

IBM IMS Cloning Tool for z/OS
1.2

User's Guide



Note:

Before using this information and the product it supports, read the information in [“Notices” on page 431.](#)

Fifth Edition (March 2022)

This edition applies to Version 1.2 of IMS Cloning Tool for z/OS (product number 5655-U91) and to all subsequent releases and modifications until otherwise indicated in new editions.

This edition replaces SC19-3757-03.

© **Copyright International Business Machines Corporation 2009, 2022.**

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

About this information.....	vii
Chapter 1. IMS Cloning Tool overview.....	1
What's new in IMS Cloning Tool.....	2
IMS Cloning Tool features and benefits.....	4
Service updates and support information.....	5
Product documentation and updates.....	5
Accessibility features.....	6
Chapter 2. Customizing IMS Cloning Tool.....	7
Planning for IMS Cloning Tool.....	7
Prerequisites.....	7
Data resources.....	9
Data sets.....	9
Authorization.....	10
Validate load module contents.....	11
Configuration.....	12
Step 1: Run GCLIMRG.....	13
Step 2: Set the keywords in the GCLINI SGCLPARM member.....	14
Step 3: Modify the GCL members in hlq.SGCLJCL.....	14
Step 4: APF-authorize the SGCLLOAD library on all systems.....	15
Step 5: Prevent unauthorized use of IMS Cloning Tool.....	15
Step 6: Enable IMS Cloning Tool in your IMS online and batch jobs.....	15
Step 7: Specify mask characters for your EBCDIC code set.....	17
Step 8 (ISPF interface only): Create the VSAM repository.....	17
Step 9 (ISPF interface only): Create the IMS control file.....	18
Step 10 (ISPF interface only): Customize the CLIST.....	18
Step 11: Verify that customization was successful.....	22
Step 12: Configuring for database cloning.....	22
GCLINI configuration values.....	23
Syntax rules.....	23
GCLINI keyword syntax and descriptions.....	24
Chapter 3. Using IMS Cloning Tool – Cloning IMS subsystems.....	41
Planning to clone an IMS subsystem.....	41
Considerations for IMS Cloning Tool when cloning IMS subsystems.....	41
Selection of source and target volumes.....	41
Volume relationship conflicts.....	44
Renaming data sets	44
Target ICF catalogs.....	44
Location of the source and target ICF catalogs.....	45
Target data set ICF catalog aliases.....	46
Return code choices.....	46
Setup for creating an IMS subsystem.....	46
Setting up to copy volumes with FlashCopy or SnapShot.....	49
Overview: Steps for Creating Volume Copies with FlashCopy or SnapShot.....	50
Step 1: FINDUCATS step (optional).....	51
Step 2: Quiesce source volume activity.....	51
Step 3: Copy step.....	51
Step 4: Resume access to the source volumes.....	51

Step 5: RENAME step.....	51
Step 6: IMS cloning.....	52
Step 7: Access the target volumes.....	52
Step 8: BCSCLEAN step (optional but recommended).....	52
Setting up to copy volumes with on-site mirroring tools.....	52
Overview: Steps for creating copies with mirroring tools.....	53
Overview: Steps for cloning volumes with EMC TimeFinder/Mirror.....	55
Cloning IMS subsystems.....	58
IMS offline cloning procedures.....	58
IMS online cloning procedures.....	65
Chapter 4. Using IMS Cloning Tool – Refreshing databases.....	73
Planning for copying IMS databases.....	73
Considerations for in-progress read/write activity.....	73
Considerations for IMS Cloning Tool when copying IMS databases.....	73
Considerations for data set renaming.....	75
Return code choices.....	75
Databases not supported.....	75
Database registration rules.....	75
IMS Cloning Tool database refresh jobs.....	76
When you are using FlashCopy or SnapShot.....	77
When you are using other copy methodologies.....	79
When you are using any methodology.....	80
Setup procedures for copy by data set with FlashCopy or SnapShot.....	81
Overview: Setup for FlashCopy/SnapShot.....	82
Setup procedures for all other copy methodologies.....	88
Overview: Setup for other copy methodologies.....	88
Refreshing IMS databases.....	97
Copy Procedure 1: FlashCopy/SnapShot setup.....	97
Copy procedure 2: All other copy methodologies.....	98
Chapter 5. Using the ISPF interface.....	101
The IMS Cloning Tool ISPF interface.....	101
Configuring IMS subsystems	102
Configuring a subsystem.....	102
Configuring user settings.....	103
Setting user defaults (job card and work data sets).....	103
Setting subsystem cloning defaults.....	104
Setting database refresh defaults.....	111
Creating cloning jobs using the interface.....	118
Creating a profile.....	119
Subsystem cloning.....	119
Subsystem cloning steps summary.....	119
Select source and target subsystems.....	120
Specify source and target volume pairings.....	121
Specify source and target ICF catalogs.....	121
Specify rename masks for source and target data sets.....	122
Build the cloning jobs from a profile.....	122
Submit the jobs.....	123
Refreshing databases.....	123
Database refresh steps summary.....	124
Edit the source job.....	124
Build the database refresh jobs from a profile.....	125
Submit the jobs.....	126
Chapter 6. Masking data while refreshing databases.....	127
Overview: Masking data with IMS Cloning Tool.....	127

Step 1: Add the DATA-MASKING keywords to IMSDBREFRESH.....	128
Step 2: Create a MASKDEF member containing MASKDEF commands and keywords.....	129
Command and keyword syntax for the MASKRULE command.....	134
Step 3: Edit the IMSDBREFRESH job	143
Step 4: Submit the IMSDBREFRESH job	143
Step 5: Reload the target database and rebuild associated indexes.....	143
Restarting or re-running an IMSDBREFRESH job with data masking.....	143
Chapter 7. Sample cloning scenarios.....	145
Volume cloning with an interim set of volumes.....	145
Cloning an IMS subsystem from an IMS Recovery Expert backup when backup volumes are online..	148
Cloning an IMS subsystem from an IMS Recovery Expert backup when backup volumes are offline.	151
Chapter 8. Reference: IMS Cloning Tool commands.....	157
BCSCLEAN.....	158
COPY.....	159
COPYCHECK.....	173
IMSSETLOG.....	175
IMSSTART.....	177
IMSSTOP.....	181
IMSUPDATE.....	184
FINDUCATS.....	195
JRNLUPEGRADE.....	196
ONLINECLIP.....	199
RENAME.....	200
UCATOPTIONS.....	214
VARYOFF.....	216
VARYON.....	220
VOLOPTIONS.....	224
Chapter 9. Reference: database refresh commands.....	229
IMSDBSTOP.....	229
IMSDBSTART.....	232
IMSDBREFRESH.....	235
IMSDBCLEAN.....	251
Chapter 10. Reference: IMS Cloning Tool messages.....	255
Notices.....	431
Programming interface information.....	432
Trademarks.....	432
Terms and conditions for product documentation.....	433
Privacy policy considerations.....	433
Index.....	435

About this information

IBM® IMS Cloning Tool for z/OS® (also referred to as IMS Cloning Tool) is an IMS Tools product that provides services for cloning IMS subsystems and databases.

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

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

- Plan for the installation of IMS Cloning Tool
- Install and operate IMS Cloning Tool
- Customize your IMS Cloning Tool environment
- Diagnose and recover from IMS Cloning Tool problems

Tip: To find the most current version of this information, always use [IBM Documentation](#), which is updated more frequently than PDF books.

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

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

The IMS Tools Product Documentation web page includes:

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

Chapter 1. IMS Cloning Tool overview

IBM IMS Cloning Tool for z/OS 1.2 makes it easy for you to clone IMS subsystems and databases quickly in order to increase data availability. By employing fast copy technology, automation, and by eliminating manual efforts, IMS Cloning Tool helps to increase productivity and reduce production online downtime and the costs that are associated with creating an exact copy or cloning an IMS subsystem and database.

By augmenting a volume-level or data-set-level fast replication tool or on-site mirroring tool, IMS Cloning Tool can clone an IMS subsystem quickly. It can perform the clone while the subsystem is offline or online, increasing the availability of IMS data. After the clone is created, the IMS data sets are conditioned, allowing access to the source subsystem and the subsystem clone from the same z/OS image.

Hardware and independent software vendors use replication products to create replicas of data. However, these products rarely rename and catalog the data sets on the target volumes to produce usable clones that can be quickly accessed. IMS Cloning Tool (GCL) provides a solution. IMS Cloning Tool can leverage fast-replication tools or on-site mirroring tools to create the clones. Then, IMS Cloning Tool conditions the IMS data sets on the target to allow the IMS clone data to be accessed.

IMS Cloning Tool assumes that both the source and target volumes will be accessed from the same z/OS image by using the same ICF master catalog. To enable access to the data sets on the target volumes (clone volumes), the target data sets are rename and cataloged. The customer is responsible for ensuring that the volume serial numbers (VOLSERs) of the source and target volumes are unique.

The target volumes are exact replicas of the source volumes except for the volume label. To create these replicas, IMS Cloning Tool leverages the available fast-replication and on-site mirroring tools.

To create the copy, IMS Cloning Tool automatically initiates IBM FlashCopy® or STK SnapShot with the DFSMSdss ADRDSSU program. If another copy tool is used, it must be run before IMS Cloning Tool is run.

After the copy is created, IMS Cloning Tool renames and catalogs the data sets on the target volumes, fixes the volume internals, and updates the IMS internals. This processing enables you to access the source and target volumes from the same z/OS image.

IMS Cloning Tool provides a significant improvement over the existing manual methods of creating usable clones. You can clone entire IMS subsystems while they are offline or online. Cloning while IMS is offline solves the dilemma of meeting critical time constraints on the IMS cloning window. IMS Cloning Tool is designed to minimize the amount of time that is required to rename and catalog target-volume data sets.

IMS Cloning Tool can be used to perform the following tasks:

- Clone entire IMS subsystems or refresh databases quickly.
- Clone databases on the same LPAR without manually updating data set and volume names.
- Copy production data for testing purposes.

IMS Cloning Tool includes the following features:

- Automates the cloning process of IMS subsystems and databases.
- Reduces the time that it takes customers to clone IMS data in both subsystems and databases.
- Reduces source outage by using fast replication to copy the data quickly.
- Eliminates time to code and maintain programs for building and refreshing.
- Capability to use IMS data easily from the same image.
- Eliminates the time-consuming and laborious manual efforts that are associated with cloning, therefore increasing productivity.
- If available, leverages fast copy technology.

What's new in IMS Cloning Tool

This section describes recent technical changes to IMS Cloning Tool.

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

Revision markers follow these general conventions:

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

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

SC19-3757-04 (March 2022)

Description	Related APARs
<p>New keywords, DATACLAS, MGMTCLAS, NULLSTORCLAS, and STORCLAS, have been added to the IMSDBREFRESH command. These optional keywords allow control over allocation of the target data sets by enabling IMS Cloning Tool to pass a null storage class or the storage class that users want to the automatic class selection (ACS) routine when copying data sets. See the following topics for more information:</p> <ul style="list-style-type: none">• “:DB_COPY_OPTIONS section” on page 29• “IMSDBREFRESH” on page 235• New message “GCL34042I” on page 354 and modified message “GCL34054E” on page 355	PH41610
<p>Data masking restriction on the UNLOAD-FROM keyword and naming convention for HALDB data set name in the TEMP-DB-HLQ keyword have been added to the IMSDBREFRESH command. Also, note on processing primary index database when applying data masking to an HIDAM or PHIDAM database has been added. See the following topics for more information:</p> <ul style="list-style-type: none">• Chapter 6, “Masking data while refreshing databases,” on page 127• “Step 1: Add the DATA-MASKING keywords to IMSDBREFRESH” on page 128• “IMSDBREFRESH” on page 235• New messages “GCL34078I” on page 357 and “GCL34082E” on page 357 <p>See also other new and modified messages in Chapter 10, “Reference: IMS Cloning Tool messages,” on page 255.</p>	PH43440

SC19-3757-03 (December 2020)

New keywords added to the IMSDBREFRESH command (APAR PH12011, APAR PH21973, and APAR PH30559)

A new keyword, ALLOW-NONRECOV, has been added to the IMSDBREFRESH command. This optional keyword specifies whether the IMSDBREFRESH command should continue processing even if non-recoverable primary databases are detected when LOG-APPLY(Y) is specified.

Also, a new optional keyword, COPY_IF_DIFFERENT_HALDB, has been added to the IMSDBREFRESH command to indicate whether IMS Cloning Tool should redefine the target DBRC definitions of the

target HALDB if the source and the target HALDBs have different definitions. Second operands for this keyword indicate whether the TGT-DBD keyword can be specified.

See [“IMSDBREFRESH” on page 235](#) and [“:DB_COPY_OPTIONS section” on page 29](#) for more information.

New status report for the IMSDBREFRESH command (APAR PH17323)

This APAR provides a new status report of all database data sets regardless of any errors or if some data sets were not attempted to be copied. The new status report has three parts; the first part has a list of DB data sets failed in compatibility check, the second part has a list of DB data sets failed in the copy process, and the last part has a list of DB data sets that were copied successfully. Each part, printed only when it has data sets that meet the criteria, is separated in GCL34075E, GCL34076E, and GCL34077I messages.

New control statement added to the IMSDBREFRESH command (APAR PH25830)

A new DD statement, GCLIIUIN, has been added to the IMSDBREFRESH command. This optional statement rebuilds non-recoverable indexes or corrects invalid REORG# in partition data set.

See [“IMSDBREFRESH DD definition” on page 249](#) for more information.

Support for IMS data set encryption support (APAR PH28646)

IMS Cloning Tool supports IMS data sets that are encrypted by z/OS data set encryption.

See [“Considerations for IMS Cloning Tool when cloning IMS subsystems” on page 41](#) and [“Considerations for IMS Cloning Tool when copying IMS databases” on page 73](#) for more information.

SC19-3757-02 (November 2018)

Support for coordinated subsystem IMSUPDATE commands (APAR PI17570)

The following keywords have been added to IMSUPDATE:

- COMPRESS-MDA-CNT(*nnn* | *0*)
- EXTERNAL-SSID(*src_ssid1,tgt_ssid1,src-ssid2,tgt_ssid2...*)
- MSDBCP-DATASETS(*msdbcp_ds1,msdbcp_ds2,...*)
- UPDATE-SLDS(Y|N)

Additionally, a new GCLINI keyword has been added to the IMS_OPTIONS section to override default values for the IMSUPDATE command: COMPRESS_MDA_CNT = *nnnn* | *0*

See [“IMSUPDATE” on page 184](#) and [“:IMS_OPTIONS section” on page 27](#) for more information.

Enhancement to APF-authorize target libraries with a new IMSSTART keyword, APFLIB-DATASETS (APAR PI17570)

See [“IMSSTART” on page 177](#) for more information.

Updates to the journal data sets (APAR PI46087)

COPY and IMSDBREFRESH have different journal data sets. The documentation has been updated to reflect this difference, and the default DDNs for each journal are now unique:

- The default DDN for the IMSDBREFRESH and IMSDBCLEAN journal file is JRNLDLBRF
- The default DDN for the COPY journal file is JOURNAL

Any existing JCL will continue to work, as the commands look for DDN JOURNAL if the new DDN JRNLDLBRF is not found.

Improvements to LOG CLOSE functionality when the source IMS subsystem was online at the time of the COPY (APAR PI48109)

See the JCLPDS-DATASETS or JCLPDS-DDN keyword of the IMSUPDATE command for more information: [“IMSUPDATE” on page 184](#).

Dynamically allocated source and target RECON data sets (APAR PI97600)

Two IMSDBREFRESH keywords have been added to discover and nominate the source and target RECON data sets, and then dynamically allocate and free them on an as-needed basis.

- SRC-RECON-DATASETS(*recon_dsn1,recon_dsn2,recon_dsn3*)
- TGT-RECON-DATASETS(*recon_dsn1,recon_dsn2,recon_dsn3*)

These optional keywords specify source and target RECON data set names to be used for dynamic allocation.

See [“IMSDBREFRESH” on page 235](#) for more information.

User specifications for allocation parameters for unload data sets (APAR PI09272)

The LOG-APPLY keyword on the IMSDBREFRESH command has been changed to allow for an optional parameter, MONITOR. When MONITOR is specified, IMS Cloning Tool outputs messages every *nnn* minutes. These messages indicate the amount of log apply activity that has occurred in the previous specified number of minutes.

See [“IMSDBREFRESH” on page 235](#) and [“:DB_COPY_OPTIONS section” on page 29](#) for more information.

An additional required statement, DSN=IMS.SDFSRESL, that must be added to the STEPLIB for the IMSSETLOG command

See [“IMSSETLOG” on page 175](#) for more information.

New keywords added to the IMSDBREFRESH command to allow for additional control over unload file allocations when data masking is being done

- UNLOAD-ALLOC-PARMS(DB|OVERRIDE)
- UNLOAD-ALLOC-UNIT(CYL|TRK|REC)
- UNLOAD-ALLOC-PRIQTY(*nnnnn*)
- UNLOAD-ALLOC-SECQTY(*nnnnn*)
- REGISTER-DBRC(N)

See [“IMSDBREFRESH” on page 235](#) for more information.

New SAMPLIB members GCLFFLD and GCLFPLD added to reload databases after masking

SGCLJCL sample member GCLFFLD can be modified and used to reload a full-function database using the IMS reload utility DFSURGL0. SGCLJCL sample member GCLFPLD can be modified and used to reload a fast path database using the IBM Fast Path Solution Pack.

See [“Step 5: Reload the target database and rebuild associated indexes” on page 143](#) for more information.

IMS Cloning Tool features and benefits

IMS Cloning Tool offers these features and benefits:

- Quickly fixes volume conflicts (VTOC, VTOCIX and VVDS) and then renames and recatalogs the target data sets to solve the data access problem
- Enables you to clone offline IMS subsystems in minutes instead of days, without requiring a separate image
- Automatically updates IMS internal information to reflect renamed data sets.
- Supports data sharing across multiple IMS subsystems in a parallel sysplex environment. This is done by cloning not only entire IMS systems and their associated databases, but also select IMS databases on the same or shared LPAR. You can clone all IMS subsystems in a data sharing group or just a subset of them.
- Provides for the automatic pairing of volume characteristics (SMS and non-SMS, or by device size).
- Runs IBM FlashCopy or STK SnapShot copies by using VOLSER masks, SMS storage groups, or a combination thereof. This eliminates the requirement for individual volume specification
- Provides extensive SMS options for determining how the SMS class constructs will be applied to cloned data sets to ensure that these data sets are managed correctly

- Issues DFSMSdss commands to transparently initiate FlashCopy or SnapShot – no additional JCL is needed to run these tools
- Concurrently collects source-volume ICF catalog information and initiates FlashCopy or SnapShot copies for renaming integrity
- Resumes source volume activity shortly after cloning to reduce outages
- Provides enhanced data set rename masking characters for flexibility
- Provides user options for determining the disposition of “abnormal” data sets and catalog entries
- Performs data-integrity checking for multivolume data sets and VSAM spheres to prevent orphaned data
- Records renamed data sets in the existing, populated ICF catalogs or a catalog that you specify
- Provides for faster cataloging than conventional methods
- Tests for termination of FlashCopy or SnapShot relationships
- Provides mechanism for removing orphaned catalog entries from previous executions
- Enables you to run most IMS Cloning Tool commands in simulation mode

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:

http://www.ibm.com/support/entry/portal/Overview/Software/Information_Management/IMS_Tools

Product documentation and updates

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

Information on the web

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

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

The IMS Tools Product Documentation web page includes:

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

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

<http://www.redbooks.ibm.com>

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

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

Receiving documentation updates automatically

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

To register with the My Notifications service:

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

How to send your comments

Your feedback is important in helping us provide the most accurate and highest quality information. If you have any comments about this or any other IMS Tools information, you can take one of the following actions:

- Click the Feedback button at the top of the IBM Documentation topic that you are commenting on.
- Click the Contact Us tab at the bottom of any IBM Documentation topic.
- Send an email to ibmdocs@us.ibm.com. Be sure to include the book title, topic or section title, specific text, and your comment.

To help us respond quickly and accurately, please include as much information as you can about the content you are commenting on, where we can find it, and what your suggestions for improvement might be.

Accessibility features

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

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

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

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

Chapter 2. Customizing IMS Cloning Tool

Software will be provided as a product distribution formatted for SMP/E installation only, and as cumulative maintenance. Any additional maintenance will also be distributed in SMP/E format.

Review the topics in this section to learn about IBM IMS Cloning Tool planning considerations and customization steps.

For installation instructions, refer to the *Program Directory for IBM IMS Cloning Tool for z/OS*, which was included in the product package.

Planning for IMS Cloning Tool

Review these topics to prepare for implementing IMS Cloning Tool:

- [“Prerequisites” on page 7](#)
- [“Data resources” on page 9](#)
- [“Data sets” on page 9](#)
- [“Authorization” on page 10](#)
- [“Validate load module contents” on page 11](#)

Prerequisites

IMS Cloning Tool has both hardware requirements and software requirements.

Make sure that you have the following minimum hardware and software requirements in place before you install IMS Cloning Tool.

Hardware requirements

IMS Cloning Tool operates on any hardware configuration that supports the required versions of IMS.

IMS Cloning Tool requires the same hardware that is required to install the supported version of IMS that you are running, along with sufficient disk space to fulfill the IMS Cloning Tool storage requirements.

Software requirements

IMS Cloning Tool is designed to operate with any version of z/OS that supports the version of IMS that you are running. All supported releases of IMS are supported by IMS Cloning Tool.

IMS Cloning Tool can leverage fast copy technology to create copies quickly. The following fast copy software products are supported:

- IBM FlashCopy
- IBM PPRC
- STK SnapShot
- EMC TimeFinder/Snap
- EMC TimeFinder/Mirror
- Softek Replicator
- Innovation Data Processing FDRPAS

Storage requirements

IMS Cloning Tool has the following storage requirements for installation, memory, and auxiliary storage.

Installation

Installation requires approximately 50 cylinders of DASD.

Memory

IMS Cloning Tool executes as a batch job. The only memory requirements for running IMS Cloning Tool is the amount used by the batch job. The batch job can typically run in a 6M region but memory requirements may increase depending on the number of volumes and data sets being cloned.

Auxiliary storage

IMS Cloning Tool requires temporary DASD space for a JOURNAL file, sort space, and a few backup files. The amount of space is dependent on the number of volumes and data sets being cloned but typically would not exceed 50 cylinders per clone.

Supported volume copy tools

IMS Cloning Tool can rename and catalog the data sets that you create on target volumes by using a replication tool if the target volumes are exact replicas of the source volumes.

If the target volumes retain the source VOLSER (volume serial number) and are varied offline, IMS Cloning Tool can relabel the target volumes and vary them online.

Supported volume copy tools include the following:

- Fast replication tools (hardware and software based) that create snapshot copies almost instantaneously, for example, IBM FlashCopy and STK SnapShot
- On-site mirroring tools (hardware and software based) that can establish and then split mirrors to create point-in-time copies. Examples include IBM PPRC, and EMC TimeFinder or Mirror
- Other software point-in-time copy tools, for example, Softek Replicator and Innovation Data Processing FDRPAS.

Note: Exact replicas: Except for the internal volume serial number, a target volume must be an exact replica of the corresponding source volume. IMS Cloning Tool does not support copies that are partially modified. For example, volume snaps created by using the SIBBATCH program where the SYS1.VVDS and SYS1.VTOCIX names are modified is not supported.

Volume-level fast replication tools

If you use the IBM FlashCopy or STK SnapShot tool, IMS Cloning Tool can invoke the tool with the DFSMSdss program ADRDSSU to create volume copies almost instantaneously. If you use other fast-replication tools such as EMC TimeFinder or Snap, you must create the snapshot copies before you run IMS Cloning Tool.

IBM FlashCopy and STK SnapShot can establish a relationship between the source and target volumes to create what appears to be a copy of a volume in seconds. After the copy is initiated, you can change both the source and target volumes even though the FlashCopy background copy might still be in progress. The target volume is a mirror image of the source volume. However, if the DFSMSdss COPY keyword COPYVOLID is not specified, it does not include the internal VOLSER. IMS Cloning Tool requires that the target VOLSER label remains “as is” (different from the source VOLSER) so that the target volume can remain varied online after the copy is initiated; this requirement negates the need for a CLIP (relabel) and VARY ON operation.

The logical image of a target volume can be modified before the copy is complete. Therefore, the IMS Cloning Tool RENAME step can be run while the copy is still in progress. Likewise, if the IMS Cloning Tool process completes before a volume is copied, the target data can be accessed before the copy is complete.

On-site mirroring and P.I.T. copy tools

An alternative to fast replication tools is on-site mirroring tools such as IBM PPRC and EMC TimeFinder or Mirror. Use these tools to create a mirror image of a volume for IMS Cloning Tool.

You can also use P.I.T. copy tools such as Softek Replicator and Innovation Data Processing FDRPAS. These tools establish a mirror pair of volumes and then split the mirror pair after the target volume is synchronized with the source volume. This process creates a point-in-time (P.I.T) copy. You must complete the steps for establishing and splitting the mirrors before running IMS Cloning Tool.

Data resources

The following sections cover all external stored data (files, databases, logs, etc.) that IMS Cloning Tool will make use of.

JOURNAL file

IMS Cloning Tool is run as a batch job. The steps to perform the complete cloning process are implemented through several different commands in IMS Cloning Tool. The commands that are needed to create a clone can be run in different batch jobs, multiple steps within a job, or multiple commands within the same job step.

In order to keep information about the execution of a command, and also to pass information to subsequent commands, IMS Cloning Tool uses a VSAM KSDS, also referred to as the JOURNAL file. The layout of the records kept in the JOURNAL file is not documented and only available to IMS Cloning Tool programs.

Note: The journal files for IMSDBREFRESH and for COPY are different and should not be shared.

SMF records

In addition to the normal SMF information generated from a batch job execution, IMS Cloning Tool can also generate SMF records to provide an audit trail of any data sets that are renamed during the cloning process.

Data sets

This section describes the data sets that are used by IMS Cloning Tool.

Data set naming conventions

IMS Cloning Tool uses data sets that have the following naming scheme:

- *hlq*.SGCLJCL
- *hlq*.SGCLLOAD
- *hlq*.SGCLPARM

where *hlq* is the high-level qualifier value that you specify at installation. The high-level qualifier should be specified in the data set name format that conforms to your installation naming standards.

You can choose other names for these data sets during installation, but you must identify the names that you use in the JCL members of the SGCLJCL and SGCLPARM libraries. If possible, keep the low-level qualifiers to avoid confusion.

The following include descriptions of these data sets:

***hlq*.SGCLJCL**

This data set contains the JCL members used by IMS Cloning Tool. This data set is automatically created (if required by the installation process) when the product is installed.

***hlq*.SGCLLOAD**

This data set contains load modules for IMS Cloning Tool. It must be APF authorized. This data set is automatically created when the product is installed.

hlq.SGCLPARM

This library contains information that is used when IMS Cloning Tool runs, such as licensing and configuration information.

Authorization

You must set the following authorization requirements for IMS Cloning Tool:

APF authorization

The IMS Cloning Tool SGCLLOAD library requires APF authorization.

Function authorization requirements

You need a certain level of authority to perform IMS Cloning Tool functions:

For subsystem cloning:

- The COPY and RENAME commands require ALTER authority for both the source and target user catalogs. IMS Cloning Tool does NOT update the source catalog but requires ALTER authority to access the catalog via direct access.
 - Because an IDCAMS VERIFY and an IDCAMS EXAMINE INDEXTEST is done prior to reading, the source ICF catalogs require ALTER authority to ensure that the source catalog is not broken.
 - Because the target ICF catalog is opened and updated using a routine that manages catalog updates, the target ICF catalogs require ALTER authority.
- When using DATA-MOVER PGM(ADRDSU), the COPY command may require that the user id running the command has specific access to STGADMIN profiles in the FACILITY class.
 - The ADMINISTRATOR operand is always specified when invoking DFSMSdss. To avoid WTORs, ADRDSU ADMINISTRATOR is used to gain permission to overlay the target volume VTOCIX and/or VVDS during the COPY process. Because the ADMINISTRATOR operand is generated, the user ID running COPY must have READ access to FACILITY class profile STGADMIN.ADR.STGADMIN.COPY.
 - If FCSETGTOK is specified, READ access is needed to FACILITY class profile STGADMIN.ADR.COPY.FCSETGT if it exists.
 - If FCTOPPRCPPRIMARY is specified, READ access is needed to FACILITY class profile STGADMIN.ADR.COPY.FCTOPPRCP if it exists.
 - If FlashCopy is used, READ access is needed to FACILITY class profile STGADMIN.ADR.COPY.FLASHCPY if it exists.
 - If CONSISTENT(YES) is specified, READ access is needed to FACILITY class profiles STGADMIN.ADR.COPY.FCFREEZE and STGADMIN.ADR.CGCREATE if they exist.
 - If the CONCURRENT option is being used, READ access is needed to FACILITY class profile STGADMIN.ADR.COPY.CNCURRENT if it exists.
- If COPY is going to relabel the target volumes with VOLPAIRSDEVN or VOLPAIRSDEVN-DDN, ICKDSF REFORMAT requires RACF® volume access of ALTER for RACF class DASDVOL, and READ access to the RACF facility class profile of STGADMIN.ICK.REFORMAT if it is available.
- If VTOCIX_REBUILDER = IBM is specified in GCLINI or if the volume is an Extended Address Volume, the RENAME command invokes ICKDSF to rebuild the VTOCIX. ICKDSF requires the RACF volume access of ALTER for RACF class DASDVOL or READ access to FACILITY class profile STGADMIN.ICK.BUILDIX. If the default setting VTOCIX_REBUILDER = MSC is used, ICKDSF is not invoked unless the volume is an Extended Address Volume for which ICKDSF is used to rebuild the VTOCIX. The RENAME command also requires authorization to create an EMCS console, to issue z/OS MODIFY CATALOG commands, and to update the VVDS data sets on the target volumes.
- The RENAME command invokes ICKDSF to rebuild the VTOCIX if VTOCIX_REBUILDER = IBM is specified in GCLINI or if the volume is an Extended Address Volume. ICKDSF requires the RACF volume access of ALTER for RACF class DASDVOL or READ access to FACILITY class profile STGADMIN.ICK.BUILDIX. If the default setting VTOCIX_REBUILDER = MSC is used, ICKDSF is not

invoked unless the volume is an Extended Address Volume for which ICKDSF will always be used to rebuild the VTOCIX. The RENAME command also requires authorization to create an EMCS console, to issue z/OS MODIFY CATALOG commands, and to update the VVDS data sets on the target volumes.

- If RENAME has NOTRENAMED(DELETE) in effect, READ access to FACILITY class profile STGADMIN.IGG.DLVVRNVR.NOCAT is required.
- The IMSUPDATE command requires RACF UPDATE authority to update the target data sets.
- The COPYCHECK command requires UPDATE authority to update the journal file.
- The FINDUCATS command invokes DCOLLECT to identify ALIAS names of the source volume data sets in order to identify the correct source user catalogs. DCOLLECT controls access to the DCOLLECT function by issuing a security (RACF) check for a facility class profile of STGADMIN.IDC.DCOLLECT. If this profile exists, then READ authority is necessary.
- The IMSSTART issues the z/OS START command to start the regions that are used by an IMS subsystem and may need to be protected.
- The IMSSTOP issues the z/OS STOP command to stop some of the regions that are used by an IMS subsystem and may need to be protected.
- The RENAME command requires authorization to create an EMCS console and issue z/OS MODIFY CATALOG commands. Update authorization to the VVDS data sets on the target volumes is also required.

For database cloning:

- The IMSDBREFRESH command requires RACF READ access for the source database data sets and RACF UPDATE authority for the target database data sets.
- The IMSDBSTOP command issues a z/OS command to DBR an IMS database and may need to be protected.
- The IMSDBSTART command issues a z/OS command to START an IMS database and may need to be protected.
- If your site uses ACF2 to restrict TSO command use, you must add the TSO commands that IMS Cloning Tool uses to the ACF2 Command Limiting table. The TSO commands that IMS Cloning Tool uses are GCLARGSZ and GCL2MAIN.

Validate load module contents

To validate the load module contents, you must run GCLMLVL.

Technical Support might request that you submit the GCLMLVL JCL to identify the current modification levels of your product load modules.

GCLMLVL identifies and displays the program PTFs (fixes) and ETRs (enhancements) that have been applied to the product level you are running. This information is based on information that is stored internally within the load modules.

Tip: Note that only the last update (level) will contain the fix and revision number and the change date; all other fixes or enhancements contain only the ID number.

GCLMLVL JCL example

The following is an example of the GCLMLVL JCL:

```
//STEP01 EXEC PGM=GCL01MOD
//STEPLIB DD DISP=SHR,DSN=hlq?.SGCLLOAD (your LOAD library)
//SYSUT1 DD DISP=SHR,DSN=*.STEPLIB
//SYSPRINT DD SYSOUT=*
```

The following table provides a list of the DD statements for the GCLMLVL JCL and a description of each statement.

Table 1. DD statements for the GCLMLVL JCL	
DD STATEMENT	DESCRIPTION
STEPLIB	Required. Specify the product LOAD library.
SYSPRINT	Required. Specify the output DD statement.
SYSUT1	Required. Specify the primary LOAD library to be processed.

Running the GCLMLVL JCL (GCL01MOD program) creates a report that contains the last fix and a list of fixes for all of the modules in the SYSUT1 library. The following is an example of the IMS Cloning Tool GCLMLVL report.

GCLMLVL report example

The following is an example of the GCLMLVL REPORT.

```
GCLMOD01I 12/14/2021 07.55.03 DVLP GCL01MOD Starting
(REV=8,ptf=FIX01019,fixdate=2021/06/25)
```

```
Highest Build Date is 2021/12/05 10:41
Highest PMR is PMR26993
Highest ETR is ETR26666
```

Member	DD	Last fix	Vers	Rev	Build Date/Time	Macro
GCL00010	SYSUT1 LAST	ETR00001	3	28	2021/12/05 10:41	MSCHDR
	SYSUT1 LIST	14276,14235,14608,13841,15309,15800,16362,16057,				
	SYSUT1 LIST	16397,16514,16739,16290,17907,17456,18311,16289,				
	SYSUT1 LIST	19527,21924,21276,19773,00001				
GCL00011	SYSUT1 LAST	GCL00001	V1.01	0	2021/12/03 14:46	MSCHDR
	SYSUT1 LIST	00001				
GCL00020	SYSUT1 LAST	ETR00001	3	58	2021/12/03 14:58	MSCHDR
	SYSUT1 LIST	17013,17419,16290,16124,18311,17454,18782,19015,				
	SYSUT1 LIST	19542,21094,21298,21822,21924,21928,21276,19197,				
	SYSUT1 LIST	22555,22813,21116,19773,00001				
GCL00021	SYSUT1 LAST	ETR00001	3	46	2021/12/03 14:58	MSCHDR
	SYSUT1 LIST	16071,16057,16551,16980,17419,16290,16124,17963,				
	SYSUT1 LIST	17454,18782,19542,21094,21298,21822,21924,21841,				
	SYSUT1 LIST	21928,19197,21116,19773,00001				
GCL00022	SYSUT1 LAST	ETR00001	3	28	2021/12/03 14:58	MSCHDR
	SYSUT1 LIST	13660,13671,13890,13511,14235,14604,13841,15375,				
	SYSUT1 LIST	15537,16057,17419,16290,17843,16124,17454,21094,				
	SYSUT1 LIST	21298,21822,21924,19773,00001				

```
GCLMOD02I 12/14/2021 07.55.03 DVLP GCL01MOD Terminating
```

Configuration

Complete these configuration steps to configure IMS Cloning Tool for your installation.

You must first have successfully completed product installation.

Overview

The following table lists the high-level steps for configuring IMS Cloning Tool. Each step is discussed in more detail in the referenced section. The GCLINI SGCLPARM member is documented in [“GCLINI configuration values”](#) on page 23

Table 2. IMS Cloning Tool Configuration Overview

Configuration Steps
“Step 1: Run GCLIMRG” on page 13 For new installations, this step creates the new GCLINI SGCLPARM members.
“Step 2: Set the keywords in the GCLINI SGCLPARM member” on page 14. See “GCLINI configuration values” on page 23 for valid values.
“Step 3: Modify the GCL members in hlq.SGCLJCL” on page 14
“Step 4: APF-authorize the SGCLLOAD library on all systems” on page 15
“Step 5: Prevent unauthorized use of IMS Cloning Tool” on page 15
“Step 6: Enable IMS Cloning Tool in your IMS online and batch jobs” on page 15
“Step 7: Specify mask characters for your EBCDIC code set” on page 17
“Step 8 (ISPF interface only): Create the VSAM repository” on page 17
“Step 9 (ISPF interface only): Create the IMS control file” on page 18
“Step 10 (ISPF interface only): Customize the CLIST” on page 18
“Step 11: Verify that customization was successful” on page 22
“Step 12: Configuring for database cloning” on page 22

Step 1: Run GCLIMRG

This task is required. This step is part of the greater task of configuration. GCLIMRG either merges new and updated GCLINI data with your existing SGCLPARM member or creates a new GCLINI.

Before you begin

The JCL to run GCLIMRG can be found in the data set SGCLJCL(GCLIMRG) that was created by submitting the ISMPJCL during installation.

Note: Do not alter the contents of the GCLINI# member that was sent with the release.

Note: GCLINI keyword values are fetched one at a time at product startup.

About this task

Edit and submit the JCL in SGCLJCL(GCLIMRG) as follows:

Procedure

1. Edit the JCL to provide a valid job card statement.
2. Change the “STEPLIB DD” to point to the ‘hlq?.SGCLLOAD’ library.
3. Change the “INI DD” statement to point to the ‘hlq?.SGCLPARM’.
 - First Install: If you are installing the product for the first time, use ‘hlq?.SGCLPARM’ as the data set name and specify GCLINI# as the member name.
 - Maintenance Update: If you already have a product.SGCLPARM from a previous installation, use the existing SGCLPARM data set name and specify GCLINI as the member name.
4. Change the “MSCINI DD” statement to point to the ‘hlq?.SGCLPARM’ data set. Ensure that the member name remains GCLINI#.
5. Change the “UPDATE DD” statement to point to the ‘hlq?.SGCLPARM’ data set. Ensure that the member name remains GCLINI.

6. Submit the job. Before you proceed to the next step, ensure that the job successfully completes with completion code 0.

What to do next

If the job terminates with a non-zero completion code, first check the error messages to determine if the situation is easily correctable. Also, you can try rerunning GCLIMRG.

Step 2: Set the keywords in the GCLINI SGCLPARM member

This step is part of the greater task of configuring IMS Cloning Tool. The keywords in the GCLINI member of SGCLPARM provide you with flexibility and control of product execution. Some keywords also provide product security.

About this task

If you plan to run IMS Cloning Tool on several z/OS images, manage GCLINI using one of these methods:

- Create separate copies of GCLINI and edit each copy for the z/OS image where it will be used. Then run GCLIMRG on each image.
- Use the same text (multi-image INI) for all z/OS images. This method requires replicating the GCLINI sections and qualifying them with sysplex or system names so that you can define token values that are unique to a z/OS image. For more information about qualified section names, see [“GCLINI configuration values” on page 23](#). Use the GCLIVW member of the JCL data set to view the contents of the multi-image INI.

To edit the configuration values in the GCLINI SGCLPARM member, use the ISPF Edit function. You can code default values for some keywords. When you finish, review the GCLINI values to ensure that they are correct for your installation.

You can update the values in the GCLINI member of the SGCLPARM, if necessary. However, the SGCLPARM is read-only during product execution.

Procedure

1. Set CA-MIM/MII Token Values in the :RESOURCE_SERIALIZATION Section.

Installations running CA-MIM/MII with multiple systems and shared DASD need to set the MIM_GDIF parameter to YES in the :RESOURCE_SERIALIZATION section of the GCLINI member. This setting ensures that the IMS Cloning Tool data sets are protected from data corruption when CA-MIM/MII GDIF is inactive.

```
:RESOURCE_ SERIALIZATION  
MIM_GDIF = YES
```

2. Save the newly updated GCLINI member.

Step 3: Modify the GCL members in hlq.SGCLJCL

This step is part of the greater task of configuring IMS Cloning Tool. You must modify the members of the SGCLJCL library that have names that begin with "GCL".

Procedure

Modify all IMS Cloning Tool members in the hlq.SGCLJCL library to reflect the product library names that were specified during product installation, the values for IDCAMS executions (where necessary), and the GCLIN control statements for the desired command functionality.

The GCL members are the members that have names that begin with “GCL.”

Note: Because of the variation of IMS Cloning Tool commands, you might want to combine some commands into a single job or even into a single step

Note: IMS Cloning Tool JCL is not distributed as PROCs because you might want to add user steps for defining catalogs and aliases. However, it is strongly recommended that you create PROCs to reduce the JCL updates that you would need to make if the IMS Cloning Tool JCL is changed in a future release.

Step 4: APF-authorize the SGCLLOAD library on all systems

This step is part of the greater task of configuring IMS Cloning Tool. The SGCLLOAD library for IMS Cloning Tool must be APF-authorized.

Procedure

Consult your Systems Programmer to have the SGCLLOAD library added into the APF list and to ensure that appropriate access controls have been established.

Step 5: Prevent unauthorized use of IMS Cloning Tool

This step is part of the greater task of configuring IMS Cloning Tool. You can prevent unauthorized personnel from executing IMS Cloning Tool commands.

Procedure

The following items must be secured (or protected) to ensure that only authorized personnel can use these commands.

- IMS Cloning Tool requires ALTER authority to both the source and target user catalogs. This requirement prevents unauthorized personnel from running the COPY and RENAME commands.
- IMS Cloning Tool requires UPDATE authority to the target data sets. This requirement prevents unauthorized personnel from running the IMSUPDATE command.
- The COPY command requires authorization to ADRDSSU ADMIN. This requirement prevents unauthorized personnel from running the COPY command.
- The COPYCHECK command requires the journal files to be secured. This requirement prevents an unauthorized person from using an authorized person's journal file to run the COPYCHECK command.

Step 6: Enable IMS Cloning Tool in your IMS online and batch jobs

IMS Cloning Tool must be added to the IMS control regions for the IMS systems that will be cloned. IMS Cloning Tool uses standard IMS exits in order to provide the functionality to suspend I/O while the source volumes are copied.

About this task

Note: This step is only required if IMS Cloning Tool will be used for subsystem cloning and if storage-based consistency is not available to create a consistent copy.

IMS Cloning Tool can be enabled in the control regions and DL/I batch jobs in one of two ways.

Additionally, you can specify which physical logger exit is used by IMS Cloning Tool in this step. This is beneficial for users that install IMS Cloning Tool in a library with other tools that use the same physical logger exit. Control that physical logger exit is used by specifying that the IMS Cloning Tool logger exit is to be called through the IBM Generic Logger exit, or by creating an ALIAS for the IMS Cloning Tool exit.

Procedure

1. The IMS Cloning Tool library can be added to the STEPLIB for the control region and all DL/I batch jobs.

Note: If the IMS Cloning Tool library is added to the STEPLIB for DL/I batch jobs, the library must be a PDS format library.

2. Enable IMS Cloning Tool Physical Logger Exit. The IMS Cloning Tool physical logger exit can be enabled in the control regions and DL/I batch jobs in one of two ways:

- **Option 1:** Configure IMS Tools Generic exit:

The IMS Tools Generic Logger Exit interface is a general-purpose interface that allows multiple exits to be defined and called. As part of the installation and configuration for the IMS Tools Generic Logger Exit, you might have already performed the following steps. However, if these steps have not yet been completed, you must complete them now before you continue.

- a. Create a unique GLXiiii0 member for each IMS system in which IMS Cloning Tool is needed where iiii is the 4-character IMS subsystem identifier.
- b. APF-authorize the executable load libraries for IMS Tools Generic exits.
- c. Update your IMS control region JCL to include in the STEPLIB concatenation the executable load libraries for IMS Tools Generic exits.

You can use the SGCLJCL(GCLGLX) sample member to set up an IMS Tools Generic Logger Exit configuration members for each IMS system. For detailed instructions on how to add and configure these members, see the *IBM Tools Base for z/OS: IMS Tools Common Services User's Guide and Reference*.

Important: If you use any other user-defined or vendor logger exit that does not support IMS Tools Generic exits, you must ensure that the libraries that contain the DFSFLGX0 exit are concatenated ahead of the SGLXLOAD and those exits must pass control to the next exit in the STEPLIB so that IMS Tools Generic exits get control.

- **Option 2:** Define ALIAS for IMS Physical Logger Exit

If the IMS Tools Generic Logger Exit is not available then an ALIAS for the IMS Physical Logger exit name, DFSFLGX0, can be defined for the IMS Cloning Tool physical logger exit.

You can use the SGCLJCL(GCLFLGX0) sample member to define the DFSFLGX0 ALIAS to the appropriate IMS Cloning Tool module.

3. Make additional IMS Cloning Tool modules available to the IMS control region and DL/I batch jobs. This can be accomplished in one of the following ways:

- Add the IMS Cloning Tool library to the STEPLIB for the control region and all DL/I batch jobs. Note: If the IMS Cloning Tool library is added to the STEPLIB for DL/I batch jobs, the library must be a PDS format library. Because the IMS Cloning Tool library created by the SMPE installation process is a PDSE, this library must be copied to a PDS format library that can then be added to the IMS control regions and DL/I batch jobs.
- Copy the following modules and their ALIASes to the IMS RESLIB:
 - GCLFLGX0 and ALIAS: DFSFLGX0 if it was defined in prior step.
 - GCL#LOAD
 - GCLIMS91
 - GCLIMSA1
 - GCLIMSB1
 - GCLIMSC1
 - GCLIMSD1
 - GCLIMSOFF

Step 7: Specify mask characters for your EBCDIC code set

System Administrator: If your code tables are different from the U.S.A. EBCDIC code set, your installation might need to specify different masking characters to achieve the desired result.

