manager repository using the COPY batch command. The FROM and TO repositories can be the same repository. For more examples, see GPLCOPY in SGPLSAMP.
Copying resources
Copy resources (resource group elements) using the COPY command and the MBRTYPE(RGE) option.

Syntax

```
COPY MBRTYPE(RGE) FROM(REPOSITORY,ddname) MBRNAME(obj-name-mask) RGNAME(name,system) TO(REPOSITORY,ddname) NEWNAME(new-obj-name-mask) NEWRGNAME(targetRGname,system) INCLUDE(Filtering options) REPLACE
```

Filtering options:

- TRAN(name*)
- DB(name*)
- PGM(name*)
- RTC(name*)

Parameters

**MBRTYPE(RGE)**
Copy one or more resources.

**FROM(REPOSITORY,ddname)**
Specifies the type of input and a reference to the name of the DD statement for the IMS Configuration Manager repository containing the definitions. For example:
FROM(REPOSITORY,GPLDD)

**MBRNAME(obj-name-mask)**
The name of the resource. You can use a mask in the name to copy multiple resources. For example:
MBRNAME(A*)
Copies all resources that begin with the letter A.

MBRNAME(*)
Copies all resources.

**RGNAME(name,system)**
The name of the originating resource group. If this is a system-level resource group, specify the system name within this parameter. For example:
RGNAME(RG1,IMSA)
TO(REPOSITORY, ddname)
Specifies the name of the destination IMS Configuration Manager repository.
This can be the same name as the source (FROM) repository.

NEWNAME(new-obj-name-mask)
This is the name that is assigned to the new members that are created. If the
new member exists, it is replaced if the REPLACE keyword is present. The
NEWNAME can specify a mask. When NEWNAME is specified as a mask, any
copied members are renamed using the characters in the mask for the number
of character positions in the mask. For example, a mask of ABC* results in the
first 3 characters of each copied member being ABC. When masks are used,
they must be used in both MBRNAME and NEWNAME and must have the
same length for each mask (that is, same number of positions in front of the *=).

NEWRGNAME(targetRGname, system)
The resource group name in the destination repository. If this is a system-level
resource group, then the system must exist on the destination. To specify a
system-level resource group, use this format:
NEWRGNAME(RG2, IMSB)

INCLUDE(filtering options)
Specifies that only resources matching the specified filter will be copied. If
omitted, all resources matching the MBRNAME mask are copied. You can use
masks to match by resource name prefix. Each condition is ORed. Here is an
example INCLUDE statement:
MBRNAME(T*) INCLUDE(TRAN(T1, T2, TA*), PGM(PGA*))

In this example, only transactions with the code T1, T2, or prefixed with TA will
be included; only programs with the prefix PGA will be included. Databases
and fast-path routing codes in the group will not be included.

REPLACE
This option specifies whether to replace objects that already exists in the
destination IMS Configuration Manager repository.
Copying resource groups

Copy resource groups using the COPY command and the MBRTYPE(RG) option.

Syntax

```
COPY MBRTYPE(RG) FROM(REPOSITORY, ddname) MBRNAME(obj-name-mask)
```

```
TO(REPOSITORY, ddname) NEWNAME(new-obj-name-mask)
```

```
SYSTEM(name) COMMON(YES)
```

```
COMMON(NO)
```

```
NEWSYSTEM(name) INCLUDE(Filtering options) REPLACE
```

Filtering options:

```
TRAN(name*) DB(name*) PGM(name*) RTC(name*)
```

Parameters

**MBRTYPE(RG)**

Copy one or more resource groups.

**FROM(REPOSITORY, ddname)**

Specifies the type of input and a reference to the name of the DD statement for the IMS Configuration Manager repository containing the definitions. For example:

```
FROM(REPOSITORY, GPLDD)
```

**MBRNAME(obj-name-mask)**

The resource groups to copy. Specify resource groups using a name or a name mask. For example:

```
MBRNAME(A*)
```

Copies all resource groups that begin with the letter 'A'.

```
MBRNAME(*)
```

Copies all resource groups.
If you are copying a system-level resource group, use the SYSTEM parameter to specify the system name.

**SYSTEM(name,...)**
A list of IMS systems associated with any system-level resource groups specified by the MBRNAME parameter. The systems must exist in the destination repository under the original name or under the name specified by the NEWSYSTEM parameter.

**TO(REPOSITORY,ddname)**
Specifies the name of the destination IMS Configuration Manager repository. This can be the same name as the source (FROM) repository.

**NEWNAME(new-obj-name-mask)**
Rename copied resource groups according to the specified name or name mask. Use in conjunction with the REPLACE keyword to overwrite any existing resource groups.

When NEWNAME is specified as a mask, any copied members are renamed using the characters in the mask for the number of character positions in the mask. For example, a mask of ABC* results in the first 3 characters of each copied member being ABC. When masks are used, they must be used in both MBRNAME and NEWNAME and must have the same length for each mask (that is, same number of positions in front of the *).

**NEWSYSTEM(name,...)**
A list of IMS systems containing a corresponding new name for each system specified in the SYSTEM parameter. For example: SYSTEM(A,B) NEWSYSTEM(X,Y) will copy the system-level resource group belonging to system A to a system-level resource group belonging to system X, and copy the system-level resource group belonging to system B to a system-level resource group belonging to system Y. The systems X and Y must exist in the destination repository for the operation to succeed.

**COMMON(option)**
Specify whether common resource groups are copied.

**YES**
Copy common resource groups and system-level resource groups specified by the MBRNAME parameter.

**NO**
Do not copy common resource groups; copy only system-level resource groups. When using this option, at least one system must be specified using the SYSTEM parameter.

**INCLUDE(filtering options)**
Specifies that only resources matching the specified filter will be copied. If omitted, all resources in the group are copied. You can use name masks to match by resource name prefix. Each condition is ORed. Here is an example INCLUDE statement:

```
INCLUDE(TRAN(T1,T2,TA*),PGM(PGA*))
```

In this example, only transactions with the code T1, T2, or prefixed with TA will be included; only programs with the prefix PGA will be included. Databases and fast-path routing codes in the group will not be included.

**REPLACE**
This option specifies whether to replace objects that already exists in the destination IMS Configuration Manager repository.
Any resource groups that are copied retain their associations to IMS system, but the resources within that group are deleted.

**Copying IMS systems**

Copy systems using the COPY command and the `MBRTYPE(SYSTEM)` option.

**Syntax**

```
COPY MBRTYPE(SYSTEM) FROM(REPOSITORY,ddname) SYSTEM(name)
```

```
TO(REPOSITORY,ddname)
```

```
NEWSYSTEM(name)
```

```
ALSOCOPYRG(NO)
```

```
ALSOCOPYRG(YES)
```

```
ALSOCOPYRG(SYSTEM)
```

```
INCLUDE( Filtering options )
```

**Filtering options:**

```
TRAN(name*)
```

```
DB(name*)
```

```
PGM(name*)
```

```
RTC(name*)
```

**Parameters**

**`MBRTYPE(SYSTEM)`**

Copy one or more IMS systems.