Data supplied as input to batch programs:

This step is part of the greater task of configuring IMS Cloning Tool.

If your product code is in binary format, and if you need to specify input that includes an EBCDIC character that determines whether the product takes special action, ensure that you enter the correct EBCDIC character from the code tables that you use. The EBCDIC character that you enter must be translatable to the binary value that corresponds to the EBCDIC character shown in the product documentation. The product documentation is based on the U.S.A. EBCDIC code set.

For instance, if an exclamation mark (!) is called for but your code tables do not translate the ! character to a hexadecimal 5A, you must enter the character that will translate to a 5A.

Product output:

Depictions of product output shown in the product manuals are based on the U.S.A. EBCDIC code set. Actual output might vary if your EBCDIC code tables are different.

Step 8 (ISPF interface only): Create the VSAM repository

The ISPF interface uses a VSAM data repository to hold cloning profile information for both subsystem cloning and database refresh. If you are not planning to use the ISPF interface, you can skip this step.

About this task

This step is part of the greater task of configuring IMS Cloning Tool.

Procedure

1. Edit the GCLREPOS member in the SGCLJCL library.
2. Add an appropriate job card for your site.
3. In each DEFINE CLUSTER instruction, modify the high level qualifier (defined as GCLRHLQ in the sample) in the NAME, DATA NAME, and INDEX NAME text within parentheses.

Important: Do not change any part of the cluster name, data name, or index name besides the high level qualifier.

```
//SYSIN DD *
  DEFINE CLUSTER                -
    ( NAME ('GCLRHLQ.PROFILES') -
      VOLUMES (XXXXXX)          -
      CYLINDERS (5 10)           -
      SHAREOPTIONS (2 3)         -
      INDEXED                    -
      RECORDSIZE (4096 4096)     -
      KEYS (50 0)                -
      REUSE )                   -
    DATA ( NAME ('GCLRHLQ.PROFILES.DATA')) -
    INDEX ( NAME ('GCLRHLQ.PROFILES.INDEX'))
```

4. In each REPRO instruction, modify the GCLRHLQ high level qualifier of the name of the OUTDATASET.

Important: Do not change any part of the OUTDATASET name besides the high level qualifier.

```
REPRO                          -
  INFILE (SYSUT1)              -
  OUTDATASET ('GCLRHLQ.PROFILES')
```

5. Change XXXXXX to the volser that you want the data set to be allocated on.
6. Run GCLREPOS to create the repository.

7. Ensure that users who will use the ISPF interface have READ/WRITE authority to the repository file data set.

Step 9 (ISPF interface only): Create the IMS control file

This step only needs to be performed if other IBM IMS tools requiring this control file have not been installed, or you would like to maintain a separate control file for IMS Cloning Tool. If you are not planning to use the ISPF interface, you can skip this step.

About this task

This step is part of the greater task of configuring IMS Cloning Tool.

Procedure

1. Edit the SGCLJCL member GCLCNTFL.
2. Add an appropriate job card for your site.
3. Change instances of MYFILE.CONTROL within the DEFINE CLUSTER statement and the REPRO instruction to the name of the data set, data name, and index name that you want to use for your IMS control file.
4. Change XXXXXX to an appropriate volume serial number for your installation.
5. Run GCLCNTFL to create the control file.
6. Ensure authorities as follows:
 - Users who will use the Administrative options function of the ISPF interface must have READ/WRITE authority to the control file data set.
 - General users of the ISPF interface and users who access the control file for other functions require at least READ authority to the control file data set.

Step 10 (ISPF interface only): Customize the CLIST

This topic describes how to customize the CLISTs required to run the ISPF interface for IMS Cloning Tool. If you are not planning to use the ISPF interface, you can skip this step.

This step is part of the greater task of configuring IMS Cloning Tool.

Option 1: If the ISPF interface will not be shared with Db2 Cloning Tool

If the ISPF interface will not be shared with Db2® Cloning Tool, copy the GCL and GCLCLIST members from the SGCLJCL library to your system CLIST library.

In the PROC 0 CLISTLIB(*name*) HILEVEL(*hilevel*) statement, specify the name of the data set to which the GCLCLIST member was copied and high level qualifier of the data set where you have installed IMS Cloning Tool.

For example:

```
PROC 0 CLISTLIB(ABCD.USER.CLIST) HILEVEL(GCL.VER120)

PROC 0 CLISTLIB(NAME) HILEVEL(HILEVEL)
  CONTROL NOMSG
  FREE FILE(GCLCLIST)
  CONTROL MSG

  ALLOC FILE(GCLCLIST) DATASET('&CLISTLIB') SHR REU
  ALTLIB ACTIVATE APPLICATION(CLIST) FILE(GCLCLIST)
  ISPEXEC LIBDEF ISPTLIB DATASET ID('&HILEVEL..SGCLTENU') STACK
  ISPEXEC SELECT CMD(%GCLCLIST) NEWAPPL(GCL) PASSLIB
  ISPEXEC LIBDEF ISPTLIB
  ALTLIB DEACTIVATE APPLICATION(CLIST)

  CONTROL NOMSG
```

```
FREE FILE(GCLCLIST)
CONTROL MSG
```

GCLCLIST member (when the ISPF interface will not be shared with Db2 Cloning Tool)

GCLCLIST starts the IMS Cloning Tool ISPF interface.

Edit the member as follows:

1. Set variable HILEVEL to the high level qualifier of the data set where you have installed IMS Cloning Tool.
2. Set variable GCLCNTFL to the data set name of IMS control file that you defined in GCLCNTFL job.
3. Set variable GCLRHLQ to the high level qualifier of the VSAM data repository created to hold profile information (created by the GCLREPOS job).
4. Ensure that the GCLLLIB variable points to the load library where you installed IMS Cloning Tool.
5. Ensure that the GCLPARM variable points to the correct GCLINI member.
6. Ensure that any data set names as expanded after variable substitution do not exceed 44 characters in length.

```
PROC 0 HILEVEL(HILEVEL)          +
      GCLCNTFL(GCLCNTFL)          +
      GCLRHLQ(GCLRHLQ)
ISPEXEC VGET (ZUSER ZPREFIX)  ASIS

IF ((&ZPREFIX) ~= (&ZUSER) AND (&ZPREFIX) ~= ) THEN +
  SET &TL = &STR(&ZPREFIX..&ZUSER)
ELSE +
  SET &TL = &ZUSER

CONTROL NOMSG
IF &SYSDSN('&TL..&HILEVEL..ISPTLIB')~=OK THEN +
  DO
    ALLOC F(XX) DA('&TL..&HILEVEL..SGCLTENU') SPACE(1 1) DIR(30) +
    CYLINDERS LRECL(80) BLKSIZE(800) DSORG(PO) RECFM(F B) NEW
  END
  FREE FILE(XX)
  CONTROL MSG

SET &PLHLQ = &STR('&HILEVEL')
SET &GCLLLIB = &STR('&HILEVEL..SGCLLOAD')
SET &GCLPARM = &STR('&HILEVEL..SGCLPARM(GCLINI)')

ISPEXEC LIBDEF ISPLIB DATASET ID('&HILEVEL..SGCLMENU') UNCOND
ISPEXEC LIBDEF ISPLIB DATASET ID('&HILEVEL..SGCLPENU') UNCOND
ISPEXEC LIBDEF ISPLIB DATASET ID('&HILEVEL..SGCLSLIB') UNCOND
ISPEXEC LIBDEF ISPLIB DATASET ID('&HILEVEL..SGCLLOAD') UNCOND
ISPEXEC LIBDEF ISPTLIB DATASET ID('&TL..&HILEVEL..SGCLTENU' +
                                '&HILEVEL..SGCLTENU') UNCOND
ISPEXEC LIBDEF ISPTABL DATASET ID('&TL..&HILEVEL..SGCLTENU') UNCOND

ISPEXEC CONTROL ERRORS RETURN
ISPEXEC SELECT CMD(GCLARGSZ) MODE(FSCR)
SET &RETCODE = &LASTCC
ISPEXEC CONTROL ERRORS CANCEL
IF &RETCODE < 30000 THEN DO
  ISPEXEC SETMSG MSG(GCL002)
  EXIT CODE(1)
END

ALLOC F(GCLINI) DSN(&GCLPARM) SHR REU

GCL2MAIN &PLHLQ &GCLLLIB &GCLPARM &GCLCNTFL &GCLRHLQ

CONTROL NOMSG
FREE FILE(GCLINI)
CONTROL MSG
```

Option 2: If the ISPF interface will be shared with Db2 Cloning Tool

If the ISPF interface will be shared with Db2 Cloning Tool, copy the GCLCKZ and GCLCKZCL members from the SGCLJCL library to your system CLIST library and make the following changes:

1. Updates to GCLCKZ member:

In the PROC 0 CLISTLIB(name) GCLHILVL(hgclhilvl) CKZHILVL(ckzhilvl) statement, specify the name of the data set to which the GCLCKZCL member was copied and high level qualifier of the data sets where you have installed IMS Cloning Tool and Db2 Cloning Tool. For example:

```
PROC 0 CLISTLIB(ABCD.USER.CLIST)GCLHILVL(GCL.VER120) +
CKZHILVL(CKZ.VER330)

PROC 0 CLISTLIB(NAME) +
GCLHILVL(GCLHILVL) +
CKZHILVL(CKZHILVL)
CONTROL NOMSG
FREE FILE(GCLCLIST)
CONTROL MSG

ALLOC FILE(GCLCLIST) DATASET('&CLISTLIB') SHR REU

ALTLIB ACTIVATE APPLICATION(CLIST) FILE(GCLCLIST)

ISPEXEC LIBDEF ISPTLIB DATASET ID('&GCLHILVL..SGCLTENU' +
'&CKZHILVL..SCKZTENU') STACK

ISPEXEC SELECT CMD(%GCLCKZCL) NEWAPPL(GCL) PASSLIB

ISPEXEC LIBDEF ISPTLIB
ALTLIB DEACTIVATE APPLICATION(CLIST)
CONTROL NOMSG
FREE FILE(GCLCLIST)
CONTROL MSG
```

2. Updates to GCLCKZCL member:

GCLCKZCL starts the IMS Cloning Tool ISPF interface. Make the following updates:

- Set variable GCLHILVL to the high level qualifier of the data set where you have installed IMS Cloning Tool.
- Set variable CKZHILVL to the high level qualifier of the data set where you have installed Db2 Cloning Tool.
- Set variable CNTLFILE to the data set name of the control file that you defined in GCLCNTFL job.
- Set variable REPOSHLQ to the high level qualifier of the VSAM data repository created to hold profile information (created by the GCLREPOS job).
- Ensure that the GCLLIB variable points to the load library where you installed IMS Cloning Tool.
- Ensure that the GCLPARM variable points to the correct GCLINI member.
- Ensure that the CKZLIB variable points to the load library where you installed Db2 Cloning Tool.
- Ensure that the CKZPARM variable points to the correct CKZINI member.
- Ensure that any data set names as expanded after variable substitution do not exceed 44 characters in length.

For example:

```
PROC 0 GCLHILVL(GCLHILVL)      +
      CKZHILVL(CKZHILVL)      +
      CNTLFILE(CNTLFILE)      +
      REPOSHLQ(REPOSHLQ)

ISPEXEC VGET (ZUSER ZPREFIX) ASIS

IF ((&ZPREFIX) ^= (&ZUSER) AND (&ZPREFIX) ^= ) THEN +
  SET &TL = &STR(&ZPREFIX..&ZUSER)
ELSE +
  SET &TL = &ZUSER

CONTROL NOMSG
IF &SYSDSN('&TL..&GCLHILVL..SGCLTENU')=OK THEN +
  DO
    ALLOC F(XX) DA('&TL..&GCLHILVL..SGCLTENU') SPACE(1 1) DIR(30) +
    CYLINDERS LRECL(80) BLKSIZE(800) DSORG(PO) RECFM(F B) NEW
  END
FREE FILE(XX)
```

```

CONTROL MSG

CONTROL NOMSG
IF &SYSDSN('&TL..&CKZHILVL..SCKZTENU')=>OK THEN +
DO
  ALLOC F(XX) DA('&TL..&CKZHILVL..SCKZTENU') SPACE(1 1) DIR(30) +
  CYLINDERS LRECL(80) BLKSIZE(800) DSORG(PO) RECFM(F B) NEW
END
FREE FILE(XX)
CONTROL MSG

SET &GCLLLIB = &STR('&GCLHILVL..SGCLLOAD')
SET &GCLHLQ = &STR('&GCLHILVL')
SET &GCLPARM = &STR('&GCLHILVL..SGCLPARM(GCLINI)')
SET &GCLMODE = &STR('IMSCT')

SET &CKZPGM = &STR('CKZ2MAIN')
SET &CKZHLQ = &STR('&CKZHILVL')
SET &CKZLLIB = &STR('&CKZHILVL..SCKZLOAD')
SET &CKZPARM = &STR('&CKZHILVL..SCKZPARM(CKZINI)')
SET &CKZAPID = &STR('CKZ')

ISPEXEC LIBDEF ISPMLIB DATASET ID('&GCLHILVL..SGCLMENU' +
  '&CKZHILVL..SCKZMENU') UNCOND
ISPEXEC LIBDEF ISPLLIB DATASET ID('&GCLHILVL..SGCLPENU' +
  '&CKZHILVL..SCKZPENU') UNCOND
ISPEXEC LIBDEF ISPSLIB DATASET ID('&GCLHILVL..SGCLSLIB' +
  '&CKZHILVL..SCKZSLIB') UNCOND
ISPEXEC LIBDEF ISPLLIB DATASET ID('&GCLHILVL..SGCLLOAD' +
  '&CKZHILVL..SCKZLOAD') UNCOND
ISPEXEC LIBDEF ISPTLIB DATASET ID('&TL..&GCLHILVL..SGCLTENU' +
  '&GCLHILVL..SGCLTENU' +
  '&CKZHILVL..SCKZTENU') UNCOND
ISPEXEC LIBDEF ISPTABL DATASET ID('&TL..&GCLHILVL..SGCLTENU') UNCOND

CONTROL NOFLUSH
SET &RC = 0
ERROR +
DO
  SET &RC = &LASTCC
RETURN
END

CONTROL NOMSG
IF &SYSDSN(&GCLPARM) <= OK THEN +
DO
  WRITE DATA SET &GCLPARM NOT FOUND
  EXIT CODE(2)
END
CONTROL MSG

CONTROL NOMSG
IF &SYSDSN(&CKZPARM) <= OK THEN +
DO
  WRITE DATA SET &CKZPARM NOT FOUND
  EXIT CODE(2)
END
CONTROL MSG

ERROR OFF

ISPEXEC CONTROL ERRORS RETURN
ISPEXEC SELECT CMD(GCLARGSZ) MODE(FSCR)
SET &RETCODE = &LASTCC
ISPEXEC CONTROL ERRORS CANCEL
IF &RETCODE < 30000 THEN DO
  ISPEXEC SETMSG MSG(GCL002)
  EXIT CODE(1)
END

ALLOC F(GCLINI) DSN(&GCLPARM) SHR REU
ALLOC F(CKZINI) DSN(&CKZPARM) SHR REU

SET &SYSASIS = ON
GCL2MAIN &GCLHLQ &GCLLLIB &GCLPARM &CNTLFILE &REPOSHLQ &GCLMODE +
  &CKZHLQ &CKZLLIB &CKZPARM &CKZPGM &CKZAPID

CONTROL NOMSG
FREE FILE(GCLINI)
FREE FILE(CKZINI)
CONTROL MSG

```

Step 11: Verify that customization was successful

This step is part of the greater task of configuring IMS Cloning Tool.

After you complete the preceding customization steps, run the FINDUCATS command against one volume to verify that IMS Cloning Tool has been successfully customized.

Step 12: Configuring for database cloning

This step is part of the greater task of configuring IMS Cloning Tool. Follow these instructions to configure IMS Cloning Tool for database cloning.

Before you begin

You must have already installed and loaded the IMS Cloning Tool product libraries and completed IMS Cloning Tool configuration.

Note: For SMP/E installs, you might notice what appear to be duplicate members in the non-SGCLLOAD product libraries (not in SGCLPARM or SGCLJCL). These entries are only aliases.

About this task

Overview:

The following table summarizes the high-level steps for configuring for database cloning and a description of each step.

Table 3. Database Cloning Configuration Steps	
Step	Description
1	Set the keywords in the GCLINI member of the SGCLPARM. Database Cloning keywords are primarily in the :DB_COPY_OPTIONS section of GCLINI. For descriptions of these keywords, see “GCLINI configuration values” on page 23.
2	Customize Database Cloning JCL members in hlq.SGCLJCL.
3	Verify that customization was successful.

Procedure

1. Set the Keywords in the GCLINI SGCLPARM Member.

The Database Cloning keywords are primarily located in the :DB_COPY_OPTIONS section of the GCLINI member of the SGCLPARM library. These keywords control database copy processing, including the maximum return code that is issued before the job stops. Use the ISPF Edit function to set these keyword values.

Be sure to set keyword values that are appropriate for your installation. For descriptions of the keywords, see [“GCLINI configuration values”](#) on page 23.

If necessary, you can change your keyword settings later by editing the GCLINI member.

2. Customize the Database Cloning JCL Members in hlq.SGCLJCL.

Modify all Database Cloning members in hlq.SGCLJCL to reflect the product library names that were specified during product installation, values for IDCAMS executions (where necessary), and GCLIN control statements for the desired command functionality.

Also, you can modify the DD statements for SYSOUT, as needed, to meet your installation standards.

If necessary, you can add DD statements for other unrelated programs or products, for example, those for performing ABEND analysis or alternative sort options.

3. Verify database cloning customization.

You can verify that the database cloning has been successfully customized by copying an IMS database and ensuring that it can be accessed on the target subsystem.

GCLINI configuration values

The GCLINI member (IMS Cloning Tool product initialization member) of the SGCLPARM library defines global information regarding IMS Cloning Tool usage and options for an installation.

This member is organized in sections. Each section contains a set of parameter specifications known as tokens. It is recommended that all IMS Cloning Tool users at an installation use the same GCLINI member.

Review the following sections for more information on the GCLINI member:

- [“Syntax rules” on page 23](#)
- [“GCLINI keyword syntax and descriptions” on page 24](#)

Syntax rules

The GCLINI member contains token-assignment statements organized by section.

The general format for a token statement is:

```
Keyword = Parameters
```

The token statements can contain leading blanks. To locate the first non-blank character, IMS Cloning Tool scans the entire 80-byte record for the token statement. Do not renumber the columns in the GCLINI member; if sequence numbers are assigned to columns 73 through 80, errors will result.

You can add a notes token to document your changes to any section, including the initial/unnamed section. The GCLIMRG program retains these notes along with any comments that continue from the notes token. For example:

```
Notes = Updated by Dan on 2021/04/23 +  
        Updated by John on 2021/02/20
```

Section names

The colon character (:), immediately followed by a name string, indicates a section name.

For an GCLINI member that is used across multiple z/OS images, you can qualify all section names (except for PRODUCT_INFO and INIMERGE_VALUES) with a sysplex name, a system name, or both. Explicitly state the sysplex and system names; that is, no wildcards are allowed.

Some examples of qualified section names follow:

Sysplex-name and system-name qualifications:

:section-name.sysplex-name.system-name

Sysplex-name qualification:

:section-name.sysplex-name

System-name qualification:

:section-name..system-name

The GCLIMRG program retains your qualified section names and merge new tokens for those sections.

You can specify a qualified section name for a z/OS image that has unique requirements, followed by an unqualified section name that applies to all of the other images. IMS Cloning Tool uses only the first matching section in the GCLINI member. All other variations of that section are ignored.

Use the INIVIEW member of the JCL data set to view the contents of the GCLINI member to be used for multiple z/OS images. In the INIVIEW job, you can specify the sysplex and system name that is associated with a z/OS image to display the GCLINI values to be used when IMS Cloning Tool runs on that image.

Token names

A token name is a parameter name that can be specified under a particular section.

A token name is specified as a blank-delimited character string that precedes an equal (=) sign. The token names that are supported for IMS Cloning Tool are described in this chapter.

Token values

A token value is the data that is specified for a token name after the equal sign (=).

Token values can be keywords, user-specified values (a single value or several strings), or keywords with token values specified as KEYWORD(uservalue).

You can enclose token values in either single quotation marks or double quotation marks. The quotation marks are removed before the product uses the value. If a quotation mark is part of the data (not used as a delimiter):

- enclose that quotation mark character by using the alternate type of quotation mark,
- or repeat that quotation mark character and then enclose it by using the same type of quotation mark.

For example, you can indicate that a single quotation mark is part of the data by specifying either " ' " or ' ' ' ' .

INI statement continuation rules

Continue statements by using either a minus (-) or plus (+) sign as the continuation character.

You can place the continuation character anywhere within the statement text. Any data after the continuation character in that logical record is interpreted as a comment and is ignored.

GCLINI comments

You can use either the line mode or block mode for specifying comments in the GCLINI member, as follows:

- Place an asterisk (*) or slash-asterisk (/*) in column 1 to mark the entire line as a comment. This method of commenting is not allowed inside a continued /* */ type of comment but is allowed in a continued token=value statement. A line that is entirely blank is also considered to be a comment.
- Specify a beginning slash-asterisk (/*) with a terminating asterisk-slash (*/) to mark entire lines, blocks of lines, or portions of a single line as a comment. Nested comments are supported.

DB_COPY_OPTIONS token errors

Some tokens in the :DB_COPY_OPTIONS section of the GCLINI member have default values.

If an error exists in one of these token statements, IMS Cloning Tool uses the default value and issues an error message with a return code of 4. The message describes the error and the default value substitution. If you set the MAX_RC keyword to 4, IMS Cloning Tool continues running to completion. If you set the MAX_RC keyword to 0, IMS Cloning Tool stops after token validation.

GCLINI keyword syntax and descriptions

The following topics in this section show the syntax and describe the keywords used in the many sections in the GCLINI member. Read through this topic to locate the keywords you want to understand or modify.

:PRODUCT_INFO section

GCLINI contains a :PRODUCT_INFO section.

Purpose

This section defines the product version and release.

Note: Do not modify the tokens in the :PRODUCT_INFO section. They can be modified only via the GCLIMRG utility. These tokens are documented for your information only.

Parameters

GCL_REL = *version/release number*

Used to verify the product version and release number. Do not alter this value.

GCL_REL_DATE = *release date*

Used to verify the product release date. Do not alter this value.

:INIMERGE_VALUES section

GCLINI contains an :INIMERGE_VALUES section.

This section is used to pass values to the GCLIMRG program that merges the GCLINI file from one release to another. Technical Support provides the values in this section.

Parameters

SPECIAL_SECTIONS = *value*

Only technical support updates this value. For 0201 (vvrr) the values are:

SPECIAL_SECTIONS=SI040_VALUES SI027_VALUES

:SI027_VALUES section

GCLINI contains an :SI027_VALUES section.

Purpose

Changes or additions to this section must be authorized by and under the direction of IBM support only

:SI040_VALUES section

GCLINI contains an :SI040_VALUES section.

Purpose

Changes or additions to this section must be authorized by and under the direction of IBM support only

:IMS_CLONING_TOOL_OPTIONS section

GCLINI contains an :IMS_CLONING_TOOL_OPTIONS section.

Purpose

This section defines options that are used by multiple commands.

Parameters

SPACE_MANAGEMENT = *HSM|ABR(#)|DMS|NONE*

Valid values are HSM, DMS, ABR(#), or NONE. The values HSM, DMS, and ABR(#) can be specified as a single option or together. NONE cannot be specified with any other option.

- HSM and ABR(#) indicate that IMS Cloning Tool should use the volser “MIGRAT” as an indication that a data set has been migrated.
- DMS indicates that IMS Cloning Tool should use the volser “ARCIVE” as an indication that a data set has been migrated.

The default value is HSM.

CONCURRENT_EXECUTIONS = Y|N

This option addresses the situation where multiple jobs are running concurrently and need exclusive control over the same basic catalog structure (BCS).

- N - Indicates that if another job has exclusive control over a BCS, the IMS Cloning Tool job that wants exclusive control of the same BCS will fail with an error.
- Y - Indicates that if another job has exclusive control over a BCS, the IMS Cloning Tool job that wants exclusive control of the same BCS will wait until the BCS is available. The maximum time to wait is specified with the CONCURRENT_EXECUTIONS_WAIT_TIME keyword.

CONCURRENT_EXECUTIONS_WAIT_TIME = nnn|5

Specifies the maximum wait time in minutes to be used if CONCURRENT_EXECUTIONS = Y is specified. The maximum value that can be specified is 999. The minimum value that can be specified is 0. However, if 0 is specified, the execution will not retry if control of the BCS is not obtained, and the command will fail.

The default is 5.

:COPY_OPTIONS section

GCLINI contains a :COPY_OPTIONS section.

Purpose

This section defines the options that are used during volume copy operations. These options can be overridden by settings of keywords on the COPY command.

Parameters**CATWORK_ATTR = catalog work data set allocation attributes**

Catalog “work” data sets contain catalog entries that are captured during the COPY step and passed to other steps. This token controls allocation attributes for these data sets if the attributes are not specified by the COPY GCLIN control statements. Specify attributes in TSO ALLOCATE syntax, for example, UNIT(SYSALLDA) SPACE(10 10) CYLINDERS. The attributes that can be specified are:

- DATACLAS(data class name)
- MGMTCLAS(management class name)
- SPACE(quantity increment)
- STORCLAS(storage class name)
- TRACKS/CYLINDERS UNIT(unit)
- VOLUME(serial)

TARGET_VOLS_SHOULD_BE_EMPTY = Y | N

Specifies whether to perform a check during the source-to-target volume pairing process to ensure that the target volumes are empty before issuing FlashCopy or SnapShot. If Y is specified and if a subsequent RENAME fails and the COPY must be rerun, IMS Cloning Tool will not clean off the target volumes. In this case, either initialize the target volumes or change this keyword value to N.

- If the “eliminated” target volumes cause more source volumes than target volumes to exist, the COPY will fail.
- If the “eliminated” target volumes cause at least as many target volumes as source volumes to exist, the pairing will continue as usual.

The default value is N.

:IMS_OPTIONS section

GCLINI contains an :IMS_OPTIONS section.

Purpose

This section defines options that are used when updating IMS internals. You can configure IMSUPDATE keywords to override these options.

Parameters

ACB_NOT_FOUND_RC = *nnn*|4

Optional keyword that supplies the return code to be used if a DMB is not found in the ACBLIB for any database defined for the IMS. This value is only used if the ACB-NOT-FOUND-RC keyword is not specified on an IMSUPDATE command.

The default value is 4.

COMPRESS_MDA_CNT = *nnn*|0

Optional keyword that indicates that the MDA library should be compressed after the specified number of MDA members have been updated. This parameter can be used to help prevent x37 type ABENDs when a large number of MDA members are being updated and perhaps the PDS directory size is not large enough to accommodate all of the updates without periodically compressing the MDA library between updates. When 0 (the default) is specified, the target MDA library is not compressed while updating the MDA members during IMSUPDATE processing. Valid values are a number between 0 and 999. The default value is 0 which indicates to not perform any library compression during the MDA updating processing.

Valid values are a number between 0 and 999. The default value is 0, which indicates to not perform any library compression during the MDA updating processing.

DSNAME-ERROR-DBRC-SYMBOLS = *ERROR|WARN|IGNORE*

Optional keyword that specifies action to take when a target data set name contains DBRC symbols and is longer than 44 characters. This value is only used if the DSNAME=ERROR-DBRC-SYMBOLS keyword is not specified on an IMSUPDATE command.

- ERROR – Generate an error message and do not update the JCLPDS member.
- WARN – Generate a warning message and update the JCLPDS member with the long target data set name.
- IGNORE – Update the JCLPDS member with the long target data set name.

The default value is ERROR.

JCLPDS_NOT_UPDATED_RC = *nn*|4

Optional keyword that supplies the return code to be used when IMS Cloning Tool is not able to update a member in any of the JCLPDS data sets. This value is only used if the JCLPDS-NOT-UPDATED keyword is not specified on an IMSUPDATE command.

The default value is 4.

MDA_NOT_UPDATED_RC = *nn*|4

Optional keyword that supplies the return code to be used when IMS Cloning Tool is unable to update an MDA member in any of the MDA data sets. This value is only used if the MDA-NOT-UPDATED keyword is not specified on an IMSUPDATE command.

The default value is 4.

RDDS_NOT_UPDATED_RC = *nn*|4

Optional keyword that supplies the return code to be used when IMS Cloning Tool is unable to update any of the RDDS data sets. This value is only used if the RDDS-NOT-UPDATED keyword is not specified on an IMSUPDATE command.

The default value is 4.

RECON_NOT_UPDATED_RC = nn|4

Optional keyword that supplies the return code to be used when IMS Cloning Tool is unable to update a record in any of the RECON data sets. This value is only used if the RECON-NOT-UPDATED-RC keyword is not specified on an IMSUPDATE command.

The default value is 4.

RENAME_ARCHIVE_LOGS = N|Y

Optional keyword that specifies whether the data set names and VOLSERs of the IMS archive logs in the RECON data sets are changed if the IMS archive logs are on the source DASD volumes and were copied to the target volumes. This value is only used if the RENAME-ARCHIVE-LOGS keyword is not specified on an IMSUPDATE command.

- N – Does not change the data set names and VOLSERs of the IMS archive logs in the RECON data sets even if the IMS archive logs have been copied to the target volumes.
- Y – Renames the data set names and VOLSERs of the IMS archive logs in the RECON data sets on the target volumes if copied from the source DASD volumes.

The default value is N.

RENAME_CAS = N|Y

Optional keyword that specifies whether the data set names and VOLSERs of the Change Accumulation records in the RECON data sets are changed if the Change Accumulation data sets are on the source DASD volumes and were copied to the target volumes. This value is only used if the RENAME-CAS keyword is not specified on an IMSUPDATE command.

- N – Does not change the data set names and VOLSERs of the Change Accumulation records in the RECON data sets on the target volumes if they are copied from the source DASD volumes.
- Y – Renames the data set names and VOLSERs of the Change Accumulation records in the RECON data sets on the target volumes if they are copied from the source DASD volumes.

The default value is N.

RENAME_ICS = N|Y

Optional keyword that specifies whether the data set names and the VOLSERs of the Image Copy records in the RECON data sets are changed if the Image Copy data sets are on the source DASD volumes and if they were copied to the target volumes. This value is only used if the RENAME-ICS keyword is not specified on an IMSUPDATE command.

- N – Does not change the data set names and VOLSERs of the Image Copy records in the RECON data sets on the target volumes if they are copied from the source DASD volumes.
- Y – Renames the data set names and VOLSERs of the Image Copy records in the RECON data sets on the target volumes if they are copied from the source DASD volumes.

The default value is N.

REPO_NOT_UPDATED_RC = nn | 4

Optional keyword that supplies the return code to be used when IMS Cloning Tool is unable to update any of the repository data sets. This value is only used if the REPO-NOT-UPDATED keyword is not specified on an IMSUPDATE command. The default value is 4.

UPDATE_SLDS = Y|N

Optional keyword that indicates whether the archive log data sets should be updated during the IMSUPDATE process. If the archive logs were not copied during the COPY phase, then UPDATE_SLDS = N can be specified to prevent any update to update the archive log data sets. Even with UPDATE_SLDS = N, IMS Cloning Tool will still update the OLDS data sets for the target IMS subsystem. By not updating the archive log data sets for the target IMS subsystem, then either the target IMS subsystem must be cold started or emergency restart must be able to complete without needing the archive log data sets. The default value is Y.

:DB_COPY_OPTIONS section

GCLINI contains a :DB_COPY_OPTIONS section.

Purpose

This section defines the options that IMS Cloning Tool uses for the database and data set copy operations. You can use the IMSDBREFRESH command options to override these settings.

Parameters

ALLOW_HALDB_REDEFINE = N|Y

This parameter specifies whether HALDB definitions in DBRC can be deleted and redefined as part of the database cloning process when there are differences in the partition between source and target databases. Valid values include:

- N – Do not allow IMS Cloning Tool to clone HALDBs if doing so would require deleting and redefining the target database in DBRC.
- Y – IMS Cloning Tool can delete and redefine a target database in DBRC to complete the cloning process. This parameter is only applicable when DBRC_ACTION = REORG is in effect.

The default value is N.

ALLOW_NONRECOV=ABORT | CONTINUE | SKIP

This option specifies how the IMSDBREFRESH command processes a non-recoverable primary database. The value you specify is applicable only if the corresponding ALLOC-NONRECOV keyword is not specified on the IMSDBREFRESH command. Valid values are:

- ABORT – (the default) Terminates processing with a return code of 8 after the first non-recoverable primary database is detected.
- CONTINUE – Continues processing the non-recoverable primary databases without applying logs to them, and ends the job with return code *nnnn*, which is specified in the ALLOW_NONRECOV_RC option.
- SKIP – Skips processing the non-recoverable primary databases and continues processing other databases, and ends the job with return code *nnnn*, which is specified in the ALLOW_NONRECOV_RC option.

ALLOW_NONRECOV_RC=nnnn

Specifies the return code to be used if ALLOW_NONRECOV=CONTINUE or SKIP is specified. This value is applicable only if the corresponding ALLOW-NONRECOV keyword is not specified on the IMSDBREFRESH command. The return code *nnnn* must be a numeric value 0 - 4095. The default value is 4.

ALLOW_PARTIAL = N|Y

Optional keyword that indicates whether IMS Cloning Tool should continue processing even if an error is encountered with one of the databases (for example, if one of the databases that is being refreshed had a compatibility issue). Valid values are:

- N – Stop the IMSDBREFRESH process when an error is encountered with any of the databases.
- Y – Continue processing other databases when an error is encountered with one or more databases.

The default value is N.

ALLOW_TGTDBD = N|Y

Optional keyword that indicates whether the TGT-DBD keyword can be specified when COPY-IF-DIFFERENT-HALDB(Y) is specified on the IMSDBREFRESH command. This value is applicable only if the second operand of the COPY-IF-DIFFERENT-HALDB keyword is not specified on the IMSDBREFRESH command.

- N – If 'N' is specified, the TGT-DBD keyword is not allowed when Y is specified for the first operand on the COPY-IF-DIFFERENT-HALDB(Y) keyword.

- Y – If 'Y' is specified, the TGT-DBD keyword can be specified when Y is specified for the first operand on the COPY-IF-DIFFERENT-HALDB(Y) keyword.

The default value is N.

ARCHIVE_WAIT_TIME = n

Optional keyword that indicates how long IMS Cloning Tool waits for an online log data set to be archived before the IMSDBREFRESH job terminates abnormally. The wait time must be a numeric value between 0 and 999. The value specified indicates the number of minutes to wait.

This value is only applicable if LOG-APPLY(Y) was specified and is only used if the ARCHIVE-WAIT keyword is not specified on an IMSDBREFRESH command. The default value is 5.

ARCHIVE_WAIT_RC = n

Optional keyword that indicates the return code to use when an online log data set containing updates for the source databases has not been archived in the amount of time specified by ARCHIVE_WAIT_TIME. The return code must be a numeric value from 0 through 4095.

This value is only applicable if LOG-APPLY(Y) was specified and is only used if the ARCHIVE-WAIT keyword is not specified on an IMSDBREFRESH command. The default value is 8.

AUTO_START_SOURCE_DB = Y|N

Indicates whether IMSDBREFRESH can optionally start each source IMS database after the copy process is complete. Valid values are:

- Y – Start the source databases after the copy process is complete.
- N – Remain stopped after the copy process is complete.

The default value is Y.

AUTO_START_TARGET_DB = Y|N

Indicates whether or not to automatically issue the START DB command for the database.

This token determines if IMSDBREFRESH processing issues an IMS START DATABASE command for the databases being processed after all of the Sync I/O to the data set is complete. This value determines the value of the START-DB command in each invocation of the IMSDBREFRESH command.

The AUTO-START-TARGET-DB value from the IMSDBREFRESH command overrides the value from the GCLINI member in the SGCLPARM library.

The default value is Y.

AUTO_STOP_TARGET_DB = Y|N

Indicates whether or not to automatically issue a DBR DB DATABASE IMS command for each target database. Valid values are:

- Y – Issue the DBR command. Because IMS Cloning Tool must have exclusive control of the target database data sets, the DBR command must complete before the copy processing can begin.
- N – Assume that the database is already stopped and do not issue the DBR command before the copying begins. If the database is not stopped, DFSMSdss gets an allocation error.

The AUTO-STOP-TARGET-DB value from the IMSDBREFRESH command overrides the value from the SGCLPARM library.

The default value is Y.

COPY_IF_DIFFERENT_HALDB = N|Y

Optional keyword that indicates whether IMS Cloning Tool should redefine the target DBRC definitions of the target HALDB if the source and the target HALDBs have different definitions. The definitions that might be different are: the number of partitions, the partition ID, and the M-V data sets.

- N – If 'N' is specified, the target HALDB will not be refreshed even if the source and the target HALDBs have different definitions.
- Y – If 'Y' is specified, the target HALDB will be refreshed and redefined in the target DBRC so that it has the same definitions as the source HALDB. You must also specify the RENAME-MASKS keyword

on the IMSDBREFRESH command to determine the new target data set names. 'Y' is applicable only if the DBRC-ACTION(REDEFINE) or DBRC-ACTION(REORG,HALDBREDEFINE) keyword is specified.

This value is used only if the COPY-IF-DIFFERENT-HALDB keyword is not specified on the IMSDBREFRESH command.

The default value is N.

COPY_IF_NO_IMS_TARGET_DB = N|Y

Optional keyword that indicates whether IMS Cloning Tool defines elements for target databases on the target IMS if they do not currently exist. These elements would include DBRC definitions, MDA members, and ACB members, and a **CREATE DB** command is submitted to define the database to the target IMS system. The process to perform the **CREATE DB** command requires the CSL and the target IMS system to be active.

If COPY_IF_NO_IMS_TARGET_DB = N and elements for the target database are not found, IMS Cloning Tool does not refresh the database. If COPY_IF_NO_IMS_TARGET_DB = Y, the RENAME-MASKS keyword is required to determine the target data set names. The RENAME-MASKS keyword is also required to determine the target DBD and DD names if the target database is in the same IMS system as the source database. If IMSPLEX is specified, then databases can be created using the CREATE DB command on the target IMS. If IMSPLEX is not specified, then the CREATE DB command is skipped.

This value is used only if the COPY-IF-NO-IMS-TARGET-DB keyword is not specified on the IMSDBREFRESH command.

The default value is N.

DATA_MOVER = ADDRSSU | EMCAPI | NONE

Optional keyword that specifies the program to be used to initiate copies and copy options.

- ADDRSSU - (the default) specifies that COPY is to initiate FlashCopy or SnapShot 'under the covers' via execution of DSS.
- EMCAPI - specifies that IMS Cloning Tool Database Refresh is to invoke EMC TimeFinder/Clone to make the copies using the data set snap facility. Refer to the [DATA-MOVER keyword in IMSDBREFRESH](#) for additional information.
- NONE - specifies that no DATA-MOVER is to be invoked by the IMSDBREFRESH command. NONE infers that data set copies will be initiated by the user. When NONE is specified, IMSDBREFRESH still validates necessary IMS database characteristics, stops the source databases if requested, and builds the list of data sets as input to the user copy

The default value is ADDRSSU.

DBRC_ACTION = REDEFINE | REORG

Optional keyword that indicates the DBRC action to perform for the target databases after refreshing them. If DBRC_ACTION = REORG is specified, IMS Cloning Tool performs a NOTIFY.REORG for all database data sets that were refreshed. If DBRC_ACTION = REDEFINE is specified, IMS Cloning Tool performs a LIST.DB to provide a reference for current DBRC definitions, followed by a DELETE.DB, INIT.DB, and any INIT.DBDS, INIT.PART, and INIT.AREA commands to redefine the target database. This value is only used if the DBRC-ACTION keyword is not specified on an IMSDBREFRESH command.

The default value is REDEFINE.

FASTREP = PREF | REQ | NONE

Optional keyword that indicates whether fast replication is preferred (PREF), required (REQ), or not required (NONE).

The default value is PREF.

FCTOPPRCPRIARY = PRESMIRNONE | PRESMIRREQ | PRESMIRPREF

Optional keyword that indicates what action to perform for preserving mirror when a FlashCopy target volume can also be a PPRC primary volume.

- PRESMIRREQ - Require the use of Preserve Mirror. If a Preserve Mirror operation cannot be accomplished, the FlashCopy operation will not be completed.
- PRESMIRPREF - Prefer the use of Preserve Mirror. If a Preserve Mirror operation cannot be accomplished, the FlashCopy operation is still performed
- PRESMIRNONE - Do not use Preserve Mirror.

This parameter applies to ESS devices only; it does not apply when FASTREP(NONE) is also specified. The default value is PRESMIRNONE.

DSNS_PER_COPY = 255

Specifies the number of data sets to include in each DFSMSdss copy command. The valid range of values is from 1 through 255. By changing this value, you may be able to improve performance.

The default value is 255.

DSS_COPY_COMMANDS = 8

The DSS_COPY_COMMANDS parameter specifies the number of DSS copy commands to send to DSS in a single invocation. Valid values are 1 to 256; specifying a large value may result in storage shortage abends.

The default value is 8.

LOG_APPLY = N | Y

Optional keyword that indicates if IMS Cloning Tool should apply log updates from the source databases to the target databases after copying the source databases. If 'Y' is specified, IMS Cloning Tool applies logs to complete any in-flight updates to the target databases after copying them. If 'N' is specified, IMS Cloning Tool does not apply any updates to the target databases after copying the data sets. This could result in in-flight updates existing in the target databases if FUZZY-COPY(Y) was specified.

This value is only used if the LOG-APPLY keyword is not specified on an IMSDBREFRESH command.

The default value is N.

LOG_APPLY_MONITOR = 0

When this optional keyword is used, IMS Cloning Tool outputs messages every *nnn* minutes indicating the amount of log apply activity that has occurred in the previous specified number of minutes.

nnn can be any numeric value from 0 to 999, and indicates the interval, in minutes, in which IMS Cloning Tool should issue messages showing log apply activity. When 0 is specified, no messages showing log apply activity are issued.

MAX_COPY_RC = 0|4|8

Specifies the maximum return code that can be returned from data set copy processing before causing the IMSDBREFRESH to stop. This token value will allow one or more DFSMSdss copy operations to fail while other copy operations continue.

For example, STOP JOB WHEN > MAX_COPY_RC OCCURS WHEN COPYING DATA specifies that, when copying data, IMS Cloning Tool should stop the job when a return code from a copy function is greater than the value specified in the MAX_COPY_RC keyword.

The default value is zero. If 0 is specified, any data set copy requests that end with a return code greater than zero will cause the IMS Cloning Tool command to terminate.

MAX_RC = 0|4

Specifies the maximum value that a return code from an IMS Cloning Tool process can have for a job to continue running. This token value does not apply to data set copy processing. (See the MAX_COPY_RC keyword for the maximum return code for data set copy processing.)

For example, STOP JOB WHEN > MAX_RC specifies that IMS Cloning Tool should stop the database refresh processing when a return code from any process is greater than the value specified by the MAX_RC keyword. If this keyword is set to zero and some IMS databases are not found on the target,

no source databases will be copied. Set MAX_RC to 4 if you want to complete the cloning process for the databases that can be copied, even if the other the databases cannot be cloned.

The default value is zero.

For example, to stop a job when any warning message is issued, set MAX_RC=0. To allow IMS Cloning Tool to complete if one or more warning messages are issued, set MAX_RC=4.

NULLSTORCLAS = Y|N

Optional keyword that determines input to the automatic class selection (ACS) routine when copying data sets with ADDRDSU. If 'Y' is specified, a null storage class will be passed to the ACS. This allows the ACS routine to assign storage classes to the target data sets. If 'N' is specified, input to the ACS will be storage class of the source data sets. For more information on this keyword, consult the *z/OS DFSMSdss Storage Administration* documentation.

The default value is Y.

NOAUTH_TARGETS = N|Y

Optional keyword that indicates that IMS Cloning Tool sets PROHIBIT AUTH=ON in the target RECONS for the target databases before starting the data set copy process. This prevents other IMS jobs from authorizing the target databases until the database refresh process has completed. If IMS Cloning Tool sets PROHIBIT AUTH=ON, the flag is reset after the data set copy process is complete. Valid values include 'Y' (prevent IMS jobs from authorizing the target databases until the database refresh process is complete), and 'N' (do not set PROHIBIT AUTH=ON).

The default value is N.

REGISTER_DBRC = N|Y

Optional keyword that indicates whether to register the target database to DBRC after creating a new database on the target IMS system. When 'N' is specified, the new database is not registered to DBRC. When 'Y' is specified, the new database is registered to DBRC. If 'Y' is specified, the source database must be registered to DBRC. The new data set names and the DBRC definitions are copied from the source database. This keyword does not apply to HALDBs as they will always be registered.

This value is only applicable if the COPY-IF-NO-IMS-TARGET-DB(Y) keyword was specified and is only used if the REGISTER-DBRC keyword is not specified on an IMSDBREFRESH command.

The default value is N.

REPLACE_TARGET_DS = Y|N

Indicates whether IMS Cloning Tool should replace the data set on the target if it already exists.

- Y – To have IMS Cloning Tool overlay the existing target data set with the source data set.
- N – To have IMS Cloning Tool fail if the target data set already exists.

The default value is Y.

SET_IC_NEEDED_OFF = Y | N

Optional keyword that indicates whether IMS Cloning Tool resets the image copy needed flag for a target database after it has been refreshed and a NOTIFY.REORG was issued. A value of 'Y' indicates that IMS Cloning Tool resets the image copy needed flag. A value of 'N' indicates that IIMS Cloning Tool does not reset the image copy needed flag after doing the NOTIFY.REORG. This value is only used if the DBRC-ACTION keyword is not specified on the IMSDBREFRESH command and REORG is specified for the DBRC_ACTION keyword in GCLINI.

The default value is Y.