**`FROM(REPOSITORY,ddname)`**

Specifies the type of input and a reference to the name of the DD statement for the IMS Configuration Manager repository containing the definitions. For example:

```
FROM(REPOSITORY,GPLDD)
```

**`SYSTEM(name,...)`**

A list of one or more systems to be copied. The systems can be renamed using the `NEWSYSTEM` name.

**`TO(REPOSITORY,ddname)`**

Specifies the name of the destination IMS Configuration Manager repository. This can be the same name as the source (FROM) repository.
**NEWSYSTEM**(*name,...*)

A list of one or more new names for the system. For example, `SYSTEM(A,B)`
`NEWSYSTEM(X,Y)` will copy system A as system X, and copy system B as system Y. The systems X and Y must not exist for the operation to succeed, or, alternatively, specify the REPLACE option to replace existing systems.

**ALSOCOPYRG**(NO|YES|SYSTEM)

Indicates if the resource group and its resources are also copied. This parameter only applies when you copy a system (either when system is the member type or when an IMSplex is copied with systems).

**NO** Resources are not copied (default).

**YES**

All resources associated with the systems are copied.

**SYSTEM**

Only system-level resource groups and their resources are copied.

**INCLUDE**(filtering options)

Ignored if **ALSOCOPYRG**(NO) is also specified. Specifies that only resources matching the specified filter will be copied. If omitted, all resources in the group are copied. You can use name masks to match by resource name prefix. Each condition is ORed. Here is an example **INCLUDE** statement:

```
INCLUDE(TRAN(T1,T2,TA*),PGM(PGA*))
```

In this example, only transactions with the code T1, T2, or prefixed with TA will be included; only programs with the prefix PGA will be included. Databases and fast-path routing codes in the group will not be included.

**REPLACE**

This option specifies whether to replace objects that already exists in the destination IMS Configuration Manager repository.

Any resource groups that are copied retain their associations to IMS system, but the resources within that group are deleted.

Any systems that are copied are replaced, removing any existing change packages and resource group associations.
Copying IMSplexes

Copy IMSplexes using the COPY command and the MBRTYPE(PLEX) option.

Syntax

```
COPY MBRTYPE(PLEX) FROM(REPOSITORY,ddname) PLEX(plexname) TO(REPOSITORY,ddname) NEWSPLEX(target-plex-name)
SYSTEM(name)
NEWSYSTEM(name)
ALSOCOPYRG(NO)
ALSOCOPYRG(YES)
ALSOCOPYRG(SYSTEM)
INCLUDE( Filtering options )
ALSOCOPYRG(SYSTEM)
INCLUDE( Filtering options )

Filtering options:

TRAN(name*)
DB(name*)
PGM(name*)
RTC(name*)
```

Parameters

**MBRTYPE(PLEX)**
Copy one or more IMSplexes.

**FROM(REPOSITORY,ddname)**
Specifies the type of input and a reference to the name of the DD statement for the IMS Configuration Manager repository containing the definitions. For example:
FROM(REPOSITORY,GPLDD)

**PLEX(plexname)**
The name of the originating IMSplex.

**SYSTEM(name,...)**
A list of one or more systems that are part of the same IMSplex that are to be copied. Specify SYSTEM(*) to copy all systems that are associated with the IMSplex. The systems can be renamed using the NEWSYSTEM name.
**TO**(*REPOSITORY*, *ddname*)

Specifies the name of the destination IMS Configuration Manager repository. This can be the same name as the source (FROM) repository.

**NEWPLEX**(*target-plex-name*)

The name of the IMSplex in the destination repository.

**NEWSYSTEM**(*name*, ...)

A list of one or more new names for the system. For example, SYSTEM(A,B) NEWSYSTEM(X,Y) will copy system A as system X, and copy system B as system Y. The systems X and Y must not exist for the operation to succeed, or, alternatively, specify the REPLACE option to replace existing systems.

**ALSOCOPYRG**(NO|YES|SYSTEM)

Indicates if the resource group and its resources are also copied. This parameter only applies when you copy a system (either when system is the member type or when an IMSplex is copied with systems).

- **NO**  Resources are not copied (default).
- **YES**  All resources associated with the systems are copied.
- **SYSTEM**  Only system-level resource groups and their resources are copied.

**INCLUDE**(filtering options)

Ignored if ALSOCOPYRG(NO) is also specified. Specifies that only resources matching the specified filter will be copied. If omitted, all resources in the group are copied. You can use name masks to match by resource name prefix. Each condition is ORed. Here is an example INCLUDE statement:

```
INCLUDE(TRAN(T1,T2,TA*),PGM(PGA*))
```

In this example, only transactions with the code T1, T2, or prefixed with TA will be included; only programs with the prefix PGA will be included. Databases and fast-path routing codes in the group will not be included.

**REPLACE**

This option specifies whether to replace objects that already exists in the destination IMS Configuration Manager repository.

- Any resource groups that are copied retain their associations to IMS system, but the resources within that group are deleted.
- Any systems that are copied are replaced, removing any existing change packages and resource group associations.
Copying change packages

Copy change packages using the COPY command and the MBRTYPE(CP) option.

Syntax

```plaintext
COPY MBRTYPE(RG) FROM(REPOSITORY,ddname) MBRNAME(create-timestamp)
SYSTEM(name) TO(REPOSITORY,ddname)
NEWSYSTEM(name)
REPLACE
```

Parameters

**MBRTYPE(CP)**

Copy one or more change packages.

**FROM(REPOSITORY,ddname)**

Specifies the type of input and a reference to the name of the DD statement for the IMS Configuration Manager repository containing the definitions. For example:

FROM(REPOSITORY,GPLDD)

**MBRNAME(create-timestamp)**

The timestamp of the change package. The format of create-timestamp is specified using the format `yyyymmddhhmmss` (year, month, day, hours, minutes, seconds). Do not use punctuation. For example, `20101209142344` specifies a change package created on 9 December 2010 at 14:23:44.

When using a mask, the mask can be placed anywhere in the create-timestamp. For example, `*` copies all change packages for the specified system. A value of `20101209*` results in all change package members for 9 December 2010 being copied.

**Note:** All change packages are copied with a status of CLOSED, regardless of their original status. See Chapter 22, "Understanding change package status," on page 265.

**SYSTEM(name, ...)**

A list of one or more systems that contain a change package matching the MBRNAME time stamp or time stamp mask. The systems must exist in the destination IMS Configuration Manager repository in either the original name or under NEWSYSTEM name.

**TO(REPOSITORY,ddname)**

Specifies the name of the destination IMS Configuration Manager repository. This can be the same name as the source (FROM) repository.

**NEWSYSTEM(name, ...)**

A list of one or more systems containing a corresponding new name for each
system specified in the SYSTEM parameter. For example: SYSTEM(A,B) NEWSYSTEM(X,Y) will copy the change packages for system A to system X, and copy the change packages for system B to system Y. The systems X and Y must exist for the operation to succeed.

**REPLACE**
This option specifies whether to replace objects that already exists in the destination IMS Configuration Manager repository.

## DISCOVER command
Automatically discover IMS components and resources for use in IMS Configuration Manager.

### Syntax
```
/SM590000/SM590000
DISCOVER
MBRTYPE(ALL|PLEX) TO(REPOSITORY,ddname)

PLEX(*)
PLEX(mask)
PLEX(plexid)
NOPLEX
RESOURCES
```

### Parameters
- **MBRTYPE(ALL|PLEX) or MBRTYPE (component,...)**
  - Limit the discovery of members to one or more types. MBRTYPE accepts one of the following options:
    - **ALL**
      - Inserts all discoverable member types. See component for a list of supported member types.
    - **PLEX**
      - Inserts only the IMSplex records.
    - **component,...**
      - Specify a list of one or more systems and components. Options include:
        - **IMS**
          - Inserts IMS systems and their associated IMSplexes. If applicable, Common Queue Server (CQS) components for systems discovered by this option are also inserted.
        - **IMCON**
          - Inserts IMS Connect systems and their associated IMSplexes.
        - **ODBM**
          - Inserts Open Database Manager (ODBM) Common Service Layer (CSL) components and their associated IMSplexes.
**REPO**
Inserts Repository Server (RS) CSL components and their associated IMSplexes.

**OM**
Inserts Operations Manager (OM) CSL components and their associated IMSplexes.

**RM**
Inserts Resource Manager (RM) CSL components and their associated IMSplexes.

**SCI**
Inserts Structured Call Interface (SCI) CSL components and their associated IMSplexes.

Default: MBRTYPE(ALL) (if parameter not specified).

**TO(REPOSITORY, ddname)**
Specify the ddname of the IMS Configuration Manager repository in which to store discovered components. For example:

TO(REPOSITORY,GPLREPOS)

**PLEX(plexid or mask,...)**
Specify a list of IMSplexes that contain the components you want to discover. For example:

PLEX(PLXA,PLXB,PLXC)

Alternatively, use a mask to discover all IMSplexes beginning with a particular prefix. The preceding example can also be expressed as:

PLEX(PLX*)

The mask can be used to create complex search statements. The following examples demonstrate valid examples of how the mask can be used:

PLEX(*)
PLEX(ABC*)
PLEX(DEF*,XYZ*)
PLEX(PLXDP,PLX*)

To discover components in all IMSplexes, use:
PLEX(*)

or omit the parameter.

Default: all IMSplexes (if parameter not specified).

**NOPLEX**
Default: all IMSplexes (if parameter not specified).
Discover IMS regions not in an IMSplex.

**RESOURCES**
Default: No resources added (if parameter not specified)

Discovers IMS resources. Resources are added to resource groups named Autodiscovery for name where name is the name of the IMS system where they were discovered. If a resource group of the same name is already defined in the IMS Configuration Manager repository, the RESOURCES option will not overwrite this information.
When using this option, a work RDDS must be supplied on a **GPLRDDS DD** card. IMS must also be given authorization to write to the work RDDS.

**Related reference:**

“Example JCL for discovering systems and IMSplexes” on page 215
This JCL uses the DISCOVER batch command to automatically discover IMS components for use in IMS Configuration Manager.

“Example JCL for discovery and resource take up” on page 216
This JCL uses the DISCOVER batch command to automatically discover IMS systems and to take up resources associated with those systems.

---

**GEN command**

Allows you to generate stage 1 source or an RDDS from a *generate* change package. The GEN command creates parameters that are valid for IMS V10, V11, V12, and V13 systems at the highest maintenance level.

**Syntax**

\[
\text{GEN CPDATE(yyyy.mm.dd)} \text{ CPTIME(hh.mm.ss)} \text{ CPNAME(cpname)} \]

\[
\text{SCOPE}(*) \quad \text{FROM(REPOSITORY }, \text{ddname} \text{)} \quad \text{TO(STAGE1 }, \text{ddname} \text{)} \quad \text{TO(COLDRDDS }, \text{ddname} \text{)} \quad \text{TO(EXPORTRDDS }, \text{ddname} \text{)} \quad \text{FORCE}
\]

**Parameters**

**CPDATE(yyyy.mm.dd)**
The date of the generate change package to use.

**CPTIME(hh.mm.ss)**
The time of the generate change package to use.

**CPNAME(cpname)**
The name of the generate change package to use. The cpname specified must match the name of the change package in the IMS Configuration Manager repository exactly or it will not be processed.

**SCOPE(imsid,...)**
Limit generation to change packages associated with the specified IMS systems. By default, all change packages that match the values provided in CPDATE, CPTIME, and CPNAME are used.

**FROM(REPOSITORY,ddname)**
The ddname of the IMS Configuration Manager repository where the generate change package is located.

**TO(outputtype,ddname)**
Specifies the type of output generated via the outputtype variable, and the destination data set via ddname.
The `outputtype` variable can be one of the following values:

**STAGE1**
- Generate stage 1 macro definitions.

**COLDRDDS**
- Generate a cold start RDDS.

**EXPORTRDDS**
- Generate an export RDDS.

**Tips:**
- When attempting to generate a new external RDDS, the external RDDS file must already exist. To overcome this, add a step to create the file to your JCL before running the GEN command. If using a system RDDS, target the oldest one, in case a fallback is required. Use the IMS RDDS header update utility to find the oldest RDDS.
- In an IMSRSC repository environment, generate an RDDS to be imported for cold start. After the resources are in IMS, EXPORT the updates to the IMSRSC repository.

**FORCE**
- Indicates that generation is to proceed even if the change package fails pre-generation validation.

Related tasks:
- [“Generating stage 1 or an RDDS from a generate change package using the ISPF dialog” on page 100](#)
  
  Use the IMS Configuration Manager ISPF dialog to create JCL that generates stage 1 source or an RDDS from a generate change package.

Related reference:
- [“Example JCL for generating stage 1 source” on page 222](#)
  
  This JCL generates stage 1 source from all resource groups assigned to a system using the GEN batch command. For another example, see GPLGEN in SGPLSAMP.
INSTALL command

Installs resources from a command change package into one or more running IMS systems. The INSTALL command generates the required type-2 commands and can roll back commands in the event of a failure.