STOP_COMMAND = DBR | DBD | QUIESCE

Optional keyword that indicates the IMS command to be used to stop the source databases. When DBR is specified, the DBRECOVER command is used, and all access to the source databases will be stopped. When DBD is specified, the DBDUMP command will be issued and the full function source databases will be put into read-only mode, and a DBRECOVER command will be issued for DEDBs. When QUIESCE is specified, an UPDATE DB QUIESCE command will be used and IMS will only pause access to the source databases for the duration of the copy. The default value is DBR.

SWITCH_OLDS = N|Y

Optional keyword that dictates if IMS Cloning Tool issues a /SWI OLDS command to the source IMS system after copying the database data sets and prior to reading the archive log data sets in order to fine log records to apply to the target databases. When "Y" is specified, IMS Cloning Tool issues a /SWI OLDS command. When "N" is specified, IMS Cloning Tool does not issue a /SWI OLDS command after copying the database data sets.

This value is only applicable if LOG-APPLY(Y) was specified and is only used if the SWITCH-OLDS keyword is not specified on an IMSDBREFRESH command.

The default value is Y.

VERIFY_NO_UPDATERS = N|Y

This parameter specifies whether IMS Cloning Tool verifies that the source databases are not currently authorized by an IMS subsystem or batch job that could be updating the source databases. This check is only applicable if IMS Cloning Tool will be doing a fuzzy copy of the source databases.

Note: The VERIFY-NO-UPDATERS value from the IMSDBREFRESH command overrides this value from the GCLINI member in the SGCLPARM library.

The default value is N.

:IMS_CLONING_TOOL_DEFAULTS section

GCLINI contains an IMS_CLONING_TOOL_DEFAULTS section.

Purpose

This section defines the options that are used during data set rename operations. These options can be overridden by settings of keywords on the RENAME command.

Parameters

GDG_ALL_MIGRATED = SKIP|RETAIN

This option addresses the situation where a generation data group (GDG) matches a RENAME mask and all of the generations have been migrated. The GDG can be skipped, or the generation data set (GDS) entry can be retained with its new target name. Valid values are:

- **SKIP** – Skip the GDG entry during BCS update processing.
- **RETAIN** – Copy the migrated entry as is, to the target BCS.

Note: If RETAIN is specified, because the migrated generations do not exist under the new name, subsequent access to any generation will fail, regardless of whether the generation is accessed specifically or by specifying the base name only. This option is provided to retain relativity.

Important: To avoid destroying the relativity of active generations, IMS Cloning Tool does NOT allow removing selected generations. Any migrated data that is required on the target volumes must be recalled prior to the COPY.

The default value is SKIP.

GDG_ALL_MIGRATED_ RETAIN_RC = blank|0|4

Specifies the return code to be used if GDG_ALL_MIGRATED = RETAIN is specified.

The default is 4.

GDG_EMPTY = SKIP|RETAIN

This option addresses the situation where an empty base GDG matches a RENAME mask. Valid values include:

- **SKIP** – Any empty base GDG entries that match a RENAME mask are skipped and not added to the target user catalog.
- **RETAIN** – Any empty base GDG entries encountered that match a RENAME mask are added to the target user catalog, as is.

The default value is SKIP.

GDG_EMPTY_RETAIN_RC = *blank*|0|4

Specifies the return code to be used if GDG_EMPTY = RETAIN is specified.

The default is 4.

GDG_MIGRATED = *ERROR*|*RETAIN*

This option addresses the situation where a GDG matches a rename mask, at least one generation is found on a volume, and one or more generations have been migrated. The migrated generations can be treated as an error, or the GDS entry in the GDG base record can be retained with a corresponding return code of 0 or 4. Valid values are:

- **ERROR** – Terminate the BCS update process with an error.
- **RETAIN** – Copy the migrated entry, as is, to the target BCS.

Note: If RETAIN is specified, because the migrated generation does not exist under the new name, subsequent access to the generation will fail, regardless of whether the generation is accessed specifically or by specifying the base name only.

To avoid destroying the relativity of active generations, IMS Cloning Tool does not allow removing selected generations.

The retention of non-existent migrated generations might be suitable in certain situations, such as for overstated GDG limits (where older generations are normally migrated and never accessed again) or for log files where only the current generation is kept as the primary version and the older migrated generations are kept only as a safety factor.

The default value is ERROR.

GDG_MIGRATED_RETAIN_RC = *blank*|0|4

Specifies the return code to be used when GDG_MIGRATED = RETAIN is specified.

GDG_TAPE = *ERROR* | *RETAIN* = *ERROR*|*RETAIN*

This option addresses the situation where a GDG matches a RENAME mask, at least one generation is found on a volume, and one or more generations are on tape. The tape generations can be treated as an error, or the GDS entries in the GDG base record can be retained with a corresponding return code of 0 or 4. Valid values are:

- **ERROR** = Terminate the BCS update process. If ERROR is specified, the command that was updating the BCS will fail.
- **RETAIN** = Copy the tape entry, as is, to the target BCS.

Note: If RETAIN is specified, accessing a target tape GDS will cause a S813 ABEND whether it is accessed specifically or via specification of the base name only.

To avoid destroying the relativity of active generations,IMS Cloning Tool does not allow removing selected generations.

The retention of non-existent tape generations might be suitable in certain situations, such as for overstated GDG limits where older generation might have been created on tape.

The default value is ERROR.

GDG_TAPE_RETAIN_RC = *blank*|0|4

Specifies the return code to be used when GDG_TAPE = RETAIN is specified.

The default is 4.

ISSUE_GCL14141I = *ALL*|*DASD*|*MIG*|*TAPE*|*NOMSG*

Issues message number GCL14141I when a data set matches the RENAME-MASKS parameter for the RENAME command but the data set was not on the IMS Cloning Tool source volumes.

By setting one of the following options for this keyword, you can customize which data set the error reports on by using the option(s) specified in the GCLINI member of the SGCLPARM library. The DASD, MIG, and TAPE options can be specified in any combination.

- **ALL** – Issues the message for any data set that matches the RENAME-MASKS value but is not on the source volumes.
- **DASD** – Issues the message for any DASD data set that matches the RENAME-MASKS value but is not on the source volumes.
- **MIG** – Issues the message for any migrated data set that matches the RENAME-MASKS value.
- **TAPE** – Issues the message for any tape data set that matches the RENAME-MASKS value.
- **NOMSG** – Does not issue the message GCL14141I.

The default value is ALL.

MAX_RENAME_TASKS = 1|nnn

Specifies the maximum number of subtasks that is used by the RENAME command for volume processing if the RENAME GCLIN MAXTASKS keyword is not supplied. At some point, increasing the number of subtasks will cease to increase performance because of resource contention. Specifying a value that is too large might result in termination because of memory constraints.

The default value is 1. The maximum value is 255.

MISSING_USERCAT_DISP = DELETE|KEEP

Specifies whether to keep any target volume data sets for which the VSAM volume data set (VVDS) catalog back-pointer is not cataloged in the list that is supplied to the COPY step. This value is used if the corresponding MISSINGUCAT keyword is not specified in the RENAME GCLIN control statements.

- **KEEP** – Any target volume data sets that point to a catalog not specified in the USERCATALOGS keyword of the COPY step are retained on the target volume, but are not cataloged.
- **DELETE** – Any target volume data sets that point to a catalog not specified in the USERCATALOGS keyword of the COPY step are deleted from the target volumes.

The default value is KEEP.

MISSING_USERCAT_RC = 0|4|8

Specifies the return code to be generated for the RENAME command if one or more target volume data sets contain a VVDS catalog back-pointer that is not in the list that is supplied to the COPY step. This value is used if the corresponding MISSINGUCAT keyword is not specified in the RENAME GCLIN control statements.

The default value is 4.

NOT_RENAMED_DISP = DELETE | KEEP = DELETE|KEEP

Specifies the disposition of target-volume data sets that are not renamed because they do not match a rename mask. This value is used if the corresponding NOTRENAMED keyword is not specified in the RENAME GCLIN control statements.

- **DELETE** – Deletes any target-volume data sets that do not match a rename mask and are therefore not renamed.
- **KEEP** – Retains target-volume data sets even if they do not match a rename mask and are therefore not renamed.

The default value is KEEP.

NOT_RENAMED_RC = 0|4|8

Specifies the return code to be generated for the RENAME command if one or more target volume data sets are not renamed because they do not match a rename mask. This value is used if the corresponding NOTRENAMED keyword is not specified in the RENAME GCLIN control statements.

The default value is 8.

ORPHAN_CATENTRY_DISP = DELETE | KEEP = DELETE|KEEP

Specifies the disposition of target-volume data set catalog entries in circumstances where the data sets are not found on the target volume. This value is used if the corresponding ORPHANCATENTRY keyword is not specified in the RENAME GCLIN control statements.

- **DELETE** – Deletes any target-volume data set catalog entries that do not have data sets on the target volume
- **KEEP** – Retains target-volume data set catalog entries even if an associated data set is not found on the target volume.

The default value is KEEP.

RECATALOG = Y|N

Indicates whether IMS Cloning Tool can replace existing catalog entries, if encountered, when cataloging target volume data sets. This value is used if the corresponding RECATALOG keyword is not specified in the RENAME GCLIN control statements.

- **Y** – IMS Cloning Tool replaces existing catalog entries, if encountered, when cataloging target volume data sets.
- **N** – IMS Cloning Tool does not replace any existing catalog entries encountered when cataloging target volume data sets.

The default value is N.

TEMP_DATASET_DISP = DELETE|KEEP

Specifies the disposition of temporary data sets that are found on the target volumes. This value is used if the corresponding TEMPDSN keyword is not specified in the RENAME GCLIN control statements.

- **DELETE** – Deletes the temporary data sets found on the target volumes.
- **KEEP** – Retains the temporary data sets found on the target volumes.

The default value is DELETE.

TEMP_DATASET_RC = 0|4|8

Specifies the return code to be generated for the RENAME command if one or more temporary data sets are found on the target volumes. This value is used if the corresponding TEMPDSN keyword is not specified in the RENAME GCLIN control statements.

The default value is 4.

VTOCIX_REBUILDER = MSC|IBM

Specifies the method to be used for rebuilding the VTOCIX during the RENAME command. Valid values include:

- **IBM** – Uses ICKDSF to rebuild the VTOCIX
- **MSC** – Uses the "on-board" VTOCIX rebuild function. For Extended Address Volumes ICKDSF will always be used to rebuild the VTOCIX. The default is MSC.

The default value is MSC.

RENAME_ERROR = ABORT|CONTINUE

This option specifies how processing proceeds when a RENAME error is encountered. This value is used if the corresponding RENAME-ERROR keyword is not specified in the RENAME GCLIN control statements. Valid values are:

- **ABORT** – Terminate processing with return code RC=8 after the first error is encountered to preserve data integrity. This option is the recommended value.
- **CONTINUE** - Continue processing after most errors. The RENAME command will complete with the specified return code unless an error is encountered that is not handled by the CONTINUE logic.

Important: The CONTINUE option can cause inconsistencies between the volumes and catalogs. Possible problems include:

- Data sets were cataloged but not renamed on disk.
- Data sets were renamed on disk but not cataloged.
- Data sets were not renamed on disk and cannot be deleted from disk.
- GDG base entries and GDS entries do not exist in the catalog when a GDS is missing.

- A catalog entry might not point to the correct volume, or a catalog entry might be invalid.
- CONTINUE might leave uncataloged data sets on SMS-managed volumes.

If this keyword is specified, IMS Cloning Tool will not guarantee data integrity and will not attempt to fix the given results.

The default value is ABORT.

RENAME_ERROR_ CONTINUE_RC = 0|4|8

Specifies the return code to be used if RENAME_ERROR = CONTINUE is specified. This value is used if the corresponding RENAME-ERROR keyword is not specified in the RENAME GCLIN control statements.

The default value is 8.

ISSUE_VCLOSE = YES|NO|BEFORE|AFTER

Specifies whether a catalog modify command will be issued as part of the volume RENAME processing. This modify command has the following syntax: F CATALOG,VCLOSE(targetvolser). Typically, the catalog address space (CAS) caches VVDS information. The modify command requests a refresh of the VVDS information that is cached for the target volume. This value is used if the corresponding ISSUE-VCLOSE keyword is not specified in the RENAME GCLIN control statements. Valid values are:

- **NO** – Indicates that the modify command will NOT be issued.
- **BEFORE** - Indicates that the modify command will be issued only before the VVDS is updated.
- **AFTER** – Indicates that the modify command will be issued only after the VVDS has been updated.
- **YES** – Indicates that the modify command will be issued both before the VVDS is updated and after the VVDS has been updated.

The default value is YES.

ISSUE_VCLOSE_SCOPE = LOCAL|SYSPLEX

If the GCLINI parameter ISSUE_VCLOSE is set to YES, BEFORE, or AFTER, this keyword indicates the scope of the catalog modify command F CATALOG,VCLOSE(targetvolser). Valid values are:

- **LOCAL** – Issues the catalog modify command only on the system where the RENAME operation is running
- **.SYSPLEX** – Issues the catalog modify command on the local system, and after the VVDS has been updated, routes the command to all of the other systems in the sysplex by using an MVS™ ROUTE *OTHER command.

This value is used if the corresponding ISSUE-VCLOSE keyword in the RENAME GCLIN control statements does not indicate the scope.

The default value is LOCAL.

:RESOURCE_SERIALIZATION section

GCLINI contains a :RESOURCE_SERIALIZATION section.

Purpose

Installations running CA-MIM/MII with multiple systems and shared DASD need to set the following parameter to YES to ensure that when CA-MIM/MII GDIF is inactive, the IMS Cloning Tool data sets are protected from data corruption.

Parameters

MIM_GDIF = NO|YES

If you are running CA-MIM/MII with multiple systems and shared DASD, set this token value to YES to ensure that when CA-MIM/MII GDIF is inactive, the IMS Cloning Tool data sets are protected from data corruption.

The default value is NO.

Chapter 3. Using IMS Cloning Tool – Cloning IMS subsystems

Information about using the subsystem cloning features of IMS Cloning Tool.

The steps that you must take to prepare and clone an IMS subsystem vary depending on how you are copying volumes: either with FlashCopy or SnapShot, or with on-site mirroring tools

Planning to clone an IMS subsystem

The following sections cover the steps that you must take before you clone an IMS subsystem.

Before cloning IMS subsystems or databases, consider the following planning and decision-making issues.

Note: The BCSCLEAN command can be used to delete orphaned target catalog entries that were created by a previous run of the IMS Cloning Tool processing. Orphans are created when target volume contents are replaced. The BCSCLEAN command removes the catalog entries for data sets that were included in the last cloning process. Other catalog entries for data sets that are not involved with the cloning process remain. If these data sets could be recataloged in a subsequent cloning process they must be deleted before you run the subsequent cloning process.

Considerations for IMS Cloning Tool when cloning IMS subsystems

IMS Cloning Tool supports IMS data sets that are encrypted by z/OS data set encryption. The data sets that support z/OS data set encryption are listed in the topic "Data set encryption support for IMS" in *IMS System Administration*.

Since the COPY step copies the source volumes to the target volumes, encryption status of the source data sets is inherited to the target data sets. Also, when the target data sets are renamed and cataloged to the target volumes, the RENAME step cannot change the key labels, which are used to protect the database data sets, because the key labels are inherited from the source data sets to the target data sets.

If the source volumes contain data sets that are encrypted with z/OS data set encryption, ensure the following:

- For cross-LPAR cloning, any key labels that are used to protect the source database data sets must be defined on the target LPAR and must refer to the same encryption key.
- The user ID on the target IMS subsystem is permitted to use any key labels that are used to protect the database data sets cloned from the source IMS subsystem.

Selection of source and target volumes

Consider the following requirements as you plan the cloning environment:

- [“Scope of source volumes to be copied” on page 42](#)
- [“Desired target volume data sets” on page 42](#)
- [“Source and target volume condition” on page 42](#)
- [“Target volume online status” on page 42](#)
- [“Data set and sphere integrity” on page 43](#)
- [“Discrete volumes versus SMS storage group specification” on page 43](#)
- [“Migrated data sets” on page 43](#)
- [“Requirements for source and target volume pairing” on page 43](#)

Scope of source volumes to be copied

The source volumes to be copied must include all of the data sets that are required by the applications that access the renamed data sets on the target volumes.

Because entire volumes (as opposed to individual data sets) are copied, you should try to conserve DASD space. Dedicate the source volumes to the applications involved, or attempt to minimize the presence of uninvolved data sets on those volumes.

The source volumes must contain the IMS system data sets as well as the IMS databases that your applications use.

Desired target volume data sets

Copies of data sets that are used by an application must be included in the list of cloned volumes and must match a rename mask.

IMS Cloning Tool does not require that all data sets on the target volumes be renamed. You can use the NOTRENAMED parameter to specify:

- The disposition of data sets that do not match a rename mask.
- If at least one data set is not renamed, the return code that is issued.

If all data sets on all copied volumes are critical, use a return code of 8. A return code of 8 is an indication that errors occurred and that the copy process must be rerun after the errors are corrected. When a return code of 8 is issued, the IMS Cloning Tool assumes that a RENAME failure occurred.

If you intend for the rename masks to match only some data sets, specify a return code of 0 or 4. You should normally specify a disposition of DELETE if the volumes are SMS-managed (in keeping with SMS rules) or if the space that is occupied by the “not renamed” data sets might be needed for subsequent allocations.

Note: By not renaming all data sets, you essentially perform a selective data set copy. The data sets that are renamed and retained occupy the same track locations as their source volume counterparts.

IMS Cloning Tool deletes temporary data sets on the target volumes that were created by the volume copies. IMS Cloning Tool does not detect, catalog, or delete data sets on the target volumes that correspond to uncataloged source volumes. However, even though these target data sets are not cataloged, they are renamed if they match a rename mask.

Note: For performance reasons, IMS Cloning Tool does not issue an IDCAMS DIAGNOSE command to detect anomalies, such as uncataloged data sets, between the VVDS to basic catalog structure (BCS), especially when the anomaly can be replicated in each cycle of the process. It is recommended that volumes and catalogs be diagnosed routinely to identify and repair problems.

Although an ICF catalog can be renamed, it is unusable as an ICF catalog.

Source and target volume condition

While you plan to clone an IMS subsystem, you must consider the condition of the source and target volumes.

To prevent volume internal VTOC index and VVDS errors, ensure that the VTOC, VTOCIX, and VVDS are in the same location on the source volumes as they are on the target volumes before the COPY processing.

Target volume online status

When you are planning to clone an IMS subsystem, you must consider the condition of the status and location of the target volumes.

To prevent volume internal VTOC index and VVDS errors, ensure that the VTOC, VTOCIX, and VVDS are in the same location on the source volumes as they are on the target volumes before the COPY processing.

Data set and sphere integrity

By default, IMS Cloning Tool detects and fails the rename process if one of these data set integrity rules is violated.

The following table lists the integrity rules for each type of data set.

Table 4. Data set integrity rules	
Data set	Integrity rule
Multivolume data sets	All segments of multivolume data sets, where the source volume data set matches a rename mask, must be wholly contained within the list of source volumes. The term “multivolume data sets” implies multivolume data sets, striped data sets, and VSAM spheres.
VSAM spheres	All components and associations of VSAM spheres, where the cluster name matches a rename mask, cannot be partially must be wholly on the source volumes. The volume list must include all components of a cluster and alternate indexes and index components that are associated with the base.
GDGs	All available generations of a GDG base, where the base name matches a rename mask, must be wholly on the source volumes. Exceptions are allowed for available generations that are on tape or are migrated to other media; however, IMS Cloning Tool references to such target entries fail.
Non-VSAM data set aliases	If a data set on a volume matches a rename mask and has one or more aliases, all aliases must also match a rename mask.

Discrete volumes versus SMS storage group specification

If you use FlashCopy or SnapShot, you can indicate the source and target volumes by specifying SMS storage groups instead of discrete volumes.

This practice reduces the maintenance that is necessary to ensure that the volumes used by an application are included in the FlashCopy or SnapShot list. In your storage group specifications, you can use the available exclude options to exclude certain source or target volumes from the storage group list.

Migrated data sets

Ensure that the data sets to be copied, including available generations of a renamed GDG, cannot be migrated before the volume copies are created.

If you COPY source volumes, RENAME data sets on the new target volumes, and then start the processing against the target volumes, your processing fails if a job tries to access a renamed generation that was migrated at the time of the COPY and therefore not copied. Your entire process could therefore be compromised. IMS Cloning Tool does NOT copy migrated data.

Requirements for source and target volume pairing

When you are planning for the use of the source volumes, ensure that each source volume is paired with a target volume.

Requirements for FlashCopy source and target volumes:

- The source and target volumes must be in the same subsystem.
- The source and target volumes must have the same track format (for example, 3380 versus 3390).
- The target volume size must be equal to or greater than the source volume size.

For more information about FlashCopy source and target pairing rules, contact IBM.

Requirements for SnapShot source and target volumes:

- The source and target volumes must be in the same RVA partition.
- The source and target volumes must have the same track format (for example, 3380 versus 3390).
- The target volume size must be equal to or greater than the source volume size.

For more information about SnapShot source and target pairing rules, contact StorageTek.

Volume relationship conflicts

Ensure that when IMS Cloning Tool initiates FlashCopy or SnapShot with the ADRDSSU program, no other volume relationships exist that would cause IMS Cloning Tool to reject a volume or cause ADRDSSU to fail.

For more information about valid volume relationships, contact IBM or StorageTek.

If you use FlashCopy and want to allow other volume relationships after the IMS Cloning Tool copy processing is complete, use the COPYCHECK command with the WAIT keyword. The WAIT keyword causes IMS Cloning Tool to check for copy completion at a specified time interval. After copy processing completes, other volume relationships can form.

Renaming data sets

Existing data set naming conventions dictate the required rename masks. Ensure that all required data sets are renamed, and that renaming does not result in multiple data sets renamed to the same target name.

Because IMS Cloning Tool renaming can add qualifiers, consider an application name length restriction of a value less than 44 bytes (35 bytes for GDG base names).

If the RENAME masks cause the data set names to be longer than the source volume data set names, or if the target ICF catalog name is longer than the source ICF catalog name, the VVDS on the source volume must be large enough to support the expanded target names. IMS Cloning Tool does not add extents to target VVDS data sets.

When cloning IMS subsystems that contain HALDB databases, the low-level node for the database data sets cannot be renamed or removed because of IMS naming standard requirements.

Target ICF catalogs

IMS Cloning Tool catalogs target volume data sets to either a populated ICF catalog or an ICF catalog that is initially empty except for the ALIASes for the renamed target data sets. IMS Cloning Tool provides support to clean out data set entries for a previous cloning execution from a populated catalog.

Populated ICF catalogs

A populated catalog contains entries for data sets that were not involved in a cloning process as well as entries for data sets that were involved in previous cloning processes. Consider the following points when using populated catalogs:

- Cloning is usually a repetitive process. Before you rerun a cloning job, run the IMS Cloning Tool BCSCLEAN command to clean out the target catalog entries from the last IMS Cloning Tool cloning execution. Otherwise, the next cloning execution will overwrite the existing target volumes and probably render the existing target catalog entries invalid or orphaned. Orphaned entries are entries for data sets that no longer exist on the DASD. By using the BCSCLEAN command, you can ensure that the catalog does not contain orphaned data set entries. The BCSCLEAN command removes only the catalog entries

for data sets that were included in the last cloning process; other catalog entries for data sets that are not involved with the cloning process remain.

- If a target catalog contains existing entries and you do not implement the BCSCLEAN command, you must use the RECATALOG option of the RENAME command. This option allows the current RENAME job to replace existing entries from the last cloning procedure. If you specify RECATALOG, both initially and when you maintain the rename masks, ensure that a target catalog entry is not replaced as the result of an incorrect target rename mask. Do not specify both the RECATALOG option of RENAME command and the BCSCLEAN command in the same cloning job. For more information about these commands, see [Chapter 8, “Reference: IMS Cloning Tool commands,” on page 157](#).
- Cataloging target volumes to a populated ICF catalog might extend the IMS Cloning Tool execution time if catalog entries must be replaced.

Dedicated ICF catalogs

A dedicated catalog contains ALIASes and entries for only the data sets that are involved in a cloning process. Consider the following points when using dedicated catalogs:

- Cloning is usually a repetitive process. Before you rerun a cloning job, run the IMS Cloning Tool BCSCLEAN command to clean out the target catalog entries from the last IMS Cloning Tool cloning execution. Otherwise, the next cloning execution will overwrite the existing target volumes and probably render the existing target catalog entries invalid or “orphaned.” Orphaned entries are entries for data sets that no longer exist on the DASD. By using the BCSCLEAN command, you can ensure that the catalog does not contain orphaned data set entries.
- If a target catalog is dedicated to a specific IMS Cloning Tool cloning job, and if you do not implement the BCSCLEAN command, delete the target ICF catalog and redefine it before the IMS Cloning Tool COPY step. Place an IDCAMS step before the COPY step. If a redefined catalog is not on the same volume as the deleted volume, be sure to inform the catalog address spaces of the new location of the redefined catalog. IBM informational APAR II13354 details the steps that are necessary to ensure all sharing systems can access the catalog.

Do not catalog the IMS Cloning Tool journal data set in the target ICF catalog. Otherwise, the IMS Cloning Tool RENAME command will deadlock with itself over access to the target ICF catalog.

Note: The BCSCLEAN command removes only the catalog entries for data sets that were included in the last cloning process. Other catalog entries for data sets that are not involved with the cloning process remain. If these data sets could be recataloged in a subsequent cloning process, they must be deleted before running the subsequent cloning process to prevent orphaned data sets.

Location of the source and target ICF catalogs

When the replication or split occurs, IMS Cloning Tool requires source ICF catalog information for the source volume data sets that are being cloned at the point-in-time.

This requirement enables the renaming of the target volume data sets. Information, such as the VSAM sphere and GDG Base information, is only in the ICF catalogs (not on the DASD being cloned). Therefore, this information must be captured at the point-in-time. Two options are available:

- The source ICF catalogs can reside on the source volumes that are being cloned and can be read from the target volumes.
- The source ICF catalogs can reside on non-source volumes. They can be read from the live source ICF catalogs at the time the replication or split occurs.

The target ICF catalogs that are used to catalog the renamed data sets cannot reside on a target volume from the time that volume copy occurs through the completion of the RENAME step. If desired, you can move the target ICF catalogs from the target volume before the volume copy, and later move the target ICF catalogs back to the target volume after the RENAME completes.

Target data set ICF catalog aliases

You are responsible for creating ICF catalog aliases, if needed for new target data set names.

You must coordinate these aliases with the rename masks. Also, you must determine whether the MLA setting for the image or images from where source volume data sets are accessed is different from the MLA setting for the images from where target volume data sets are to be accessed.

Note: To determine the target ICF catalogs that you can create and the aliases that are needed for target-volume data sets, see [“FINDUCATS” on page 195](#). The FINDUCATS command identifies the catalogs that are involved with the source volume data sets and the aliases that are used for the source volume data sets.

Return code choices

Several IMS Cloning Tool provide you with the option to set the return codes that are issued when at least one specific circumstance is encountered for a keyword.

That is, you can choose the seriousness of a situation. The scenarios that are discussed in this document assume that the conditional execution of subsequent steps adheres to the following return code conventions:

- Return code 0 means successful.
- Return code 4 means warning.
- Return code 8 means an error.

The following example JCL and control statements indicate that a “not-renamed” situation should be treated as a critical error:

```
//RENAME EXEC PGM=GCL00010
//GCLIN DD *
RENAME -
NOTRENAMED (DELETE,RC(8))
//IFOK IF (RENAME.RC < 8) THEN
//TARGETOK EXEC PGM=application-program-that-uses-target-volumes
```

Setup for creating an IMS subsystem

Reduce the steps that are typically required for defining and generating a new IMS subsystem.

IMS Cloning Tool takes an existing IMS subsystem, where the installation and system generation process is complete, and creates a new, or cloned, IMS subsystem, without having to repeat the installation and system generation processes.

The following sections describe what IMS Cloning Tool does each time as part of the cloning process and the steps that must be done initially to create a new, or cloned, IMS subsystem:

- [“Overview: Creation of a new IMS subsystem” on page 46](#)
- [“Determine applications to be cloned to the new IMS subsystem” on page 47](#)
- [“Review source IMS subsystem components for new IMS subsystem” on page 47](#)
- [“Create IMS.PROCLIB and IMS.JOBS members for the new IMS subsystem” on page 47](#)
- [“Operating system preparation for the new IMS subsystem” on page 49](#)

Overview: Creation of a new IMS subsystem

Each time IMS Cloning Tool is used to clone an existing IMS subsystem, IMS Cloning Tool:

1. Copies and renames IMS system libraries and data sets as part of the volume clone.
2. Copies and renames IMS database data sets as part of the volume clone.
3. Updates dynamic allocation members (MDA) for the target subsystem, with the new data set names.

4. Updates the records in the RECON data sets for the target subsystem, with the new data set names, volsers, and new IMS SSID.
5. Updates the members in the IMS.PROCLIB and IMS.JOBS libraries for the target subsystem, with the new data set names, volsers, and new IMS SSID.

Determine applications to be cloned to the new IMS subsystem

IMS Cloning Tool does not require you to clone all database data sets defined to an IMS subsystem to the new, or target, IMS subsystem. However, all applications that are defined to the source IMS subsystem are defined to the new, or target IMS.

If you do not want to clone all of the application data sets to the new or target IMS subsystem, take the following steps to prevent accidental access to the source IMS application data sets:

1. Determine the applications that you want to be available on the new IMS subsystem.
2. Verify that all of the IMS system data sets and the desired application data sets are contained on the source volumes to be cloned.
3. Even though IMS Cloning Tool may not copy and rename an application data set, there may still be references to these data sets within the new IMS subsystem system data sets. If application data sets from the source IMS subsystem are not going to be copied and renamed as part of the cloning process, it is suggested that a RENAME-MASK for these data sets still be specified in the RENAME step. Specify an invalid target data set name as the RENAME-MASK value for the non-cloned data sets. IMS Cloning Tool updates reference to these data sets within the new IMS subsystem system data sets with the invalid target data set name, preventing accidental access to the source subsystem data sets by the new IMS subsystem to the source IMS subsystem data sets.

Review source IMS subsystem components for new IMS subsystem

The same components and configuration options that are defined for the source IMS subsystem are not necessarily required for the new, or target IMS subsystem.

By default, the IMS Cloning Tool cloning creates a new, or target, IMS subsystem with the same components and configuration options as the source IMS subsystem. When you create the IMS.PROCLIB and IMS.JOBS members for the new, or target IMS subsystem as described in [“Create IMS.PROCLIB and IMS.JOBS members for the new IMS subsystem”](#) on page 47, you can customize the new IMS subsystem so that it can be configured differently than the source IMS subsystem.

Review the components and configuration of the source IMS subsystem for the applicability and use for the new, or target, IMS subsystem, including the following:

- VTAM® definitions
- APPC definitions
- Security requirements
- Time Controlled Operations (TCO)
- IMS User Exits
- IMS Connect definitions
- FDBR, RSR, or XRF requirements

Note: More information about planning your IMS subsystem can be found in the *IMS Installation Guide* or *IMS System Definition Guide*.

Create IMS.PROCLIB and IMS.JOBS members for the new IMS subsystem

Before you clone an IMS subsystem for the first time, IMS.PROCLIB and IMS.JOBS members must be created for the new, or target, IMS subsystem.

IMS Cloning Tool copies the source IMS.PROCLIB and IMS.JOBS data sets to the target volumes, and rename them. The recommendation is to place the PROCLIB and JOBS members for the target IMS subsystem into the source IMS.PROCLIB or IMS.JOBS. This ensures that the new PROCLIB and JOBS

members are also copied during the cloning process by IMS Cloning Tool and available for your target subsystem.

The new IMS subsystem requires new JCL members to be created in order to be able to run in the same SYSPLEX as the source IMS subsystem. The PROCLIB and JOBS members that you need to create depend on the IMS components that the source IMS uses and the desired components for the target IMS. Additionally, some IMS parameters and configuration options can be defined differently for the new, or target, IMS subsystem to use.

In many cases, you can create the PROCLIB and JOBS members for the new IMS subsystem by creating a copy of the corresponding member in the same source data set, and editing it to change configuration information.

Create the following PROCLIB members need for the new IMS subsystem:

- A member to start the IMS control region address space
- A member to start the DBRC address space
- A member that is used by IMS for submitting jobs to the internal reader
- An IMS control region execution parameter block, DFSPBxxx, where xxx is the RGSUF to be used for the new IMS subsystem. For this member, you must:
 1. Review the options for the target IMS system.
 2. Change APPLIDx values, if applicable.
 3. If a separate CSL environment is going to be used for the new or target IMS subsystem, change the CSLG value (if used), to a new CSL suffix.
 4. Change the DBRCNM value to a new PROCLIB member.
 5. Change the DLINM value to a new PROCLIB member.
 6. Change PRDR value to a new PROCLIB member.
 7. If the new or target IMS subsystem will use a separate shared queue environment, change the SHAREDQ value to a new suffix.

Note: Additional information about configuring your IMS subsystem can be found in the *IMS Installation Guide* or *IMS System Definition Guide*.

If the associated optional IMS component is used, the following PROCLIB members must be created for the new IMS subsystem:

- If IRLM is used, and if the new IMS subsystem uses a different IRLM than the source IMS subsystem:
 - A member to start the IRLM address space.
 - Also, the new IRLM subsystem ID must be defined to the z/OS subsystem name table (IEFSSN)
- If a DLI SAS is used:
 - A member to start the DLISAS address space.
- If common service layer (CSL) address spaces are used and the new IMS subsystem uses a different CSL environment:
 - Members to start the CSL address spaces
 - A CSLOIxxx member to define OM options
 - A CSLRIxxx member to define RM options
 - A CSLSIxxx member to define SCI options
- If shared queues are used and the new IMS subsystem uses a different shared queues address space than the source IMS subsystem:
 - A member to start the CQS address space. A DFSCGxxx member to define shared queue parameters.
- If dynamic resource definitions are used:
 - A DFSDFxxx member to define DRD options and RDDS data sets

Create new IMS.JOBS members for the new IMS subsystem. These members include:

- JOBS to start any Message Processing Regions.
- JOBS to start any FP Message Processing Regions.
- SYSAFF member to indicate the z/OS system the new IMS subsystem runs on.

Operating system preparation for the new IMS subsystem

Before starting an IMS subsystem created by the IMS Cloning Tool cloning process, the z/OS system where the new, or target, IMS subsystem runs must be prepared.

1. APF-authorize data sets for the new, or target, IMS subsystem:

The newly created IMS subsystem requires data sets to be APF-authorized before you start the cloned IMS subsystem. Refer to the *IMS Installation Guide* for the requirements on the data sets that are required to be APF authorized. The target data set names on the target volumes must also be authorized.

2. Add IMS PROCs to SYS1.PROCLIB. Copy the following to a library included in the JES PROCLIB concatenation:

- The PROCs to start the new IMS control region, DBRC, and DLISAS.
- If the new IMS subsystem uses a separate IRLM, include the PROC to start IRLM for the new IMS subsystem.
- If the new IMS subsystem uses a separate CSL environment, include the PROC to start the CSL address spaces for the new IMS subsystem.
- If the new IMS subsystem uses a separate shared queues address space, include the PROC to start the CQS address space..

3. Install IMS SVCs:

If the new IMS subsystem runs on a different z/OS system than the source IMS subsystem, then the SVCs used by the source IMS subsystem must be installed on the z/OS system for the target IMS subsystem. The same SVC numbers must also be used, as they are not changed as part of the cloning process.

4. Add subsystem IDs to SYS1.PARMLIB:

The subsystem IDs for the new IMS, and IRLM if used, must be added to the subsystem name table (IEFSSN).

5. VTAM:

Define VTAM definitions that the new IMS subsystem uses.

6. RACF:

Define or allow RACF definitions and access the new IMS subsystem and users that require access the target data sets.

7. APPC:

Define APPC definitions that the new IMS subsystem uses.

Setting up to copy volumes with FlashCopy or SnapShot

Follow this procedure to have IMS Cloning Tool initiate IBM FlashCopy or STK SnapShot via DFSMSdss to create the volume copies of the IMS system.

Note: To create volume copies with other tools, see [“Setting up to copy volumes with on-site mirroring tools”](#) on page 52.

Place the steps for performing this function within a job stream, typically in multiple locations for the steps to run at the appropriate times relative to the cloning activities. These steps are invoked with commands to a common program.

If multiple IMS Cloning Tool commands are supplied within the same step, command that results in a return code equal to or greater than 8 terminate the step. For instance, if the COPY and RENAME commands are in the same step, and COPY terminates with a return code of 8 because insufficient target volumes were found, the RENAME command is bypassed.

The following commands are available:

FINDUCATS

Locates the ICF user catalogs that point to the source-volume data sets.

COPY

Initiates the copies and captures the ICF source catalog data.

RENAME

Renames and catalogs the target-volume data sets.

BCSCLEAN

Deletes catalog entries from previous IMS Cloning Tool executions.

Several commands that are specific to cloning an IMS subsystem are not discussed in this topic. For information about these commands, see [“Cloning IMS subsystems” on page 58](#).

Overview: Steps for Creating Volume Copies with FlashCopy or SnapShot

Perform these steps to clone volumes with IBM FlashCopy or STK SnapShot. In this scenario, IMS Cloning Tool can transparently initiate FlashCopy or SnapShot to create the volume clones.

Overview

The following table lists the steps that are necessary to use IMS Cloning Tool to create volume copies with FlashCopy or SnapShot.

<i>Table 5. IMS Cloning Tool Creating volume copies with FlashCopy or SnapShot Overview</i>	
Cloning Steps	
“Step 1: FINDUCATS step (optional)” on page 51	Optional step that you perform once or occasionally to find the ICF user catalogs that point to the source-volume data sets.
“Step 2: Quiesce source volume activity” on page 51	Quiesce source volume activity against the source volumes. If you plan to clone the IMS subsystem, see “Cloning IMS subsystems” on page 58 , for instructions on stopping IMS. These instructions are a prerequisite to Step 3.
“Step 3: Copy step” on page 51	This step initiates FlashCopy or SnapShot to create a clone of the source volumes. It also backs up the ICF user catalogs that point to the source volume data sets as identified by the FINDUCATS job.
“Step 4: Resume access to the source volumes” on page 51.	
“Step 5: RENAME step” on page 51	This step renames and catalogs the target-volume data sets.
“Step 6: IMS cloning” on page 52.	Update the cloned IMS internals. See the offline or online cloning topics in “Cloning IMS subsystems” on page 58 for more instructions. The instructions for conditioning the clone are a prerequisite to Step 7.
“Step 7: Access the target volumes” on page 52	

<i>Table 5. IMS Cloning Tool Creating volume copies with FlashCopy or SnapShot Overview (continued)</i>
Cloning Steps
<p>“Step 8: BCSCLEAN step (optional but recommended)” on page 52</p> <p>Optional step that runs after target volume usage is terminated and before the next COPY. This step is recommended.</p>

Step 1: FINDUCATS step (optional)

This step is part of the larger task of creating volume copies with FlashCopy or SnapShot. The FINDUCATS command identifies the ICF user catalogs that contain entries for the data sets on the source volumes to be copied.

Usually, you run this command once, before the initial copy. You might need to run this command again for a subsequent copy to verify that the ICF user catalogs that are specified in the COPY step were not changed.

FINDUCATS does not negate the need to specify pairs of source and target ICF catalogs in the COPY step.

Step 2: Quiesce source volume activity

This step is part of the larger task of creating volume copies with FlashCopy or SnapShot. Access to data sets on the source volumes to be copied must cease before (and through) the COPY step. Access to the source volumes can be controlled through a hardware consistency function (if available), the IMSSETLOG SUSPEND command, or by stopping the source IMS.

See [“Cloning IMS subsystems” on page 58](#) for specific IMS cloning instructions. Quiescing source volume activity is a prerequisite to Step 3.

Step 3: Copy step

This step is part of the larger task of creating volume copies with FlashCopy or SnapShot.

The COPY step initiates volume copies and concurrently backs up the source ICF catalog data that is relevant to the data sets on the source volumes that are being copied.

When copy initiations are complete and all ICF catalog data is backed up, the COPY step is complete.

Step 4: Resume access to the source volumes

This step is part of the larger task of creating volume copies with FlashCopy or SnapShot.

You can resume access to the source volumes, including access to modify the volumes, after the COPY step completes successfully.

Step 5: RENAME step

This step is part of the larger task of creating volume copies with FlashCopy or SnapShot. The RENAME step renames and catalogs the target-volume data sets.

If you specify the SAFE option, you can rerun the RENAME step if problems occur. For example, to correct mistakes in the renaming masks.

Step 6: IMS cloning

This step is part of the larger task of creating volume copies with FlashCopy or SnapShot. You can clone an IMS subsystem offline (while IMS is stopped) or online (while IMS is running) to create a second subsystem. You can then use the new subsystem for accessing the renamed data sets.

To do so, complete the steps for conditioning the clone in one of the offline or online cloning procedures in [“Cloning IMS subsystems” on page 58](#) before Step 7. See [“IMS offline cloning procedures” on page 58](#) or [“IMS online cloning procedures” on page 65](#).

Step 7: Access the target volumes

This step is part of the larger task of creating volume copies with FlashCopy or SnapShot.

Access to the target volumes can safely start after the IMS offline cloning procedure is complete.

Step 8: BCSCLEAN step (optional but recommended)

This step is part of the larger task of creating volume copies with FlashCopy or SnapShot. If you intend to rerun the cloning job on a recurring basis, run the BCSCLEAN command before you begin the next cloning process. BCSCLEAN deletes the target catalog entries for the data sets that were created during the last IMS Cloning Tool cloning cycle.

Run BCSCLEAN to delete the target data set names from the ICF catalog. Perform this step after the target IMS subsystem is no longer needed or before the target IMS subsystem is cloned again.

Note: Do not specify both the BCSCLEAN command and the RECATALOG option of the RENAME command in the same cloning job.

Setting up to copy volumes with on-site mirroring tools

Follow this procedure if you want to create volume copies by using a mirroring tool or another P.I.T. copy tool that you have on site.

A mirroring tool establishes a relationship between the source and target volumes, waits for the data to be copied to the target volume, and then splits the mirror relationship at the appropriate point in time. Mirroring tools include IBM PPRC and EMC TimeFinder/Mirror. Other copy tools also create a P.I.T. copy. These tools include Softek Replicator and Innovation Data Processing FDRPAS.

Note: If you want IMS Cloning Tool to invoke IBM FlashCopy or STK SnapShot via DFSMSdss to create volume copies, see [“Setting up to copy volumes with FlashCopy or SnapShot” on page 49](#).

Place the steps for performing this function within a job stream, typically in multiple locations for the function steps to run at the appropriate times relative to the activities of the application. These steps are invoked with commands to a common program.

If multiple IMS Cloning Tool commands are supplied within the same step, a command that results in a return code equal to or greater than 8 terminates the step. For instance, if the COPY and RENAME commands are in the same step, and COPY terminates with the return code of 8 because of insufficient target volumes, the RENAME command is bypassed.

The following commands are available:

FINDUCATS

Locates the ICF user catalogs that point to the source-volume data sets.

COPY

Backs up source ICF catalog data that points to data sets on the source volumes and optionally clips and varies target volumes online.

RENAME

Renames and catalogs the target-volume data sets.

BCSCLEAN

Deletes catalog entries from previous IMS Cloning Tool executions.

Several commands that are specific to cloning IMS subsystems are not discussed in this chapter. For information about these commands, see [“Cloning IMS subsystems” on page 58](#).

Overview: Steps for creating copies with mirroring tools

Perform these steps to clone volumes by using mirroring tools other than EMC TimeFinder/Mirror or another P.I.T. tool such as Replicator or FDRPAS. In this scenario, you create the steps that are needed to establish and split mirrors with your tool.

Overview

The following table lists the steps that are necessary to use IMS Cloning Tool to create volumes with mirroring tools. Each step is explained in more detail in this chapter.

<i>Table 6. IMS Cloning Tool Creating volume copies with Mirroring Tools</i>	
Cloning Steps	
“Step 1: FINDUCATS step (optional)” on page 53	Optional step that you perform once or occasionally to find the ICF user catalogs that point to the source-volume data sets.
“Step 2: Establish on-site mirrors” on page 54	User-supplied step to establish on-site mirrors or set up another type of P.I.T. copy.
“Step 3: Quiesce source volume activity” on page 54	If you plan to clone the IMS subsystem, see “Cloning IMS subsystems” on page 58 for instructions on stopping IMS. These instructions are a prerequisite to Step 4.
“Step 4: Split or break mirrors” on page 54 if using an on-site mirroring tool.	
“Step 5: COPY step” on page 54	This step backs up the source ICF catalogs that point to the source-volume data sets. The backup occurs when the mirroring tool or a P.I.T. copy tool performs a split.
“Step 6: Resume access to the source volumes” on page 54.	
“Step 7: RENAME step” on page 54	This step renames and catalogs the target-volume data sets.
“Step 8: IMS cloning” on page 54 to update the IMS internals on the target volume. See the offline or online cloning topics in “Cloning IMS subsystems” on page 58 for more instructions. The instructions for conditioning the clone are a prerequisite to Step 9.	
“Step 9: Access target volumes” on page 55	
“Step 10: BCSCLEAN step (optional but recommended)” on page 55	Optional step that runs after target volume usage is terminated and before the next COPY. This step is recommended.

Step 1: FINDUCATS step (optional)

This step is part of the larger task of creating volume copies with on-site mirroring tools. The FINDUCATS command identifies the ICF user catalogs that contain entries for the data sets on the source volumes to be copied.

Usually, you run this command once, before the initial copy. You might need to run this command again for a subsequent copy to verify that the ICF user catalogs that are specified in the COPY step are not changed.

FINDUCATS does not negate the need to specify pairs of source and target ICF catalogs in the COPY step.