Syntax

```
INSTALL CPDATE(yyyy.mm.dd) CPDATE(-$LATEST-) CPDATE(-yyyy.mm.dd-) CPTIME(hh.mm.ss) CPNAME(cpname) FROM(REPOSITORY,ddname) PLEX(imsplex) SCOPE(member-name) RETRYCNT(3) RETRYWAIT(1) SCOPE(***.) RETRYCNT(number) RETRYWAIT(seconds) SCOPE(***.) NOTREADY(STOP) ONFAILURE(STOP) NOTREADY(IGNORE) ONFAILURE(CONTINUE) ONFAILURE(ROLLBACK) CMDTIMEOUT(seconds) CHECK FORCE
```

Parameters

**CPDATE** *(parameters)*

The date of the command change package to install.

*yyyy.mm.dd*

Specify the year, month, and day of the command change package.

**$LATEST**

Install the most recent command change package for the IMSID specified in the SCOPE keyword. When $LATEST is used only one IMSID is allowed in the SCOPE parameter.

**CPTIME**(hh.mm.ss)

The time of the command change package to install.

**CPNAME**(cpname)

The name of the command change package to install. The cpname specified must match the name of the change package in the IMS Configuration Manager repository exactly or it will not be processed.

**FROM(REPOSITORY,ddname)**

Specifies the ddname of the IMS Configuration Manager repository containing the command change package and resource definitions. For example:

```
FROM(REPOSITORY,GPLDD)
```
PLEX(imsplex)
The name of the IMSplex that contains the system or systems that are being
updated by the command change package.

SCOPE(parameters)
A list of one or more systems to update.
Specify one of the following values:
* Update all systems in the IMSplex specified by PLEX.

member-name,...
Update only the specified systems.

Systems that do not have a change package with the specified CPDATE and
CPTIME are skipped.
If you omit the SCOPE parameter, IMS Configuration Manager uses the
contents of the change package to determine which systems require updates.

RETRYCNT(number)
The number of times to retry the command if a failure occurs. Default: 3.

RETRYWAIT(seconds)
The number of seconds to wait before retrying the command after a failure
occurs. Seconds must be an integer. Default: 1 second.

NOTREADY(STOP|IGNORE)
The action to perform if the system being updated reports that it is “not
ready”. Specify one of the following values:
STOP
Stop the update and perform no further processing. This is the default
behavior.

IGNORE
Ignore the “not ready” error and process the next system defined in the
SCOPE parameter, if one exists.

ONFAILURE(STOP|CONTINUE|ROLLBACK)
The action to perform if the system reports a failure. Possible values are:
STOP
Stop the update. Changes made successfully before the failure occurred are
retained. This is the default behavior.

CONTINUE
Skip errors and continue the update with the next resource in the change
package.

ROLLBACK
Stop the update and roll back the system. Changes made successfully
before the failure occurred are rolled back to a state before the job began.
Other systems listed in the SCOPE parameter are unaffected.

CMDTIMEOUT(seconds)
The number of seconds to wait before aborting the update if no response has
been received by the system. Seconds must be an integer. Default: 300 second.

CHECK
When specified, CHECK instructs the batch utility to dynamically evaluate and
report on the type-2 commands required to create and update resource
definitions without modifying your live systems. Use CHECK to conduct a “dry run” that allows you to review proposed actions prior to submitting the final job.

FORCE

*Use with caution.* Bypass IMS Configuration Manager pre-validation checks and proceed with resource updates. By default, IMS Configuration Manager ensures that change packages are installed in the order of their creation, and backed out in the reverse order of their installation. The FORCE parameter allows you to override the default behavior.

Related concepts:

“IMS command security” on page 25

The IMS Configuration Manager TAKEUP, INSTALL, and BACKOUT commands use IMS commands to interact with your IMS systems.

Related tasks:

“Scheduling a command change package for installation” on page 97

After a command change package has been created and defined, it is ready to be installed. Use the IMS Configuration Manager ISPF dialog to generate and submit JCL immediately, or to schedule the job for later.

Related reference:

“SYSPRINT install/backout log reference” on page 269

The SYSPRINT log provides summary status of the INSTALL or BACKOUT job.

“Install/backout report reference” on page 270

This topic provides a general overview of the REPORT data set. This report is generated by the INSTALL and BACKOUT commands.

“Example JCL for installing resources” on page 220

This JCL uses the INSTALL batch command to install one command change package into one IMS system. For another example, see GPLINSTL in SGPLSAMP.

“Example JCL for a take-up, compare, and install” on page 221

This JCL demonstrates a take-up and install using the COMPARE batch command. Use this method if your resource updates arrive as stage 1 source from a third-party vendor.

“BACKOUT command” on page 224

The BACKOUT command allows you to backout an installed command change package.
**TAKEUP command**

Imports resources from the IMSRSC repository, an RDDS, or stage 1 source to the IMS Configuration Manager repository. The command can also associate systems with resource groups during the take up.

**Syntax**

```
TAKEUP
  FROM(IMSREPOS) IMSREPOS options
  FROM(RDDS,ddname) RDDS options
  FROM(STAGE1,ddname) Stage 1 options
```

**Related concepts:**

- "IMS command security" on page 25
- "Specifying resource groupings by using filtering criteria" on page 64

The IMS Configuration Manager TAKEUP, INSTALL, and BACKOUT commands use IMS commands to interact with your IMS systems.

**Taking up an IMSRSC repository**

Take up resources from an IMSRSC repository using the TAKEUP command and the FROM(IMSREPOS) option.

**Syntax**

```
TAKEUP
  FROM(IMSREPOS) PLEX(imsplex) IMSID(imsid)
```

```
CMDTIMEOUT(300)
CMDTIMEOUT(seconds)
```

```
TO(REPOSITORY,ddname) RG(rgname,description)
```

```
DEFRGLVL(COMMON)
DEFRGLVL(SYSTEM)
```

```
ASSOCIATE(imsid)
```

```
INCLUDE( Filtering options )
```

```
REPLACE
```


Filtering options:

Parameters

FROM(IMSREPOS)
   Take up resources from an IMSRSC repository.

PLEX(imsplex)
   Take up resources from the specified IMSplex.

IMSID(imsid)
   Take up resources from the specified IMS system. The IMS system must be on
   the IMSplex specified by the PLEX parameter and must exist in the IMS
   Configuration Manager repository specified by the TO parameter.

CMDTIMEOUT(seconds)
   The number of seconds to wait before aborting the TAKEUP if no response has
   been received by the system. Default: 300 seconds.

TO(REPOSITORY,ddname)
   The ddname of the IMS Configuration Manager repository in which to store
   your resource definitions. For example:
   TO(REPOSITORY,GPLREPDD)

RG(rgname,description)
   The name of the resource group in which to store your resource definitions. A
   description is optional. For example:
   RG(MYGROUP,'TAKEUP FROM IMSRSC REPOSITORY')

DEFRGLVL(rgtype)
   The type of resource group in which to store your definitions. There are two
   types of resource group:

   COMMON
      Common resource group. Use this option with the ASSOCIATE keyword to
      associate this resource group with one or more IMS systems. This is the
      default option.