Step 2: Establish on-site mirrors

This step is part of the larger task of creating volume copies with on-site mirroring tools.

You must supply step and placed in the application stream, sufficiently ahead of the desired "split time," such that the target volumes are synchronized with their source volume counterparts.

Step 3: Quiesce source volume activity

This step is part of the larger task of creating volume copies with on-site mirroring tools. Access to data sets on the source volumes to be copied must cease before, and through, the COPY step. Access to the source volumes can be controlled through a hardware consistency function (if available), the IMSSETLOG SUSPEND WTOR command, or by stopping the source IMS.

See [“Cloning IMS subsystems” on page 58](#) for instructions on stopping IMS. Quiescing source volume activity is a prerequisite to Step 4.

Step 4: Split or break mirrors

This step is part of the larger task of creating volume copies with on-site mirroring tools. You must supply this step split the mirrors that you already created.

If you use Hitachi ShadowImage and the ICKDSF PPRCOPY commands, ensure that the mirror pairs are suspended with a steady split request before you delete the pairs. The “suspend with steady split” request causes pending updates to the target volume to be externalized.

Step 5: COPY step

This step is part of the larger task of creating volume copies with on-site mirroring tools. In the scenarios that are described in this chapter, the COPY step is run with the 'DATA-MOVER(PGM(NONE))' parameter. The 'DATA-MOVER(PGM(NONE))' parameter indicates that you have already created the target volumes.

In this case, the COPY command only backs up the source ICF catalog information that is required to rename and catalog the target-volume data sets. Optionally, the COPY command can also relabel the target volumes and vary them online for RENAME processing. The COPY command must be issued immediately after the SPLIT (not at the same time as the split).

Step 6: Resume access to the source volumes

This step is part of the larger task of creating volume copies with on-site mirroring tools.

You can resume access to the source volumes, including access to modify the volumes, after the COPY step completes successfully.

Step 7: RENAME step

This step is part of the larger task of creating volume copies with on-site mirroring tools. The RENAME step renames and catalogs the target-volume data sets.

If you specify the SAFE option, you can rerun the RENAME step if problems occur. For example, to correct mistakes in the renaming masks.

Step 8: IMS cloning

This step is part of the larger task of creating volume copies with on-site mirroring tools. You can clone an IMS subsystem offline (while IMS is stopped) or online (while IMS is running) to create a second subsystem that you can then use for accessing the renamed data sets.

To do so, complete the steps for conditioning the clone in one of the offline or online cloning procedures in [“Cloning IMS subsystems” on page 58](#) before Step 9.

See [“IMS offline cloning procedures”](#) on page 58 or [“IMS online cloning procedures”](#) on page 65.

Step 9: Access target volumes

This step is part of the larger task of creating volume copies with on-site mirroring tools.

Access to the target volumes can safely start after the IMS offline cloning procedure completes.

Step 10: BCSCLEAN step (optional but recommended)

This step is part of the larger task of creating volume copies with on-site mirroring tools. If you intend to rerun the cloning job on a recurring basis, run the BCSCLEAN command before you start the next cloning process in order to delete the target catalog entries for the data sets that were created during the last IMS Cloning Tool cloning cycle.

BCSCLEAN deletes the target data set names from the ICF catalog. Perform this step after the target IMS subsystem is no longer needed or before the target IMS subsystem is cloned again. See [“Target ICF catalogs”](#) on page 44 for more information.

Note: Do not specify both the BCSCLEAN command and the RECATALOG option of the RENAME command in the same cloning job.

Overview: Steps for cloning volumes with EMC TimeFinder/Mirror

Perform these steps if you want to use EMC TimeFinder/Mirror to ESTABLISH, SPLIT, and RE-ESTABLISH BCV mirrors to create the volume copies. You still use IMS Cloning Tool to copy the ICF catalogs, rename the target data sets, and perform other “conditioning” to make the IMS clones usable. For detailed information about EMC TimeFinder/Mirror, see the EMC TimeFinder documentation.

Overview

The following table lists the steps that are necessary to use IMS Cloning Tool to create volumes with mirroring tools. Each step is explained in more detail in this chapter.

<i>Table 7. IMS Cloning Tool Cloning volumes with EMC TimeFinder/Mirror</i>	
Cloning Steps	
“Step 1: FINDUCATS step (optional)” on page 56	Optional step that you perform once or occasionally to find the ICF user catalogs that point to the source-volume data sets.
“Step 2: ESTABLISH step” on page 56	This EMC TimeFinder/Mirror step establishes the BCV mirrors. RE-ESTABLISH step. If you previously established and split the mirrors, you can perform a RE-ESTABLISH to resynchronize the mirror pairs.
“Step 3: Quiesce source volume activity” on page 57	Stop source IMS subsystem. See “Cloning IMS subsystems” on page 58 for more instructions on stopping your IMS subsystem. These instructions are a prerequisite to Step 4.
“Step 4: SPLIT step” on page 57	This EMC TimeFinder/Mirror step splits the BCV mirrors.
“Step 5: COPY step” on page 57	This step backs up the source ICF catalogs that point to the source-volume data sets. The backup occurs when the mirroring tool or a P.I.T. copy tool performs a split.

Table 7. IMS Cloning Tool Cloning volumes with EMC TimeFinder/Mirror (continued)

Cloning Steps

[“Step 6: Resume access to the source volumes” on page 58.](#)

Restart source IMS subsystem. See [“Cloning IMS subsystems” on page 58](#) for more information about restarting your IMS subsystem.

[“Step 7: RENAME step” on page 58](#)

This step renames and catalogs the target-volume data sets.

[“Step 8: IMS cloning” on page 58](#) to update the IMS internals on the target volume. See the offline or online cloning topics in [“Cloning IMS subsystems” on page 58](#) for more instructions. The instructions for conditioning the clone are a prerequisite to Step 9.

[“Step 9: Access target volumes” on page 58](#)

[“Step 10: BCSCLEAN step \(optional but recommended\)” on page 58](#)

Optional step that runs after target volume usage is terminated and before the next COPY. This step is recommended.

Step 1: FINDUCATS step (optional)

This step is part of the larger task of creating volume copies with EMC TimeFinder/Mirror. The FINDUCATS command identifies the ICF user catalogs that contain entries for the data sets on the source volumes to be copied.

Usually, you run this command once, before the initial copy. You might need to run this command again for a subsequent copy to verify that the ICF user catalogs that are specified in the COPY step are not changed.

FINDUCATS does not negate the need to specify pairs of source and target ICF catalogs in the COPY step.

Step 2: ESTABLISH step

This step is part of the larger task of creating volume copies with EMC TimeFinder/Mirror. Create an EMC TimeFinder/Mirror ESTABLISH step to establish the mirror relationship between the source and target volumes. Place this step in the application stream, sufficiently ahead of the desired split time. The target volumes must have time to become synchronized with their source volume counterparts before the split occurs.

If you previously established and split the mirrors, create a RE-ESTABLISH step instead of an ESTABLISH step for the subsequent synchronization.

If you want TimeFinder/Mirror to wait until the BCVs are synchronized before the job completes include the WAIT parameter in an ESTABLISH step (or RE-ESTABLISH step). For more information, see the EMC TimeFinder documentation.

The following is a sample of an EMC TimeFinder/Mirror ESTABLISH step.

```
//STEP1 EXEC PGM=EMCTF
//STEPLIB DD DISP=SHR,DSN=h1q?.EMC.LINKLIB
//SYSUDUMP DD SYSOUT=*
//SYSOUT DD SYSOUT=*
//SYSIN DD *
GLOBAL MAXRC=4, WAIT
ESTABLISH 01,4120-4121,4100-4101
ESTABLISH 01,4130,4110
//*
```

The following is a sample of an EMC TimeFinder/Mirror RE-ESTABLISH step.

```
//STEP1 EXEC PGM=EMCTF
//STEPLIB DD DISP=SHR,DSN=h1q?.EMC.LINKLIB
```



```
//SYSUDUMP DD SYSOUT=*
//SYSOUT DD SYSOUT=*
//SYSIN DD *
GLOBAL MAXRC=4, WAIT
RE-ESTABLISH 01, 4120-4121
RE-ESTABLISH 01, 4130
//*
```

Step 3: Quiesce source volume activity

This step is part of the larger task of creating volume copies with EMC TimeFinder/Mirror. Access to data sets on the source volumes to be copied must cease before, and through, the COPY step. Access to the source volumes can be controlled through a hardware consistency function if available, the IMSSETLOG SUSPEND WTOR command, or by stopping the source IMS.

See “Cloning IMS subsystems” on [page 58](#) for instructions on stopping IMS. Quiescing source volume activity is a prerequisite to Step 4.

Step 4: SPLIT step

This step is part of the larger task of creating volume copies with EMC TimeFinder/Mirror. You create an EMC TimeFinder/Mirror step to split the mirror relationships to create a point-in-time copy of the volumes. After the mirror pair is split, application processing can start against the target volumes.

You can include the WAIT parameter in the SPLIT step to delay the split until background processing is completed. This wait period is required if a TimeFinder RESTORE operation will be done after the split. However, the NOWAIT parameter is sufficient if you plan to only relabel volumes and rename data sets.

The following is a sample EMC TimeFinder/Consistency Groups consistent SPLIT.

```
//STEP2 EXEC PGM=EMCTF
//STEPLIB DD DISP=SHR, DSN=SYMMI.EMC.TF510.LINKLIB
//SYSUDUMP DD SYSOUT=*
//SYSOUT DD SYSOUT=*
//SYSIN DD *
GLOBAL MAXRC=4, NOWAIT
SPLIT 01, 4120-4121, CONS(LOCAL(BYP))
SPLIT 01, 4130, CONS(LOCAL(BYP))
//*
```

Step 5: COPY step

This step is part of the larger task of creating volume copies with EMC TimeFinder/Mirror. In this scenario, the COPY step is run with the 'DATA-MOVER(PGM(NONE))' parameter. The 'DATA-MOVER(PGM(NONE))' parameter indicates that you have already created the target volumes.

In this case, the COPY command only backs up the source ICF catalog information that is required to rename and catalog the target-volume data sets. Optionally, the COPY command can also relabel the target volumes and vary them online for RENAME processing. The COPY command must be issued immediately after the SPLIT.

The following is a sample COPY command for EMC TimeFinder/Mirror BCVs.

```
//STEP3 EXEC PGM=GCL00010, REGION=8M
//STEPLIB DD DSN=h1q?.SGCLLOAD, DISP=SHR
//GCLINI DD DSN=h1q?.SGCLPARM(GCLINI), DISP=SHR
//GCLPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//JOURNAL DD DSN=PRD.IMSA.JRNL, RECOG=KS, KEYLEN=64, KEYOFF=0, DISP=(, CATLG),
// UNIT=SYSALLDA, LRECL=600, SPACE=(CYL, (10, 10))
//GCLIN DD *
COPY DATA-MOVER(PGM(NONE)) -
VOLPAIRSDEVN(IMSA01 IMSB01 4120 -
IMSA02 IMSB02 4121 -
IMSA03 IMSB03 4130) -
USERCATALOGS(SRC.USERCAT1 TGT.USERCAT1) -
CATWORK-DSN(PRD.IMSA.WRK.*) -
JOURNAL-DDN(JOURNAL)
//*
```

Step 6: Resume access to the source volumes

This step is part of the larger task of creating volume copies with EMC TimeFinder/Mirror.

You can resume access to the source volumes, including access to modify the volumes, after the COPY step completes successfully.

Step 7: RENAME step

This step is part of the larger task of creating volume copies with EMC TimeFinder/Mirror. The RENAME step renames and catalogs the target-volume data sets.

If you specify the SAFE option, you can rerun the RENAME step if problems occur. For example, to correct mistakes in the renaming masks.

Step 8: IMS cloning

This step is part of the larger task of creating volume copies with EMC TimeFinder/Mirror. You can clone an IMS subsystem offline (while IMS is stopped) or online (while IMS is running) to create a second subsystem that you can then use for accessing the renamed data sets.

To do so, complete the steps for conditioning the clone in one of the offline or online cloning procedures in [“Cloning IMS subsystems” on page 58](#) before Step 9.

See [“IMS offline cloning procedures” on page 58](#) or [“IMS online cloning procedures” on page 65](#).

Step 9: Access target volumes

This step is part of the larger task of creating volume copies with EMC TimeFinder/Mirror.

Access to the target volumes can safely start after the IMS offline cloning procedure completes.

Step 10: BCSCLEAN step (optional but recommended)

This step is part of the larger task of creating volume copies with EMC TimeFinder/Mirror. If you intend to rerun the cloning job on a recurring basis, run the BCSCLEAN command before you start the next cloning process in order to delete the target catalog entries for the data sets that were created during the last IMS Cloning Tool cloning cycle.

BCSCLEAN deletes the target data set names from the ICF catalog. Perform this step after the target IMS subsystem is no longer needed or before the target IMS subsystem is cloned again. See [“Target ICF catalogs” on page 44](#) for more information.

Note: Do not specify both the BCSCLEAN command and the RECATALOG option of the RENAME command in the same cloning job.

Cloning IMS subsystems

This section provides procedures for cloning both online and offline IMS subsystems under alternative scenarios.

- [“IMS offline cloning procedures” on page 58](#)
- [“IMS online cloning procedures” on page 65](#)

IMS offline cloning procedures

This section provides procedures for cloning IMS subsystems under alternative scenarios when IMS is shut down.

To create a clone of an IMS subsystem, stop the source IMS subsystem in order to achieve your point-in-time copy. Stopping the source IMS subsystem ensures that all buffers are flushed, all data is committed to disk, and that no transactions are in flight. In addition, ensure that:

- No utilities are running against the source databases.

- No batch jobs are running against the source databases.
- No IMS control block updates, or System generation processes are running during the cloning process.
- You completed all prerequisites, including the IMS subsystem setup requirements in section [“Setup for creating an IMS subsystem” on page 46.](#)

Choose the appropriate procedure for your situation. The following offline cloning procedures are covered:

- [“Cloning an offline IMS subsystem to allow another IMS subsystem to access the renamed data sets on the target volumes” on page 59](#)
- [“Cloning an offline IMS data-sharing subsystem and removing members” on page 61](#)
- [“Cloning an offline IMS data-sharing subsystem to a non-data-sharing target” on page 63](#)

Cloning an offline IMS subsystem to allow another IMS subsystem to access the renamed data sets on the target volumes

Use the following procedure to clone an offline IMS subsystem (when the source IMS subsystem is stopped to achieve your point-in-time copy) if you intend for a second or target IMS subsystem to access the renamed data sets.

About this task

The following table summarizes each step in cloning an IMS subsystem to allow another IMS subsystem to access the renamed data sets on the target volumes process:

<i>Table 8. Overview: Cloning an IMS subsystem to allow another IMS subsystem to access the renamed data sets on the target volumes</i>	
Steps Overview	
Step 1: Stop the source and target IMS subsystems	Run the IMSSTOP command, SGCLJCL library member (GCLISTOP).
Step 2: COPY Step	Run the COPY command, SGCLJCL library member (GCLCOPY).
Step 3: Start source IMS subsystem	Run the IMSSTART command, SGCLJCL library member (GCLISTRRT).
Step 4: RENAME step	Run the RENAME command, SGCLJCL library member (GCLREN).
Step 5: IMSUPDATE Step	Run the IMSUPDATE command, SGCLJCL library member (GCLIUPDT).
Step 6: Additional IMSUPDATE steps (data-sharing only)	If IMS data-sharing or shared queues is used, run the IMSUPDATE command again, SGCLJCL library member (GCLIUPD2).
Step 7: Start target IMS subsystem	Run the IMSSTART command, SGCLJCL library member (GCLISTRRT).

Table 8. Overview: Cloning an IMS subsystem to allow another IMS subsystem to access the renamed data sets on the target volumes (continued)

Steps Overview

Step 8: BCSCLEAN step (optional but recommended)

BCSCLEAN step, SGCLJCL library member (GCLBCLN). Optional step that runs after target volume usage is terminated and before the next COPY. This step is recommended.

Procedure

1. Run the IMSSTOP command with SGCLJCL library member (GCLISTOP) to stop the source IMS subsystem.

This ensures that buffers are flushed, all data is committed to disk, and no transactions are in flight.

2. Run the COPY command.

Copy the source volumes to the target volumes and back up the source ICF catalogs that point to the data sets on the source volumes that are being copied.

If you are using IBM FlashCopy or SnapShot, run the COPY command to copy the source volumes to the target volumes and back up the source ICF catalogs that point to the data sets on the source volumes that are being copied. See [“COPY” on page 159](#) for more information about the COPY command.

If you are using a 'Split of a Continuous Mirror' tool, this step assumes the mirror relationship has been started in advance of when you want to 'split or suspend' the mirror relationship. Issue the 'split or suspend'; then run the COPY command to back up the source ICF catalogs that point to the data sets on the source volumes that are being copied, and optionally, relabel and vary online the target volumes.

3. Run the IMSSTART command with SGCLJCL library member (GCLISTRT) to start the source IMS subsystem.

The data has been cloned and access to the source volumes can proceed as normal.

4. Run the RENAME command to rename, and catalog the target volume data sets.

5. Run the IMSUPDATE command with SGCLJCL library member (GCLIUPDT).

The IMSUPDATE command makes the necessary IMS changes to reflect the renamed data sets. IMSUPDATE updates the RECON data sets, the IMS PROCLIB, and IMS.JOBS data sets, and MDA members.

- RECON data set updates – includes data set names, IMS subsystem IDs, or VOLSERS in the RECON header, database data set, online log, and backout records. Optionally update the image copy, change accum, SLDS, and RLDS records if they were on volume that was cloned.
- MDA members – MDA members for databases or system data sets, such as the RECON, OLDS, or WADS, are updated to reflect the new data set names.
- IMS PROCLIB and JCL library members – References to the source IMSID, source volsers, or source data sets are updated with the new values in the JCL members within these libraries.

6. If IMS data-sharing or shared queues is used in your environment, and it is also desired for the target IMS subsystem, run the IMSUPDATE command again, this time with SGCLJCL library member (GCLIUPD2) for each additional data-sharing or shared queues member.

This step is in addition to the IMSUPDATE command SGCLJCL library member (GCLIUPDT) previously issued. The IMSUPDATE command with GCLIUPD2 changes IMS SSID references in the RECON and SGCLJCL library members that are listed in the previous step.

7. Run the IMSSTART command with SGCLJCL library member (GCLISTRT) to start the target IMS subsystem whenever you are ready to resume application access to the target volumes.

8. Optional: If you intend to rerun the cloning job on a recurring basis, run the BCSCLEAN command before you start the next cloning process in order to delete the target catalog entries for the data sets that were created during the last IMS Cloning Tool cloning cycle.

Because BCSLCEAN deletes the target data set names from the ICF catalog, do this step after the target IMS subsystem is no longer needed or before the target IMS subsystem is cloned again. See section [“Target data set ICF catalog aliases”](#) on page 46 for more information.

Note: Do not specify both the BCSCLEAN command and the RECATALOG option of the RENAME command in the same cloning job.

Cloning an offline IMS data-sharing subsystem and removing members

IMS offline cloning infers that the source IMS subsystem is stopped to achieve your point-in-time copy. It ensures that all buffers are flushed, all data is committed to disk, and that no transactions are in flight.

About this task

Prerequisites:

- The new target IMS data-sharing group members do not have log history for the members that are removed. Therefore, if further recovery is desired, image copies must be taken.
- Only the IMS members that are being retained must be cloned but all members must be stopped to create a point-in-time copy.
- The RENAME-MASKS keyword in the RENAME command needs to include entries that cause the renaming of all the system and application database data sets for the member.

The following table summarizes each step in the cloning an IMS data-sharing subsystem and removing members process:

Table 9. Overview: Cloning an IMS data-sharing subsystem and removing members	
Step	Overview
Step 1	Stop the source and target IMS subsystems. Run the IMSSTOP command, SGCLJCL library member (GCLISTOP).
Step 2	Run the COPY command, SGCLJCL library member (GCLCOPY).
Step 3	Start source IMS subsystems. Run the IMSSTART command, SGCLJCL library member (GCLISTR).
Step 4	Rename step: run the RENAME command, SGCLJCL library member (GCLREN).
Step 5	IMSUPDATE step: run the IMSUPDATE command, SGCLJCL library member (GCLIUPDT).
Step 6	IMSUPDATE step for additional subsystems: Run the IMSUPDATE command again, SGCLJCL library member (GCLIUPD2).
Step 7	IMSUPDATE step to remove members: run the IMSUPDATE command again, SGCLJCL library member (GCLIUPD3).
Step 8	Start target IMS subsystems: run the IMSSTART command, SGCLJCL library member (GCLISTR).
Step 9	BCSCLEAN step (optional but recommended), SGCLJCL library member (GCLBCLN): Optional step that runs after target volume usage is terminated and before the next COPY. This step is recommended.

Procedure

1. Run the IMSSTOP command with SGCLJCL library member (GCLISTOP) to stop the source IMS subsystem and the target subsystems if they exist and are available.

The IMSSTOP command must be run for each member in a data-sharing or shared queues environment. This ensures that all buffers are flushed, all data is committed to disk, and that no transactions are in flight.

2. Run the COPY command.

Copy the source volumes to the target volumes and back up the source ICF catalogs that point to the data sets on the source volumes that are being copied.

If you are using IBM FlashCopy or SnapShot, run the COPY command to copy the source volumes to the target volumes and back up the source ICF catalogs that point to the data sets on the source volumes that are being copied. See [“COPY” on page 159](#) for more information about the COPY command.

If you are using a 'Split of a Continuous Mirror' tool, this step assumes that the mirror relationship is started in advance of when you want to 'split or suspend' the mirror relationship. Issue the 'split or suspend'; then run the COPY command to back up the source ICF catalogs that point to the data sets on the source volumes that are being copied, and optionally, relabel and vary online the target volumes.

3. Run the IMSSTART command on the source system with SGCLJCL library member (GCLISTRRT). All members in the source data-sharing or shared queues environment can be restarted.

The data is cloned and access to the source volumes can proceed as normal.

4. Run the RENAME command to rename, and catalog the target volume data sets. The RENAME-MASKS keyword must include entries that cause the renaming of all the member system and application database data sets.

5. Run IMSUPDATE command with SGCLJCL library member (GCLIUPDT). The source IMS is data-sharing so the IMS-GROUP keyword must be used.

IMSUPDATE updates the RECON data sets, the IMS PROCLIB, and IMS.JOBS data sets, and MDA members.

- RECON data set updates – data set names, IMS subsystem IDs, or VOLSERS in the RECON header, database data set, online log, and backout records. It optionally updates the image copy, change accum, SLDS, and RLDS records if they were on a volume that was cloned.
- MDA members – MDA members for databases or system data sets, such as the RECON, OLDS, or WADS, are updated to reflect the new data set names.
- IMS PROCLIB and SGCLJCL library members – References to the source IMSID, source volsers, or source data sets are updated with the new values in the SGCLJCL library members within these libraries.

6. Run the IMSUPDATE command again, this time with SGCLJCL library member (GCLIUPD2) for each additional data-sharing or shared queues member to be updated in the target environment.

This step is in addition to the IMSUPDATE command SGCLJCL library member (GCLIUPDT) previously run. The IMSUPDATE command with SGCLJCL library member (GCLIUPD2) makes additional changes for IMS SSID references in the RECON and SGCLJCL library members that are listed in the previous step. The source IMS is data-sharing so the IMS-GROUP keyword must be used.

7. Run the IMSUPDATE command again, this time with JCL member (GCLIUPD3) for each additional data-sharing or shared queues member to be removed from the target environment.

This step is in addition to the IMSUPDATE command JCL member (GCLIUPDT) previously run. The IMSUPDATE command with JCL member (GCLIUPD3) removes information that is related to the IMS SSID from the RECON. The REMOVE-MEMBER keyword must also be specified to remove SLDS or RLDS log data sets, PRILOG or OLDS information from the RECON data sets. The source IMS was data-sharing so the IMS-GROUP keyword must be used.

8. Run the IMSSTART command with SGCLJCL library member (GCLISTRRT) to start the primary target IMS subsystem whenever you are ready to resume application access to the target volumes.

An IMSSTART command can be run for each IMS subsystem that was cloned.

- Optional: If you intend to rerun the cloning job on a recurring basis, run the BCSCLEAN command before starting the next cloning process in order to delete the target catalog entries for the data sets that were created during the last IMS Cloning Tool cloning cycle.

Because this deletes the target data set names from the ICF catalog, this step should be done after the target IMS subsystem is no longer needed or before the target IMS subsystem is cloned again. See section “[Target data set ICF catalog aliases](#)” on page 46 for more information.

Note: Do not specify both the BCSCLEAN command and the RECATALOG option of the RENAME command in the same cloning job.

Cloning an offline IMS data-sharing subsystem to a non-data-sharing target

IMS offline cloning infers that the source IMS subsystem is stopped to achieve your point-in-time copy. It ensures that all buffers are flushed, all data is committed to disk, and that no transactions are in flight.

About this task

Prerequisites:

- The new target IMS subsystem does not have log history of the members that are being removed. Therefore, if further recovery is desired, image copies must be taken.
- Only the IMS member that is being retained must be cloned but all members in the source data-sharing environment must be stopped to create a point-in-time copy.
- The RENAME-MASKS keyword in the RENAME command only needs to include entries for the single IMS system that is being cloned.

The following table summarizes each step in the cloning an IMS data-sharing subsystem to a non-data-sharing target process:

<i>Table 10. Overview: Cloning an IMS data-sharing subsystem to a non-data-sharing target</i>	
Steps Overview	
Step 1: Stop source and target IMS subsystems	Run the IMSSTOP command, SGCLJCL library member (GCLISTOP).
Step 2: COPY step	Run the COPY command, SGCLJCL library member (GCLCOPY).
Step 3: Start source IMS subsystems	Run the IMSSTART command, SGCLJCL library member (GCLISTRT).
Step 4: RENAME step	Run the RENAME command, SGCLJCL library member (GCLREN).
Step 5: IMSUPDATE step	Run the IMSUPDATE command, SGCLJCL library member (GCLIUPDT).
Step 6: IMSUPDATE step to remove other subsystems	Run the IMSUPDATE command again, SGCLJCL library member (GCLIUPD3).
Step 7: Start target IMS subsystem	Run the IMSSTART command, SGCLJCL library member (GCLISTRT).

Table 10. Overview: Cloning an IMS data-sharing subsystem to a non-data-sharing target (continued)

Steps Overview

Step 8: BCSCLEAN step (optional but recommended)

BCSCLEAN step, SGCLJCL library member (GCLBCLN). Optional step that runs after target volume usage is terminated and before the next COPY. This step is recommended.

Procedure

1. Run the IMSSTOP command on the source system with SGCLJCL library member (GCLISTOP) to stop the source IMS subsystems and the target subsystem if it exists and is available. An IMSSTOP command should be run for each member in the source data-sharing environment.

This ensures that all buffers are flushed, all data is committed to disk, and that no transactions are in flight.

2. Run the COPY command.

Copy the source volumes to the target volumes and back up the source ICF catalogs that point to the data sets on the source volumes that are being copied.

If you are using IBM FlashCopy or SnapShot, run the COPY command to copy the source volumes to the target volumes and back up the source ICF catalogs that point to the data sets on the source volumes that are being copied. See [“COPY” on page 159](#) for more information about the COPY command.

If you are using a 'Split of a Continuous Mirror' tool, this step assumes the mirror relationship is started in advance of when you want to 'split or suspend' the mirror relationship. Issue the 'split or suspend'; then run the COPY command to back up the source ICF catalogs that point to the data sets on the source volumes that are being copied, and optionally, relabel and vary online the target volumes.

3. Run the IMSSTART command on the source system with SGCLJCL library member (GCLISTR). An IMSSTART command can be run for each member in the source data-sharing environment.

The data is cloned and access to the source volumes can proceed as normal.

4. To rename and catalog the target volume data sets, run the RENAME command. The RENAME-MASKS keyword command must include entries for the single IMS system that is being cloned.

5. Run IMSUPDATE command with SGCLJCL library member (GCLIUPDT). The source IMS is data-sharing so the IMS-GROUP keyword must be used.

IMSUPDATE updates the RECON data sets, the IMS PROCLIB and IMS.JOBS data sets, and MDA members

- RECON data set updates – data set names, IMS subsystem IDs, or VOLSERS in the RECON header, database data set, online log, and backout records. It optionally updates the image copy, change accum, SLDS, and RLDS records if they were on a volume that was cloned.
- MDA members – MDA members for databases or system data sets, such as the RECON, OLDS, or WADS, are updated to reflect the new data set names.
- IMS PROCLIB and SGCLJCL library members – References to the source IMSID, source volsers, or source data sets are updated with the new values in the SGCLJCL library members within these libraries.

6. Run the IMSUPDATE command again, this time with SGCLJCL member (GCLIUPD3) for each additional data-sharing or shared queues member to be removed from the target environment.

This step is in addition to the IMSUPDATE command SGCLJCL member (GCLIUPDT) previously run. The IMSUPDATE command with SGCLJCL member (GCLIUPD3) removes information that is related to the IMS SSID from the RECON. The REMOVE-MEMBER keyword must also be specified in order to remove SLDS or RLDS log data sets, PRILOG or OLDS information from the RECON data sets. The source IMS was data-sharing so the IMS-GROUP keyword must be used.

7. Start the target IMS subsystem whenever you are ready to resume application access to the target volumes. To start the target IMS subsystem, run the IMSSTART command on the target subsystem with SGCLJCL library member (GCLISTRTR).
8. Optional: If you intend to rerun the cloning job on a recurring basis, run the BCSCLEAN command before starting the next cloning process in order to delete the target catalog entries for the data sets that were created during the last IMS Cloning Tool cloning cycle.

Because this deletes the target data set names from the ICF catalog, this step should be done after the target IMS subsystem is no longer needed or before the target IMS subsystem is cloned again. See section [“Target data set ICF catalog aliases” on page 46](#) for more information.

Note: Do not specify both the BCSCLEAN command and the RECATALOG option of the RENAME command in the same cloning job.

IMS online cloning procedures

This section provides procedures for cloning IMS subsystems under alternative scenarios while IMS is online.

An online IMS subsystem clone is created by suspending the source IMS subsystem to achieve your point-in-time copy. By suspending the source IMS subsystem, pending database writes are forced to disk, update activity is suspended, and the log buffers are flushed to disk.

Status of transactions In Flight

An online cloning solution often results in transactions in flight. These in-flight transactions, which are cloned to the target subsystem, result in the same target subsystem action that would happen on the source system if it were shut down at that same time and then restarted. When you use online cloning, the target restart is essentially an emergency restart of a failed system.

The 'unit of work' or transaction can be in one of the following states:

- In flight : A transaction is in flight most of the time. The transaction on the target subsystem is backed out to the last commit point. Read-only transactions have nothing to back out.
- Commit: The transaction is in the process of taking a commit. The transaction updates on the target subsystem should be committed.
- Abort: The transaction is in the process of aborting. The transaction on the target subsystem is backed out to the last commit point.
- In-doubt: The transaction was committing and was between phase 1 and phase 2 commit processing. IMS does not know if the transaction should be backed out or committed. Manual intervention is required to either back out or commit the transaction.

Log data that is needed to back out a transaction should be contained in the active logs. It is possible that a back-out needs log data that no longer resides in an active log. In this case, archive logs are needed to successfully complete the back-out. Whether the archive logs are necessary for restart of the subsystem, and which logs are needed, depends on how large the active logs are. Running IMSSETLOG at a quiet time is recommended.

Choose the appropriate procedure for your situation. The following online cloning procedures are covered:

- [“Cloning an online IMS subsystem to allow another IMS subsystem to access the renamed data sets on the target volumes” on page 66](#)
- [“Cloning an online IMS data-sharing subsystem and removing members” on page 68](#)
- [“Cloning an online IMS data-sharing subsystem to a non-data-sharing target” on page 70](#)

Cloning an online IMS subsystem to allow another IMS subsystem to access the renamed data sets on the target volumes

Use the following procedure to clone an online IMS subsystem (when the source IMS subsystem is suspended to achieve your point-in-time copy) if you intend for a second or target IMS subsystem to access the renamed data sets.

Before you begin

Prerequisites:

- If an IMS data-sharing group is being cloned, all members of the group should also be cloned.
- For a data-sharing environment, the target IMS XCF structures should also be deallocated before the target IMS subsystem is first started.

About this task

The following table summarizes each step in the cloning an IMS subsystem to allow another IMS subsystem to access the renamed data sets on the target volumes process:

<i>Table 11. Overview: Cloning an IMS subsystem to allow another IMS subsystem to access the renamed data sets on the target volumes</i>	
Steps Overview	
Step 1: Stop the target IMS subsystem	Run the IMSSTOP command, SGCLJCL library member (GCLISTOP).
Step 2: COPY Step	Run the IMSSETLOG SUSPEND, COPY, and IMSSETLOG RESUME commands, SGCLJCL library member (GCLCOPY).
Step 3: RENAME step	Run the RENAME command, SGCLJCL library member (GCLREN).
Step 4: IMSUPDATE Step	Run the IMSUPDATE command, SGCLJCL library member (GCLIUPDT).
Step 5: Additional IMSUPDATE steps (data-sharing only)	If IMS data-sharing or shared queues is used, run the IMSUPDATE command again, SGCLJCL library member (GCLIUPD2).
Step 6: Start target IMS subsystem	Run the IMSSTART command, SGCLJCL library member (GCLISTR2). The target IMS subsystems must be emergency-restarted.
Step 7: BCSCLEAN step (optional but recommended)	BCSCLEAN step, SGCLJCL library member (GCLBCLN). Optional step that runs after target volume usage is terminated and before the next COPY. This step is recommended.

Procedure

1. Run the IMSSTOP command with SGCLJCL library member (GCLISTOP) to stop the target IMS subsystem if it existed and if it is online.
2. Run the IMSSETLOG SUSPEND, COPY, and IMSSETLOG RESUME commands.

- a) Run the IMSSETLOG SUSPEND command to momentarily suspend activity on online IMS subsystems. This creates a consistent point in time for the COPY process.

Note: If the copy process can use storage-based consistency to create a consistent copy, you do not need to run the IMSSETLOG SUSPEND command. For more information, see the CONSISTENT parameter of “COPY” on page 159.

- b) Copy the source volumes to the target volumes and back up the source ICF catalogs that point to the data sets on the source volumes that are being copied.

If you are using IBM FlashCopy or SnapShot, run the COPY command to copy the source volumes to the target volumes and back up the source ICF catalogs that point to the data sets on the source volumes that are being copied. See “COPY” on page 159 for more information about the COPY command.

If you are using a 'Split of a Continuous Mirror' tool, this step assumes the mirror relationship is started in advance of when you want to 'split or suspend' the mirror relationship. Issue the 'split or suspend'; then run the COPY command to back up the source ICF catalogs that point to the data sets on the source volumes that are being copied, and optionally, relabel and vary online the target volumes.

- c) If IMSSETLOG SUSPEND was used, run the IMSSETLOG RESUME command to resume activity on online IMS subsystems that were suspended before the COPY command. If IMSSETLOG SUSPEND was not used, you do not need to run IMSSETLOG RESUME.

3. Run the RENAME command to rename, and catalog the target volume data sets.

4. Run the IMSUPDATE command with SGCLJCL library member (GCLIUPDT).

The IMSUPDATE command makes the necessary IMS changes to reflect the renamed data sets. IMSUPDATE updates the RECON data sets, the IMS PROCLIB and IMS.JOBS data sets, the restart data set, the log records needed for emergency restart, and MDA members.

- RECON data set updates – data set names, IMS subsystem IDs, or VOLSERS in the RECON header, database data set, online log, and backout records. It optionally updates the image copy, change accum, SLDS, and RLDS records if they were on volume that were cloned.
- MDA members – MDA members for databases or system data sets, such as the RECON, OLDS, or WADS, are updated to reflect the new data set names.
- IMS PROCLIB and JCL library members – References to the source IMSID, source volsers, or source data sets are updated with the new values in the JCL members within these libraries.
- IMS Restart Data Sets - VOLSERS and IMS subsystem IDs are updated to reflect the target IMS subsystem.
- Log records - IMS subsystem ID for log records that are needed for emergency restart.

5. If IMS data-sharing or shared queues is used in your environment, and it is also desired for the target IMS subsystem, run the IMSUPDATE command again, this time with SGCLJCL library member (GCLIUPD2) for each additional data-sharing or shared queues member.

This step is in addition to the IMSUPDATE command SGCLJCL library member (GCLIUPDT) previously run. The IMSUPDATE command with GCLIUPD2 makes additional changes for IMS SSID references in the RECON and SGCLJCL library members that are listed in the previous step.

6. Run the IMSSTART command with SGCLJCL library member (GCLISTR2) to start the target IMS subsystem whenever you are ready to resume application access to the target volumes. This should be an emergency restart of the target IMS subsystem.
7. Optional: If you intend to rerun the cloning job on a recurring basis, run the BCSCLEAN command before you start the next cloning process in order to delete the target catalog entries for the data sets that were created during the last IMS Cloning Tool cloning cycle.

Because this deletes the target data set names from the ICF catalog, this step should be done after the target IMS subsystem is no longer needed or before the target IMS subsystem is cloned again. See section “Target data set ICF catalog aliases” on page 46 for more information.

Note: Do not specify both the BCSCLEAN command and the RECATALOG option of the RENAME command in the same cloning job.

Cloning an online IMS data-sharing subsystem and removing members

IMS online cloning infers that the source IMS subsystem is suspended to achieve your point-in-time copy.

About this task

Prerequisites:

- If an IMS data-sharing group is being cloned, all members of the group should also be cloned. ·
- For a data-sharing environment, the target IMS XCF structures should also be deallocated before the first starting of the target IMS subsystem.

The following table summarizes each step in the cloning an IMS data-sharing subsystem and removing members process:

Table 12. Overview: Cloning an IMS data-sharing subsystem and removing members	
Step	Overview
Step 1	Stop the target IMS subsystems. Run the IMSSTOP command, SGCLJCL library member (GCLISTOP).
Step 2	Run the IMSSETLOG SUSPEND, COPY, and IMSSETLOG RESUME commands, SGCLJCL library member (GCLCOPY).
Step 3	Rename step: run the RENAME command, SGCLJCL library member (GCLREN).
Step 4	IMSUPDATE step: run the IMSUPDATE command, SGCLJCL library member (GCLIUPDT).
Step 5	IMSUPDATE step for additional subsystems: Run the IMSUPDATE command again, SGCLJCL library member (GCLIUPD2).
Step 6	Start target IMS subsystems: run the IMSSTART command, SGCLJCL library member (GCLISTR2). The target IMS subsystems must be emergency-restarted.
Step 7	Stop target IMS subsystems,SGCLJCL library member (GCLISTOP)
Step 8	IMSUPDATE step to remove members: run the IMSUPDATE command again, SGCLJCL library member (GCLIUPD3).
Step 9	BCSCLEAN step (optional but recommended), SGCLJCL library member (GCLBCLN): Optional step that runs after target volume usage is terminated and before the next COPY. This step is recommended.

Procedure

1. Run the IMSSTOP command with SGCLJCL library member (GCLISTOP) to stop the target subsystem if it exists and is available.
The IMSSTOP command must be run for each member in a data-sharing or shared queues environment.
2. Run the IMSSETLOG SUSPEND, COPY, and IMSSETLOG RESUME commands.
 - a) Run the IMSSETLOG SUSPEND command to momentarily suspend activity on online IMS subsystems. This creates a consistent point in time for the COPY process.
Note: If the copy process can use storage-based consistency to create a consistent copy, you do not need to run the IMSSETLOG SUSPEND command. For more information, see the CONSISTENT parameter of “COPY” on page 159.
 - b) Copy the source volumes to the target volumes. Back up the source ICF catalogs that point to the data sets on the source volumes that are being copied.

If you are using IBM FlashCopy or SnapShot, run the COPY command to copy the source volumes to the target volumes and back up the source ICF catalogs that point to the data sets on the source volumes that are being copied. See [“COPY” on page 159](#) for more information about the COPY command.

If you are using a 'Split of a Continuous Mirror' tool, this step assumes that the mirror relationship is started before you want to 'split or suspend' the mirror relationship. Issue the split or suspend. Then, run the COPY command to back up the source ICF catalogs that point to the data sets on the source volumes that are being copied. Optionally, relabel and vary online the target volumes.

- c) If IMSSETLOG SUSPEND was used, run the IMSSETLOG RESUME command to resume activity on online IMS subsystems that were suspended before the COPY command. If IMSSETLOG SUSPEND was not used, you do not need to run IMSSETLOG RESUME.
3. Run the RENAME command to rename, and catalog the target volume data sets. The RENAME-MASKS keyword must include entries that cause the renaming of all the member system and application database data sets.
4. Run IMSUPDATE command with SGCLJCL library member (GCLIUPDT). The source IMS is data-sharing so the IMS-GROUP keyword must be used.

IMSUPDATE updates the RECON data sets, the IMS PROCLIB, and IMS.JOBS data sets, the IMS Restart Data Set, the logs that are needed for emergency-restart, and MDA members.

- RECON data set updates – data set names, IMS subsystem IDs, or VOLSERS in the RECON header, database data set, online log, and backout records. It optionally updates the image copy, change accum, SLDS, and RLDS records if they were on a volume that was cloned.
 - MDA members – MDA members for databases or system data sets, such as the RECON, OLDS, or WADS, are updated to reflect the new data set names.
 - IMS PROCLIB and SGCLJCL library members – References to the source IMSID, source volsers, or source data sets are updated with the new values in the SGCLJCL library members within these libraries.
 - IMS Restart Data Sets - VOLSERS and IMS subsystem IDs are updated to reflect the target IMS subsystem.
 - Log records - IMS subsystem ID for log records that are needed for emergency restart.
5. Run the IMSUPDATE command again, this time with SGCLJCL library member (GCLIUPD2) for each additional data-sharing or shared queues member to be updated in the target environment.

This step is in addition to the IMSUPDATE command SGCLJCL library member (GCLIUPDT) previously run. The IMSUPDATE command with SGCLJCL library member (GCLIUPD2) makes additional changes for IMS SSID references in the RECON and SGCLJCL library members that are listed in the previous step. The source IMS is data-sharing so the IMS-GROUP keyword must be used.
 6. Run the IMSSTART command with SGCLJCL library member (GCLISTR2) to start the target IMS subsystems when you are ready to resume application access to the target volumes.

An IMSSTART command can be run for each IMS subsystem that has been cloned and each subsystem should be emergency-restarted.
 7. Run the IMSSTOP command with SGCLJCL member (GCLISTOP) to stop target IMS subsystems to be removed from the target data-sharing group.
 8. Run the IMSUPDATE command again, this time with JCL member (GCLIUPD3) for each additional data-sharing or shared queues member to be removed from the target environment.

This step is in addition to the IMSUPDATE command JCL member (GCLIUPDT) previously run. The IMSUPDATE command with JCL member (GCLIUPD3) removes information that is related to the IMS SSID from the RECON. The source IMS was data-sharing so the IMS-GROUP keyword must be used.

The REMOVE-MEMBER keyword must also be specified to remove SLDS or RLDS log data sets, PRILOG or OLDS information from the RECON data sets.
 9. Optional: If you intend to rerun the cloning job on a recurring basis, run the BCSCLEAN command before you start the next cloning process. BCSCLEAN deletes the target catalog entries for the data sets that were created during the last IMS Cloning Tool cloning cycle.

Because this deletes the target data set names from the ICF catalog, this step should be done after the target IMS subsystem is no longer needed or before the target IMS subsystem is cloned again. See section “Target data set ICF catalog aliases” on page 46 for more information.

Note: Do not specify both the BCSCLEAN command and the RECATALOG option of the RENAME command in the same cloning job.

Cloning an online IMS data-sharing subsystem to a non-data-sharing target

IMS online cloning infers that the source IMS subsystem is momentarily suspended to achieve your point-in-time copy.

About this task

Prerequisites:

- If an IMS data-sharing group is being cloned, all members of the group should also be cloned.
- For a data-sharing environment, the target IMS XCF structures should also be deallocated before the first starting of the target IMS subsystem.

The following table summarizes each step in the cloning an IMS data-sharing subsystem to a non-data-sharing target process:

Table 13. Overview: Cloning an IMS data-sharing subsystem to a non-data-sharing target	
Step	Overview
Step 1	Stop the target IMS subsystems. Run the IMSSTOP command, SGCLJCL library member (GCLISTOP).
Step 2	Run the IMSSETLOG SUSPEND, COPY, and IMSSETLOG RESUME commands, SGCLJCL library member (GCLCOPY).
Step 3	Rename step: run the RENAME command, SGCLJCL library member (GCLREN).
Step 4	IMSUPDATE step: run the IMSUPDATE command, SGCLJCL library member (GCLIUPDT).
Step 5	Additional subsystems IMSUPDATE step: Run the IMSUPDATE command again, SGCLJCL library member (GCLIUPD2).
Step 6	Start target IMS subsystems: run the IMSSTART command, SGCLJCL library member (GCLISTR2). The target IMS subsystems must be emergency-restarted.
Step 7	Stop target IMS subsystems, SGCLJCL library member (GCLISTOP)
Step 8	IMSUPDATE step to remove members: run the IMSUPDATE command again, SGCLJCL library member (GCLIUPD3).
Step 9	BCSCLEAN step (optional but recommended), SGCLJCL library member (GCLBCLN): Optional step that runs after target volume usage is terminated and before the next COPY. This step is recommended.

Procedure

1. Run the IMSSTOP command with SGCLJCL library member (GCLISTOP) to stop the target subsystem if it already exists and is available.
The IMSSTOP command must be run for each member in a data-sharing or shared queues environment.
2. Run the IMSSETLOG SUSPEND, COPY, and IMSSETLOG RESUME commands.
 - a) Run the IMSSETLOG SUSPEND command to momentarily suspend activity on online IMS subsystems. This creates a consistent point in time for the COPY process.

Note: If the copy process can use storage-based consistency to create a consistent copy, you do not need to run the IMSSETLOG SUSPEND command. For more information, see the CONSISTENT parameter of “COPY” on page 159.

- b) Copy the source volumes to the target volumes and back up the source ICF catalogs that point to the data sets on the source volumes that are being copied.

If you are using IBM FlashCopy or SnapShot, run the COPY command to copy the source volumes to the target volumes and back up the source ICF catalogs that point to the data sets on the source volumes that are being copied. See “COPY” on page 159 for more information about the COPY command.

If you are using a 'Split of a Continuous Mirror' tool, this step assumes the mirror relationship is started in advance of when you want to 'split or suspend' the mirror relationship. Issue the split or suspend. Then, run the COPY command to back up the source ICF catalogs that point to the data sets on the source volumes that are being copied. Optionally, relabel and vary online the target volumes.

- c) If IMSSETLOG SUSPEND was used, run the IMSSETLOG RESUME command to resume activity on online IMS subsystems that were suspended before the COPY command. If IMSSETLOG SUSPEND was not used, you do not need to run IMSSETLOG RESUME.
3. Run the RENAME command to rename, and catalog the target volume data sets. The RENAME-MASKS keyword must include entries that cause the renaming of all the member system and application database data sets.
4. Run IMSUPDATE command with SGCLJCL library member (GCLIUPDT). The source IMS is data-sharing so the IMS-GROUP keyword must be used.

IMSUPDATE updates the RECON data sets, the IMS PROCLIB, and IMS.JOBS data sets, the IMS Restart Data Set, the logs that are needed for emergency restart, and MDA members.

- RECON data set updates – data set names, IMS subsystem IDs, or VOLSERS in the RECON header, database data set, online log, and backout records. It optionally updates the image copy, change accum, SLDS, and RLDS records if they were on a volume that was cloned.
 - MDA members – MDA members for databases or system data sets, such as the RECON, OLDS, or WADS, are updated to reflect the new data set names.
 - IMS PROCLIB and SGCLJCL library members – References to the source IMSID, source volsers, or source data sets are updated with the new values in the SGCLJCL library members within these libraries.
 - IMS Restart Data Sets - VOLSERS and IMS subsystem IDs are updated to reflect the target IMS subsystem.
 - Log records - IMS subsystem ID for log records that are needed for emergency restart.
5. Run the IMSUPDATE command again, this time with SGCLJCL library member (GCLIUPD2) for each additional data-sharing or shared queues member to be updated in the target environment.

This step is in addition to the IMSUPDATE command previously run from SGCLJCL library member (GCLIUPDT). The GCLIUPD2 IMSUPDATE command makes additional changes for IMS SSID references in the RECON and SGCLJCL library members that are listed in the previous step. Because the source IMS is data-sharing, the IMS-GROUP keyword must be used.
 6. Run the IMSSTART command with SGCLJCL library member (GCLISTR2) to start the target IMS subsystems whenever you are ready to resume application access to the target volumes.

An IMSSTART command can be run for each IMS subsystem that has been cloned and each subsystem should be emergency-restarted.
 7. Run the IMSSTOP command with SGCLJCL member (GCLISTOP) to stop target IMS subsystems to be removed from the target data-sharing group.
 8. Run the IMSUPDATE command again, this time with JCL member (GCLIUPD3) for each additional data-sharing or shared queues member to be removed from the target environment.

This step is in addition to the IMSUPDATE command JCL member (GCLIUPDT) previously run. The IMSUPDATE command with JCL member (GCLIUPD3) removes information that is related to the IMS SSID from the RECON. The source IMS was data-sharing so the IMS-GROUP keyword must be used.

The REMOVE-MEMBER keyword must also be specified to remove SLDS or RLDS log data sets, PRILOG or OLDS information from the RECON data sets.

9. Optional: If you intend to rerun the cloning job on a recurring basis, run the BCSCLEAN command before starting the next cloning process in order to delete the target catalog entries for the data sets that were created during the last IMS Cloning Tool cloning cycle.

Because this deletes the target data set names from the ICF catalog, this step should be done after the target IMS subsystem is no longer needed or before the target IMS subsystem is cloned again. See section [“Target data set ICF catalog aliases”](#) on page 46 for more information.

Note: Do not specify both the BCSCLEAN command and the RECATALOG option of the RENAME command in the same cloning job.

Chapter 4. Using IMS Cloning Tool – Refreshing databases

The sections in this chapter provide information about using the database cloning features of IMS Cloning Tool to refresh databases.

The procedures that you use to refresh databases vary depending on whether you use FlashCopy or SnapShot, or other copy methodologies.

Planning for copying IMS databases

The following sections cover the steps that you must take before you can copy IMS databases.

Before you attempt to use the IMS Cloning Tool process to refresh databases, you must plan and make decisions. This chapter discusses those things that must be considered.

Considerations for in-progress read/write activity

IMS databases and indexes that are being copied should not have an IMS utility in progress. In addition, no read/write activity against the source or target databases or indexes to be copied (unless the FUZZY copy option is chosen) is allowed.

IMS Cloning Tool issues an IMS DBR command to the specific source and target IMS databases and indexes that are being copied. After you issue the DBR command, IMS Cloning Tool will wait until the databases and indexes are no longer in use. There is no way to force activity to stop. Only a successful DBR command deallocates the associated data sets from IMS. If the data sets are in use, IMS Cloning Tool waits a user-specified number of minutes for the DBR command to complete successfully.

Considerations for IMS Cloning Tool when copying IMS databases

The following rules must be considered when you copy IMS databases with IMS Cloning Tool.

Database copy rules

The following rules apply:

- Databases and indexes can be copied to the same IMS subsystem or a different IMS subsystem
- Databases should not be copied while a utility is in process against the database.
- Databases cannot be copied if recovery or backout needed indicators are set.
- Databases cannot be copied if they have EQEs (if DEDB).
- Databases should not be copied if they have read/write activity unless FUZZY copy is chosen.
- Databases cannot be copied if the key labels of the source and target data sets do not match.
- Databases cannot be copied if the extended addressability attributes of the source and target data sets do not match.
- Databases cannot be copied if either the source or the target data sets, not both, are encrypted.
- Databases cannot be copied if either the source or the target OSAM databases, not both, are linear data sets.
- Databases cannot be copied if they are encrypted and the DATA-MOVER(PGM(EMCAPI)) keyword is specified to invoke EMC TimeFinder/Clone.

Database attributes

The attributes and contents of the source IMS databases and indexes data sets must not conflict with those of the target IMS database and index data sets.

In general, differences that affect the layout of the data or the data set prevent successful synchronization between source and target database and indexes. However, attributes that affect only how IMS processes the data, such as Data Capture Exits or insert rules, can be different.

The attributes of the source and target databases and indexes must be identical. The following table includes a list of the object attributes that must be identical, including the object type and the attributes that must be identical:

<i>Table 14. Object attributes that must be identical for source and target object</i>	
Object Type	Attributes that must be identical for source and target object
Database	Type, Access Method, number of segments, data set groups, Blocksize, Randomizer Parameters
Partitioned database	Number of Partitions, Partition Selection Routine, Keystng
Segment	Length, Key start and length, Uniqueness, Pointers, Edit Routine
Index	CIsize, record length, DDATA, source and target segment codes, Sparse routine
Partitioned Index	Number of Partitions, Keystng

Non-SMS managed volumes

If IMS Cloning Tool is controlling the copy process and the target volumes are non-SMS managed, the volsers needed for original data sets and the target data sets allocation may be passed to ADRDSSU via the DDIN and DDOUT keywords as defined in the IMS Cloning Tool copy job, as shown in the following examples.

The DDIN parameter passes the volsers for input volumes using the DD names from the precopy job JCL

```
MYINDD DD DISP=SHR,UNIT=3390,VOL=SER=(JM505F,JM515F)
MYINDD2 DD DISP=OLD,UNIT=3390,VOL=SER=(JM525F,JM535F)
```

Similarly, DDOUT passes volsers for output volumes using the DD names from the copy job JCL:

```
MYOUTDD DD DISP=OLD,UNIT=SYSDA,VOL=SER=(JM505A,JM515A)
MYOUTDD2 DD DISP=OLD,UNIT=3390,VOL=SER=(JM525A,JM535A)
```

The DDIN and DDOUT keywords can pass multiple DDnames:

```
//GCLIN DD *
DDIN(MYINDD,MYINDD2)
DDOUT(MYOUTDD,MYOUTDD2)
```

Note: When you are specifying either a DDIN or DDOUT keyword, this will limit the copying of data sets to the input and output volumes even if the data sets are cataloged. See INDDNAME and OUTDDNAME keywords in *z/OS DFSMSdss Storage Administration*.

How IMS Cloning Tool starts and stops databases and indexes

IMS Cloning Tool starts and stops source and target databases and indexes depending on certain parameter settings.

Source databases and indexes

For source databases and indexes, the IMSDBREFRESH command keywords FUZZY-COPY, and AUTO-START-SOURCE-DB control whether source databases and indexes are stopped and started before and after the copy.

- If FUZZY-COPY(Y) is in effect, no stops or starts are issued to the source databases and indexes. Databases and indexes are copied in their current state.

- If FUZZY-COPY(N) is specified, before copies begin, all specified source databases and indexes are stopped. After all copies are completed, all source databases and indexes are started according to the AUTO-START-SOURCE-DB parameter.
- If SIMULATE is used, the source databases are not stopped or started, regardless of other keywords.

If an error occurs when you are attempting to stop a source database, IMS Cloning Tool tries to restart all the source databases and indexes that were stopped.

Target databases and indexes

For target databases and indexes, the AUTO-STOP-TARGET-DB, AUTO-START-TARGET-DB, and SIMULATE parameters control stopping and starting of target databases and indexes:

- If AUTO-STOP-TARGET-DB(Y) is specified, the job stops the target databases and indexes.
- If SIMULATE is used, the job does not stop the target databases.

Note: Even if FUZZY-COPY(Y) is in effect, if AUTO-STOP-TARGET-DB(Y) is specified, then the target databases and indexes are stopped.

- AUTO-START-TARGET-DB: This parameter determines whether the IMS Cloning Tool post copy job starts the databases after processing is completed on the target IMS subsystem. If AUTO-START-TARGET-DB(Y), each database and its indexes are started as soon as the processing is completed.

If an error occurs while you are attempting to stop a target database, IMS Cloning Tool tries to restart all the target databases and indexes that were stopped.

If databases do not exist on the target, no commands are issued.

Considerations for data set renaming

You are responsible for creating ICF catalog aliases, if needed, for new target data set names.

The target IMS provides IMS Cloning Tool with the target data set names from the RECON and MDA libraries. The ICF catalog must have an ALIAS to match each new target data set to enable the rename and catalog.

Return code choices

The IMS Cloning Tool GCLINI member in the product PARMLIB allows you to choose the seriousness of a return code.

Scenarios that are discussed in this document assume that the conditional execution of subsequent steps adheres to the convention that return code 0 means successful, 4 means warning, and 8 means an error.

```
MAX_RC = 0          /* stop job when return code is greater than MAX_RC */
MAX_COPY_RC = 0     /* stop job when return code is greater than MAX_COPY_RC */
/* occurs when copying data */
```

Databases not supported

Main storage (MSDB) databases are not supported by IMS Cloning Tool.

Generalized sequential access method (GSAM) databases are not supported by IMS Cloning Tool.

Only physical databases names can be specified in the IMS Cloning Tool commands.

Database registration rules

Databases can be copied if registered to DBRC or not.

Databases that are registered to DBRC on the source are not required to be registered to DBRC on the target unless required by IMS.

IMS Cloning Tool database refresh jobs

The database refresh process of IMS Cloning Tool consists of a batch job that performs the copying process, or prepares the copy processes for non-FlashCopy and SnapShot environments.

When Using FlashCopy or SnapShot

Copy Job Overview

The IMS Cloning Tool copy job identifies all IMS databases and indexes to be copied to the target IMS subsystem. IMS Cloning Tool copies the databases by:

- Collecting and validating information from both the source and the target IMS RECON, ACBLIB, and MDALIB data sets.
- Issuing DBR commands for the target databases and indexes (if requested by parameters) and the source databases and indexes.
- Issuing the fast replication copy of the data sets for FlashCopy or SnapShot with DFSMSdss.

The copy job consists of four logical phases:

- Init Phase
- Discovery Phase
- Compatibility Phase
- Copy Phase

When Using Other Copy Methodologies

The IMSDBREFRESH command has two keywords, PRECOPY and POSTCOPY, that perform all of the same steps that are performed for FlashCopy or SnapShot except for the actual data set copy.

IMSDBREFRESH command, PRECOPY keyword Overview

The IMSDBREFRESH command, with PRECOPY keyword, identifies all IMS databases and indexes to be copied to the target IMS subsystem. IMS Cloning Tool helps with the copying of the databases by:

- Collecting and validating information from both the source and the target IMS RECON, ACBLIB, and MDALIB data sets.
- Issuing DBR commands for the target databases and indexes (if requested by parameters) and the source databases and indexes.

The IMSDBREFRESH command, with PRECOPY keyword, consists of three logical phases:

- Init Phase
- Discovery Phase
- Compatibility Phase

The output of the IMSDBREFRESH command, with the PRECOPY keyword, is an output data set that contains a list of data sets that can be used as input by the users copy utility of choice.

IMSDBREFRESH command, POSTCOPY keyword Overview

The IMSDBREFRESH command, with the POSTCOPY keyword specified, is run after the data sets are copied outside of IMS Cloning Tool. The POSTCOPY:

- Verifies the target databases are offline
- Update the target IMS RECONs, if registered to DBRC
- Optionally starts the target databases

When you are using any copy method

Whether you are using FlashCopy, SnapShot, or any other copy method, the IMS Cloning Tool commands IMSSTOPDB and IMSSTARTDB are available to stop and start databases but they are not necessary in most cases. By default, the IMSDBREFRESH command (even when you are using the PRECOPY keyword), stops the source databases unless FUZZY-COPY or SIMULATE keywords are used. Additional keywords, AUTO-START-SOURCE-DB(Y), AUTO-STOP-TARGET-DB(Y), and AUTO-START-TARGET-DB(Y) control the stopping and starting of databases. In most cases, the stop and start jobs are not required.

Stop DB Job Overview

The Stop DB job, IMSDBSTOP command, is an optional job that can be used to take the target databases offline if the target IMS subsystem is not in the same LPAR as the source IMS subsystem, and they are non-datasharing, or if the user prefers not to use the auto stop options.

Start DB Job Overview

The Start DB job, IMSDBSTART command is an optional job that can be used to put the source and target databases online if the user prefers not to use the auto start options.

When you are using FlashCopy or SnapShot

This section describes the copy job when you are using FlashCopy or SnapShot.

The Copy Job

The name of the sample copy job in the product SGCLJCL library is GCLCOPY1.

Note: The copy job should be scheduled when no utilities are running and there is no read/write activity against the databases and indexes that are being copied.

The copy job consists of four following phases:

Copy Job - Init Phase I

The copy job reads all settings found in GCLINI and in the GCLIN DD statement. The GCLIN DD statement identifies the following source and target items:

- Source and target IMS subsystem names
- The databases and indexes to copy
- DDs passed to ADRDSSU for data set allocations
- Copy options

Copy Job - Discovery Phase II

The Discovery Phase performs these tasks:

- Determines the source IMS subsystem name and whether it is active.
- Determines all candidate source databases and indexes.
- Determines the attributes of the list of candidate IMS databases and indexes from the source RECON, ACB, and MDA libraries.
- Determines the source data sets associated for each database and index from the source IMS RECON or MDALIB data sets.
- Determines the attributes of the list of candidate IMS databases and indexes from the target RECON, ACB, and MDA libraries.
- Determines the target data sets associated for each database and index from the target IMS RECON or MDALIB data sets.

Copy Job - Compatibility Phase III

This phase confirms that a compatible target database or index exists on the target IMS subsystem. Comparisons of the attributes between the source and target database and index are made to determine if the data set can be copied from the source to the target.

Attributes that may cause a conflict between the content or representation of the data in the source and target databases are compared. For example, the access method, number of segments, segment sizes, number of partitions, and so on, are compared.

Target analysis:

- Uses IMS-SSID(source,target) from the IMS Cloning Tool IMSDBREFRESH command to determine the target IMS subsystem
- Determines the attributes of the list of candidate IMS databases and indexes from the target RECON, ACB, and MDA libraries.
- Verifies the existence of databases and indexes on the target that match the candidate databases and indexes on the source. If matching databases and indexes are found, IMS Cloning Tool will determine the attributes from the target RECON, ACB, and MDA libraries and compare for compatibility.
- If no matching database or index is found IMS Cloning Tool sends a warning (RC 4) and records the missing database or index names in GCLPRINT.

Copy Job - Copy Phase IV

This phase determines if FlashCopy or SnapShot is used to replicate the databases or indexes, or if another copy mechanism is used and prepares the parameters necessary to make the databases accessible to the target IMS.

IMS Cloning Tool invokes either FlashCopy or SnapShot (if available) using DFSMSdss, program ADDRDSU, or you can use other copy mechanism to replicate or copy the list of candidate data sets identified in the Compatibility Phase if keywords PRECOPY and POSTCOPY are used on the IMSDBREFRESH command.

A source and target data set pair is passed to the copy Phase if:

- The attributes of the IMS databases and indexes that are associated with the source and target data set pairs are compatible between the source and the target subsystems.
- All database or index segment numbers, attributes, and lengths are identical between the source and target databases and indexes.
- The target data set does exist and the keyword is REPLACE-TARGET-DS(Y), or the target data set does not exist and the keyword is REPLACE-TARGET-DS(N)

Copy Phase Steps

1. Stop the target databases on the target IMS if it is active on the same LPAR if IMSDBREFRESH command AUTO-STOP-TARGET-DB(Y) keyword is specified, or datasharing is used, and the GLOBAL keyword specified. Otherwise, the IMSDBSTOP job, member GCLDBSTP, can be used to stop the target databases on the target IMS subsystem.
2. IMS Cloning Tool will automatically stop the source databases on the source IMS unless IMSDBREFRESH command FUZZY-COPY or SIMULATE keywords are specified. No specific keywords are needed to stop the source databases.
3. Copy source databases to the target IMS.
4. Restarts the source databases and indexes after the copy is successful if AUTO-START-TARGET-DB(Y)
5. If the target databases are registered to DBRC, IMS Cloning Tool will update the target IMS subsystem RECONS to show that a copy of the database data sets has occurred.
 - LIST.DB to collect database information
 - DELETE.DB to remove recovery history information
 - INIT.DB, INIT.DBDS, INIT.PART, and INIT.AREA to redefine target databases and data sets.
 - Sets IC RECOMMENDED flag on for target databases and indexes.
6. Start the target IMS databases and indexes if the target IMS subsystem is active on the same LPAR, if IMSDBREFRESH command AUTO-START-TARGET-DB(Y) keyword is specified, or datasharing is used

and the GLOBAL keyword specified. Otherwise, the IMSDBSTART job, member GCLDBSTR, can be used to start the target databases on the target IMS subsystem.

When you are using other copy methodologies

IMS Cloning Tool database refresh jobs when you are using other copy methodologies.

- [“The IMSDBREFRESH command, keyword PRECOPY is used when the data sets are copied by the user.” on page 79](#)
- [“User-initiated Copy” on page 80](#)
- [“The IMSDBREFRESH Command, keyword POSTCOPY is used when the data sets were copied by the user, and PRECOPY was used.” on page 80](#)

The IMSDBREFRESH command, keyword PRECOPY is used when the data sets are copied by the user.

The IMSDBREFRESH command with the PRECOPY keyword consists of three phases as follows:

Note: The IMSDBREFRESH command with PRECOPY keyword should be scheduled when no utilities are running and no read/write activity is against the databases and indexes that are being copied.

When you are using PRECOPY keyword - Init Phase I

When the IMSDBREFRESH command is issued with the PRECOPY keyword, all settings found in GCLINI and in the GCLIN DD statement are read.

The GCLIN DD statement identifies the following source and target items:

- Source and target IMS subsystem names
- The databases and indexes to copy

When you are using PRECOPY keyword - Discovery Phase II

The Discovery Phase performs these tasks:

- Determines the source IMS subsystem name and whether it is available.
- Determines all candidate source databases and indexes
- Determines the attributes of the list of candidate IMS databases and indexes from the source RECON, ACB, and MDA libraries.
- Determines the source data sets associated for each database and index from the source IMS RECON or MDALIB data sets.
- Determines the attributes of the list of candidate IMS databases and indexes from the target RECON, ACB, and MDA libraries.
- Determines the target data sets associated for each database and index from the target IMS RECON or MDALIB data sets.

When you are using PRECOPY keyword - Compatibility Phase III

This phase confirms that a compatible target database or index exists on the target IMS subsystem. Comparisons of the attributes between the source and target database and index are made to determine if the data set can be copied from the source to the target.

Attributes that may cause a conflict between the content or representation of the data in the source and target databases are compared. For example, the access method, number of segments, segment sizes, number of partitions, and so on, are compared.

Target analysis:

- Uses IMS-SSID(source,target) from the IMS Cloning Tool IMSDBREFRESH command to determine the target IMS subsystem
- Determines the attributes of the list of candidate IMS databases and indexes from the target RECON, ACB, and MDA libraries.

- Verifies the existence of databases and indexes on the target that match the candidate databases and indexes on the source. If matching databases and indexes are found, IMS Cloning Tool determines the attributes from the target RECON, ACB, and MDA libraries and compare for compatibility.
- If no matching database or index is found IMS Cloning Tool sends a warning (RC 4) and records the missing database or index name(s) in GCLPRINT.

IMSDBREFRESH command with PRECOPY specified steps:

1. Stop the target databases on the target IMS if it is active on the same LPAR if IMSDBREFRESH command and AUTO-STOP-TARGET-DB(Y) keyword is specified, or if datasharing is used and the GLOBAL keyword specified. Otherwise, the IMSDBSTOP job, member GCLDBSTP, can be used to stop the target databases on the target IMS subsystem.
2. IMS Cloning Tool automatically stops the source databases on the source IMS unless IMSDBREFRESH command FUZZY-COPY or SIMULATE keywords are specified. No specific keywords are needed to stop the source databases.
3. The output of the IMSDBREFRESH command with the PRECOPY keyword is an output data set that contains a list of data sets that can be used as input by the users copy utility of choice.

User-initiated Copy

Using the data set list that is provided by the IMSDBREFRESH command when the data sets are copied by the user.

You initiate the copy of the data sets outside of IMS Cloning Tool with the list of data sets provided by the IMSDBREFRESH command with the PRECOPY keyword, or your own list.

The IMSDBREFRESH Command, keyword POSTCOPY is used when the data sets were copied by the user, and PRECOPY was used.

The IMSDBREFRESH command with the POSTCOPY keyword consists of one phase.

Note: The IMSDBREFRESH command with POSTCOPY keyword should run only after the data sets are copied.

When you are using POSTCOPY keyword:

1. Restarts the source databases and indexes if AUTO-START-SOURCE-DB(Y)
2. Verifies the targets databases are offline
3. If the target databases are registered to DBRC, IMS Cloning Tool updates the target IMS subsystem RECONS to show that the database data sets have been copied.
 - LIST.DB to collect database information
 - DELETE.DB to remove recovery history information
 - INIT.DB, INIT.DBDS, INIT.PART, and INIT.AREA to redefine target databases and data sets.
 - Sets IC RECOMMENDED flag on for target databases and indexes.
4. Starts the target IMS databases and indexes if the target IMS subsystem is active on the same LPAR or if data sharing is used, and the global keyword is used.

When you are using any methodology

Whether you are using FlashCopy, SnapShot, or another copy methodology, the IMS Cloning Tool commands IMSSTOPDB and IMSDBSTART are available to stop and start target databases but are not necessary in most cases.

- “The IMSDBREFRESH command, keyword PRECOPY is used when the data sets are copied by the user.” on page 79

- [“User-initiated Copy” on page 80](#)

The Stop DB job

The IMS Cloning Tool command IMSSTOPDB is available to stop target databases but is not necessary in most cases.

The IMSDBREFRESH command (even with the PRECOPY keyword), stops the target databases if the AUTO-STOP-TARGET-DB(Y) keyword is used and the SIMULATE keyword is not specified. If the target databases are in another LPAR and non-datasharing is used, you may wish to use this command. In most cases, the stop is not required.

This job must be run on the same z/OS system as the target IMS subsystem by the user or job scheduler. This job takes the target databases offline to the target IMS subsystem so that they can be refreshed.

The name of the job for the IMSTOPDB command is GCLDBSTP and can be found in the product SGCLJCL library.

Stop DB job steps:

Run the commands that are specified in GCLIN to:

- Determine all candidate source databases, indexes, and associated data sets from the IMS RECON, ACB, and MDA libraries.
- Stop, or DBR the target IMS databases and indexes

Once this job ends, the cloned databases and indexes are accessible to the IMS subsystem.

The Start DB job

The IMS Cloning Tool command IMSSTARTDB is available to start the source or target databases but is not necessary in most cases.

The IMSDBREFRESH command (even with the POSTCOPY keyword) starts the source and target databases if AUTO-START-SOURCE-DB(Y), and AUTO-START-TARGET-DB(Y) keywords are used unless the SIMULATE keyword is specified.

This job must be run on the same z/OS system as the source or target IMS subsystem by the user or job scheduler.

The name of the job for the IMSTARTDB command is GCLDBSTR and can be found in the product SGCLJCL library.

Start DB job steps:

Run the commands that are specified in GCLIN to:

- Determine all candidate source databases and indexes from the IMS RECON, ACB, and MDA libraries.
- Start the IMS databases and indexes

Once this job ends, the cloned databases and indexes are accessible to the IMS subsystem.

Setup procedures for copy by data set with FlashCopy or SnapShot

This chapter contains IMS Cloning Tool database refresh setup procedures for you to use if data set copies are to be created with FlashCopy or SnapShot via or DFSMSdss slow copies.

Setup procedures for scenarios using methodologies other than FlashCopy or SnapShot are documented in [“Setup procedures for all other copy methodologies” on page 88](#).

IMS Cloning Tool requires that the target database be defined in the target IMS subsystem, the Database Management Block (DMB) must exist in the ACBLIB, a member must exist in MDALIB if used, and the

database and data sets must be defined in DBRC if desired or required by IMS. The database data sets do not have to be preallocated or prepopulated.

Overview: Setup for FlashCopy/SnapShot

The following table lists the steps that are necessary to set up IMS Cloning Tool to work with FlashCopy/SnapShot.

<i>Table 15. IMS Cloning Tool Setting up for using FlashCopy/SnapShot</i>
FlashCopy/SnapShot Setup Steps
“Step 1: Verify or create the target IMS databases in the target IMS subsystem” on page 82 if necessary.
“Step 2: Optional - Set up the Stop DB job (GCLDBSTP)” on page 82 - Use the SGCLJCL library member GCLDBSTP.
“Step 3: Set up and run the Copy job (GCLCOPY1)” on page 84 - Set up the copy job. Use the SGCLJCL library member GCLCOPY1.
“Step 4: Optional - Set up and run the Start DB job (GCLDBSTR)” on page 87 - Use the SGCLJCL library member GCLDBSTR

Step 1: Verify or create the target IMS databases in the target IMS subsystem

If the databases are not currently defined to the target IMS subsystem, they must be defined before running the IMS Cloning Tool jobs to copy the data from another database of an IMS subsystem.

- The Database management block (DMBs) that define database to be cloned must exist or be created in the target IMS ACBLIB.
- A dynamic allocation member must be defined in the target IMS MDALIB
- The database, areas (if FP DEDB), partitions (if HALDB), and data sets must be defined to DBRC if the database is registered to DBRC
- The DMB, MDA, and DBRC definitions must be created for indexes to be copied

Step 2: *Optional* - Set up the Stop DB job (GCLDBSTP)

The IMSDBSTOP command, stop DB job, is needed only for target databases if the target IMS subsystem is active on a different z/OS image than the source IMS subsystem. The job is used to take the databases to be refreshed offline to the target IMS subsystem.

About this task

An example of the Stop DB JCL for this scenario can be found in the product SGCLJCL library member GCLDBSTP. An example, and the details for each step to set up this job, follows:

Procedure

1. Identify the IMS control data sets for the IMS subsystem.
2. Identify what IMS subsystem the database to stop is on.
3. Identify the databases to stop to IMS Cloning Tool in the GCLIN control data set.
4. Indicate whether indexes for the databases that are being stopped, should be stopped as well. It is recommended that the indexes always be stopped when the primary database is stopped.
5. Indicate additional options to use when issuing the IMS DBR command.
6. Indicate maximum time IMS Cloning Tool should wait for the databases to be taken offline and the return code to issue should the maximum wait time be exceeded.

Note: For more information about the commands used to set up the Stop DB job, go to [Chapter 9, “Reference: database refresh commands,”](#) on page 229.

Stop DB Job Example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements. Complete command control statement syntax is documented in [Chapter 9, “Reference: database refresh commands,”](#) on page 229.

The Stop DB job JCL is shown in the following example. The numbers preceding the JCL correspond to notes, (following this sample JCL) containing an explanation of the line of JCL.

```

//jobcard
//*JOBPARM S=zossys
//*
//*
//* Using IMS Cloning Tool to DBR the databases on an IMS subsystem
//* when the target is on a different LPAR than the source database.
//* variables to be filled in ...
//*
//* jobcard - job card
//* zossys - name of zOS image where the IMS subsystem is active
//* hlq? - IMS Cloning Tool LOAD library and PARMLIB
//* high level qualifier
//* ssid - IMS subsystem ID
//*
1 //STEP1 EXEC PGM=GCL00010,REGION=0M
2 //STEPLIB DD DISP=SHR,DSN=hlq?.SGCLLOAD
//*
3 //GCLINI DD DISP=SHR,DSN=hlq?.SGCLPARM(GCLINI)
//*
4 //GCLPRINT DD SYSOUT=*
//*
//SYSUDUMP DD SYSOUT=*
//ABNLIGNR DD DUMMY do not remove if using ABENDAID
//*
5 //ssidACB DD DISP=SHR,DSN=IMS.ssid.ACBLIB
6 //ssidMDA DD DISP=SHR,DSN=IMS.ssid.MDALIB
7 //ssidREC1 DD DISP=SHR,DSN=IMS.ssid.RECON1
//ssidREC2 DD DISP=SHR,DSN=IMS.ssid.RECON2
//ssidREC3 DD DISP=SHR,DSN=IMS.ssid.RECON3
//*****
//* sample control statements
//*****
8 //GCLIN DD *
9 IMSDBSTOP -
IMS-SSID(ssid) -
DBD(dbdname1,dbdname2) -
INDEXES(Y) -
GLOBAL -
NOFEOV -
WAIT(2,RC(7))
//

```

Note: In this example, the following:

1. //STEP1 EXEC PGM=GCL00010,REGION=0M is the execution of the IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library declared in //STEPLIB DD must be authorized.
3. GCLINI is the DD for the GCLINI member of SGCLPARM. The GCLINI member contains program variables.
4. GCLPRINT displays GCLINI tokens, control parameters, data set names and messages showing the steps and status of the process to stop the databases.
5. ssidACB is the input data set that references the ACB library for the IMS subsystem.
6. ssidMDA is the input data set that references the MDA (dynamic allocation member) library for the IMS subsystem.
7. ssidREC1, ssidREC2, and ssidREC3 are the input data sets that identify the RECON data sets for the IMS subsystem.

8. The GCLIN DD statement defines the control statement input for IMS Cloning Tool.
9. The IMSDBSTOP command indicates to IMS Cloning Tool to stop a database or databases and possibly any indexes. The following keywords are in this section
 - The IMS-SSID(ssid) keyword indicates the IMS subsystem ID where the database(s) should be stopped.
 - The DBD(dbdname1,dbdname2) keyword indicates which databases to stop.
 - The INDEXES keyword indicates any indexes for the primary databases should be stopped.
 - The GLOBAL keyword indicates the IMS DBR command should be issued with the GLOBAL option in order to stop the database on all IMS subsystems in a data sharing environment.
 - The NOFE0V keyword indicates the IMS DBR command should be issued with the NOFE0V option so that an automatic log switch is not done.
 - The WAIT(2,RC(7)) keyword indicates that after issuing the IMS DBR command, IMS Cloning Tool should wait for up to two minutes for the database to be offline. If any of the databases are not offline after the time limit specified, IMS Cloning Tool will end with the return code specified.

Step 3: Set up and run the Copy job (GCLCOPY1)

The copy job consists of phases to control the selection and the copying of the IMS databases and indexes on the source subsystem and to make them accessible on the target subsystem.

About this task

An example of the copy job JCL for this scenario can be found in the product SGCLJCL library member GCLCOPY1. An example, and the details for each step to set up this job, follows.

Procedure

1. Identify the IMS control data sets for the IMS subsystem.
2. Identify the IMS control data sets for the target IMS subsystem. These DD control statements can be removed if the source and target IMS subsystem IDs are the same.
3. Identify the DBD library for the target IMS subsystem. This is necessary to invoke DBRC to update information for the target database.
4. Identify the source and target IMS subsystems.
5. Identify the databases to copy in the GCLIN control data set.
6. Indicate whether indexes for the databases should be copied as well. It is recommended that the indexes always be copied when the primary database is copied.
7. Indicate that IMS Cloning Tool should invoke DFSMSdss to do the data set copy. If you are using data set level FlashCopy or SnapShot to copy databases and indexes, and your environment is set up to support data set level replication, use IMSDBREFRESH command keyword, DATA-MOVER(PGM((ADDRDSSU)) which invokes DFSMSdss program ADDRDSU to run either FlashCopy or SnapShot to do the data set level copy operation. If flash copy is not available, ADDRDSU substitutes a normal copy operation, unless REQUIRED is specified.
If IMSDBREFRESH command keyword FUZZY-COPY(Y) is specified, then IMS Cloning Tool does not stop the source databases and indexes. However, this is not recommended, because if the databases and indexes are in update mode, the data integrity can be compromised.
8. Specifies DD statements that identify volumes where non-SMS managed input data sets reside. This keyword is only needed if non-SMS managed data sets are being copied else the keyword can be removed. Up to 256 DD names can be specified.
9. Specifies DD statements that identify volumes where non-SMS managed output data sets reside. This keyword is only needed if non-SMS managed data sets are being created else the keyword can be removed. Up to 256 DD names can be specified.
10. Keyword to indicate whether DFSMSdss should perform the copy operation if the target data set exists or not.

11. Keyword to indicate whether IMS Cloning Tool should issue the IMS STA command to start the source databases and indexes after the copy operation is complete.
12. Keyword to indicate whether IMS Cloning Tool should issue the IMS DBR command to stop the target databases and indexes before the copy operation is initiated. IMS Cloning Tool always checks to make sure the database and index data sets are not in use before you start the copy process.
13. Keyword to indicate whether IMS Cloning Tool should issue the IMS STA command to start the target databases and indexes after the copy operation has completed and information about the target IMS subsystem for the databases and indexes are updated.
14. Indicate any additional options to use when you are issuing the IMS DBR command.
15. Indicate maximum time IMS Cloning Tool should wait for the databases to be taken offline and the return to issue should the maximum wait time be exceeded.

Copy Job Example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample control statements. Complete command control statement syntax is documented in [Chapter 9, “Reference: database refresh commands,”](#) on page 229.

The Copy job JCL is shown in the following example. The numbers preceding the JCL correspond to notes, (following this sample JCL) containing an explanation of the line of JCL.

```
//jobcard
//*JOBPARM S=zossys
/**
/** Using GCL to invoke DFSMSdss to copy a database and it's indexes
/** variables to be filled in ...
/**
/** jobcard - job card
/** zossys - name of zOS image where the source IMS subsys is active
/** hlq? - GCL LOAD library and PARMLIB high level qualifier
/** ssids - source IMS subsystem ID
/** ssidt - target IMS subsystem ID (if different than source)
/**
/** Use DFSMSdss to EXECUTE FLASHCOPY or SNAPSHOT
/**
1 //STEP1 EXEC PGM=GCL00010,REGION=0M
2 //STEPLIB DD DISP=SHR,DSN=hlq?.SGCLLOAD
/**
3 //GCLINI DD DISP=SHR,DSN=hlq?.SGCLPARM(GCLINI)
/**
4 //GCLPRINT DD SYSOUT=*
/**
//SYSUDUMP DD SYSOUT=*
//ABNLIGNR DD DUMMY do not remove if using ABENDAID
/**
5 //ssidsACB DD DISP=SHR,DSN=IMS.ssids.ACBLIB
6 //ssidsMDA DD DISP=SHR,DSN=IMS.ssids.MDALIB
7 //ssidsREC1 DD DISP=SHR,DSN=IMS.ssids.RECON1
//ssidsREC2 DD DISP=SHR,DSN=IMS.ssids.RECON2
//ssidsREC3 DD DISP=SHR,DSN=IMS.ssids.RECON3
8 //ssidtACB DD DISP=SHR,DSN=IMS.ssidt.ACBLIB
9 //ssidtMDA DD DISP=SHR,DSN=IMS.ssidt.MDALIB
10 //ssidtREC1 DD DISP=SHR,DSN=IMS.ssidt.RECON1
//ssidtREC2 DD DISP=SHR,DSN=IMS.ssidt.RECON2
//ssidtREC3 DD DISP=SHR,DSN=IMS.ssidt.RECON3
11 //IMS DD DISP=SHR,DSN=IMS.ssidt.DBDLIB
// DD DISP=SHR,DSN=IMS.ssids.DBDLIB
//*****
/** the following DDs are only needed if non-SMS managed data sets
//*****
//*DDIN1 DD UNIT=SYSDA,VOL=SER=src001,DISP=SHR
//*DDOUT1 DD UNIT=SYSDA,VOL=SER=tgt001,DISP=SHR
//*****
/** sample control statements
//*****
12//GCLIN DD *
13 IMSDBREFRESH -
IMS-SSID(ssids,ssidt) -
DBD(dbdname1,dbdname2) -
INDEXES(Y) -
DATA-MOVER(PGM(ADRDSSU)) -
REPLACE-TARGET-DS(Y) -
```

```

        AUTO-START-SOURCE-DB(Y)      -
        AUTO-STOP-TARGET-DB(Y)       -
        AUTO-START-TARGET-DB(Y)      -
        GLOBAL                        -
        NOFEOV                        -
        WAIT(3,RC(9))
//

```

Note: In this example, the following:

1. `//STEP1 EXEC PGM=GCL00010,REGION=0M` is the execution of IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library declared in STEPLIB DD must be authorized.
3. GCLINI is the DD for the GCLINI member of SGCLPARM. The GCLINI member contains program variables.
4. GCLPRINT displays GCLINI tokens, control parameters, data set names and messages showing the steps and status of the process to stop the databases.
5. ssidsACB is the input data set that references the ACB library for the source IMS subsystem.
6. ssidsMDA is the input data set that references the MDA (dynamic allocation member) library for the source IMS subsystem.
7. ssidsREC1, ssidsREC2, and ssidsREC3 are the input data sets that identify the RECON data sets for the source IMS subsystem.
8. ssidtACB is the input data set that references the ACB library for the target IMS subsystem. This DD should be removed if the source and target IMS subsystems are the same.
9. ssidtMDA is the input data set that references the MDA (dynamic allocation member) library for the target IMS subsystem. This DD should be removed if the source and target IMS subsystems are the same.
10. ssidtREC1, ssidtREC2, and ssidtREC3 are the input data sets that identify the RECON data sets for the target IMS subsystem. ssidtREC1, ssidtREC2, and ssidtREC3 should be removed if the source and target IMS subsystems are the same.
11. IMS is the DBD library for the target IMS subsystem. This is needed to invoke DBRC processing for the target databases. If COPY-IF-NO-IMS-TARGET-DB(Y) is specified and a DBD for the databases being refreshed is not in the target DBD library, then the DBD for the source IMS subsystem should be concatenated to the IMS DD.
12. The GCLIN statement defines the control statement input for IMS Cloning Tool.
13. The IMSDBSTOP command indicates to IMS Cloning Tool to stop a database or databases and possibly any indexes. The following keywords are in this section
 - `IMS-SSID(ssids,ssidt)`, IMS-SSID keyword that indicates the source and target IMS subsystems. If the source and target IMS subsystem IDs are the same, the target subsystem can be omitted.
 - The `DBD(dbdname1,dbdname2)` keyword indicates which databases to refresh.
 - The `INDEXES` keyword indicates any indexes for the primary databases should be refreshed.
 - The `GLOBAL` keyword indicates the IMS DBR and STA commands should be issued with the GLOBAL option in order to stop and start the database on all IMS subsystems in a data sharing environment.
 - The `NOFEOV` keyword indicates the IMS DBR command should be issued with the NOFEOV option so that an automatic log switch is not done.
 - The `WAIT(2,RC(7))` keyword indicates that after issuing the IMS DBR command, IMS Cloning Tool should wait for up to two minutes for the database to be offline. If any of the databases are not offline after the time limit specified, IMS Cloning Tool will end with the return code specified.

Step 4: *Optional* - Set up and run the Start DB job (GCLDBSTR)

The IMSDBSTART command start DB job is needed only if the target IMS subsystem is active on a different z/OS image than the source IMS subsystem and non-datasharing. The job is used to make the databases online to the target IMS subsystem.

About this task

An example of the Start DB JCL for this scenario can be found in the product SGCLJCL library member GCLDBSTR. An example, and the details for each step to set up this job, follows:

Procedure

1. Identify the IMS control data sets for the IMS subsystem.
2. Identify what IMS subsystem the database to start is on.
3. In the GCLIN control data set, identify the databases to start.
4. Indicate whether indexes for the databases that are being started, should be started as well.
5. Indicate additional options to use when you are issuing the IMS STA command.

Start DB Job Example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements. Complete command control statement syntax is documented in [Chapter 9, “Reference: database refresh commands,”](#) on page 229.

The Start DB job JCL is shown in the following example. The numbers that precede the JCL correspond to notes that follow this sample JCL.

```
1 //jobcard
2 //*JOBPARM S=zossys
3 /**
4 /**
5 /** Using IMS Cloning Tool to STA the databases on an IMS subsystem
6 /**
7 /** variables to be filled in ...
8 /**
9 /** jobcard - job card
10 /** zossys - name of zOS image where the IMS subsystem is active
11 /** hlq? - IMS Cloning Tool LOAD library and PARMLIB
12 /** high level qualifier
13 /** ssid - IMS subsystem ID
14 /**
15 1 //STEP1 EXEC PGM=GCL00010,REGION=0M
16 2 //STEPLIB DD DISP=SHR,DSN=hlq?.SGCLLOAD
17 /**
18 3 //GCLINI DD DISP=SHR,DSN= hlq?.SGCLPARM(GCLINI)
19 /**
20 4 //GCLPRINT DD SYSOUT=*
21 /**
22 //SYSUDUMP DD SYSOUT=*
23 //ABNLIGNR DD DUMMY do not remove if using ABENDAID
24 /**
25 5 //ssidACB DD DISP=SHR,DSN=IMS.ssid.ACBLIB
26 6 //ssidMDA DD DISP=SHR,DSN=IMS.ssid.MDALIB
27 7 //ssidREC1 DD DISP=SHR,DSN=IMS.ssid.RECON1
28 //ssidREC2 DD DISP=SHR,DSN=IMS.ssid.RECON2
29 //ssidREC3 DD DISP=SHR,DSN=IMS.ssid.RECON3
30 /*******
31 /** sample control statements
32 /*******
33 8 //GCLIN DD *
34 9 IMSDBSTART -
35 IMS-SSID(ssid) -
36 DBD(dbdname1,dbdname2) -
37 INDEXES(Y) -
38 GLOBAL
39 /**
```

Note: In this example, the following:

1. //STEP1 EXEC PGM=GCL00010,REGION=0M is the execution of IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library declared in STEPLIB DD must be authorized.
3. GCLINI is the DD for the GCLINI member of SGCLPARM. The GCLINI member contains program variables.
4. GCLPRINT displays GCLINI tokens, control parameters, data set names and messages that show the steps and status of the process to start the databases.
5. ssidACB is the input data set that references the ACB library for the IMS subsystem.
6. ssidMDA is the input data set that references the MDA (dynamic allocation member) library for the IMS subsystem.
7. ssidREC1, ssidREC2, and ssidREC3 are the input data sets that identify the RECON data sets for the IMS subsystem.
8. The GCLIN statement defines the control statement input for IMS Cloning Tool.
9. The IMSDBSTART command indicates to IMS Cloning Tool to start a database or databases and possibly indexes. The following keywords are in this section:
 - The IMS-SSID(ssid) keyword indicates the IMS subsystem ID where the databases should be started.
 - The DBD(dbdname1,dbdname2) keyword indicates which databases to start.
 - The INDEXES keyword indicates indexes for the primary databases should be started.
 - The GLOBAL keyword indicates the IMS STA command should be issued with the GLOBAL option in order to start the database on all IMS subsystems in a data-sharing environment.

Setup procedures for all other copy methodologies

This chapter contains IMS Cloning Tool setup procedures for you to use if data set copies are to be created using copy methodologies other than FlashCopy or SnapShot via DFSMSdss.

Setup procedures for scenarios using FlashCopy or SnapShot are documented in [“Setup procedures for copy by data set with FlashCopy or SnapShot”](#) on page 81.

IMS Cloning Tool requires that the target database be defined in the target IMS subsystem. The Database control block (DMB) must exist in the ACBLIB, a member must exist in MDALIB if used, and the database and data sets must be defined in DBRC if applicable. The database data sets do not have to be preallocated or prepopulated.

Overview: Setup for other copy methodologies

This procedure is used for all other copy methodologies, other than FlashCopy or SnapShot. This procedure performs all of the same steps that are performed in the FlashCopy or SnapShot chapter except for the actual data set copies that the user is responsible for.

The following table lists the steps that are necessary to set up IMS Cloning Tool to work with other copy methodologies.