   SYSTEM
      System-level resource group. The TAKEUP command associates the
      system-level resource group with the IMS system specified by the IMSID
      parameter.
ASSOCIATE(imsid,...)

Create an association between one or more IMS systems and a common resource group. Specify the common resource group using the RG parameter and the DEFRGLVL(COMMON) option.

Note: You can also use the IMS Configuration Manager ISPF dialog to create associations between common resource groups and IMS systems. See "Associating common resource groups with IMS systems" on page 75.

INCLUDE(filtering options)

Take up resources that match the specified filter. You can use name masks to match by resource name prefix. Each condition is ORed. Here is an example INCLUDE statement:

`INCLUDE(TRAN(T1,T2,TA*),PGM(PGA*))`

In this example, only transactions with the code T1, T2, or prefixed with TA will be included; only programs with the prefix PGA will be included. Databases and fast-path routing codes in the group will not be included.

See “Specifying resource groupings by using filtering criteria” on page 64.

REPLACE

Replace the contents of a resource group if it already exists in the IMS Configuration Manager repository. The contents of a system-level resource group are replaced if the resource group name and IMSID match the values provided by the RG and IMSID parameters. A common resource group must match the value provided in the RG parameter. Only the contents of a resource group are replaced. Associations between the resource group and other IMS systems are not affected.

Related reference:

"Example JCL for performing a take-up of an IMSRSC repository" on page 217

This JCL example shows how to use the TAKEUP command with an IMSRSC repository.
**Taking up an RDDS**

Take up resources from a resource definition data set (RDDS) using the TAKEUP command and the FROM(RDDS, ddname) option.

**Syntax**

```plaintext
TAKEUP FROM(RDDS, ddname) IMSID(imsid)
```

**Filtering options:**

- `ALL`
- `TRAN(name*)`
- `DB(name*)`
- `PGM(name*)`
- `RTC(name*)`
- `TRANDESC(name*)`
- `DBDESC(name*)`
Parameters

```
FROM(RDDS, ddname)
```

Take up resources from an RDDS using the ddname of the DD statement that contains the input library.

```
EXPORT
```

Issue an IMS DRD EXPORT command to populate the IMS RDDS specified by `FROM(RDDS, ddname)` with resources from the active IMS region before take up into the IMS Configuration Manager repository.

When using this option, specify the IMS RESLIB in the STEPLIB concatenation.

```
CMDTIMEOUT(seconds)
```

The number of seconds to wait before aborting the TAKEUP if no response has been received by the system. Default: 300 seconds.

```
TO(REPOSITORY, ddname)
```

The ddname of the IMS Configuration Manager repository in which to store your resource definitions. For example:
```
TO(REPOSITORY, GPLREPDD)
```

```
RG(rgname, description)
```

The name of the resource group in which to store your resource definitions. A description is optional. For example:
```
RG(MYGROUP, 'TAKEUP FROM RDDS')
```

```
DEFRGLVL(rgtype)
```

The type of resource group in which to store your definitions. There are two types of resource group:

```
COMMON
```

Common resource group. Use this option with the ASSOCIATE keyword to associate this resource group with one or more IMS systems. This is the default option.

```
SYSTEM
```

System-level resource group. The TAKEUP command associates the system-level resource group with the IMS system specified by the IMSID parameter.

```
ASSOCIATE(imsid, ...)
```

Create an association between one or more IMS systems and a common resource group. Specify the common resource group using the RG parameter and the DEFRGLVL(COMMON) option.

```
Note: You can also use the IMS Configuration Manager ISPF dialog to create associations between common resource groups and IMS systems. See "Associating common resource groups with IMS systems" on page 75.
```

```
IMSID(imsid)
```

If the EXPORT parameter is used, specify the IMS system to use with the EXPORT command.
If the DEFRLVL(SYSTEM) option is used, create an association between the specified IMS system and the system-level resource group using the RG parameter.

**INCLUDE** *(filtering options)*

Take up resources that match the specified filter. You can use name masks to match by resource name prefix. Each condition is ORed. Here is an example INCLUDE statement:

```
INCLUDE(TRAN(T1,T2,TA*),PGM(PGA*))
```

In this example, only transactions with the code T1, T2, or prefixed with TA will be included; only programs with the prefix PGA will be included. Databases and fast-path routing codes in the group will not be included.

See “Specifying resource groupings by using filtering criteria” on page 64.

**REPLACE**

Replace the contents of a resource group if it already exists in the IMS Configuration Manager repository. The contents of a system-level resource group are replaced if the resource group name and IMSID match the values provided by the RG and IMSID parameters. A common resource group must match the value provided in the RG parameter. Only the contents of a resource group are replaced. Associations between the resource group and other IMS systems are not affected.

**Related reference:**

“Example JCL for performing a take-up of an RDDS” on page 218

This JCL example shows how to use the TAKEUP command with an RDDS.
Taking up stage 1 source

Take up resources from stage 1 source using the TAKEUP command and the FROM(STAGE1, ddname) option. The TAKEUP command supports source for IMS V9 onward.

Syntax

```
TAKEUP FROM(STAGE1, ddname) TO(REPOSITORY, ddname)
```

Filtering options:

```
ALL
TRAN(name*)
DB(name*)
PGM(name*)
RTC(name*)
TRANDESC(name*)
DBDESC(name*)
```
Parameters

FROM(STAGE1,ddname)
Take up stage 1 source using the ddname of the DD statement that contains the input library.

TO(REPOSITORY,ddname)
The ddname of the IMS Configuration Manager repository in which to store your resource definitions. For example:
TO(REPOSITORY,GPLREPDD)

RG(rgname,description)
The name of the primary resource group in which to store your resource definitions. A description is optional. For example:
RG(YOUR_RG_STAGE1,'TAKEUP OF STAGE1')

Note: Insert macro statements into your stage 1 source to divide your resources into multiple resource groups. See “Specifying resource groupings in stage 1 source with macro statements” on page 65.

DEFRGLVL(rgtype)
The type of resource group in which to store your definitions. There are two types of resource group:

COMMON
Common resource group. Use this option with the ASSOCIATE keyword to associate this resource group with one or more IMS systems. This is the default option.

SYSTEM
System-level resource group. The TAKEUP command associates the system-level resource group with the IMS system specified by the IMSID parameter.

ASSOCIATE(imsid,...)
Create an association between one or more IMS systems and a common resource group. Specify the common resource group using the RG parameter and the DEFRGLVL(COMMON) option.

Note: You can also use the IMS Configuration Manager ISPF dialog to create associations between common resource groups and IMS systems. See “Associating common resource groups with IMS systems” on page 75.

IMSID(imsid)
Create an association between the specified IMS system and a system-level resource group. Specify the system-level resource group using the RG parameter and the DEFRGLVL(SYSTEM) option, or by using an RGS macro statement in your stage 1 source. See “Specifying resource groupings in stage 1 source with macro statements” on page 65.