<i>Table 16. IMS Cloning Tool Setting up for using Other Copy Methodologies</i>
Other Copy Methodology Set Up Steps
“Step 1: Verify or create the target IMS databases in the target IMS subsystem” on page 89
“Step 2: Optional - Set up and run the PreCopy job (GCLPREC)” on page 89
“Step 3: Optional - Set up and run the Stop DB job (GCLDBSTP) to stop target IMS databases” on page 91

Table 16. IMS Cloning Tool Setting up for using Other Copy Methodologies (continued)

Other Copy Methodology Set Up Steps

[“Step 4: Set up and run the non-IMS Cloning Tool utility to copy the database and index data sets” on page 93](#)

[“Step 5: Optional - Set up and run the job to restart source IMS databases \(GCLDBSTR\)” on page 93](#)

[“Step 6: Set up and run the Post copy job \(GCLPOSTC\)” on page 95](#)

Step 1: Verify or create the target IMS databases in the target IMS subsystem

If the databases are not currently defined to the target IMS subsystem, they must be defined before running the IMS Cloning Tool jobs to copy the data from another database of an IMS subsystem.

- The Database management block (DMBs) that define database to be cloned must exist or be created in the target IMS ACBLIB.
- A dynamic allocation member must be defined in the target IMS MDALIB
- The database, areas (if FP DEDB), partitions (if HALDB), and data sets must be defined to DBRC if the database is registered to DBRC
- The DMB, MDA, and DBRC definitions must be created for indexes to be copied

Step 2: *Optional* - Set up and run the PreCopy job (GCLPREC)

The precopy job consists of phases to control the selection of the IMS databases and indexes on the source subsystem, to verify compatibility with the target databases and indexes, and to provide a complete list of data sets to copy that can be used as input to your copy mechanism.

About this task

For other copy methodologies, the PRECOPY keyword that indicates this IMS Cloning Tool invocation is in preparation for copying the database and index data sets. IMS Cloning Tool generates a list of database and index data sets to copy from and to in the GCLCOPY DD.

An example of the precopy job JCL for this scenario can be found in the product SGCLJCL library member GCLPREC. Details for each step to set up this job and example follows.

Procedure

1. Identify the IMS control data sets for the source IMS subsystem.
2. Identify the IMS control data sets for the target IMS subsystem. These DD control statements can be removed if the source and target IMS subsystem IDs are the same.
3. Identify the output data set for a list of source and target data set names.
4. Identify the source and target IMS subsystems.
5. Identify the databases to be copied to IMS Cloning Tool in the GCLIN control data set.
6. Indicate whether indexes for the databases should be copied as well. It is recommended that the indexes always be copied when the primary database is copied.

Precopy Job Example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements. Complete command control statement syntax is documented in GCL.

The Precopy job JCL is shown in the following example. The numbers that precede the JCL correspond to notes that follow the sample JCL.

```

//jobcard
//*
//*
//* Database refresh where:
//* GCL is not being used to perform copy operation
//*
//* variables to be filled in ...
//*
//* jobcard - job card
//* hlq? - GCL SGCLLOAD library and SGCLPARM high level qualifier
//* hlq2? - GCLCOPY & DBROUT high level qualifier
//* dbrcinfo - DBRCOUT member name
//* listdsns - GCLCOPY member name
//* ssids - source IMS subsystem ID
//* ssidt - target IMS subsystem ID (if different than source)
//*
1 //STEP1 EXEC PGM=GCL00010,REGION=0M
2 //STEPLIB DD DISP=SHR,DSN=hlq?.SGCLLOAD
//*
3 //GCLINI DD DISP=SHR,DSN=hlq?.SGCLPARM(GCLINI)
//*
4 //GCLPRINT DD SYSOUT=*
//*
//SYSUDUMP DD SYSOUT=*
//ABNLIGNR DD DUMMY do not remove if using ABENDAID
//*
5 //ssidsACB DD DISP=SHR,DSN=IMS.ssids.ACBLIB
6 //ssidsMDA DD DISP=SHR,DSN=IMS.ssids.MDALIB
7 //ssidsREC1 DD DISP=SHR,DSN=IMS.ssids.RECON1
//ssidsREC2 DD DISP=SHR,DSN=IMS.ssids.RECON2
//ssidsREC3 DD DISP=SHR,DSN=IMS.ssids.RECON3
8 //ssidtACB DD DISP=SHR,DSN=IMS.ssidt.ACBLIB
9 //ssidtMDA DD DISP=SHR,DSN=IMS.ssidt.MDALIB
10 //ssidtREC1 DD DISP=SHR,DSN=IMS.ssidt.RECON1
//ssidtREC2 DD DISP=SHR,DSN=IMS.ssidt.RECON2
//ssidtREC3 DD DISP=SHR,DSN=IMS.ssidt.RECON3
//*
11 //GCLCOPY DD DISP=OLD,DSN=hlq2?.COPYDSNS(listdsns)
12 //DBRCOUT DD DISP=OLD,DSN=hlq2?.DBRCOUT(dbrcinfo)
//*
//*****
//* sample control statements
//*****
13 //GCLIN DD *
14 IMSDBREFRESH -
IMS-SSID(ssids,ssidt) -
DBD(dbdname1,dbdname2) -
INDEXES(Y) -
DATA-MOVER(PGM(NONE)) -
PRECOPY
//

```

Note: In this example, the following:

1. //STEP1 EXEC PGM=GCL00010,REGION=0M is the execution of IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library declared in STEPLIB DD must be authorized.
3. GCLINI is the DD for the GCLINI member of SGCLPARM. The GCLINI member contains program variables.
4. GCLPRINT displays GCLINI tokens, control parameters, data set names and messages that show the steps and status of the process to stop the databases.
5. ssidsACB is the input data set that references the ACB library for the source IMS subsystem.
6. ssidsMDA is the input data set that references the MDA (dynamic allocation member) library for the source IMS subsystem.
7. ssidsREC1 is the input data set that identifies the RECON data sets for the source IMS subsystem.
8. ssidtACB is the input data set that references the ACB library for the target IMS subsystem. This DD should be removed if the source and target IMS subsystems are the same.

9. `ssid+MDA` is the input data set that references the MDA (dynamic allocation member) library for the target IMS subsystem. This DD should be removed if the source and target IMS subsystems are the same.
10. `ssid+RECx` is the input data set that identifies the RECON data sets for the target IMS subsystem. This DD should be removed if the source and target IMS subsystems are the same.
11. `GCLCOPY` is the (optional) output data set where IMS Cloning Tool provides a list of data set names to copy from
12. `DBRCOUT` is the output data set where IMS Cloning Tool puts DBRC information that is passed to the POSTCOPY step. The data set should be `LRECL=80, RECFM=FB`. This data set is needed if the source ACB, MDA, & RECON libraries are not added to the POSTCOPY job.
13. The `GCLIN` statement defines the control statement input for IMS Cloning Tool.
14. The `IMSDBREFRESH` command indicates to IMS Cloning Tool which database or databases and possibly indexes to copy. The following keywords are in this section
 - The `IMS-SSID(ssid)` keyword indicates the IMS subsystem ID where the databases should be stopped.
 - The `DBD(dbdname1,dbdname2)` keyword indicates which databases to copy.
 - The `INDEXES` keyword indicates indexes for the primary databases should be copied.
 - The `DATAMOVER` keyword indicates that IMS Cloning Tool should not do the copy operation.
 - The `PRECOPY` keyword indicates this IMS Cloning Tool invocation is in preparation for copying the database and index data sets. IMS Cloning Tool generates a list of database and index data sets to copy from and to in the `GCLCOPY` DD.

Step 3: *Optional* - Set up and run the Stop DB job (GCLDBSTP) to stop target IMS databases

One purpose of the `GCLDBSTP` job is to facilitate copying data sets outside of IMS Cloning Tool. The job is used to take the databases to be copied offline to the target or source IMS subsystems.

About this task

An example of the Stop DB JCL for this scenario can be found in the product `SGCLJCL` library member `GCLDBSTP`. Details for each step to set up this job and example follows.

Procedure

1. Identify the IMS control data sets for the target IMS subsystem.
2. Identify what IMS subsystem the target database to be stopped is on.
3. Identify the databases to stop in the `GCLIN` control data set.
4. Indicate whether indexes for the databases that are being stopped should be stopped as well. It is recommended that the indexes always be stopped when the primary database is stopped.
5. Indicate additional options to use when you issue the `IMS DBR` command.
6. Indicate the maximum time IMS Cloning Tool should wait for the target databases to be taken offline. You must also indicate the return code to issue should the maximum wait time is exceeded.

Stop DB Job Example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements. Complete command control statement syntax is documented in `GCL`.

The Stop DB job JCL is shown in the following example. The numbers that precede the JCL correspond to notes that follow sample JCL.

```

//jobcard
//*JOBPARM S=zossys
//*
//*
//*   Using GCL to DBR the databases on an IMS subsystem
//*
//*   variables to be filled in ...
//*
//*   jobcard   - job card
//*   zossys    - name of zOS image where the IMS subsystem is active
//*   hlq?     - GCL LOAD library and PARMLIB high level qualifier
//*   ssid     - IMS subsystem ID
//*
1 //STEP1      EXEC PGM=GCL00010,REGION=0M
2 //STEPLIB   DD  DISP=SHR,DSN=hlq?.SGCLLOAD
//*
3 //GCLINI    DD  DISP=SHR,DSN=hlq?.SGCLPARM(GCLINI)
//*
4 //GCLPRINT  DD  SYSOUT=*
//*
//SYSUDUMP   DD  SYSOUT=*
//ABNLIGNR   DD  DUMMY                do not remove if using ABENDAID
//*
5 //ssidACB   DD  DISP=SHR,DSN=IMS.ssid.ACBLIB
6 //ssidMDA   DD  DISP=SHR,DSN=IMS.ssid.MDALIB
7 //ssidREC1  DD  DISP=SHR,DSN=IMS.ssid.RECON1
//ssidREC2   DD  DISP=SHR,DSN=IMS.ssid.RECON2
//ssidREC3   DD  DISP=SHR,DSN=IMS.ssid.RECON3
//*****
//* sample control statements
//*****
8 //GCLIN     DD  *
9   IMSDBSTOP      -
      IMS-SSID(ssid)      -
      DBD(dbdname1,dbdname2) -
      INDEXES(Y)         -
      GLOBAL             -
      NOFEOV              -
      WAIT(2,RC(7))
//

```

Note: In this example, the following:

1. //STEP1 EXEC PGM=GCL00010,REGION=0M is the execution of IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library declared in STEPLIB DD must be authorized.
3. GCLINI is the DD for the GCLINI member of SGCLPARM. The GCLINI member contains program variables.
4. GCLPRINT displays GCLINI tokens, control parameters, data set names and messages that show the steps and status of the process to stop the databases.
5. ssidACB is the input data set that references the ACB library for the IMS subsystem.
6. ssidMDA is the input data set that references the MDA (dynamic allocation member) library for the IMS subsystem.
7. ssidRECI is the input data set that identifies the RECON data sets for the IMS subsystem.
8. The GCLIN statement defines the control statement input for IMS Cloning Tool.
9. The IMSDBSTOP command indicates to IMS Cloning Tool to stop a database or databases and possibly indexes.
 - The IMS-SSID(ssid) keyword indicates the IMS subsystem ID where the databases should be stopped.
 - The DBD(dbdname1,dbdname2) keyword indicates which databases to stop.
 - The INDEXES keyword indicates any indexes for the primary databases should be stopped.
 - The GLOBAL keyword indicates the IMS DBR command should be issued with the GLOBAL option in order to stop the database on all IMS subsystems in a data-sharing environment.

- The NOFE0V keyword indicates the IMS DBR command should be issued with the NOFE0V option so that an automatic log switch is not done.
- The WAIT keyword indicates that after you issue the IMS DBR command, IMS Cloning Tool should wait for up to two minutes for the database to be offline. If the databases are not offline after the time limit specified, IMS Cloning Tool will end with the return code specified.

Step 4: Set up and run the non-IMS Cloning Tool utility to copy the database and index data sets

Employ the procedures and syntax appropriate for your chosen replication or slow copy tool.

If requested in the precopy job that was previously run by the IMSDBREFRESH parameter PRECOPY, IMS Cloning Tool writes out a list of the source and target data set pairs to the GCLCOPY DD. This list can be parsed and used as input to the copy methodology of your choice.

A sample output:

```
* 2021-12-15 11:56:36.7  JOBNAME=GCLPREC  JOBID=J0044593
*      SOURCE SUBSYSTEM=IM91  TARGET SUBSYSTEM=IM92
*
*
* DATABASE DATA SETS TO BE COPIED
*
*   SOURCE DATASET=IMS.IM91.DFSIVD1
*   TARGET DATASET=IMS.IM92.DFSIVD1
*
* SOURCE DATASET=IMS.IM91.DFSIVD1I
*   TARGET DATASET=IMS.IM92.DFSIVD1I
*
* SOURCE DATASET=IMS.IM91.DFSIVD2
*   TARGET DATASET=IMS.IM92.DFSIVD2
```

Step 5: *Optional* - Set up and run the job to restart source IMS databases (GCLDBSTR)

One purpose of the GCLBSTR job is to facilitate copying data sets outside of IMS Cloning Tool. The job is used to make the databases available to the source IMS subsystem after the copy process is complete.

About this task

The Start DB job is needed only if the target IMS subsystem is active on a different z/OS image than the source IMS subsystem. The job is used to make the databases online to the target IMS subsystem.

An example of the Start DB JCL for this scenario can be found in the product SGCLJCL library member GCLDBSTR. Details for each step to set up this job and example follows.

Procedure

1. Identify the IMS control data sets for the IMS subsystem.
2. Identify what IMS subsystem the database to start is on.
3. In the GCLIN control data set, identify the databases to start.
4. Indicate whether indexes for the databases that are being started, should be started as well.
5. Indicate additional options to use when you are issuing the IMS STA command.

Start DB Job Example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements. Complete command control statement syntax is documented in GCL

The Start DB job JCL is shown in the following example. The numbers that precede the JCL correspond to notes that follow this sample JCL.

```

//jobcard
//*JOBPARM S=zossys
//*
//*
//*   Using GCL to STA the databases on an IMS subsystem
//*
//*   variables to be filled in ...
//*
//*   jobcard   - job card
//*   zossys    - name of zOS image where the IMS subsystem is active
//*   hlq?      - GCL LOAD library and PARMLIB high level qualifier
//*   ssid      - IMS subsystem ID
//*
1 //STEP1      EXEC PGM=GCL00010,REGION=0M
2 //STEPLIB    DD  DISP=SHR,DSN=hlq?.SGCLLOAD
//*
3 //GCLINI     DD  DISP=SHR,DSN=hlq?.SGCLPARM(GCLINI)
//*
4 //GCLPRINT   DD  SYSOUT=*
//*
//SYSUDUMP    DD  SYSOUT=*
//ABNLIGNR    DD  DUMMY                do not remove if using ABENDAID
//*
5 //ssidACB    DD  DISP=SHR,DSN=IMS.ssid.ACBLIB
6 //ssidMDA    DD  DISP=SHR,DSN=IMS.ssid.MDALIB
7 //ssidREC1   DD  DISP=SHR,DSN=IMS.ssid.RECON1
//ssidREC2    DD  DISP=SHR,DSN=IMS.ssid.RECON2
//ssidREC3    DD  DISP=SHR,DSN=IMS.ssid.RECON3
//*****
//* sample control statements
//*****
8 //GCLIN      DD  *
9   IMSDBSTART      -
   IMS-SSID(ssid)   -
   DBD(dbdname1,dbdname2) -
   INDEXES(Y)       -
   GLOBAL           -
//

```

Note: In this example, the following:

1. //STEP1 EXEC PGM=GCL00010,REGION=0M is the execution of IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library declared in STEPLIB DD must be authorized.
3. /GCLINI is the DD for the GCLINI member of SGCLPARM. The GCLINI member contains program variables.
4. GCLPRINT displays GCLINI tokens, control parameters, data set names and messages that show the steps and status of the process to stop the databases.
5. ssidACB is the input data set that references the ACB library for the IMS subsystem.
6. ssidMDA is the input data set that references the MDA (dynamic allocation member) library for the IMS subsystem.
7. ssidRECx is the input data set that identifies the RECON data sets for the IMS subsystem.
8. The GCLIN statement defines the control statement input for IMS Cloning Tool.
9. The IMSDBSTART command indicates to IMS Cloning Tool to start a database or databases and possibly indexes.
 - The IMS-SSID(ssid) keyword indicates the IMS subsystem ID where the databases should be started.
 - The DBD(dbdname1,dbdname2) keyword indicates which databases to start.
 - The INDEXES keyword indicates any indexes for the primary databases should be started.
 - The GLOBAL keyword indicates the IMS STA command should be issued with the GLOBAL option in order to start the database on all IMS subsystems in a data-sharing environment.

Step 6: Set up and run the Post copy job (GCLPOSTC)

The post copy job consists of a single step to make the target databases and indexes accessible on the target IMS subsystem. It optionally starts the target databases and indexes.

About this task

An example of the Post Copy job JCL for this scenario can be found in the product SGCLJCL library member GCLPOSTC. Details for each step to set up this job and example follows.

Procedure

1. Identify the IMS control data sets for the source IMS subsystem.
2. Identify the IMS control data sets for the target IMS subsystem. These DD control statements can be removed if the source and target IMS subsystem IDs are the same.
3. Identify the IMS DBDLIB for the target IMS subsystem.
4. Identify the source and target IMS subsystems.
5. Identify the databases that were copied to IMS Cloning Tool in the GCLIN control data set.
6. Indicate whether indexes for the databases were copied as well. It is recommended that the indexes always be copied when the primary database is copied.
7. Indicate whether the databases and indexes should be started on the target IMS subsystem after the information about the target IMS subsystems is updated.

Post copy job example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements. Complete command control statement syntax is documented in GCL.

The post copy job JCL is shown in the following example. The numbers that precede the JCL correspond to notes that follow this sample JCL.

```
//jobcard
//*
//*
//* Database refresh where:
//* GCL was not used to perform copy operation
//*
//* variables to be filled in ...
//*
//* jobcard - job card
//* zossys - zOS system where target IMS subsystem is active
//* hlq? - IMS Cloning Tool LOAD library and PARMLIB
//* high level qualifier
//* hlq2? - DBRCIN high level qualifier
//* dbrinfo - DBRCIN member name
//* ssids - source IMS subsystem ID
//* ssidt - target IMS subsystem ID (if different than source)
//*
1 //STEP1 EXEC PGM=GCL00010,REGION=0M
2 //STEPLIB DD DISP=SHR,DSN=hlq?.SGCLLOAD
//*
3 //GCLINI DD DISP=SHR,DSN=hlq?.PARMLIB(GCLINI)
//*
4 //GCLPRINT DD SYSOUT=*
//*
//SYSUDUMP DD SYSOUT=*
//ABNLIGNR DD DUMMY do not remove if using ABENDAID
//*
5 //ssidsACB DD DISP=SHR,DSN=IMS.ssids.ACBLIB
6 //ssidsMDA DD DISP=SHR,DSN=IMS.ssids.MDALIB
7 //ssidsREC1 DD DISP=SHR,DSN=IMS.ssids.RECON1
//ssidsREC2 DD DISP=SHR,DSN=IMS.ssids.RECON2
//ssidsREC3 DD DISP=SHR,DSN=IMS.ssids.RECON3
8 //ssidtACB DD DISP=SHR,DSN=IMS.ssidt.ACBLIB
9 //ssidtMDA DD DISP=SHR,DSN=IMS.ssidt.MDALIB
10 //ssidtREC1 DD DISP=SHR,DSN=IMS.ssidt.RECON1
//ssidtREC2 DD DISP=SHR,DSN=IMS.ssidt.RECON2
```

```

11 //ssidtREC3 DD DISP=SHR,DSN=IMS.ssidt.RECON3
//IMS DD DISP=SHR,DSN=IMS.ssidt.DBDLIB
//*
12 //DBRCIN DD DISP=SHR,DSN=hlq2?.DBRCOUT(dbrcinfo)
//*
//*****
//* sample control statements
//*****
13 //GCLIN DD *
14 IMSDBREFRESH -
IMS-SSID(ssids,ssidt) -
DBD(dbdname1,dbdname2) -
INDEXES(Y) -
DATA-MOVER(PGM(NONE)) -
AUTO-START-TARGET-DB(Y) -
POSTCOPY
//

```

Note: In this example, the following:

1. //STEP1 EXEC PGM=GCL00010,REGION=0M is the execution of IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library declared in STEPLIB DD must be authorized.
3. GCLINI is the DD for the GCLINI member of SGCLPARM. The GCLINI member contains program variables.
4. GCLPRINT displays GCLINI tokens, control parameters, data set names and messages that show the steps and status of the process to stop the databases.
5. ssidsACB is the input data set that references the ACB library for the source IMS subsystem.
6. ssidsMDA is the input data set that references the MDA (dynamic allocation member) library for the source IMS subsystem.
7. ssidsREC1 is the input data set that identifies the RECON data sets for the source IMS subsystem.
8. ssidtACB is the input data set that references the ACB library for the target IMS subsystem. This DD should be removed if the source and target IMS subsystems are the same.
9. ssidtMDA is the input data set that references the MDA (dynamic allocation member) library for the target IMS subsystem. This DD should be removed if the source and target IMS subsystems are the same.
10. ssidtRECx is the input data set that identifies the RECON data sets for the target IMS subsystem. This DD should be removed if the source and target IMS subsystems are the same.
11. IMS is the target IMS subsystem DBD library. This DD is necessary to invoke DBRC to update database and index information in the target IMS RECON data sets.
12. DBRCIN defines the DBRC information that was generated from the PRECOPY step. This data set is needed only if the source ACB, MDA, and RECON data sets are not available to the POSTCOPY job. It also requires that the PRECOPY job was run with a DBRCOUT DD statement.
13. The GCLIN statement defines the control statement input for IMS Cloning Tool.
14. The IMSDBREFRESH command indicates to IMS Cloning Tool which database or databases and possibly indexes to update.
 - The IMS-SSID(ssid) keyword indicates the source and target IMS subsystems. If the source and target IMS subsystem IDs are the same, the target subsystem can be omitted.
 - The DBD(dbdname1,dbdname2) keyword indicates which databases to update.
 - The INDEXES keyword indicates any indexes for the primary databases should be updated.
 - The DATA-MOVER keyword indicates that IMS Cloning Tool did not do the copy operation.
 - The AUTO-START-TARGET-DB parameter can be used to have IMS Cloning Tool issue the IMS STA command after the target databases are accessible.
 - The POSTCOPY keyword that indicates this IMS Cloning Tool invocation is after the copying the database and index data sets is complete. IMS Cloning Tool updates the information for the target databases and indexes on the target IMS subsystem.

Refreshing IMS databases

This chapter describes different methods for copying databases and indexes from one IMS subsystem to another using IMS Cloning Tool. The following procedures provide for various situations, such as the data set copy methodology used to copy the databases and indexes.

Choose the appropriate procedure for your situation.

- “Copy Procedure 1: FlashCopy/SnapShot setup” on page 97: Using FlashCopy or SnapShot to copy source databases and indexes to the target IMS subsystem.
- “Copy procedure 2: All other copy methodologies” on page 98; Use this procedure when copy methodologies other than FlashCopy or SnapShot are used to copy source databases and indexes to the target IMS subsystem.

Copy Procedure 1: FlashCopy/SnapShot setup

Use the following procedure to copy the source databases and indexes to the target IMS subsystem when you are using FlashCopy or SnapShot.

The following table lists the steps that are necessary to set up FlashCopy/SnapShot to copy the source databases and indexes to the target IMS subsystem.

<i>Table 17. FlashCopy/SnapShot Setup Overview</i>
FlashCopy/SnapShot Set Up Steps
“Step 1: Verify or create the target IMS databases in the target subsystem” on page 97
“Step 2: Optional – Submit the Stop DB job” on page 97
“Step 3: Submit the Copy job” on page 97
“Step 4: Optional – Submit the Start DB job” on page 98

Step 1: Verify or create the target IMS databases in the target subsystem

Ensure that the target IMS databases and indexes are defined to the target IMS subsystem. If the databases currently are not defined to the target IMS subsystem, they must be defined before you run the IMS Cloning Tool jobs to copy the data from another database of an IMS subsystem.

- The DMBs that define databases to be cloned must exist or be created in the target IMS ACBLIB.
- A dynamic allocation member must be defined in the target IMS MDALIB.
- The database, areas (if FP DEDB), partitions (if HALDB), and data sets must be defined to DBRC if the database to be registered to DBRC
- The DMB, MDA, and DBRC definitions must be created for indexes to be copied.

Step 2: *Optional* – Submit the Stop DB job

This job is only necessary if the source and target IMS subsystems are on different z/OS systems, and the target databases and indexes must be stopped.

The IMS DBR DB commands to stop the target databases and indexes must be issued from the same z/OS system where the target IMS subsystem is running so the Stop DB job must be run on the same z/OS system.

Step 3: Submit the Copy job

The COPY job does the following:

- Connects to the source IMS subsystem

- Selects the databases and indexes to be replicated from the source IMS subsystem
- Confirms the existence and compatibility of the target databases and indexes
- Stops the source and target databases and indexes. If the target IMS subsystem is on a different z/OS system, then IMS Cloning Tool verifies they are stopped
- Invokes FlashCopy or SnapShot (if available) to replicate the data sets
- Starts the source databases and indexes
- Updates control information for the target databases and indexes
- Starts the target databases and indexes if the target IMS subsystem is in the same z/OS system

Step 4: *Optional* – Submit the Start DB job

The Start DB job must run on the same z/OS system as the target IMS subsystem. The Start DB job is used to optionally restart the target IMS databases and indexes to make them accessible to IMS.

This completes the database cloning process.

Copy procedure 2: All other copy methodologies

Use the following procedure if you want to copy the source table spaces and index spaces to the target IMS subsystem when you are using a method other than FlashCopy or SnapShot.

The following table lists the steps that are necessary to set up all other copy methodologies to copy the source databases and indexes to the target IMS subsystem.

<i>Table 18. Other Methodologies Setup Steps</i>
Other Methodologies Setup Overview
“Step 1: Verify or create the target IMS databases in the target subsystem” on page 98
“Step 2: Submit the precopy job” on page 99
“Step 3: Optional - Submit the job GCLDBSTP to stop the target IMS databases” on page 99
“Step 4: Run the non-IMS Cloning Tool utility to copy the database and index data sets” on page 99
“Step 5: Optional - Submit the job GCLDBSTR to start the source IMS databases” on page 99
“Step 6: Submit the post-copy job GCLPOSTC to update and start the source and target databases” on page 99

Step 1: Verify or create the target IMS databases in the target subsystem

This step is part of the larger task of copying the source table spaces and index spaces to the target IMS subsystem when you are using a method other than FlashCopy or SnapShot. Ensure that the target IMS databases and indexes are defined to the target IMS subsystem. If the databases currently are not defined to the target IMS subsystem, they must be defined before you run the IMS Cloning Tool jobs to copy the data from another database of an IMS subsystem.

- The DMBs that define databases to be cloned must exist or be created in the target IMS ACBLIB
- A dynamic allocation member must be defined in the target IMS MDALIB
- The database, areas (if FP DEDB), partitions (if HALDB), and data sets must be defined to DBRC if the database is to be registered to DBRC
- The DMB, MDA, and DBRC definitions must be created for indexes to be copied

Step 2: Submit the precopy job

This step is part of the larger task of copying the source table spaces and index spaces to the target IMS subsystem when you are using a method other than FlashCopy or SnapShot.

When the COPY command keyword DATA-MOVER(PGM(NONE)) is specified, it is assumed that the copy is done outside of IMS Cloning Tool. IMS Cloning Tool still determines the source and target IMS subsystems, extracts from the source IMS subsystem characteristics for the databases and indexes to be cloned, and confirms the existence of the target database and index definitions. It also checks for incompatibilities between source and target databases and indexes.

To assist the user, IMS Cloning Tool writes the list of source and target data set names of a data set. This information can be used to prepare the non-IMS Cloning Tool copy job.

Step 3: *Optional* - Submit the job GCLDBSTP to stop the target IMS databases

This step is part of the larger task of copying the source table spaces and index spaces to the target IMS subsystem when you are using a method other than FlashCopy or SnapShot.

Existing target databases and indexes must be stopped so that IMS can deallocate the database data sets. This allows them to be replaced.

Step 4: Run the non-IMS Cloning Tool utility to copy the database and index data sets

This step is part of the larger task of copying the source table spaces and index spaces to the target IMS subsystem when you are using a method other than FlashCopy or SnapShot.

Any hardware or software replication utility can be used.

Step 5: *Optional* - Submit the job GCLDBSTR to start the source IMS databases

This step is part of the larger task of copying the source table spaces and index spaces to the target IMS subsystem when you are using a method other than FlashCopy or SnapShot.

Once the data sets are replicated (copied), the source databases and indexes are no longer needed by the cloning process. This step is needed only if the POSTCOPY job runs on a different LPAR than the source IMS.

Step 6: Submit the post-copy job GCLPOSTC to update and start the source and target databases

This step is part of the larger task of copying the source table spaces and index spaces to the target IMS subsystem when you are using a method other than FlashCopy or SnapShot.

The post-copy job must run on the same z/OS system as the target IMS. The post-copy job updates information for the target database and index data sets in the target IMS subsystem to make them accessible to IMS. The post-copy job can then restart the source and target databases and indexes in the target IMS subsystem.

This completes the database cloning process.

Chapter 5. Using the ISPF interface

IMS Cloning Tool offers an ISPF interface that allows you to create subsystem cloning and database refresh jobs using interactive panels. The topics in this section describe how to use the ISPF interface for IMS Cloning Tool.

The IMS Cloning Tool ISPF interface

You can use the IMS Cloning Tool ISPF interface to create the JCL and control cards required to clone IMS subsystems and to refresh databases and index spaces. The menu-driven interface allows you to easily create cloning jobs with specific command parameters, and then save that information in profiles that can be used again. In addition, subsystem information can be configured once and then is available to all users of the interface.

Starting the interface

Note: Before attempting to use the ISPF interface, ensure that configuration steps in the Configuration chapter have been completed.

Start the interface using the provided CLIST by using the command `TSO GCL` on the command line.

Note: The IMS Cloning Tool ISPF interface requires a minimum region size of 30000 KB.

The IMS Cloning Tool Primary Option Menu

The IMS Cloning Tool **Primary Option Menu** is the starting point for all cloning functions. The **Primary Option Menu**, shown in the following figure, is displayed when you start the IMS Cloning Tool ISPF interface.

```
IMS Cloning Tool  Primary Option Menu
Option ===>

0  User settings                User ID . . : TWUSR
1  Clone                       System ID . . : RS22
2  Administrator functions      Appl ID . . :
X  Exit                        Version . . :
```

From the **Primary Option Menu**, you can perform the following actions by entering the corresponding option number in the **Option** field and pressing Enter:

0 - User settings

Select this option to specify defaults for command parameters, work data sets, other settings for both subsystem cloning and database refresh. These defaults are used for creating cloning profiles.

1 - Clone

Select option 1 to create cloning profiles for subsystem or table space cloning.

2 - Administrator functions

Select option 2 to add or configure IMS subsystems to be used as source and targets for the cloning process. IMS subsystems should be configured before creating cloning profiles.

X - Exit

Select this option to exit the ISPF interface.

About cloning profiles

All the settings required to build the jobs for subsystem cloning and database refreshing are saved in VSAM profiles. You can create profiles that can be shared with other users, or you can specify that profiles be read-only or completely inaccessible by others.

About the ISPF help system

ISPF help panels are available. The help panels list the purpose of the panel, available commands, and fields and column data that is displayed. Enter HELP or press PF1 to display a help panel.

Detailed information about command parameters and other valid values on the panels are listed in the help panels. Except for configuring user settings, the panel values are not described in detail in these topics. Use the help system or the command reference topics that follow if you need more information.

- Chapter 8, “Reference: IMS Cloning Tool commands,” on page 157
- Chapter 9, “Reference: database refresh commands,” on page 229

Configuring IMS subsystems

The Administrator functions option on the **Primary Option Menu** allows you to configure all IMS subsystems that might be used by subsystem or cloning database refreshing procedures.

You must define the IMS subsystem information for your site on these panels before attempting to create subsystem or database refresh jobs.

Enter 2 on the IMS Cloning Tool **Primary Option Menu** menu to access administrator functions. The **Administrator functions** panel is displayed, as show in the following figure:

```
IMS Cloning Tool      Administrator functions
Option ===>

1  Db2 subsystems
2  IMS subsystems
```

Configuring a subsystem

To create a new subsystem or configure a subsystem that you have already created, follow these steps.

Procedure

1. On the **Administrator functions** menu, enter option 2, IMS subsystems.
2. On the **IMS subsystems** panel, enter C in the Command field.
The **Enter New IMS Subsystem Profile Options** window is displayed.
3. On the **Enter New IMS Subsystem Profile Options** window, enter the IMS subsystem ID.
4. Press Enter.
The **Edit IMS Subsystem** panel is displayed.
5. Optional: In the **Description** field, enter a description of the IMS subsystem.
6. Specify started task member names for the subsystem being defined.
7. If the subsystem will be used for subsystem cloning, enter 1 in the Option line to specify information required for cloning IMS subsystems and press Enter.

Specifying information for subsystem cloning

To successfully generate JCL that uses this subsystem as a target for subsystem cloning jobs, you must provide the information for the subsystem.

Refer to the product help panel for more detailed information about the fields on this panel.

Enter **1** on the **Edit IMS Subsystem** menu. The **Subsystem cloning information** panel is displayed, as shown in the following figure:

Use those commands to define/view concatenated data set list.

```
Commands: R - Set IMS RESLIB   A - Set IMS ACBLIB   P - Set PROCLIB/JCL
          C - Set IMS MACLIB    M - Set IMS MDALIB   D - Set IMS RDDS
          L - Set IMS DBDLIB     RI - Set IMSRSC INDEX RM - Set IMSRSC MEMBER
```

```
SSID . . . . . :
Description . . . . . :
```

```
Use as Subsystem Cloning Source or Target only . . . . . (SOURCE, TARGET,
                                                         or blank)      More:      +
```

```
System ID where this IMS normally runs . . . . .
Group name . . . . . TSTGRP2 (if data sharing)
```

```
IMS-SUFFIX . . . . . 0
IMSPLEX . . . . .
DBRCGRP . . . . .
XRF-CAPABLE . . . . . (YES, NO, or blank)
RSENAME . . . . .
```

```
IMS RDS data set name . . . . .
IMS RDS2 data set name . . . . .
IMS MODBLKS data set name . . . . .
IMS MODBLKSA data set name . . . . .
IMS MODBLKSB data set name . . . . .
IMS MODSTAT data set name . . . . .
IMS MODSTAT2 data set name . . . . .
IMS RECON1 data set name . . . . .
IMS RECON2 data set name . . . . .
IMS RECON3 data set name . . . . .
```

```
IMS RESLIB data set names . . . . .
IMS ACBLIB data set names . . . . .
IMS MACLIB data set names . . . . .
PROCLIB/JCL data set names . . . . .
IMS MDALIB data set names . . . . .
IMS RDDS data set names . . . . .
IMS DBDLIB data set names . . . . .
IMS RSC Index data set names . . . . .
IMS RSC Member data set names . . . . .
```

Configuring user settings

The User Settings option on the **Primary Option Menu** allows you to specify defaults that are used when creating profiles. Defaults can be set for commands, work data sets, and job cards for both cloning subsystems and refreshing databases.

Defaults are originally derived from the GCLINI PARMLIB member, but can be customized for each user ID using these panels. The defaults are saved in ISPF profiles and are specific to each TSO user ID. This allows different users to have different defaults when creating cloning profiles.

Enter 0 on the IMS Cloning Tool **Primary Option Menu** to access user options. The **User Settings** panel is displayed, as shown in the following figure:

```
GCL1USET      User Settings
Option ==>>

0  User Options
1  User Db2 subsystem clone settings
2  User Db2 tablespace clone settings
3  User IMS subsystem clone settings
4  User IMS database refresh settings
```

Setting user defaults (job card and work data sets)

Follow these steps to set general defaults settings that apply to both subsystem clone and database refresh. These include a default job card and default work volumes.

Procedure

1. Enter 0 on the **User Settings** menu to access user options.

- The **Set Processing Options** menu is displayed.
2. On the **Set Processing Options panel**, enter **1** to specify job card options and press Enter.
The **Set Batch Job Card Information** panel is displayed.
 3. Enter job card information for your site.
 4. Press **PF3 (END)** to return to the **Set Processing Options** panel.
 5. On the **Set Processing Options** panel, enter **2** in the **Option** field and press Enter.
The **User Options** panel is displayed.
 6. Enter default values for the work unit and work volume unit.
Press **PF3 (END)** when you are finished.

Setting subsystem cloning defaults

This topic describes how to specify defaults for subsystem cloning commands and work data sets.

Defaults are originally derived from the GCLINI PARMLIB member, but can be customized for each user ID using these panels. These defaults are then saved in ISPF profiles and are specific to each TSO user ID. This allows different users to have different defaults when creating cloning profiles.

Enter **3** on the **User Settings** menu to access subsystem cloning defaults. The **User IMS subsystem clone settings** panel is displayed, as shown in the following figure:

```
GCL1ISCS          User IMS subsystem clone settings
Option ===>

Subsystem Clone Profile Default Values:
Prefix for work data sets . .
Work data sets unit device . .      (SYSDA, DISK, or etc.)

Valid command selection values are
1  COPY command
2  COPYCHECK command
3  RENAME command
4  IMSSTART command
5  IMSSTOP command
6  IMSUPDATE command
```

Subsystem clone profile default values

Prefix for work data sets

Enter the prefix you would like to use for work data sets that might be needed when cloning an IMS subsystem.

Work data sets unit device

Enter a valid unit device that will hold the work data sets.

Command defaults

To set default values for each command, enter the appropriate number for the command in the **Option** field.

COPY command defaults

COPY invokes volume copies via FlashCopy or SnapShot if the DATA-MOVER(PGM(ADRDSSU)) is specified, or invokes volume copies via TimeFinder/Clone mainframe SNAP Facility if the DATA-MOVER(PGM(EMCSNAP)) is specified.

The following values can be set on the subsystem cloning COPY command defaults panel. These values are used strictly as defaults for COPY command parameters when you are creating a new subsystem cloning profile. The parameter values can later be edited in the profile.

TARGET-VOLS-SHOULD-BE-EMPTY

Specify whether a check should be performed during the volume pairing process to ensure the target volumes are empty before issuing FlashCopy or SnapShot. In the event a subsequent RENAME fails and the COPY must be rerun, the target volumes will not be cleaned off if YES was specified for this parameter. Either initialize the target volumes or change this field to NO.

CATWORK-DSN Mask

Specify a mask to be used to derive data set names for catalog backup data sets dynamically allocated during the COPY step. The mask must include an asterisk (*) as one qualifier. Data sets will be created by substituting two eight-byte qualifiers in place of the provided asterisk. Hence, because 17 bytes (8 the dot 8) of the name will be generated, you are responsible for the resolved names not exceeding 44 characters.

For example, a CATWORK-DSN mask of SITENAME . ABC . CATWORK . * will cause data sets to be created such as: SITENAME . ABC . CATWORK . UCATBKUP . BKP00001

The asterisk in the mask does not need to be the lowest level qualifier. For example, a CATWORK-DSN mask of SITENAME . ABC . CWORK . * . DATA is valid.

CATWORK-ATTR

Specify the allocation attributes used when catalog backup data sets are dynamically allocated. Allocation attributes are specified in TSO allocate syntax (e.g., UNIT (SYSDA) SPACE (1 1) TRACKS, etc.). The attributes that can be specified are:

- DATACLAS(data class name)
- MGMTCLAS(management class name)
- SPACE(quantity increment)
- STORCLAS(storage class name)
- TRACKS/CYLINDERS
- UNIT(unit)
- VOLUME(serial)

If an initial attempt running COPY fails because a catalog backup data set exceeds extents, increase the allocation and run again. Once successful, examine the space actually used and decrease if desired. To accommodate a future increase in the size of catalogs, leave the allocation with room to spare.

COPYCHECK command defaults

COPYCHECK provides a mechanism to either wait for copies to complete, or to terminate previously established volume relationships.

The following values can be set on the subsystem cloning COPYCHECK command defaults panel. These values are used strictly as defaults for COPYCHECK command parameters when you are creating a new subsystem cloning profile. The parameter values can later be edited in the profile.

WAIT time

Specify the maximum time in minutes that COPYCHECK should continue checking at 30-second intervals to see if copy relationships have completed for all volume copies initiated in a corresponding COPY step.

WAIT RC

Specify the return code to be used if the specified time limit expires before all copies are complete and COPYCHECK terminates.

RENAME command defaults

The RENAME command renames and catalogs the data sets from the COPY command onto target volumes.

The following values can be set on the subsystem cloning RENAME command defaults panel. These values are used strictly as defaults for RENAME command parameters when you are creating a new subsystem cloning profile. The parameter values can later be edited in the profile.

EXCLUDE-SRCNAME

This default setting specifies the return code that will be given for data sets that match entries in the EXCLUDE-SRCNAME-MASKS keyword. 0 specifies that a return code of zero will be given for data sets that match entries in the EXCLUDE-SRCNAME-MASKS keyword. NOTRENAMED-RC specifies that the RC specified in the NOTRENAMED keyword will be given for data sets that match entries in the EXCLUDE-SRCNAME-MASKS keyword. Using RC(0) addresses the situation where there are known data sets on the volumes that will not be renamed and it is desired to use NOTRENAMED(RC(8)) to know if some not known data sets are on the volumes.

GDG-ALL-MIGRATED

GDG-ALL-MIGRATED RETAIN RC

These default settings support DFSMSHsm, FDR, and CADisk. GDG-ALL-MIGRATED addresses the situation where a GDG matches a RENAME mask and all the source generations have been migrated. Specify SKIP to skip the migrated GDG entry. Specify RETAIN to keep the GDS entries in the GDG base record. If you enter RETAIN, enter a corresponding return code of 0 or 4 in the GDG-ALL-MIGRATED RETAIN RC field.

Note: If RETAIN is used, because the migrated generations do not exist under the new name, subsequent access to the generations will fail whether one is accessed specifically or via specification of the base name only. This option is provided to retain relativity.

GDG-EMPTY

GDG-EMPTY RETAIN RC

These default settings address an empty base GDG that matches a RENAME mask. In the GDG-EMPTY field, enter SKIP to skip GDG entry, or enter RETAIN to add the new base entry to the target user catalog. If you specify RETAIN, enter a corresponding return code of 0 or 4 in the GDG-EMPTY RETAIN RC field.

GDG-MIGRATED

GDG-MIGRATED RETAIN RC

These default settings address the situation where a GDG matches a rename mask and at least one generation is indeed found on a volume, yet one or more generations are migrated. If you want to treat the migrated generation as an error, enter ERROR in the GDG-MIGRATED field. To keep the GDS entry in the GDG base record, enter RETAIN. If you enter RETAIN, enter a corresponding return code of 0 or 4 in the GDG-MIGRATED RETAIN RC field.

Note: If RETAIN is used, because the migrated generation does not exist under the new name, subsequent access to the generation will fail whether it is accessed specifically or via specification of the base name only.

GDG-TAPE

GDG-TAPE RETAIN RC

These settings address the situation where a GDG matches a rename mask and at least one generation is indeed found on a volume, yet one or more generations are on tape. To treat the tape generation as an error, enter ERROR in the GDG-TAPE field. To keep the GDS entry in the GDG base record, enter RETAIN. If you enter RETAIN, enter a corresponding return code of 0 or 4 in the GDG-TAPE RETAIN RC field.

Note: If RETAIN is specified, accessing a target tape GDS will cause a S813 ABEND whether it is accessed specifically or via specification of the base name only. To avoid destroying the relativity of active generations, removing selected generations is not allowed. Retaining non-existent tape generations may be suitable for situations such as overstated GDG limits where older generations may have been created on tape.

ISSUE-VCLOSE

Specify whether a catalog modify command, `F CATALOG,VCLOSE(targetvolser)`, will be issued as part of the volume RENAME processing. The Catalog Address Space (CAS) caches VVDS information. The modify command requests that the VVDS information cached for the target volume be refreshed. `NO` specifies that the modify command will NOT be issued. `BEFORE` specifies that the modify command will be issued only before the VVDS is updated. `AFTER` specifies that the modify command will be issued only after the VVDS has been updated. `YES` specifies that the modify command will be issued both before the VVDS is updated and after the VVDS has been updated.

ISSUE-VCLOSE SCOPE

If you specify `ISSUE-VCLOSE` of `BEFORE`, `AFTER`, or `YES`, specify the scope of the modify command. Enter `LOCAL` to have the catalog modify command, `F CATALOG,VCLOSE(targetvolser)`, issued only on the system that RENAME is running on. Enter `SYSPLEX` to have the catalog modify command, `F CATALOG,VCLOSE(targetvolser)`, issued on the local system; the modify command will also be routed to all the other systems in the sysplex, via an `MVS ROUTE *OTHER` command, after the VVDS has been updated.

MAX-TASKS

Specify the maximum number of subtasks to be used for volume processing in the RENAME step. The maximum allowed value is 255. At some point, increasing the number of subtasks will cease to increase performance, due to resource contention. Specifying a value that is too large may result in termination due to memory constraints.

MISSINGUCAT

Specify the disposition of target volume data sets where the VVDS catalog back-pointer is not a catalog in the list supplied to the COPY step.

MISSINGUCAT RC

Specify the return code to be generated for the RENAME command if one or more target volume data sets contain a VVDS catalog back-pointer not in the list supplied to the COPY step.

NOTRENAMED

Specify the disposition of target volume data sets that are not renamed because they do not match a rename mask.

NOTRENAMED RC

Specify the return code to be generated for the RENAME command if one or more target volume data sets are not renamed because they do not match a rename mask.

ORPHANCATENTRY

Specify the disposition of target volume data set catalog entries where in some circumstances the data set is not found on the volume.

ORPHANCATENTRY RC

Specify the return code to be generated for the RENAME command if one or more target volume data set catalog entries do not have a corresponding volume data set.

RECATALOG

Specify `YES` to replace catalog entries encountered when cataloging target volume data sets.

RENAME-AUDIT-LOG

Enter `SMF` to specify that an audit log of the data sets being renamed is to be created by RENAME volume processing.

RENAME-AUDIT-LOG SMF

If you specified `SMF` in the `RENAME-AUDIT-LOG` field, enter the record type in this field. Valid values are 128 through 255 inclusive. `SMF` must be recording the specified record type. The layout of the records written can be found in member `GCLRNSMF` of the IMS Cloning Tool JCL library.

RENAME-ERROR

This option specifies how processing proceeds when a RENAME error is encountered. Enter `ABORT` to terminate with an `RC=8` after the first error to preserve integrity. `ABORT` is recommended. Enter `CONTINUE` to continue processing after most errors; the RENAME command will complete with the specified return code unless an error not handled by the `CONTINUE` logic is encountered.



CAUTION: The use of CONTINUE can cause inconsistencies between the contents of the volumes and catalogs. If CONTINUE is specified, IMS Cloning Tool will not guarantee integrity and the given results will not be fixed by IMS Cloning Tool.

RENAME-ERROR CONTINUE RC

Specify the return code to be used if RENAME-ERROR CONTINUE is specified.

RENAME-LIST

Specify whether a list of the renamed data sets is to be produced by RENAME volume processing.

RENAME TYPE

Enter SAFE to allow a rerun of the RENAME command by backing up critical volume structures that are changed during the volume processing - the VTOC, VTOCIX, and VVDS. This backup data is used on a rerun to restore any volumes changed to the state they were in following the COPY step. This adds some slight execution time for RENAME to capture the portions of target volumes modified by RENAME. Incorrect rename masks may be a reason for needing to rerun the RENAME step. If multiple and complicated masks are required, this option is recommended. Also affecting the renaming is whether the data set naming conventions used by the application are fairly static or subject to frequent change - inferring that rename masks need to be watched.

To specify SAFE, you must also specify a DD name in the VOLBKUP-DDN field. The VOLBKUP data set must not be deleted before a rerun of RENAME. If the VOLBKUP data set is lost, the COPY step will need to be run again, provided that the opportunity for correct point-in-time images has not been lost.

If source volume access is not resumed until the entire process is complete (implying that the same point-in-time images can be re-copied), the time to rerun the COPY step may be insignificant compared to adding some overhead with the SAFE option for every cycle.

SPEED is the opposite of SAFE. The RERUN option for the RENAME step will be rejected if attempted. Correction of any errors will require the COPY and RENAME step to be run again.

TEMPDSN

Specify the disposition of temporary data sets found on target volumes.

TEMPDSN RC

Specify the return code to be generated for the RENAME command if one or more temporary data sets are found on target volumes.

UPDATE-IAM-ASSOCIATIONS

Specify whether IAM data set associations are to be updated as part of RENAME processing. IAM must be active on the system for the updates to happen. This option addresses the situation where there are IAM data sets that are being cloned that include AIXes and PATHs, and it is desired to update the associations to correspond with the new data set names. The association information for IAM data sets will be determined and updated by internally using IDCAMS LISTCAT and IDCAMS DEFINE RECATALOG commands.

VALIDATE-SMS-CLASSES

Specify whether the SMS class names specified in the DATACLAS, DATACLAS-PAIRS, MGMTCLAS, MGMTCLAS-PAIRS, STORCLAS, and STORCLAS-PAIRS keywords will be validated as being defined to SMS (YES) or not (NO). This option addresses the situation where the target SMS class names are not defined on the system where RENAME is run.

VOLBKUP-DDN

Specify the DD name for the backup data set to be used for backing up target volume VTOCs, VTOCIXs, and VVDSs, to be used in the event of a rerun of the RENAME step. You must also enter SAFE in the RENAME TYPE field to use this parameter.

IMSSTART command defaults

The IMSSTART command is used to start an IMS subsystem, via a z/OS START command, as part of cloning a IMS subsystem.

The following values can be set on the subsystem cloning IMSSTART command defaults panel. These values are used strictly as defaults for IMSSTART command parameters when you are creating a new subsystem cloning profile. The parameter values can later be edited in the profile.

IMS-ALREADY-RUNNING RC

Specify the return code that will be used if the IMS subsystem is already running.

WAIT TIME

Enter the maximum time in minutes that IMSSTART should wait for the IMS subsystem to start.

WAIT RC

Enter the return code to be used if the specified time limit expires before the IMS subsystem has started.

RESTART-CMD

Specify the IMS restart command and restart options to be issued during the restart of the IMS subsystem. The value issued during the restart of the IMS subsystem. The value entered for the RESTART-CMD is the exact value used when issuing the command to IMS. The IMS RESTART command and options are defined in the *IMS Commands* reference guide.

STARTCMD

Enter the command to be used to when starting the IMS subsystem.

STARTIRLM

This optional keyword indicates that the IRLM address space should be started by the IMSSTART command. Supply the command and parms to start the associated IRLM address space.

STARTCSL

This optional keyword indicates that the CSL (Common Service Layer) address space should be started by the IMSSTART command. Supply the command and parms to start the associated SCI address space.

STARTCQS

This optional keyword indicates that the CQS (Common Queue Server) address space should be started by the IMSSTART command. Supply the command and parms to start the associated CQS address space.

STARTODBM

This optional keyword indicates that the ODBM (Open Database Manager) address space should be started by the IMSSTART command. Supply the command and parms to start the associated ODBM address space.

STARTOM

This optional keyword indicates that the OM (Operations Manager) address space should be started by the IMSSTART command. Supply the command and parms to start the associated OM address space.

STARTRM

This optional keyword indicates that the RM (Resource Manager) address space should be started by the IMSSTART command. Supply the command and parms to start the associated RM address space.

STARTRS

This optional keyword indicates that the RS (Repository Server) address space should be started by the IMSSTART command. Supply the command and parms to start the associated RS address space.

WAITONLY

This optional keyword indicates that the command to start any of the IMS address spaces will not be used by this job step. The job step will only verify that the IMS address spaces are active, or wait until the IMS address spaces have been manually started.

IMSSTOP command defaults

The IMSSTOP command is used to stop an IMS subsystem, via the IMS **/CHE** command, as part of cloning a IMS subsystem.

The following values can be set on the subsystem cloning IMSSTOP command defaults panel. These values are used strictly as defaults for IMSSTOP command parameters when you are creating a new subsystem cloning profile. The parameter values can later be edited in the profile.

IMS-ALREADY-STOPPED RC

Specify the return code that will be used if the IMS subsystem is already stopped.

MODE

Specify the MODE value to determine the IMS shutdown variation. An IMS **/CHECKPOINT** command will be issued with the specified mode as the parameter. If DUMPQ is specified, and the subsystem is a DBCTL system, the command with the default option of PURGE will be used.

WAIT

Specify the number of minutes that the IMSSTOP command should wait for the IMS subsystem to complete termination. If the time limit expires before the IMS termination has completed, IMSSTOP will terminate with the return code specified in WAIT RC.

WAIT RC

Enter the return code to be used if the specified time limit expires before the IMS subsystem has stopped.

STOPIRLM

Optional keyword that will stop the IRLM address space after the IMS subsystem has terminated.

STOPCSL

Optional keyword that will stop the CSL address spaces after the IMS subsystem has terminated. If LOCAL is specified, the address spaces associated with the CSL on a single z/OS image. Specify PLEX as the second parameter for this keyword if all CSL addresses with an IMSplex are to be shut down.

STOPCQS

Optional keyword that will stop the CQS (Common Queue Server) address space after the IMS subsystem has terminated.

STOPODBM

This optional keyword indicates that the ODBM (Open Database Manager) address space should be stopped by the IMSSTOP command. Supply the command and parms to stop the associated ODBM address space.

STOPOM

Optional keyword that will stop the OM (Operations Manager) address space after the IMS subsystem has terminated.

STOPRM

Optional keyword that will stop the RM (Resource Manager) address space after the IMS subsystem has terminated.

STOPRS

Optional keyword that will stop the RS (Repository Server) address space after the IMS subsystem has terminated.

WAITONLY

Optional keyword that indicates that the command to shut down any of the IMS address spaces will not be used. Only verify that the IMS address spaces are not active, or wait until the IMS address spaces have been manually stopped.

IMSUPDATE command defaults

The IMSUPDATE command is used to make some of the changes within IMS to reflect the data sets that are renamed during a subsystem cloning.

The following values can be set on the subsystem cloning IMSUPDATE command defaults panel. These values are used strictly as defaults for IMSUPDATE command parameters when you are creating a new subsystem cloning profile. The parameter values can later be edited in the profile.

ACB-NOT-FOUND RC

Optional keyword that supplies the return code to be used if a DMB is not found in the ACBLIB for any database defined to an IMS subsystem.

DSNAME-ERROR-DBRC-SYMBOLS

Optional keyword that specifies the action to take when a resulting target data set name is more than the allowable 44 characters and the data set names contain DBRC symbolic keywords. ERROR indicates that this condition will cause an error message to be displayed and the data set name will not be updated. WARN indicates that this condition will cause a warning message to be displayed but the data set name will still be updated. IGNORE indicates that this condition will not trigger a message and the data set name will be updated.

NOT-RENAMED-JCLPDS-LIST

Optional keyword that specifies whether IMSUPDATE JCLPDS processing produces a list of the data sets not renamed.

MDA-NOT-UPDATED RC

Optional keyword that specifies the return code to be used if any member of the MDALIB data sets, for a database defined to the source IMS subsystem, contained a data set name that did not match a source data set name.

RDDS-NOT-UPDATED RC

Optional keyword that specifies the return code to be used if any of the RDDS data sets contained an SSID that did not match a source SSID.

RECON-NOT-UPDATED RC

Optional keyword that specifies the return code to be used if any of the records in the RECON data sets contained either an SSID, data set name, or volume serial that did not match a source SSID, data set name, or volume serial.

REPO-NOT-UPDATED RC

Optional keyword that specifies the return code to be used if any of the repository data sets contained a data set name that did not match a source data set name.

RENAME-ARCHIVE-LOGS

Optional keyword that specifies that if the IMS archive logs are on the source DASD volumes and were copied to the target volumes, this keyword will change the data set names and VOLSERS of the IMS archive logs in the RECON data sets.

RENAME-CAS

Optional keyword that specifies that if the Change Accumulation data sets are on the source DASD volumes and were copied to the target volumes, this keyword will change the data set names and VOLSERS of the Change Accumulation records in the RECON data sets.

RENAME-ICS

Optional keyword that specifies that if the Image Copy data sets are on the source DASD volumes and were copied to the target volumes, this keyword will change the data set names and VOLSERS of the Image Copy records in the RECON data sets.

ALLOW-RENAME-SIM

Optional keyword that indicates that the IMSUPDATE command can update IMS data sets even if the previous RENAME command was run with SIMULATE. This keyword can be used in cases in which IMS Cloning Tool did not perform the copy and rename of the target data sets but the target data sets still need to be updated with the information for the target IMS.

Setting database refresh defaults

This topic describes how to specify defaults for database refresh commands, DDs, and other defaults.

Defaults are originally derived from the GCLINI PARMLIB member, but can be customized for each user ID using these panels. These defaults are then saved in ISPF profiles and are specific to each TSO user ID. This allows different users to have different defaults when creating cloning profiles.

Enter **4** on the **User Settings** menu to access database refresh defaults. The **User IMS database refresh settings** panel is displayed:

```
GCL1IDRS          User IMS database refresh settings
Option ===>

1 DD Specification
2 IMSDBREFRESH Command
3 IMSDBSTOP Command
4 IMSDBSTART Command
5 IMSDBCLEAN Command
```

Command defaults

To set default values for each command, enter the appropriate number for the command in the **Option** field.

Setting default DD specifications for database refreshing

The **IMS database refresh DD Specification** panel lets you enter default DD specifications for the DDs required for database refreshing and for optional user DDs. These DDs may be used in one or more of the source or target.

Note: You must allocate any data sets that do not exist before attempting to execute the database refresh jobs.

DD defaults can be customized for each user ID using these panels. These defaults are then saved in ISPF profiles and are specific to each TSO user ID. This allows different users to have different defaults when creating cloning profiles.

Enter **1** on the **User IMS database refresh settings** menu. The **IMS database refresh DD Specification** panel is displayed:

```
GCL1EDPD          IMS database refresh DD Specification
Command ===>
Commands:         D - Set Defaults  C - Clear Defaults  U - User DD Specification
Line commands:    S - Select/Unselect

Control DD defaults:
  HLQ . . . . . TWUSER          (control HLQ)
  Member . . . . LSTDMBR        (control member)

                                     Row 1 of 7

  DD Name  DD
SEL GCLIN  *
SEL GCLPRINT SYSOUT=*
SEL GCLINI  DISP=SHR,DSN=GCL.TWUSER.PARMLIB(GCLINI)
GCLCOPY    DISP=SHR,DSN=TWUSER.LISTDSNS(LSTDMBR)
DBRCOUT    DISP=SHR,DSN=TWUSER.DBRCOUT(LSTDMBR)
GCLMSKDF   DISP=SHR,DSN=TWUSER.MASKDEF(LSTDMBR)
JOURNAL    DISP=SHR,DSN=TWUSER.DBCLEAN.JRNL
```

Required DD names are pre-selected with SEL next to of the DD name and will be included in one or more of the three IMS Cloning Tool jobs (source, target, or TCP/IP server).

For most DD names, you can modify the data set specifications such as DISP or the SYSOUT location. Some DD names are not required, but when specified must have a particular DD name. These DD names cannot be modified.

Refer to the information that follows to determine which DDs to include in your database refresh jobs.

Editing DD names and specifications

Where allowed, you can change the DD names and specifications to meet your site's requirements. You can type directly over the current values in the fields.

Using the Control DD defaults fields to edit DD specifications

The **Control DD** fields can be used to easily set the high level qualifiers and member names for all the DDs on the panel that can be modified.

1. Specify a default high level qualifier in the **HLQ** field and a default member name in the **Member** field.
2. Enter D in the **Command** field
3. When you press Enter, the DD name fields are populated with the specified HLQ and member name.

To clear the DD specifications, enter C in the **Command** field.



Attention: if you use the C command, all specifications that will be modified will be cleared.

Selecting or deselecting a DD for inclusion in JCL

Use the S line command as a toggle to select or deselect a DD. If the DD will be included, SEL is displayed next to the DD name. If a DD is not selected, it will not be included by default in the database refresh profile, but can be added later when creating a database refresh profile.

Adding user DDs

You can enter your own user-defined DD names and specifications on a separate panel. Enter the U command in the **Command** field. When you press Enter, the following panel is displayed:

```
GCL1EDUD          IMS database refresh DD Specification
Command ==>

Commands:      A - Add Line  P - Product DD Specification
Line commands: S - Select/Unselect  D - Delete Line

      DD Name  DD
```

This panel allows you to enter default DD specifications for user DDs that you may want to include in database refresh jobs.

To add DDs to this panel:

1. Enter A in the Command line and press Enter.
2. In the lines that are displayed in the input area, enter the DD name and desired data set specifications.
3. Enter S next to the DD name to select the DD for inclusion in jobs.

Use the S line command as a toggle to select or deselect a DD for inclusion. If a DD is not selected, it will not be included by default in the profile, but can be added later when creating a database refresh profile.

To remove a DD, enter D next to the DD and press Enter.

To return to specifying database refresh DDs, enter P in the command line.

Database refresh DD descriptions

The database refresh DDs provided by IMS Cloning Tool on the **Database refresh DD Specification panel** are identified in this topic.

The following table describes the database refresh DDs.

<i>Table 19. Database refresh DD descriptions on the Database refresh DD Specification panel</i>			
DD	Required?	Usage	Default
GCLIN	Yes	The GCLIN DD identifies source (local) and target IMS subsystem names, parameters, identifies DDs passed to ADRDSSU for data set allocations, and contains other commands related to the source and target subsystems. The GCLIN DD also contains the COPY command and its options, and various SET commands.	*

Table 19. Database refresh DD descriptions on the **Database refresh DD Specification panel** (continued)

DD	Required?	Usage	Default
GCLPRINT	Yes	GCLPRINT displays GCLINI tokens, control parameters, data set names and associated IMS table spaces and index spaces, IMS start and stop space command status, and DFSMSdss program ADRDSSU commands and status.	SYSOUT=*
GCLINI	Yes	GCLINI is the product PARMLIB member that is set up during installation. The GCLINI member contains program variables.	The PARM library where the PARMLIB member in GCLINI is located.
GCLCOPY	No	If PRECOPY is specified, IMS Cloning Tool writes a list of the source and target data set pairs to the GCLCOPY DD. This list can be parsed and used as input to the copy methodology of your choice.	
DBRCOUT	No	The output data set where IMS Cloning Tool will put DBRC information that will be passed to the POSTCOPY step. This data set is needed if the source ACB, MDA, and RECON libraries are not added to the POSTCOPY job.	
GCLMSKDF	Yes, if data masking will be used	GCLMSKDF is used to hold the masking rules to be applied and the tables to be masked. It is passed as an input to the data masking processor.	DISP=SHR, DSN=h1q-field. MASKDEF(member-field)
JRNLDLBRF	No	<p>This is an optional DD to specify a journal file for IMSDLBRFRESH. The journal file can be used for the following scenarios:</p> <ul style="list-style-type: none"> • Data masking is being performed for one or more of the databases being refreshed and you would like the database refresh to be restartable in the event of an error. • A previous IMSDLBRFRESH command failed and you would like to restart the previous command from the point of failure. • To save the list of target database data sets that are refreshed so that a subsequent IMSDLBCLEAN command can be used to delete the target databases. <p>To define a journal file to be used by the IMSDLBRFRESH command, refer to GCLDLBJRN in SGCLJCL.</p> <p>The default DD for the journal file is JRNLDLBRF. JOURNAL is also recognized as a valid DD. If both exist, JRNLDLBRF will be used.</p>	SYSOUT=*

IMSDLBRFRESH command defaults

The IMSDLBRFRESH command is used to find data set names from database names and verify the compatibility of the source and target databases. Optionally, it can stop the target databases, stop the source databases, and perform the data set copies. It can also start the source and target databases after the copies have been performed and the target DBRC has been updated.

The following values can be set on the subsystem cloning IMSDBREFRESH command defaults panel. These values are used strictly as defaults for IMSDBREFRESH command parameters when you are creating a new subsystem cloning profile. The parameter values can later be edited in the profile.

DATA-MOVER PGM

Optional keyword that specifies the program to be used to initiate copies and copy options.

FASTREP

Indicates whether fast replication is preferred (PREF), required (REQ), or not required (NONE).

FCTOPPRCPPRIMARY

Indicates that a FlashCopy target volume can also be a PPRC primary volume. This applies to ESS devices only. Specify one of the following:

- PRESMIRREQ: Require the use of Preserve Mirror. If a Preserve Mirror operation cannot be accomplished, the FlashCopy operation will not be completed.
- PRESMIRPREF: Prefer the use of Preserve Mirror. If a Preserve Mirror operation cannot be accomplished, the FlashCopy operation is still performed.
- PRESMIRNONE: Do not use Preserve Mirror.

AUTO-START-SOURCE-DB

Optional keyword that indicates whether the source databases should be started after the copy process is complete.

AUTO-START-TARGET-DB

Indicates whether to start each target IMS database after the copy process is complete.

AUTO-STOP-TARGET-DB

Indicates whether the database refresh job should stop (DBR) each target IMS database prior to the copy process starting.

COPY-IF-NO-IMS-TARGET-DB

Optional keyword that indicates whether IMS Cloning Tool defines elements for target databases on the target IMS if they do not currently exist.

STOPCSL

Optional keyword that will stop the CSL address spaces after the IMS subsystem has terminated. If LOCAL is specified, the address spaces associated with the CSL on a single z/OS image. Specify PLEX as the second parameter for this keyword if all CSL addresses with an IMSplex are to be shut down.

DATA-MASKING

Optional keyword that specifies whether data masking will be applied.

DBRC-ACTION

Optional keyword that indicates the DBRC action to perform for the target databases after they are refreshed. If REORG is specified, a NOTIFY.REORG will be performed for all database data sets that were refreshed. If REDEFINE is specified, a LIST.DB is performed to provide a reference for current DBRC definitions, followed by a DELETE.DB, INIT.DB, and any INIT.DBDS, INIT.PART, and INIT.AREA commands to redefine the target database.

ALLOW-PARTIAL

Optional keyword that indicates whether IMS Cloning Tool should continue processing even if an error is encountered with one of the databases (for example, if one of the databases that is being refreshed had a compatibility issue. When Y (YES) is specified, IMS Cloning Tool continues processing other databases if an error is encountered with one or more databases. When N (NO) is specified, IMS Cloning Tool stops the IMSDBREFRESH process if an error is encountered with any of the databases.

ACCESS

Optional keyword that indicates the ACCESS mode that the databases are to be started with.

FUZZY-COPY

Optional keyword that indicates whether the source databases should be stopped prior to be replicated. If used with DATA-MOVER(PGM(ADRDUSSU)), it indicates that ADRDUSSU should be invoked with TOLERATE(ENQFAILURE). If used with DATA-MOVER(PGM(NONE)) and the PRECOPY keyword, the source database is not stopped.

LOG-APPLY

Optional keyword that indicates whether to apply log updates from the source databases to the target databases after copying the source databases.

SWITCH-OLDS

Optional keyword that indicates whether to issue a **/SWI OLDS** command to the source IMS system after refreshing the target data sets before updating log apply.

ARCHIVE-WAIT time

Optional keyword that indicates how many minutes to wait for an online log data set to be archived before the IMSDBREFRESH job should be abnormally terminated.

ARCHIVE-WAIT RC

The return code to be used when the specified ARCHIVE-WAIT time has elapsed. Must be a numeric value between 0-4095.

VERIFY-NO-UPDATERS

Specify whether the IMSDBREFRESH command should verify that the source database does not have any updaters prior to refreshing the database. If YES is specified, you must also specify a return code to be used in the **VERIFY-NO-UPDATERS RC** field.

INDEXES

Optional keyword which indicates whether any related indexes should be copied as well.

- N: only the specified DBDs will be copied.
- Y: any related primary or secondary indexes will also be copied.
- P: the primary index, if one exists, will also be copied but any related secondary indexes will not be copied.

LOGICALLY-RELATED

Optional keyword that indicates whether a database should be copied if not all logically related databases are copied in the same command. If YES is specified, a database is copied only if all logically related databases are also being copied in the same command. If NO is specified, the specified databases are copied even if not all logically related databases will be copied.

NOAUTH-TARGETS

This keyword is optional. NOAUTH-TARGETS specifies whether the IMSDBREFRESH command should set PROHIBIT AUTH=ON in the target RECONS of the target databases before starting the data set copy process. If Y (yes) is specified, other IMS jobs will be prevented from authorizing the target databases until the database refresh process is complete. If IMS Cloning Tool sets PROHIBIT AUTH=ON, this flag will be reset after the data set copy process is complete. The default is No, which will not set PROHIBIT AUTH=ON.

REPLACE-TARGET-DS

Optional keyword that indicates whether overwrite the target data sets if they exist. If NO is specified and the target data sets exist, the copy will fail.

NOFEOV

Optional keyword that specifies that when stopping databases, the **/DBR DB** command will be issued with the NOFEOV parameter.

GLOBAL

Optional keyword that specifies that the **/DBR DB** and **/START DB** commands will be issued with the GLOBAL parameter. The GLOBAL keyword is not valid if the ACCESS keyword is specified.

WAIT

Optional keyword that specifies the number of minutes that the IMSDBREFRESH command should wait to get exclusive access to the database data sets. If the specified time limit expires before the databases have been stopped, the specified return code is used.

STOP-COMMAND

Optional keyword that indicates the IMS command to be used to stop the source databases. Valid values include:

- **DBR**: the DBRECOVER command is used. All access to the source databases will be stopped.

- **DBD:** the DBDUMP command is used. The full function source databases will be put into read-only mode, and a DBRECOVER is issued for DEDBs.
- **QUIESCE:** an UPDATE DB QUIESCE command will be used. IMS will only pause access to the source databases for the duration of the copy.

IMSPLEX

Optional keyword that indicates the IMSPLEX name for the source IMS CSL components. The IMSPLEX name is used to issue IMS Type-2 commands such as the UPDATE DB QUIESCE command.

IMSDBSTOP command defaults

The IMSDBSTOP command is used stop the target IMS database from online access prior to initiating a database refresh if the target databases are on another LPAR.

The following values can be set on the subsystem cloning IMSDBSTOP command defaults panel. These values are used strictly as defaults for IMSDBSTOP command parameters when you are creating a new subsystem cloning profile. The parameter values can later be edited in the profile.

INDEXES

Optional keyword that indicates whether any related indexes should be stopped as well. When NO is specified, only the specified DBDs will be stopped. When YES is specified, any related primary or secondary indexes will also be stopped. When P is specified, the primary index, if one exists, will also be stopped but any related secondary indexes will not be stopped.

NOFEOV

Optional keyword that specifies whether to issue the /DBR DB command with the NOFEOV parameter.

GLOBAL

Optional keyword that specifies whether to issue the /DBR DB command with the GLOBAL parameter.

WAIT time, RC

Optional keyword that specifies the number of minutes that the IMSDBSTOP command should wait to get exclusive access to the database data sets. If the specified time limit expires before the database has been stopped, IMSDBSTOP will terminate with the specified return code.

STOP-COMMAND

Optional keyword that indicates the IMS command to be used to stop the source databases. When DBR is specified, the DBRECOVER command is used, and all access to the source databases will be stopped. When DBD is specified, the DBDUMP command will be issued and the full function source databases will be put into read-only mode, and a DBRECOVER will be issued for DEDBs. When QUIESCE is specified, an UPDATE DB QUIESCE command will be used and IMS will only pause access to the source databases for the duration of the copy.

IMSPLEX

Optional keyword that indicates the IMSPLEX name for the source IMS CSL components. The IMSPLEX name is used to issue IMS Type-2 commands.

IMSDBSTART command defaults

The IMSDBSTART command can be used to start an IMS database for online access after a database refresh process has been completed.

The following values can be set on the subsystem cloning IMSDBSTART command defaults panel. These values are used strictly as defaults for IMSDBSTART command parameters when you are creating a new subsystem cloning profile. The parameter values can later be edited in the profile.

ACCESS

Optional keyword that indicates the ACCESS mode that the database is to be started with. Valid values include RO, RD, UP, or EX. For more information, see the *IMS Commands* reference guide.

INDEXES

Optional keyword that specifies whether any related indexes should be started as well. NO indicates that only the specified DBDs will be started. YES indicates that any related primary or secondary

indexes will also be started. P indicates that the primary index, if one exists, will also be started, but any related secondary indexes will not be started.

GLOBAL

Optional keyword that specifies whether to issue the /START DB command with the GLOBAL parameter.

IMSDBCLEAN command defaults

The IMSDBCLEAN command can be used to delete target data sets that were previously refreshed with the IMSDBREFRESH command.

The following values can be set on the subsystem cloning IMSDBCLEAN command defaults panel. These values are used strictly as defaults for IMSDBCLEAN command parameters when you are creating a new subsystem cloning profile. The parameter values can later be edited in the profile.

JOBNAME

Optional keyword used to restrict the data sets to just those database data sets that were refreshed by the jobname specified. If JOBNAME is not specified, then all data sets recorded in the journal data set for the target IMS SSID will be deleted.

The JRNLDBRF DD statement points to the journal data set.

DATA-MASKING

Optional keyword used to indicate whether data set cleanup should be performed on databases that also have an active journal entry associated with an IMSDBREFRESH job that performed data masking. When IMSDBREFRESH is executed with DATA-MASKING(Y), the journal entries are created so that the job can be restarted if an error occurs. The DATA-MASKING keyword specifies whether IMSDBCLEAN deletes any data sets associated with data masking. If DATA-MASKING(NO) is specified, and IMSDBCLEAN attempts to delete any data sets that are associated with databases that were processed on a prior data masking process, the deletion will fail. The default is NO.

BUILDJCL-ONLY

Optional keyword used to indicate whether to build the JCL to invoke IDCAMS to delete the target database data sets, or to delete the target database data set. If NO is specified, IMSDBCLEAN will delete the target data base data sets. If YES is specified, IMSDBCLEAN will not delete the target database data sets.

Creating cloning jobs using the interface

This topic describes some basic procedures for subsystem cloning and database refreshing using the ISPF interface.

Before you begin

Before you begin creating subsystem or database refresh jobs using the ISPF interface:

- You must ensure that the subsystems that you want to use as source and target subsystems have been added and configured using the Administrator functions portion of the interface.
- You should verify that the user configuration settings are appropriate for your needs.

Basic procedure

The basic procedure to create jobs for cloning subsystems and refreshing databases:

1. Create a profile.
2. Select the menu options to specify the type of cloning, the DDs, command settings, and other options.
3. Build the profile. Building the profile creates the series of jobs that will perform the cloning.
4. Review the generated jobs to ensure the output is as desired.

5. To invoke the cloning process, submit the generated jobs. The member names are generated alphanumerically; simply submit the jobs in order.

Creating a profile

To create a new subsystem or database refresh profile, follow these steps.

About this task

The process of creating a profile is the same for subsystem cloning and database refresh.

Procedure

1. On the **Primary Option** menu, enter option 1.
2. On the **Clone** menu, enter option 3 for subsystem cloning or 4 for database refresh.
3. On the **Enter Clone Profile Selection Criteria** window, enter selection criteria (if desired). Standard ISPF wildcarding is allowed.
4. On the **IMS Subsystem Clone Profile Display** or the **IMS Database Refresh Profile display**, enter C in the Command field.
The **Enter New IMS Subsystem Clone Profile Options** or **Enter New IMS Database Refresh Profile Options** window is displayed.
5. Enter a profile name and share option and press Enter.
The **Edit IMS Subsystem Clone Profile** menu or the **Edit IMS Database Refresh Profile** menu is displayed.
6. Select the options off the menu to set up the cloning profile.

Results

Once a profile has been created, it can be edited, renamed, viewed, copied or deleted.

Subsystem cloning

This section describes the basic steps for subsystem cloning using the ISPF interface.

Start the ISPF interface and create a subsystem cloning profile. After the cloning profile has been created, the **Edit IMS Subsystem Clone Profile** menu is displayed, as shown in the following figure:

```
GCL1EICP          Edit IMS Subsystem Clone Profile
Option ==>

Creator . . . : TWUSER      Name . . . . : PDMURRB
Share Option . : UPDATE     Description . :

1 Select Source and Target IMS subsystems
2 Select Source and Target Volume Pairing
3 Select Source and Target ICF catalogs
4 Select Rename masks
5 Select other parameters
```

Subsystem cloning steps summary

The general steps for using the ISPF interface to clone an IMS subsystem are described in this topic.

Procedure

1. Ensure the source and target subsystems have been added and properly configured under the Administrative Options option.
2. Create a subsystem cloning profile.
3. Select the source and target subsystems and specify cloning type. (Opt. 1 on Edit IMS Subsystem Clone Profile.)

4. Verify/enter source and target HLQs. (Option 1 on Edit IMS Clone Profiles).
5. Specify source/target volume pairings (option 2 on Edit IMS Subsystem Clone Profile).
6. Specify source and target ICF catalogs. (option 3 on Edit IMS Subsystem Clone Profile).
7. Specify rename masks (option 4 on Edit IMS Subsystem Clone Profile).
8. Build the profile.
9. Submit the jobs (in order).

Select source and target subsystems

You must first select the source and target subsystems and specify offline or online cloning.

Select source and target subsystems

You must first select the source and target subsystems and specify offline or online cloning.

For data sharing source subsystems

Select the source and target subsystems and specify offline or online cloning. In addition, for source subsystems that are data sharing, you must specify the data sharing attributes of the target subsystem.

Procedure

1. On the **Edit IMS Subsystem Clone Profile** menu, enter option 1.
2. On the **Select Source and Target IMS Subsystems** menu, enter A in the Command field.
3. On the **Select Source IMS Subsystem** panel, select the source subsystem and press Enter.
4. On the **Select Cloning Type** panel, enter ONLINE or OFFLINE in the **Type of cloning** field.
5. Enter SAME, FEWER, or NONDS in the **Data sharing attributes of target** field.
Specify SAME when the target will be a data sharing group with the same number of members as the source. Specify FEWER if the target will be a data sharing group with fewer members than the source. Enter NONDS when the target will not be a data sharing group.
6. The **Select source members to clone** panel is displayed. This panel lists all data sharing group members in the source data sharing group. The data sharing group member that you selected as a source subsystem on the **Select Source IMS Subsystem** panel is automatically selected. You can select one or more additional data sharing group members to clone.
7. When you have selected all the members to be cloned, press Enter.

Specifying the target subsystem for data sharing source members

You must specify which members of the target data sharing group are to be used as targets.

If the target data sharing group will have the SAME number of members

1. **The Select Target IMS member** panel is displayed. On this panel, select the target subsystems to be paired with source subsystems. The target subsystem you select will be paired with the source member listed near the top of the panel.
2. Select a target by entering S next to the target. When you press Enter, if there are more source subsystems that need to be paired with targets, the panel will be displayed again.
3. Continue to pair target subsystem with source subsystems until all source and targets have been paired; when you press Enter, the **Edit IMS Cloning values** panel is displayed.

If the target data sharing group will have FEWER members

If the target is a data sharing group that will have fewer members than when built, then you must specify which target members will be the “surviving members”. For example, if you plan to clone one subsystem to a target data sharing group that has two members, then you will need to specify which target group member will be the surviving member.

1. The **Select Target IMS member** panel is displayed. On this panel, select the target subsystems to be paired with source subsystems. The target subsystem you select will be paired with the source member listed near the top of the panel.
2. Select a target by entering S next to the target. When you press Enter, if there are more source subsystems that need to be paired with targets, the panel will be displayed again. Continue to pair target subsystem with source subsystems until all source and targets have been paired.
3. The **Manage surviving target IMS members** panel is displayed. On this panel, you can add or delete the surviving member(s) for the target data sharing subsystem. Add a surviving target member by entering A in the Command line and press Enter.
4. The **Select surviving target IMS members** panel is displayed. Select the surviving member by entering S in the line command area next to the target subsystem. Or select all listed members by entering A in the command line. Press Enter.
5. To save changes, press Enter, then PF3. The **Enter IMS cloning values** panel is displayed.

If the target subsystem will not be a data sharing group (NONDS)

1. The **Select Target IMS member** panel is displayed. On this panel, select the target subsystems to be paired with source subsystems. The target subsystem you select will be paired with the source member listed near the top of the panel.
2. Select a target by entering S next to the target. When you press Enter, if there are more source subsystems that need to be paired with targets, the panel will be displayed again. Continue to pair target subsystem with source subsystems until all source and targets have been paired.
3. When you press Enter, the **Select surviving target IMS member panel** is displayed. This panel lists the target subsystem you selected. Since the target will be non-data sharing, this is the only subsystem that will be a surviving member. Enter S in the line command area to select the surviving member.
4. When you press Enter, the **Edit IMS Cloning values** panel is displayed.

Specify source and target volume pairings

Specify the input volumes to be copied and the target volumes to which they will be copied.

Procedure

1. On the **Edit IMS Subsystem Clone Profile** menu, enter option 2 (Select Source and Target Volume Pairing).
2. On the **Select Source and Target Volume Pairing** panel, enter one of the following:
 - 1 to select a specify a source SMS storage group or mask that contains the input volumes to be copied.
 - 2 to specify input volumes using volsers or volser masks.
 - 4 to specify one or more SMS storage groups or masks as targets that will be paired with input volumes.
 - 5 to specify the target volumes via volsers or volser masks that will be paired with input volumes.

Specify source and target ICF catalogs

Specify the source catalogs that data sets from source (from) volumes are cataloged in, and the corresponding target catalogs that renamed volume data sets are to be cataloged in.

About this task

For each renamed data set, source and target catalog pairs are searched for the ICF catalog the source volume data set was cataloged in. The renamed data set is cataloged in the corresponding target catalog.

Procedure

1. On the **Edit IMS Subsystem Clone Profile** menu, enter option 3 (Select Source and Target ICF catalogs).
2. On the **Select Source and Target ICF catalogs** panel, specify the source catalogs that data sets from the source volume are cataloged in, and the corresponding target catalog that renamed data sets on the target volume are to be cataloged in.

Specify rename masks for source and target data sets

The data sets from the COPY step can be renamed onto the target volumes.

About this task

For each renamed data set, source and target catalog pairs are searched for the ICF catalog the source volume data set was cataloged in. The renamed data set is cataloged in the corresponding target catalog.

Procedure

1. On the **Edit IMS Subsystem Clone Profile** menu, enter option 4 (Select rename masks).
2. On the **Select rename masks** panel, enter one of the following:
 - 1 to specify source and target rename masks. On the **Rename Masks** panel, specify the source and target data set rename masks. The RENAME uses these masks to rename and catalog the data sets from the COPY step onto the target volumes.
 - 2 to exclude data sets from the rename process. The **Exclude Masks** panel allows you to specify a list of source data set names or masks that will NOT be renamed.

Build the cloning jobs from a profile

Once the profile has been created, build the profile to produce the cloning jobs.

About this task

Begin building the profile on the **IMS Subsystem Clone Profile Display**, shown in the following figure:

```
GCL1ISPR          IMS Subsystem Clone Profile Display          Scroll ==> CSR
Command ==>

Commands:         C - Create
Line Commands:    B - Build  D - Delete  E - Edit  R - Rename  V - View  C - Copy

Profile Like . . . *
Creator Like . . . TWUSR*

                                Row 1 of 2
Cmd Name          Creator  Share Option Description
  TEST          TWUSR    NO ACCESS
  TEST2         RING     TWUSRA  UPDATE      TEST#2
```

Procedure

1. On the **IMS Subsystem Clone Profile Display**, enter B next to the profile that you want to build.
2. On the **Build IMS Subsystem Clone jobs** panel, enter the data set into which the jobs are to be placed, and specify processing options.
3. Press Enter.

The cloning jobs are generated into the specified data set.
4. If you selected the processing option to edit the JCL data set, a panel is displayed listing the jobs that have been generated, as shown in the following figure.

You can edit or view the jobs using line commands.

```

Edit TWUSR.GCL.JCLLIB4
Command ==> Scroll ==> CSR
Line Commands: E - Edit V - View
Row 1 of 22

```

Cmd	Name	Created	Changed	ID
ST01C7A1		2021/08/25	2021/08/25 08:59:50	TWUSR
ST01D8A		2021/08/25	2021/08/25 08:59:53	TWUSR
ST02		2021/08/25	2021/08/25 08:59:52	TWUSR
ST03C7A1		2021/08/25	2021/08/25 08:59:50	TWUSR
ST03D8A		2021/08/25	2021/08/25 08:59:53	TWUSR
ST04		2021/08/25	2021/08/25 08:59:52	TWUSR
ST05		2021/08/25	2021/08/25 08:59:53	TWUSR
ST06D9A3		2021/08/25	2021/08/25 08:59:50	TWUSR
ST06TI2		2021/08/25	2021/08/25 08:59:53	TWUSR
ST08D9A3		2021/08/25	2021/08/25 08:59:51	TWUSR
ST09D9A3		2021/08/25	2021/08/25 08:59:51	TWUSR
ST10D9A3		2021/08/25	2021/08/25 08:59:51	TWUSR
ST10TI2		2021/08/25	2021/08/25 08:59:53	TWUSR
ST11D9A3		2021/08/25	2021/08/25 08:59:51	TWUSR
ST11TI2		2021/08/25	2021/08/25 08:59:54	TWUSR
ST12D9A3		2021/08/25	2021/08/25 08:59:52	TWUSR
ST12TI2		2021/08/25	2021/08/25 08:59:54	TWUSR
ST13D9A3		2021/08/25	2021/08/25 08:59:52	TWUSR
ST13TI2		2021/08/25	2021/08/25 08:59:55	TWUSR
ST14D9A3		2021/08/25	2021/08/25 08:59:52	TWUSR
ST14TI2		2021/08/25	2021/08/25 08:59:55	TWUSR
ST22		2021/08/25	2021/08/25 08:59:55	TWUSR

Submit the jobs

After the subsystem cloning jobs have been generated, submit the jobs in order.

About this task

Jobs are built with members names of STxx, where xx is an indicator of the order in which the jobs should be submitted. Jobs with the same xx number can be submitted simultaneously. For instance, jobs ST06D9A3 and ST06D9B3 can be run at the same time.

Refreshing databases

This section describes the basic steps for database refresh using the ISPF interface.

Note: Be sure the DDs required for refreshing databases have been created before attempting to build a database refresh profile.

Start the ISPF interface and create a database refresh profile. After the database refresh profile has been created, the **Edit IMS Database Refresh Profile** menu is displayed, as shown in the following figure:

```

GCL1EDRP          Edit IMS Database Refresh Profile
Option ==>

Creator . . . . : TWUSER      Name . . . . : MYPROFILE
Share Option . : UPDATE      Description . :

1 Job card and qualifiers
2 DD Specification
3 IMSDBREFRESH command
4 IMSDBSTOP command
5 IMSDBSTART command
6 IMSDBCLEAN command

```

Database refresh steps summary

The general steps for using the ISPF interface to refresh an IMS database are described in this topic.

Procedure

1. Ensure the source and target subsystems have been added and properly configured under the Administrative Options option.
2. Create a database refresh profile.
3. Edit the IMS Database Refresh Job Card.
4. Verify the IMS Database Refresh settings.
5. Build jobs using the database refresh profile.
6. Submit the jobs.

Edit the source job

If defaults were specified in the database refresh default specifications panels under User Settings, a database refresh profile can be created simply by verifying the source and target subsystems.

About this task

On the **Edit IMS Database Refresh Profile** menu, select option 1 (Job card and qualifiers). The **Setup IMS Database Refresh Job Card** panel is displayed, as shown in the following figure:

```
GCL1EJCI          Setup IMS Database Refresh Job Card
Command ==>
Commands:         A - Add Line
Line commands:    D - Delete Line

Creator   . . . : TWUSER          Name . . . . : MYPROFILE
Share Option . : UPDATE          Description . :

Row 1 of 5

Cmd Job Card Information
//JOB CARD JOB TWUSER,CLASS=A,MSGCLASS=X,MSGLEVEL=(1,1),
// USER=&SYSUID,NOTIFY=&SYSUID,REGION=0M
//*
//*
//*
```

Procedure

1. Review the job card and qualifiers. The job cards for the IMS Database Refresh may have already been specified in the user defaults; verify that the settings are correct on the **Setup IMS Database Refresh Job Card** panel, add any necessary lines using the A (Add Line) command.
2. Press PF3 (END) to exit.
3. Review the DD specification. Select option 2, DD Specification, from the **Edit IMS Database Refresh Profile** panel. The DDs for the IMS Database Refresh may have already been specified in the user defaults; verify that the settings are correct, and make any necessary changes.
4. Specify IMSDBREFRESH options:
 - a) On the **Edit IMS Database Refresh Profile** menu, enter 3 (IMSDBREFRESH command).
The **IMSDBREFRESH command** panel is displayed.
 - b) In the **SOURCE IMS SSID** field, specify the source subsystem IDs. To select a subsystem from a list, type an asterisk in the **SOURCE IMS SSID** field and press enter. When the list of subsystems is displayed, type an S next to the desired subsystem and press Enter to return to the **IMSDBREFRESH command** panel.
 - c) In the **TARGET IMS SSID** field, specify the target subsystem IDs. To select a subsystem from a list, type an asterisk in the **TARGET IMS SSID** field and press enter. When the list of

- subsystems is displayed, type an S next to the desired subsystem and press Enter to return to the **IMSDBREFRESH command** panel.
- d) Set source and target DBD names, rename masks, and any data masking options that you want to use on the **IMSDBREFRESH command** panel.
 - e) Press PF3 (END) to exit.
5. Specify IMSDBSTOP options:
 - a) On the **Edit IMS Database Refresh Profile** menu, enter 4 (IMSDBSTOP command).
The **IMSDBSTOP command** panel is displayed.
 - b) Specify the IMS subsystem ID (required), and any additional IMSDBSTOP parameters you want to specify.
 - c) Press PF3 (END) to exit.
 6. Specify IMSDBSTART options:
 - a) On the **Edit IMS Database Refresh Profile** menu, enter 5 (IMSDBSTART command).
The **IMSDBSTART command** panel is displayed.
 - b) Specify the IMS subsystem ID (required), and any additional IMSDBSTART parameters you want to specify.
 - c) Press PF3 (END) to exit.
 7. Specify IMSDBCLEAN options:
 - a) On the **Edit IMS Database Refresh Profile** menu, enter 6 (IMSDBCLEAN command).
The **IMSDBCLEAN command** panel is displayed.
 - b) Specify the IMS subsystem ID (required), and any additional IMSDBCLEAN parameters you want to specify.
 - c) Press PF3 (END) to exit.
 8. When finished, press PF3 (END) to exit, then press PF3 again.
The **Edit Database refresh Profile** is displayed.

Build the database refresh jobs from a profile

Once the profile has been created, build the profile to produce the database refresh jobs.

Before you begin

Be sure the DDs required for database refresh have been created before attempting to build a database refresh profile.