INCLUDE(filtering options)
Take up resources that match the specified filter. You can use name masks to match by resource name prefix. Each condition is ORed. Here is an example INCLUDE statement:
INCLUDE(TRAN(T1,T2,TA*),PGM(PGA*))

In this example, only transactions with the code T1, T2, or prefixed with TA will be included; only programs with the prefix PGA will be included. Databases and fast-path routing codes in the group will not be included.

See “Specifying resource groupings by using filtering criteria” on page 64.

ASMCOMMENTS(option)

Action to take when comments are discovered in stage 1 source. The following options are available:

CREATE NOTES

Convert full-line comments into IMS Configuration Manager notes. All comment blocks proceeding a resource definition are included as notes for that resource definition.

Note: Comments can be added using the ISFP dialog. See “Adding notes (annotations) to resource definitions and resource groups” on page 73.

IGNORE

Comments are ignored.

REPLACE

Replace the contents of a resource group if it already exists in the IMS Configuration Manager repository. The contents of a system-level resource group are replaced if the resource group name and IMSID match the values provided by the RG and IMSID parameters, or by an RGS macro statement. A common resource group must match the value provided in the RG parameter or by an RG macro statement. Only the contents of a resource group are replaced. Associations between the resource group and other IMS systems are not affected. See “Specifying resource groupings in stage 1 source with macro statements” on page 65.

Related concepts:

“Specifying resource groupings in stage 1 source with macro statements” on page 65
You can specify resource groupings in your stage 1 source by inserting macro statements before you perform a take-up. These macros are used with the RG and DEFRGLVL parameters of the TAKEUP command.

Related reference:

“Example JCL for performing a take-up of stage 1 source” on page 218
This JCL example shows how to use the TAKEUP command with stage 1 source. For another example, see GPLTAKUP in SGPLSAMP.

“Example JCL for a take-up, compare, and install” on page 221
This JCL demonstrates a take-up and install using the COMPARE batch command. Use this method if your resource updates arrive as stage 1 source from a third-party vendor.
Chapter 20. IBM Functional Support Library Server configuration options

The IBM Functional Support Library Server startup job contains several options to control how IMS Configuration Manager manages system and resource definitions.

Example JCL for autodiscovery

This JCL uses the AUTODISCOVER keyword and the IBM Functional Support Library Server to automatically discover IMS components for use in IMS Configuration Manager.

```bash
//FUNSRV JOB (ACCOUNT), 'NAME'
//SERVER EXEC PGM=FUNSRV,
// PARM=('BPECFG=BPETCHG, FUNCFG=FUNCCFG')
//*
//STEPLIB DD DISP=SHR, DSN=FUNHLQ.SFUNLINK
// DD DISP=SHR, DSN=PRDHLQ.SGPLINK
// DD DISP=SHR, DSN=IMSHLQ.SDFSRESL
//PROCLIB DD DISP=SHR, DSN=FUNHLQ.SFUNSAMP
//GPLCNTL DD *
// REPOSITORY NAME=testrepo,
// DESC=(shortdescription),
// DSN=TEST.REPO,
// AUTODISCOVER=(PLEX(plexname,...),
// MBRTYPE(values))
//*
//GPLPRINT DD SYSOUT=*
```

where:

1. The IMS Configuration Manager repository to use to store your definitions.
2. The AUTODISCOVER keyword and optional parameters. Replace the placeholders `plexname,...` and `values` as required, or remove the PLEX and MBRTYPE parameters completely to discover as many systems in your environment as possible.

Related tasks:

“Enabling autodiscovery” on page 44

Enabling the autodiscovery feature instructs IMS Configuration Manager to automatically detect IMS systems and resources and update the IMS Configuration Manager repository with the definitions when the server first starts up.

Related reference:

“The REPOSITORY keyword”

The REPOSITORY keyword allows users to specify information about IMS Configuration Manager repositories that are accessible to the IBM Functional Support Library Server.

REPOSITORY keyword

The REPOSITORY keyword allows users to specify information about IMS Configuration Manager repositories that are accessible to the IBM Functional Support Library Server.
Syntax

```
REPOSITORY_NAME=repository_name, DESC=repository_description
DSN=repository_dsn
AUTODISCOVER
Options
 Plex(plexid or mask,...)
 MBRTYPE(ALL)
 MBRTYPE(plex)
 MBRTYPE(component)
 RESOURCES
 RDDS=work_rdds_dsn
```

Options:

```
PLEX(plexid or mask,...)
```

Parameters

**NAME**
Specify a short name to identify the IMS Configuration Manager repository.

**DESC**
Specify a short description for the IMS Configuration Manager repository.

**DSN**
Specify the data set name for the IMS Configuration Manager repository.

**AUTODISCOVER**
Instruct IMS Configuration Manager to perform system autodiscovery on server start. The AUTODISCOVER keyword has a number of additional options. If no options are specified, IMS Configuration Manager attempts to discover as many systems as possible.

The options are:

- **PLEX(plexid or mask,...)**
  Specify a list of IMSplexes that contain the components you want to discover. For example:
  ```
  PLEX(PLXA, PLXB, PLXC)
  ```

  Alternatively, use a mask to discover all IMSplexes beginning with a particular prefix. The preceding example can also be expressed as:
  ```
  PLEX(PLX*)
  ```

  The mask can be used to create complex search statements. The following examples demonstrate valid examples of how the mask can be used:
  ```
  PLEX(*)
  PLEX(ABC*)
  PLEX(DEF*,XYZ*)
  PLEX(PLXR, PLX*)
  ```
To discover components in all IMSplexes, use:

PLEX(*)

or omit the parameter.

Default: all IMSplexes (if parameter not specified).

**MBRTYPE(ALL|PLEX) or MBRTYPE (component,...)**

Limit the discovery of members to one or more types. MBRTYPE accepts one of the following options:

- **ALL**
  - Inserts all discoverable member types. See *component* for a list of supported member types.

- **PLEX**
  - Inserts only the IMSplex records.

- **component,...**
  - Specify a list of one or more systems and components. Options include:
    - **IMS**
      - Inserts IMS systems and their associated IMSplexes. If applicable, Common Queue Server (CQS) components for systems discovered by this option are also inserted.
    - **IMSCON**
      - Inserts IMS Connect systems and their associated IMSplexes.
    - **ODBM**
      - Inserts Open Database Manager (ODBM) Common Service Layer (CSL) components and their associated IMSplexes.
    - **REPO**
      - Inserts Repository Server (RS) CSL components and their associated IMSplexes.
    - **OM**
      - Inserts Operations Manager (OM) CSL components and their associated IMSplexes.
    - **RM**
      - Inserts Resource Manager (RM) CSL components and their associated IMSplexes.
    - **SCI**
      - Inserts Structured Call Interface (SCI) CSL components and their associated IMSplexes.

Default: **MBRTYPE(ALL)** (if parameter not specified).

**RESOURCES**

Discovers IMS resources on server startup. Resources are added to resource groups named *Autodiscovery for name* where name is the name of the IMS system where they were discovered. If a resource group of the same name is already defined in the IMS Configuration Manager repository, the RESOURCES option will not overwrite this information.

When using this option, specify a work RDDS using RDDS=DSN where *DSN* is a data set name of your choice. IMS must be given authorization to write to the work RDDS.

Default: No resources added (if parameter not specified)
Recommendation: Use "TAKEUP command" on page 248 instead of the RESOURCES keyword to take up resources in batch.

Related reference:

"Example JCL for autodiscovery" on page 257

This JCL uses the AUTODISCOVER keyword and the IBM Functional Support Library Server to automatically discover IMS components for use in IMS Configuration Manager.
Chapter 21. Understanding the result of the discovery process

Results of the IMS Configuration Manager autodiscovery process are summarized in the log.

Discovery process logs have the following basic structure:
The autodiscovery process has begun. Objects discovered are stored in the specified IMS Configuration Manager repository.

Objects discovered by IMS Configuration Manager are listed together with their details.
An object that could not be added, updated or skipped by IMS Configuration Manager.

An indication to the user that autodiscovery is incomplete. To discover more of your environment, follow the instructions in the message displayed.

An object that can not be processed by IMS Configuration Manager.

IMS Configuration Manager has finished exploring the environment and is about to compare what it discovered with what is currently stored in the specified IMS Configuration Manager repository.

IMS Configuration Manager begins the process of updating the specified IMS Configuration Manager repository.

The result of autodiscovery summarized as a table with the following column headings:

<table>
<thead>
<tr>
<th>MBRTYPE</th>
<th>The type of object discovered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discovered</td>
<td>The number of objects found through autodiscovery</td>
</tr>
<tr>
<td>Added</td>
<td>The number of discovered objects that were newly added to the IMS Configuration Manager repository. These are new objects that have not previously been discovered by IMS Configuration Manager.</td>
</tr>
<tr>
<td>Updated</td>
<td>The number of discovered objects updated in the IMS Configuration Manager repository. These are objects that have changed since they were last discovered by IMS Configuration Manager.</td>
</tr>
<tr>
<td>No change</td>
<td>The number of discovered objects that did not require an IMS Configuration Manager repository update. These are objects that have not changed since they were last discovered by IMS Configuration Manager.</td>
</tr>
<tr>
<td>Skipped</td>
<td>The number of discovered objects that were not processed by IMS Configuration Manager. Search for log message “GPL7035I” on page 187 (5 in the preceding example) for further details.</td>
</tr>
<tr>
<td>Error</td>
<td>The number of discovered objects that could not be added, updated or skipped by IMS Configuration Manager. Search for log messages “GPL7001I” on page 184, “GPL7036I” on page 188, and “GPL7037I” on page 188 (4 in the preceding example) for further details.</td>
</tr>
</tbody>
</table>

Autodiscovery is complete.

Related tasks:

“Enabling autodiscovery” on page 44

Enabling the autodiscovery feature instructs IMS Configuration Manager to automatically detect IMS systems and resources and update the IMS Configuration Manager repository with the definitions when the server first starts up.

Related information:
Chapter 22. Understanding change package status

The following section describes status information relating to IMS Configuration Manager change packages.

Determining the status of a change package

Change packages created in IMS Configuration Manager consist of a status field and a condition field. As you create and install change packages, it is important to understand these fields in order to correctly manage your systems and to understand the lifecycle of a change package.

**Status**
The *status* field (Status on the ISPF dialog) indicates whether a change package is OPEN or CLOSED.

- When a *command* (CMD) change package is created, it is created in the OPEN state where it can be edited (resources added or removed), deleted if no longer required, or closed after editing is complete.
- When a *generate* (GEN) change package is created, it is created in the CLOSED state, as it cannot be edited.

When a change package is closed, it can be scheduled for installation, backed out (if previously installed), or aborted (if not installed).

![Figure 90. States of the command change package Status field](image)

A CLOSED change package cannot be reopened.

**Condition**
The *condition* field (Cond on the ISPF dialog) indicates the installation or backout status of the change package. When a change package is created, it is created with a condition of NOTSCH (not scheduled for installation or backout). The condition field depends on the status field in that most
conditions cannot be achieved unless the change package is **CLOSED**.

![Diagram of change package condition states](image)

**Figure 91. States of the change package condition (Cond) field**

A full list of condition codes can be found in "Change package condition codes reference."

**Related concepts:**
- Chapter 6, “Deploying resources using change packages,” on page 87

Resources stored in the IMS Configuration Manager repository are deployed to IMS systems using change packages.

**Change package condition codes reference**

The condition (Cond) field provides information about the outcome of processing applied to a change package. This condition code is displayed on the All Change Packages panel when you select option 4 **Packages** from the IMS Configuration Manager Primary Menu.

The condition values are:

**ABORTED**
- Package implementation canceled.
- The implementation of the change package has been aborted or canceled.

**BACKFAIL**
- Backout failed.
The backout of the changes into the target IMS system failed for a change package. No parts of the change package were backed out.

**BACKPART**
Backout partially complete.
The backout of some or all of the changes into the target IMS system failed. Some elements of the change package were successfully backed out.

**COLDCOMP**
Cold start complete.
The user has notified IMS Configuration Manager that the target IMS system has been cold started. The cold start might have implemented changes prepared either using IMS stage 1 deck macros or an RDDS.

**COMPPART**
Partially complete.
A partially installed change package has been marked as complete.

**INSTBACK**
Install backed out.
The backout utility has removed previously installed changes from the target IMS system.

**INSTFAIL**
Install failed.
IMS Configuration Manager failed to install a change package into the target IMS system.
If the failure occurs owing to factors such as DRD command failure or system resource conflicts, then auto backout processing occurs if the ONFAILURE(ROLLBACK) option is specified.

**INSTOK**
Install completed successfully.
The change package has been successfully installed into the target IMS system.

**INSTPART**
Install partially completed.
The install of some of the changes into the target IMS system failed.
Automatic backout processing was not requested for this package. This is normally the result of using ONFAILURE(CONTINUE) in the INSTALL command. The user needs to decide whether to accept the package as is (change condition to COMPPART), or to try to fix any errors that occurred and rerun the INSTALL.

**NOTSCHED**
Package not scheduled.
The change package has not yet been scheduled for processing.

**SCHED**
Package scheduled.
The change package has been scheduled for processing, and is awaiting processing completion.

**Related tasks:**

- "Scheduling a command change package for installation" on page 97
- After a command change package has been created and defined, it is ready to be installed. Use the IMS Configuration Manager ISPF dialog to generate and submit JCL immediately, or to schedule the job for later.
- "Marking a change package as complete using the ISPF dialog" on page 101
- Under certain circumstances, change packages that have been installed need to be marked as complete. Marking a change package as complete allows you to install subsequent change packages.
Chapter 23. Interpreting INSTALL and BACKOUT reports

Information about the status of installation and backout jobs can be found within the SYSPRINT log and the corresponding REPORT data set.

Related concepts:

“When not all resources can be installed” on page 99

For various reasons, the INSTALL function might fail to install all requested resources.

Related tasks:

“Backing out a command change package using the ISPF dialog” on page 102

A previously installed command change package can be backed out of associated IMS systems if you wish to undo your changes.

SYSPRINT install/backout log reference

The SYSPRINT log provides summary status of the INSTALL or BACKOUT job.

SYSPRINT logs have the following format. INSTALL and BACKOUT jobs have a similar format:

```
V2R1M0 IMS Configuration Manager
FUN1003I Processing started at 2013-10-04 06:46:02
GPL60000 SYST command input:
GPL60000 1 * 
GPL60000 2 INSTALL CPNAME('TRY ONE') + 1
GPL60000 3 CPDATE(2013.06.10) + 
GPL60000 4 CPTIME(05.45.14) + 
GPL60000 5 FROM(REPOSITORY,GPLREPOS) + 
GPL60000 6 FLEX(FLXXX) + 
GPL60000 7 SCOPE(IBMXX) + 
GPL60000 8 NOTREADY(STOP) + 
GPL60000 9 ONFAILURE(STOP) + 
GPL60000 10 RETRYCNT(3) + 
GPL60000 11 RETRYWAIT(1) + 
GPL60000 INSTALL started for change packages with timestamp 2013.06.10 05.45.14 within requested scope.
GPL60227I Resetting Change package element DATABASE 'ABC' for IMS 'IBMXX' 2
GPL60003 INSTALL completed RC=00 3
GPL60003 Processing ended at 2013-10-04 06:46:04
```

Figure 92. Example output of a SYSPRINT log generated from an INSTALL job

where:

1. The command name is listed together with any control cards. Any errors are reported.
2. Important job steps are reported, showing the order in which resource elements have been processed.
3. Status of the job. A status of RC=00 indicates that the job was a success.

Note: When using the ONFAILURE(CONTINUE) parameter, be sure to check the resource detail, as any installation/backout issues might have been ignored.

Related reference:

“INSTALL command” on page 245

Installs resources from a command change package into one or more running IMS systems. The INSTALL command generates the required type-2 commands and can roll back commands in the event of a failure.
The BACKOUT command allows you to backout an installed command change package.

**Install/backout report reference**

This topic provides a general overview of the REPORT data set. This report is generated by the INSTALL and BACKOUT commands.

The install report is displayed as the REPORT data set in INSTALL job output. See “INSTALL command” on page 245 for the full command syntax.

The backout report is displayed as the REPORT data set in BACKOUT job output. See “BACKOUT command” on page 224 for the full command syntax.

INSTALL and BACKOUT jobs produce a similar report. For the purposes of this reference, the following example is described in terms of an INSTALL job.

The INSTALL report format depends on some command processing options:

**Normal installation**
This report type is displayed when an installation completed without failures, or where failures occurred but no rollback option was requested.

**Installation with CHECK option**
This report type is displayed where install is requested with the CHECK option, it is similar to a typical install report except that it does not list command execution because no commands are executed.

**Installation rollback**
This report is displayed when failures occurred during install and ROLLBACK was requested by the user. It contains information about how rollback progressed.

Installation reports have the following format:
where:

1. A summary of the change package installed.

2. The system eligibility report lists all systems involved in the installation process according to the change package being installed. Reasons why a system might not have resources installed to it range from it being unavailable to the wrong version of IMS. For example, an INSTALL job will fail if a specified IMS system is defined in the IMS Configuration Manager repository as V10 (and DRD-capable) but the INSTALL batch command determines that the system is, in fact, a V9 system (that does not support DRD).

3. The INSTALL report lists the name of the change package, its status before this installation run, and all commands executed with return code. For each resource, the latest installation history (if any) is reported. If the resource exists in IMS, its status is reported here. If the resource does not yet exist, *** No IMS Modblk *** is reported.

Important columns for this section of the report are:
Sequence
A sequence number that can be used by other messages to refer to a specific command.

Time   The local time for the command execution

Resource
The name of the resource being installed.

Type   The type of the resource being installed.

Commands issued to IMS are listed below the resource information. Return codes and other error messages are reported here. In some cases, the IMS conditioning process will issue commands before and after the actual resource change. Those commands and results will also be reported here.

The system report provides a numerical summary of statistics for each system into which resources were installed. In this example, only one system was installed.

The install summary provides a numerical summary of overall statistics for the installation process across all systems.

Related reference:
“INSTALL command” on page 245
Installs resources from a command change package into one or more running IMS systems. The INSTALL command generates the required type-2 commands and can roll back commands in the event of a failure.

“BACKOUT command” on page 224
The BACKOUT command allows you to backout an installed command change package.
Chapter 24. How to read syntax diagrams

The following rules apply to the syntax diagrams that are used in this information:

- Read the syntax diagrams from left to right, from top to bottom, following the path of the line. The following conventions are used:
  - The >>= symbol indicates the beginning of a syntax diagram.
  - The --> symbol indicates that the syntax diagram is continued on the next line.
  - The >-- symbol indicates that a syntax diagram is continued from the previous line.
  - The -->< symbol indicates the end of a syntax diagram.
- Required items appear on the horizontal line (the main path).

```
>>>required_item
```

- Optional items appear below the main path.

```
>>>required_item
   optional_item
```

If an optional item appears above the main path, that item has no effect on the execution of the syntax element and is used only for readability.

```
>>>required_item
   optional_item
```

- If you can choose from two or more items, they appear vertically, in a stack. If you must choose one of the items, one item of the stack appears on the main path.

```
>>>required_item
   required_choice1
   required_choice2
```

If choosing one of the items is optional, the entire stack appears below the main path.

```
>>>required_item
   optional_choice1
   optional_choice2
```

If one of the items is the default, it appears above the main path, and the remaining choices are shown below.

```
>>>required_item
   default_choice
   optional_choice
   optional_choice
```

- An arrow returning to the left, above the main line, indicates an item that can be repeated.
If the repeat arrow contains a comma, you must separate repeated items with a comma.

A repeat arrow above a stack indicates that you can repeat the items in the stack.

- Keywords, and their minimum abbreviations if applicable, appear in uppercase. They must be spelled exactly as shown. Variables appear in all lowercase italic letters (for example, column-name). They represent user-supplied names or values.
- Separate keywords and parameters by at least one space if no intervening punctuation is shown in the diagram.
- Enter punctuation marks, parentheses, arithmetic operators, and other symbols exactly as shown in the diagram.
- Footnotes are shown by a number in parentheses; for example, (1).
Part 8. Appendixes
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