About this task

Begin building the profile on the **IMS Database Refresh Profile display**, as shown in the following figure:

```

GCL1IDPR          IMS Database Refresh Profile display          Scroll ==> CSR
Command ==>

Commands:         C - Create
Line Commands:    B - Build  D - Delete  E - Edit      R - Rename  V - View  C - Copy

Profile Like . . . *
Creator Like . . . *

                                     Row 1 of 1
Cmd Name          Creator  Share Option Description
  TEST DB REFRESH  TWUSR    UPDATE
  
```

Procedure

1. On the **IMS Database Refresh Profile display**, enter B next to the profile that you want to build.

2. On the **Build IMS Database Refresh jobs** menu, enter 1 to generate database refresh jobs and press Enter.
The **Generate Database Refresh job** panel is displayed.
3. Specify the data set and member names for the database refresh jobs.
4. If desired, select one or more processing options.
5. Press PF3 (END) to continue.
If you specified to review the jobs, they are displayed in an ISPF edit session.
6. Press PF3 (END) until you return to the **Build IMS Database Refresh jobs** menu.
7. If you want to generate the stop job, enter 2 and press Enter.
The **Generate Database Stop job** panel is displayed.
8. Specify the data set and member name for the stop job.
9. If desired, select one or more processing options.
10. Press PF3 (END) to continue.
If you specified to review the job, it is displayed in an ISPF edit session.
11. Press PF3 (END) until you return to the **Build IMS Database Refresh jobs** menu.
12. If you want to generate the start job, enter 3 and press Enter.
The **Generate Database Start job** panel is displayed.
13. Specify the data set and member name for the start job.
14. If desired, select one or more processing options.
15. Press PF3 (END) to continue.
If you specified to review the job, it is displayed in an ISPF edit session.
16. Press PF3 (END) until you return to the **Build IMS Database Refresh jobs** menu.
17. If you want to generate the database clean job, enter 4 and press Enter.
The **Generate Database Clean job** panel is displayed.
18. Specify the data set and member name for the clean job.
19. If desired, select one or more processing options.
20. Press PF3 (END) to continue.
If you specified to review the job, it is displayed in an ISPF edit session.
21. Press PF3 (END) until you return to the **Build IMS Database Refresh jobs** menu.

Results

The jobs have been generated and are in the data sets specified. You can now submit the database refresh jobs to perform the refresh.

Submit the jobs

After the jobs have been generated, submit the jobs in the correct order.

Procedure

1. Run the database refresh job.
2. Run the stop job.
3. Run the start job.
4. Run the clean job.

Results

The database refresh is now complete.

Chapter 6. Masking data while refreshing databases

The masking feature of IMS Cloning Tool helps you to protect sensitive data, (for example, credit card numbers, Social Security numbers, names, and addresses) by masking data while refreshing your IMS databases.

IMS Cloning Tool masks data by modifying it during the refresh process, leaving the data in the source database in its original state, but modifying it before it is moved to the target database. Any changes made to the data are determined by user-specified masking rules applied during the copy.

You can apply data masking by using the batch interface commands and DD, or by using the ISPF interface.

The masking support will allow for masking of a segment, a field, or any positions within the segment. For field-level masking, you can include the `FIELD()` keyword for any fields defined in the DBD or the `START()` and `BYTES()` keywords to specify the starting position and length of the data to be masked.

When a database is masked, the output of the `IMSDBREFRESH` command is an IMS unload file. This unload file must then be used to reload the database on the target system. Normal (non-masked) `IMSDBREFRESH` processing will cause the IMS database on the target system to be updated. When an IMS database is masked using `IMSDBREFRESH`, the source database is first unloaded using the IMS HD reorganization unload utility (`DFSURGU0`). The data masking interface then reads this file and creates a new unload file that has been modified to perform masking. If the `IMSDBREFRESH` command and data masking is successful, in order to update the IMS database on the target system, this masked unload file must be used as input to the IMS HD reorganization reload utility (`DFSURGL0`). Once the database has been reloaded, all indices associated with the database must also be rebuilt.

Restriction: Data masking is not supported for segments that are involved in a logical relationship.

How to process indexes when using data masking

When specifying data masking for a database, the best practice is to assume all indexes on that database must be rebuilt. Instead of copying the indexes for masked databases, omit the indexes from the DBD parameter and ensure that the `INDEXES` keyword specifies `N` explicitly to prevent all indexes from being included in copy processing. After executing the `IMSDBREFRESH` job and reloading the target database, rebuild all of the indexes that were omitted from the database refresh.

Note: When applying data masking to an HIDAM or PHIDAM database, the primary index database must be specified in the DBD keyword to prevent the processing from failing with GCL35510E error.

Overview: Masking data with IMS Cloning Tool

About this task

`SGCLJCL`(IMS Cloning Tool`COPY2`) contains a sample job for performing `IMSDBREFRESH` with data masking.

Procedure

1. Add the `DATA-MASKING(Y)` keyword to the `IMSDBREFRESH` command.
For more information, see “`IMSDBREFRESH`” on page 235.
2. Create a `MASKDEF` data set to contain the `MASKDEF` command and keywords that identify the database, segment, or field and data to be masked and define the mask rule.

Note: `SGCLJCL`(IMS Cloning Tool`MSKDF`) contains a sample `MASKDEF` command for masking the `IVPDB1` database.

3. In the `IMSDBREFRESH` job, add the `GCLMSKDF` DD that points to the `MASKDEF` data set:

GCLMSKDF DD DISP=SHR,DSN=hlq.MASKDEF(*member*)

4. Submit the IMSDBREFRESH job. The IMSDBREFRESH job creates an unload file for each of the source database that has one or more valid MASKDEF entries in the GCLMSKDF data set. This unload file will be a copy of the database with the specified data masked.
5. Reload target database with the unload data set, and rebuild any associated indexes. Any source databases that did not have a MASKDEF entry are refreshed with standard IMSDBREFRESH processing.

Step 1: Add the DATA-MASKING keywords to IMSDBREFRESH

Procedure

1. Add the DATA-MASKING(Y) keyword to the IMSDBREFRESH command.

For more information, see [“IMSDBREFRESH” on page 235](#).

2. Specify additional data masking keywords:

DATA-MASKING(Y,[RESTART | RERUN])

An IMSDBREFRESH job that is masking some data can be restartable if a JRNLDLBRF or JOURNAL DD is included in the original IMSDBREFRESH job. If the previous IMSDBREFRESH failed, then DATA-MASKING(Y,RESTART) can be specified to restart the IMSDBREFRESH process and skip any processing that was successful on the previous run. If the previous IMSDBREFRESH job failed and you want to start the database refresh job from the beginning, specify:

```
DATA-MASKING(Y,RERUN)
```

UNLOAD-FROM(TEMP|SOURCE)

Indicates whether to unload from the original source database or to create a temporary copy of the source database then create the unload from that copy. Performing the unload from a temporary copy of the database reduces the impact on the source database. The default is TEMP.

Restriction: Unload from the original source database is not supported when the FUZZY-COPY(Y) keyword is specified.

TEMP-DB-HLQ(USERID|xxxxx)

(This keyword is only applicable if UNLOAD-FROM(TEMP) is specified.) Specifies the high-level qualifier to use to allocate the temporary database data sets when UNLOAD-FROM(TEMP) is specified. This value can be up to 26 bytes. When USERID (the default) is specified, the user ID associated with the job that performs the IMSDBREFRESH process is used. IMS Cloning Tool appends 'database name.ddname' to this value to create the data set name for the temporary database data sets. This temporary copy is deleted once the unload file is created.

When the database to be masked is a HALDB, IMS Cloning Tool appends 'master database name.6-character suffix' to the high-level qualifier to create the data set name for the temporary database data sets. When the database is a FFDB or DEDB, the standard naming convention, 'HLQ.database name.ddname', is used. IMS Cloning Tool also appends 'RECON1' or 'RECON2' to this value to create the data set name for the temporary RECON data sets. The temporary RECON data sets are deleted once the unload file is created.

Because the data that is being masked can be sensitive, secure the data set name using RACF to prevent undesired access to the data.

IMS Cloning Tool creates a temporary unload file for each source database that is being masked. If the masking process is successful, this data set is deleted. If masking fails, then this data set remains allocated and cataloged so that you can perform RESTART processing if desired. The following parameters are used to specify the allocation parameters to use when allocating the temporary unload file:

TEMP-UNLOAD-HLQ(USERID|xxxxxx)

Specifies the high-level qualifier to use to allocate the temporary unload file to create during the IMSDBREFRESH job. This value can be up to 33 bytes. When USERID (the default) is specified, the user ID associated with the job that is performing the IMSDBREFRESH process is used. IMS Cloning Tool appends 'database name.T' to this value to create the data set name for the temporary unload file. Since the data that is being masked can be sensitive, be sure that the data set name created is secured using RACF to prevent undesired access to the data.

TEMP-UNLOAD-UNIT(xxxxxxxx)

Specifies the UNIT to use when allocating the temporary unload file. There is no default.

TEMP-UNLOAD-VOLUME(xxxxxxxx)

Specifies the volume serial to use when allocating the temporary unload file. There is no default.

TEMP-UNLOAD-STORCLAS(xxxxxxxx)

Specifies the SMS Storage Class to use when allocating the temporary unload file. There is no default.

TEMP-UNLOAD-DATACLAS(xxxxxxxx)

Specifies the SMS Data Class to use when allocating the temporary unload file. There is no default.

TEMP-UNLOAD-MGMTCLAS(xxxxxxxx)

Specifies the SMS Management Class to use when allocating the temporary unload file. There is no default.

IMS Cloning Tool creates a permanent unload file for each source database that is being masked. If the masking process is successful, this data set remains allocated and cataloged and should be used to reload the target database. The following parameters are used to specify the allocation parameters to use when allocating the permanent unload file.

PERM-UNLOAD-HLQ(USERID|xxxxxx)

Specifies the high-level qualifier to use to allocate the permanent unload file to create from the IMSDBREFRESH job. This value can be up to 33 bytes. When USERID (the default) is specified, the user ID associated with the job that is performing the IMSDBREFRESH process is used. IMS Cloning Tool appends 'database name.P' to this value to create the data set name for the permanent unload file.

PERM-UNLOAD-UNIT(xxxxxxxx)

Specifies the UNIT to use when allocating permanent unload file. There is no default.

PERM-UNLOAD-VOLUME(xxxxxxxx)

Specifies the volume serial to use when allocating permanent unload file. There is no default.

PERM-UNLOAD-STORCLAS(xxxxxxxx)

Specifies the SMS Storage Class to use when allocating permanent unload file. There is no default.

PERM-UNLOAD-DATACLAS(xxxxxxxx)

Specifies the SMS Data Class to use when allocating permanent unload file. There is no default.

PERM-UNLOAD-MGMTCLAS(xxxxxxxx)

Specifies the SMS Management Class to use when allocating permanent unload file. There is no default.

Step 2: Create a MASKDEF member containing MASKDEF commands and keywords

The member is to contain MASKDEF commands that identify the database and fields or segments to be masked, and to define the masking rule. Multiple MASKDEF commands can be included in the member and can be for the same database or for different databases. Multiple MASKDEF commands are supported for the same database and segment.

Procedure

1. Create a new MASKDEF data set, *hlq.MASKDEF(member name)*, to contain the MASKDEF commands.

Note: SGCLJCL(IMS Cloning ToolMSKDF) contains a sample MASKDEF command for masking the IVPDB1 database.

2. In the new MASKDEF data set, add MASKDEF commands.

The format of the data set depends on the commands that are being used. For example, a MASKDEF member that contains the FIELD command would be formatted as follows:

```
MASKDEF
  DATABASE(dbdname)
  SEGMENT(segment name)
  DATATYPE(data type[,parameters])
  FIELD(fieldname)
  MASKRULE(maskrule)
```

A MASKDEF member that contains the START and BYTES commands would be formatted as follows:

```
MASKDEF
  DATABASE(dbdname)
  SEGMENT(segment name)
  DATATYPE(data type[,parameters])
  START(starting position)
  BYTES(#bytes to mask)
  MASKRULE(maskrule)
```

DATABASE(dbdname)

(Required) Specify the name of the source database that contains the segment or field to be masked.

SEGMENT(segment name)

(Required) Specify the name of the segment within the source database that contains the segment or field to be masked. If FIELD or START, and BYTES are not specified, the entire segment is masked, and the length of the segment is determined by the BYTES= parameter on the SEGM statement in the DBD.

DATATYPE(data-type[,parameters])

(Required) Specify the data type of the positions to be masked. Each data type also has an inherent length or range and will be verified. Valid data types and the length/ranges allowed are:

- BINARY – length can be from 1 to the maximum segment size
- CHAR – length can be from 1 to the maximum segment size
- BIT – length is 1 byte
- BYTE – length is 1 byte
- SHORT – length is 2 bytes (halfword)
- INT – length is 4 bytes (fullword)
- LONG – length is 8 bytes (doubleword)
- DECIMAL – length can be from 1-100 bytes for ZONED and from 1-50 bytes for PACKED
- FLOAT – length is 4 bytes (fullword)
- DOUBLE – length is 8 bytes (doubleword)
- TIME – length depends what time-subtype will be chosen
- DATE – length depends what date-subtype will be chosen
- TIMESTAMP – length depends what timestamp-subtype will be chosen

When a data type of DECIMAL, DATE, TIME or TIMESTAMP is specified, there are additional parameters that are required in order to indicate the format of the data:

DATATYPE(DECIMAL,scale[,decimal-subtype,sign])

In the following description, the term 'precision' is the total number of decimal digits, and 'scale' is the number of digits after a decimal point. The decimal point is not stored in the field, it is only part of information about data type. Scale is explicitly defined by the user in the DATATYPE() parameter and must be non-negative value not greater than precision. Precision

is implicitly calculated from the actual field length and must be positive value not greater than 99. For example:

- packed, unsigned: precision = field length * 2 (every byte stores 2 digits).
- packed, signed: precision = field length * 2 - 1 (every byte stores 2 digits, but second nibble of the last byte stores sign).
- zoned, unsigned: precision = field length (every byte stores 1 digit in second nibble).
- zoned, signed_trailing and signed_leading: precision = length (every byte stores 1 digit, and one byte - last or first - stores sign in first nibble).
- zoned, signed_trailing_separate and signed_leading_separate: precision = length - 1 (1 separate byte - last or first - stores sign only, and every other byte stores 1 digit).

Decimal values in mask rule must meet the following requirements:

- Sign is not allowed for unsigned types.
- The total number of digits before a dot must be not greater than (precision - scale).
- The total number of digits after a dot must be equal to (scale). You can use full form of number ("1234.5678"), or omit integer part (".1234", if you have non-zero scale), or omit fractional part ("1234", if you have zero scale).

When a data type of DECIMAL is specified, there are three additional parameters to indicate the format of the data:

scale

(Required) Valid values are from 0 to the field precision.

decimal-subtype

(Optional) This parameter is used to indicate the internal format of the data. Valid values are:

- PACKED: (default) each byte of data stores two decimal digits.
- ZONED: each byte of data stores one decimal digit.

sign

(Optional) This parameter is used to indicate the way in which sign is stored.

- When decimal-subtype is PACKED, valid sign values are SIGNED (sign is stored in the last byte), and UNSIGNED (no sign is stored). The default is SIGNED.
- When decimal-subtype is ZONED, valid sign values are SIGNED_TRAILING (sign is stored in the last byte together with the last digit), SIGNED_LEADING (sign is stored in the first byte together with the first digit), SIGNED_TRAILING_SEPARATE (sign is stored in the last byte after the last digit), SIGNED_LEADING_SEPARATE (sign is stored in the first byte before the first digit), and UNSIGNED (no sign is stored). The default is SIGNED_TRAILING.

For example:

Signed DECIMAL PACKED with scale=12 would be: DATATYPE(DECIMAL, 12), DATATYPE(DECIMAL, 12, PACKED) or DATATYPE(DECIMAL, 12, PACKED, SIGNED).

Unsigned DECIMAL PACKED with scale=0 would be: DATATYPE(DECIMAL, 0, PACKED, UNSIGNED).

Signed DECIMAL ZONED, storing sign in the last byte together with the last digit with scale=5 would be: DATATYPE(DECIMAL, 5, ZONED) or DATATYPE(DECIMAL, 5, ZONED, SIGNED_TRAILING).

Signed DECIMAL ZONED, storing sign in the first byte before the first digit with scale=5 would be: DATATYPE(DECIMAL, 5, ZONED, SIGNED_LEADING_SEPARATE).

Unsigned DECIMAL ZONED with scale=1 would be: DATATYPE(DECIMAL, 1, ZONED, UNSIGNED).

DATATYPE(TIME,time-subtype,format-of-time)

time-subtype

(Required) This parameter is used to indicate the internal format of the data. Valid values are:

- HEX – data is internal, hexadecimal format such as x'153030' for 15:30:30. Length is 1-3 bytes.
- CHAR – data is in character (i.e. externally readable) format such as 15.30.30 or 15:30:30. Length is from 2-8 bytes.

format-of-time

(Required) This parameter is used to specify the format or layout of the fields within the time. For time portions of the fields, HH indicates hours, II indicates minutes, and SS indicates seconds.

For CHAR time-subtype any printable single characters except those used for field definition ('Y', 'M', 'D', 'H', 'I', 'S' or 'P') can be used as delimiters at any position between fields, but not at the first or last position of format-of-time.

For example:

Hex time x'153030': DATATYPE(TIME,HEX,"HHIISS").

Character time 15.30.30: DATATYPE(TIME,CHAR,"HH.II.SS").

Character time 15*30+30: DATATYPE(TIME,CHAR,"HH*II+SS").

DATATYPE(DATE,date-subtype,format-of-date)

date-subtype

(Required) This parameter is used to indicate the internal format of the data. Valid values are:

- HEX – data is internal, hexadecimal format such as x'20211004' for October 4, 2021. Length is 1-4 bytes.
- CHAR – data is in character (i.e. externally readable) format such as 10/21/2021 for October 21, 2021. Length is from 2-10 bytes.

format-of-date

(Required) This parameter is used to specify the format or layout of the fields within the date that it can be correctly processed. For date portions of the fields, YYYY indicates a 4 digit year, YY indicates a 2 digit year, MM indicates the month, and DD indicates the day.

For CHAR date-subtype any printable single characters except those used for field definition ('Y', 'M', 'D', 'H', 'I', 'S' or 'P') can be used as delimiters at any position between fields, but not at the first or last position of format-of-date.

For example:

- Hex date x'20211231':
DATATYPE(DATE,HEX,"YYYYMMDD")

- Character date 12/31/2021:
DATATYPE(DATE,CHAR,"MM/DD/YYYY")

- Character date 31-12:20:
DATATYPE(DATE,CHAR,"DD-MM:YY")

DATATYPE(TIMESTAMP,timestamp-subtype,format-of-timestamp)

timestamp-subtype

(Required) This parameter is used to indicate the internal format of the data. Valid values are:

- HEX – data is internal, hexadecimal format such as x'20211004153030123456789012' for October 4, 2021, 15:30:30 and 123456789012 picoseconds. Length is 1-13 bytes.
- CHAR – data is in character (i.e. externally readable) format such as 2021.10.04.15.30.30.123456789012 for October 4, 2021, 03:30:30 pm and 123456789012 picoseconds. Length is 2-32 bytes.

format-of-timestamp

(Required) This parameter is used to specify the format or layout of the fields within the timestamp that it can be correctly processed. For timestamp portions of the fields, YYYY indicates a 4 digit year, YY indicates a 2 digit year, MM indicates the month, DD indicates the day, HH indicates hours, II indicates minutes, SS indicates seconds, PP... can be used to further qualify the timestamp (P can be repeated up to 12 characters to complete the time as it exists).

For CHAR timestamp-subtype any printable single characters except those used for field definition ('Y', 'M', 'D', 'H', 'I', 'S' or 'P') can be used as delimiters at any position between fields, but not at the first or last position of format-of-timestamp.

For example:

Character timestamp 2021/12/31-15:30:30.123456789012 would be:

DATATYPE (TIMESTAMP, CHAR, "YYYY/MM/DD-HH:II:SS.PPPPPPPPPPP")

Hex timestamp x'20211231153030999999999999' would be:

DATATYPE (TIMESTAMP, HEX, "YYYYMMDDHHIISSPPPPPPPPPPPP")

FIELD(field name)

(Optional) Specify the name of the field within the source database segment to be masked. This parameter is valid only for those fields which are defined in the DBD. If FIELD is specified, then the entire field will be masked. The starting position and bytes are obtained from the START= and BYTES= parameters on the FIELD statement in the DBD definition. FIELD is mutually exclusive with START and BYTES.

START(starting position)

(Optional) Specify the numeric starting position of the data to be masked within the segment in the source database. If START is specified, BYTES is also required. START and BYTES are mutually exclusive with FIELD.

BYTES(length)

(Optional) Specify the numeric length of the data to be masked. This parameter is required if START is specified. START and BYTES are mutually exclusive with FIELD.

MASKRULE(maskrule)

(Required) Specify the mask rule to be applied to the specified data to be changed. For more information on MASKRULE values, see [“Command and keyword syntax for the MASKRULE command”](#) on page 134. A list of the supported mask rules by datatypes follows:

- BINARY: scramble, user exit
- CHAR: static, scramble, mask, pattern, current user, user exit
- BIT: static, random, user exit
- BYTE: static, scramble, random, sequence, user exit
- SHORT: static, scramble, random, sequence, user exit
- INT: static, scramble, random, sequence, user exit
- LONG: static, scramble, random, sequence, user exit
- DECIMAL: static, scramble, random, user exit
- FLOAT: static, scramble, user exit
- DOUBLE: static, scramble, user exit
- DATE: static, scramble, random, current date, user exit

- **TIME:** static, scramble, random, current time, user exit
- **TIMESTAMP:** static, scramble, current timestamp, user exit, random

Tip: You can include multiple MASKDEF commands in the MASKDEF data set.

Command and keyword syntax for the MASKRULE command

IMS Cloning Tool applies data masking to fields based on the mask rule (MASKRULE keyword) that you specify in the MASKDEF command.

The MASKRULE(*maskrule*) keyword is specified in step “2” on page 127 of “Overview: Masking data with IMS Cloning Tool” on page 127. MASKRULE is required and specifies the mask rule that will be applied to data during the refresh.

MASKRULE keywords

The keyword you specify in the MASKRULE command determines the mask rule that is applied to the source data. The following MASKRULE keywords are available:

- **STATIC:** modifies data by replacing it with a constant value.
- **MASK:** modifies data by replacing it with a customized pattern or static value.
- **PATTERN:** modifies data by replacing it with a pattern; allowing you to specify the pattern based on the existing value of the data.
- **RANDOM:** modifies data by replacing it with random numeric or date/timestamp data, optionally within a certain range.
- **USEREXIT:** allows the user to specify their own user exit (user-created program) that contains data masking rules.
- **SEQUENCE:** modifies data by replacing it with a generated sequence of numeric values with a specified increment.
- **SCRAMBLE:** applies a static scrambling algorithm to the data.
- **CURRENT:**
 - **CURRENT DATE:** replaces the column values with the current date.
 - **CURRENT TIME:** replaces the column values with the current time.
 - **CURRENT TIMESTAMP:** replaces the column values with the current timestamp.
- **CURRENT USER:** replaces the column values with the current user ID of the owner of the process when it is run.

Continuation characters

A rule that requires continuation must only use one continuation character. For example:

```
RULE (STATIC,
"long_string_3456789B123456789C123456789D123456789E1-23456789F123456789G1234567
89H123456789I123456789J123456789K12345678")
```

More than one continuation character is not allowed, such as:

```
RULE (STATIC, -
"long_string_3456789B123456789C12-3456789D123456789E1-23456789F123456789G123456
789H123456789I123456789J123456789K12345678")
```

Masking data with a constant value using the STATIC keyword

The STATIC keyword defines a constant value to be used to mask data.

The constant value must be placed between quotation marks for DATE, TIME, TIMESTAMP, and CHAR data types. For NUMERIC data types (BIT, BYTE, SHORT, INT, LONG, DECIMAL, FLOAT, and DOUBLE), the

value must be entered without quotation marks. The keyword `STATIC` can be defined in upper or lower case.

This rule can be used for the following column data types:

- `CHAR`
- `BIT`
- `BYTE`
- `SHORT`
- `INT`
- `LONG`
- `DECIMAL`
- `FLOAT`
- `DOUBLE`
- `DATE`
- `TIME`
- `TIMESTAMP`

STATIC mask syntax

`MASKRULE(STATIC, numeric | "date_or_time" | "string")`

STATIC mask parameters

numeric

This value can be any of the following types:

- A binary integer (small integer, integer, or big integer)
- A decimal number
- A floating point number (real, double, or decimal)

date_or_time

This value can be a time, date, or timestamp.

string

This value can be any alphanumeric string.

STATIC mask samples

```
MASKRULE(STATIC, 10)
MASKRULE(STATIC, -100)
MASKRULE(STATIC, -7.2e+75)
MASKRULE(STATIC, "2020-02-04")
MASKRULE(STATIC, "2019-12-01-15.30.30")
MASKRULE(STATIC, "2021-10-31-23.59.59.000000000000")
MASKRULE(STATIC, "123 Division Street")
```

Masking data with a specified pattern or static value with the MASK mask rule

This mask rule modifies values by replacing positions within an existing value with the specified pattern or static value.

Non-alphanumeric characters can be generated by enclosing them with a backslash (\) when they are specified. For example, `\%` generates `%`. The keyword `MASK` can be defined in upper or lower case. This rule can be used for the following column data types:

- `CHAR`

MASK mask syntax

MASKRULE(MASK, “*pattern*”, *start*, *end*)

MASK mask parameters

pattern

Use this variable to specify the value to be placed in the position specified in the start and end fields. You can also type a pattern to be evaluated, then placed in the specified position or positions. Patterns can be specified in three ways: character generation, string selector, or static value.

- Character generation: Characters that are enclosed in square brackets force a random selection of one of the enclosed characters. Ranges of characters can be established by using the dash. Ranges can only include alphanumeric characters. The following table shows the determination of how many times an expression can be repeated according to the quantification after a symbol or group of symbols:

Table 20. Declaration examples	
Declaration	Repeat count
{n}	Exactly n
{m,n}	From m till n inclusive

In combination with repeated templates, a set of characters can establish a correspondence with real text, such as digit columns, phone numbers, zip codes, HTML page elements, and so on.

A set of possible symbols must be defined in brackets. For example, [abc] allows one of those three characters to appear in the text. [1234567890] allows any of those digits to be used. The following table shows the evaluation of a specified character or group of characters:

Table 21. Character generation examples	
Character specification	Evaluates to
[Aa]	A or a
[abcde] or [a-e]	Any character between a and e, inclusive
[0-9]	Any single-digit number
[0-9a-z]	Any single-digit number or any lowercase letter
[A-Z]{3}	Any three-character uppercase string
[24\%\-&]	One of the following: 2, 4, %, -, or &.
[AaBb]{5}	Any five-character string containing any combination of the four specified letters. For example: AAbaA or abbBA or AbAbB
[Aab2]{1,17}	A string from one to 17 characters in length made up of any combination of the four specified letters. For example: a2baab2A or A or a2baabAbaA22bAb2A

- String selector: Strings that are enclosed in parentheses and delimited by the vertical bar (|) character perform a random selection of one of the strings. Character generators can be included in a string selector. Both alphanumeric and non-alphanumeric characters can be generated. Non-alphanumeric characters can be generated by dereferencing them (using a \) when they are specified. The following table lists examples of string selector characters and their evaluations:

Table 22. String selector examples	
Character specification	Evaluates to
(Mrs Mr Ms)	Mrs, Mr, or Ms
(C[ATO] A[KLR])	CA, CT, CO, AK, AL, or AR

- **Static Value:** Any string of characters that is not enclosed in brackets (for character generation) or parentheses (for string selection), is considered a static value and is concatenated in the order of appearance. The following table includes an example of a non-alphanumeric character preceded by a backslash (\) and its evaluation:

Table 23. Static value examples	
Character specification	Evaluates to
(Sir The\ Great Mr) Bill	Sir Bill, The Great Bill, or Mr Bill

start, end

Type an inclusive range of the positions in the source data that are to be replaced.

MASK mask samples

```
MASKRULE(MASK, "[abc]{1}", 1, 2)
MASKRULE(MASK, "[0]{1}", 1, 2)
MASKRULE(MASK, "[0-9]{10}", 1, 10)
MASKRULE(MASK, "[A-Z]{10}", 1, 10)
MASKRULE(MASK, "[a-z]{5}", 1, 5)
MASKRULE(MASK, "[ABCabc123]{1, 10}", 1, 10)
MASKRULE(MASK, "[\~\`!\@\#\$\%\&\*\(\)\_\-\=\+]{10}", 1, 10)
MASKRULE(MASK, "[A-Za-z0-9]{1, 10}", 1, 10)
MASKRULE(MASK, "[A-Za-z0-9\~\`!\@\#\$\%\&\*\(\)\_\-\=\+]{1, 10}", 1, 10)
MASKRULE(MASK, "(Mrs|Mr|Ms)", 1, 3)
MASKRULE(MASK, "(C[ATO]|A[KLR])", 1, 3)
MASKRULE(MASK, "(Sir|The\ Great|Mr) Bill", 1, 10)
MASKRULE(MASK, "(Sir|The\ Great|Mr) Bill (C[ATO]|A[A-Za-z0-9])", 1, 20)
MASKRULE(MASK, "[Aab2]", {1,17})
MASKRULE(MASK, "(IL|IA|IN)")
MASKRULE(MASK, "(I[L|A|N])"
```

Masking data with a pattern generated by the PATTERN mask rule

The pattern rule allows you to specify a pattern to be used to generate a value. A variety of patterns can be generated by specifying a formula for the pattern.

The keyword PATTERN can be defined in upper or lower case.

This rule can be used for the following column data types:

- CHAR

PATTERN mask syntax

MASKRULE(PATTERN, "pattern", "use_sources")

PATTERN mask parameters

pattern

This parameter defines the pattern that will generate a value. Nested expressions can be used. All other characters are directly inserted into the rule value. There are several different pattern types that can be created. Each type of pattern is created by typing the appropriate pattern in the pattern field.

- **Character generation:** Characters that are enclosed in square brackets force a random selection of one of the enclosed characters. Ranges of characters can be established by using the dash. Ranges can only include alphanumeric characters. Quantification after a symbol or group of symbols

determines how many times this expression can be repeated. The following table lists the repeat count for characters declared in square brackets:

<i>Table 24. Repeat count of characters enclosed in square brackets</i>	
Declaration	Repeat count
{n}	Exactly n
{m,n}	From m till n inclusive

In combination with repeated templates, a set of characters can establish a correspondence with real text, such as digit columns, phone numbers, zip codes, HTML page elements, and so on.

A set of possible symbols must be defined in brackets. For example, [abc] allows one of those three characters to appear in the text. [1234567890] allows any of those digits to be used. The following table lists examples of character generation and their evaluation:

<i>Table 25. Character generation examples</i>	
Character specification	Evaluates to
[Aa]	A or a
[abcde] or [a-e]	Any character between a and e, inclusive
[0-9]	Any single-digit number
[0-9a-z]	Any single-digit number or any lowercase letter
[A-Z]{3}	Any three-character uppercase string
[24\%-\&]	One of the following: 2, 4, %, -, or &.
[AaBb]{5}	Any five-character string containing any combination of the four specified letters. For example: AAbaA or abbBA or AbAbB
[Aab2]{1,17}	A string from one to 17 characters in length made up of any combination of the four specified letters. For example: a2baab2A or A or a2baabAbaA22bAb2A

- **String selector:** Strings that are enclosed in parentheses and delimited by the vertical bar (|) character perform a random selection of one of the strings. Character generators can be included in a string selector. Both alphanumeric and non-alphanumeric characters can be generated. Non-alphanumeric characters can be generated by dereferencing them (using a \) when they are specified. The following table lists string selector examples and their evaluation:

<i>Table 26. String selector examples</i>	
Character specification	Evaluates to
(Mrs Mr Ms)	MRs, MR, or Ms
(C[ATO] A[KLR])	CA, CT, CO, AK, AL, or AR

- **Static Value:** Any string of characters that is not enclosed in brackets (for character generation) or parentheses (for string selection), is considered a static value and is concatenated in the order of appearance. A non-alphanumeric character should be preceded by a backslash (\). The following table includes a static value example and example evaluation:

<i>Table 27. Static value examples</i>	
Character specification	Evaluates to
(Sir The\ Great Mr) Bill	Sir Bill, The Great Bill, or Mr Bill

use_sources

Valid values for this option are Y(ES) or N(O). If this option is Y(es), output data will be generated based on the current value of the field. This function is based on static formula; for any given input value and identical pattern, the output value will be the same. For example, for the pattern:

```
[0-2][0-9]{3}\-[0-9]{4}\-[A-D]{4}
```

and the field is 5985-9597-BDHF, the output result will be always be 2896-1648-ABCD.

PATTERN mask samples

```
MASKRULE(PATTERN, "[0-2][0-9]{3}\-[0-9]{4}\-[A-D]{4}", "Y")
MASKRULE(PATTERN, "[0-2][0-9]{3}\-[0-9]{4}\-[A-D]{4}", Y)
MASKRULE(PATTERN, "[abc]{1}", YES)
MASKRULE(PATTERN, "[0]{1}", Y)
MASKRULE(PATTERN, "[0-9]{10}", NO)
MASKRULE(PATTERN, "[A-Z]{10}", N)
MASKRULE(PATTERN, "[a-z]{5}", YES)
MASKRULE(PATTERN, "[ABCabc123]{1, 10}", Y)
MASKRULE(PATTERN, "[\~\`!\@#\$\%\&\*\(\)\_\-=\+]{10}", NO)
MASKRULE(PATTERN, "[A-Za-z0-9]{1, 10}", N)
MASKRULE(PATTERN, "(Mrs|Mr|Ms)", Y)
MASKRULE(PATTERN, "(C[ATO]|A[KLR])", NO)
MASKRULE(PATTERN, "(Sir|The\ Great|Mr) Bill", N)
```

Masking data with a random numeric, datestamp, or timestamp value using the RANDOM mask rule

The random rule produces random numeric or date/timestamp data within certain bounds.

The keyword RANDOM can be defined in upper or lower case.

This rule can be used for the following column data types:

- BIT
- BYTE
- SHORT
- INT
- LONG
- DECIMAL
- DATE
- TIME
- TIMESTAMP

RANDOM mask syntax

```
MASKRULE(RANDOM, "min", "max", "check_bounds")
```

RANDOM mask parameters

min, max

min and max must be entered between quotation marks for DATE, TIME and TIMESTAMP data types. All numeric values must be entered without quotation marks. These values can be any of the following, but both min and max must be defined and must be the same data type:

- A binary integer (small integer, integer, or big integer)
- A decimal number
- A time, date, or a timestamp

Minimum and maximum values must be specified in the same data type format of the table column data type. For example, if the column type where the mask is to be applied is decimal, then minimum and maximum should be defined in format NNNNN.MM, where precision and scale also correspond to the column data type

If min and max do not correspond to the column data type, IMS Cloning Tool returns an error.

For *min*, enter the lowest possible value to be generated by this rule. For *max*, enter the highest possible value to be generated by this rule.

check_bounds

Valid values for this parameter are Y(ES) or N(O). Enter Y or YES to have one row in your target table that corresponds to the value specified in the min field and one row in your table that corresponds to the value specified in the max field. This option allows you to test the endpoints of the range that you specified.

RANDOM mask samples

```
MASKRULE(RANDOM, 0, 1, N)
MASKRULE(RANDOM, -1, 0, NO)
MASKRULE(RANDOM, -100, 0, Y)
MASKRULE(RANDOM, -1, 1, YES)
MASKRULE(RANDOM, 0.00, 100.00, NO)
MASKRULE(RANDOM, -100.00, 0.00, Y)
MASKRULE(RANDOM, "2019-01-01", "2019-12-31", Y)
MASKRULE(RANDOM, "2019-12-01", "2020-01-31", N)
MASKRULE(RANDOM, "00.00.00", "23.59.59", Y)
MASKRULE(RANDOM, "12.00.00", "12.59.59", N)
MASKRULE(RANDOM, "2019-01-01-00.00.00", "2019-12-31-23.59.59.999999", Y)
MASKRULE(RANDOM, "2019-12-01-12.00.00", "2020-01-31-12.59.59.999999", N)
```

Masking data by calling an exit using the USEREXIT mask rule

The user exit rule allows IMS Cloning Tool to call a user exit (a user-created program) that defines the user's own data mask rules.

The keyword USEREXIT can be defined in upper or lower case. This rule can be used for any column data type.

USEREXIT mask syntax

MASKRULE(USEREXIT, *module*)

USEREXIT mask parameters

module

For *module*, enter the external module name that will be called for each column value. The current value of the column will be used as input for the module. The user exit should change the value and return it to IMS Cloning Tool in the same buffer. The user exit must reside in the STEPLIB concatenation.

The length of the column values cannot be changed using a user exit.

The following format is used to pass the column value to the user exit:

```
unsigned int user_exit(void* field_data, size_t length);
```

USEREXIT mask samples

```
MASKRULE(USEREXIT, CSNMASK1)
```

Masking data with a sequence of numbers using the SEQUENCE mask rule

The sequence rule generates a sequence of numeric values.

The first time the function reference is evaluated, it returns the value of the first argument (*initial_value*). Each subsequent evaluation returns the value of the second argument (*increment*) added to the previously returned value. The resulting data type is always integer.

The keyword SEQUENCE can be defined in upper or lower case.

This rule can be used for the following column data types:

- BYTE
- SHORT
- INT
- LONG

SEQUENCE mask syntax

`MASKRULE(SEQUENCE, initial_value, increment)`

SEQUENCE mask parameters

initial_value

Enter an integer value that will be the first value in the sequence.

increment

Enter an integer value that will be increment each value in the sequence.

SEQUENCE mask samples

```
MASKRULE(SEQUENCE, 2789, 2)
MASKRULE(SEQUENCE, 100, 10)
MASKRULE(SEQUENCE, -100, 10)
```

Masking data with a predefined scrambling function using the SCRAMBLE mask rule

The scramble rule applies a predefined IMS Cloning Tool scrambling function to the value specified by the argument. The result has the same data type as the provided argument.

The keyword SCRAMBLE can be defined in upper or lower case.

This rule can be used for the following column data types:

- BINARY
- CHAR
- BYTE
- SHORT
- INT
- LONG
- DECIMAL
- FLOAT
- DOUBLE
- DATE
- TIME
- TIMESTAMP

SCRAMBLE mask syntax

MASKRULE(SCRAMBLE)

SCRAMBLE mask parameters

None.

SCRAMBLE mask samples

```
MASKRULE(SCRAMBLE)
```

Masking data with the current date, time, or timestamp with the CURRENT mask rule

Use the CURRENT date and time-related rules to replace the column values with the current date, current time, or current timestamp (to the nearest second) values.

The keywords CURRENT DATE, CURRENT TIME, and CURRENT TIMESTAMP can be defined in upper or lower case.

This rule can be used for the following column data types:

- DATE
- TIME
- TIMESTAMP

CURRENT mask syntax

```
MASKRULE(CURRENT DATE)  
MASKRULE(CURRENT TIME)  
MASKRULE(CURRENT TIMESTAMP)
```

CURRENT mask samples

```
MASKRULE(CURRENT DATE)  
MASKRULE(CURRENT TIME)  
MASKRULE(CURRENT TIMESTAMP)
```

Masking data with the user ID of the owner of the process being run using the CURRENT USER mask rule

The current user rule replaces the column value with the current user ID of the owner of the process when it is run.

The keyword CURRENT USER can be defined in upper or lower case.

This rule can be used for the following column data types:

- CHAR

CURRENT USER mask syntax

MASKRULE(CURRENT USER)

CURRENT USER mask parameters

None.

CURRENT USER mask samples

```
MASKRULE (CURRENT USER)
```

Step 3: Edit the IMSDBREFRESH job

In the IMSDBREFRESH job, add the GCLMSKDF DD that points to the MASKDEF data set:

```
GCLMSKDF DD DISP=SHR,DSN=h1q.MASKDEF(member)
```

This DD is required if DATA-MASKING(Y).

Step 4: Submit the IMSDBREFRESH job

Submit the IMSDBREFRESH job. The IMSDBREFRESH job creates an unload file for each source database with the requested data masked

Step 5: Reload the target database and rebuild associated indexes

Reload the target database with the unload data set, and rebuild any associated indexes. Any source databases that did not have a MASKDEF entry are refreshed with standard IMSDBREFRESH processing.

The name of the unload file to be used in this process is determined by the database name and the value specified for the PERM-UNLOAD-HLQ parameter.

For example, if you requested data masking for database IVPDB1 and specified PERM-UNLOAD-HLQ(IMS.IVP), then the name of the masked unload file will be IMS.IVP.IVPDB1.P. Example jobs to reload the target database can be found in SGCLJCL. Member GCLFFLD provides example JCL to reload a full function database. Member GCLFPLD provides example JCL to reload a fast path database.

Restarting or re-running an IMSDBREFRESH job with data masking

If you rerun an IMSDBREFRESH job that was performing data masking and the job previously failed, then the temporary unload data set may still exist.

If you run an IMSDBREFRESH job that was performing data masking, and a JRNLDDBDF or JOURNAL DD was specified, journal entries are created to keep track of the progress of the processing. If the job fails, the journal can prevent the need to reprocess the copies or unloads that previously completed. In order to rerun a failed job, additional steps must be taken. If the job is rerun and journal entries are found from a previously failed job for the databases being processed, the IMSDBREFRESH process will fail unless either DATA-MASKING(Y,RESTART) or DATA-MASKING(Y,RERUN) is specified. If you specify DATA-MASKING(Y,RESTART), then only those copies and unloads which were not completed on the prior run will be performed. Any copies or unloads that are already completed are skipped. If you specify DATA-MASKING(Y,RERUN), then the journal entries are cleaned up and the entire job is reprocessed from the start.

The name of this data set is controlled using the TEMP-UNLOAD-HLQ parameter as defined in the IMSDBREFRESH job. In order to be able to rerun this job, you will have to take one of the following actions:

- If the journal was active on the prior execution, perform one of the following actions:
 - Specify DATA-MASKING(Y,RESTART) in order to use the prior temporary unload file. This will result in CPU savings since the unload process is not performed and the prior temporary unload file is reused.
 - Delete the previously created temporary unload file and rerun the job specifying DATA-MASKING(Y,RERUN) in order to clean up the prior journal entries and rerun the entire job.
- If the journal was not active on the prior execution, delete the previously created temporary unload file and rerun the job specifying DATA-MASKING(Y).

Chapter 7. Sample cloning scenarios

This topic provides examples of potential cloning scenarios.

These scenarios are intended to be used to assist you in planning your cloning methodology. If you do not see a scenario in this topic that meets your requirements, contact IBM Software Support.

Volume cloning with an interim set of volumes

Volumes can be cloned with an interim set of volumes.

IMS Cloning Tool supports this process, but requires knowledge of the original source and final target volumes. The procedure for this type of cloning is:

- The source volumes (referred to as set A) are copied to the interim volumes (set B).
- The interim volumes (set B) are copied to the target volumes (set C).
- The data sets on the target volumes (set C) are renamed.

For this procedure, two COPY commands are used. Each COPY command must be in its own JCL step.

- The first COPY command copies the source volumes to the interim volumes and backs up the source ICF catalogs.
- The second COPY command copies the interim volumes to the target volumes and does not back up the ICF catalogs.

An additional DD must be added to the COPY steps. The DD name is VOLPLIST and it must have attributes of RECFM=FB, LRECL=80. The data set allocated by the VOLPLIST DD is used by a subsequent step or job.

Overview of steps

The following table summarizes the steps that you need to follow to perform volume cloning, including a description of each step:

Table 28. Steps for volume cloning procedure	
Step	Description
1	Run COPY of volume set A to volume set B with a USERCATALOGS keyword and including the VOLPLIST DD. The ICF catalog is backed up and the journal file that is used for the RENAME and IMS steps are created. The journal contains volume pairs set A and set B. The VOLPLIST data set created in this run contains the volume pairs from this copy (set A and set B) that is read in step 3.
2	Run COPY of volume set B to volume set C with NOUSERCATALOGS keyword and including the VOLPLIST DD. The ICF catalog is not backed up and the journal file that is created in this job is not further used. The VOLPLIST data set created in this run contains the volume pairs from this copy (set B and set C) and is read in step 3.
3	Run GCLRNTGT with the VOLPLIST from step 1 on the GCLIN DD and the VOLPLIST from step 2 on the NUCIN DD. IMS Cloning Tool requires the volume pairs from set A (source) and set C (final target). This step reads the VOLPLIST data set created from the first COPY in step 1 that references set A and set B, and reads the VOLPLIST data set created from the second copy that references set B and set C. It matches up the volume pairs and creates a new temporary data set with the correct volume pairs from set A and set C.
4	Run VOLOPTIONS using NEWTGT data set as input to NEWTARGETS-DDN (temporary data set created in previous step). This job reads in the temporary data set created in step 3 and is used to update the journal data set created in step 1 to point to volume pairs set A and set C.
5	Run RENAME for volume set C.

Note: Steps 1, 4, and 5 use the same journal data set. Step 2 uses a different journal data set.

Example

In these example steps, the following items are used:

- The source volumes are SRC001 and SRC002.
- The interim volumes are INT001 and INT002.
- The target volumes are TGT001 and TGT002

Step 1: Copy SRCxxx to INTxxx and back up the source ICF catalogs

The following example is partial JCL for this step:

```
//S1      EXEC  PGM=GCL00010,REGION=8M
//STEPLIB DD  DISP=SHR,DSN=HLQ?.SGCLLOAD
//GCLINI  DD  DISP=SHR,DSN=HLQ?.SGCLPARM(GCLINI)
//GCLPRINT DD SYSOUT=*
//JOURNAL DD  DSN=HLQ?.JRNL,
//          DISP=(,CATLG),UNIT=SYSALLDA,
//          RECOG=KS,KEYLEN=64,KEYOFF=0,
//          LRECL=600,SPACE=(CYL,(10,10))
//VOLPLIST DD DSN=HLQ?.GCL.WRK.VOLPLIST,
//          DISP=(,CATLG),UNIT=SYSALLDA,
//          RECFM=FB,LRECL=80,BLKSIZE=0,
//          SPACE=(CYL,(1,1))
//GCLIN   DD  *
COPY
  FROM-VOLSER(
    SRC001 SRC002
  )
  TO-VOLSER(
    INT001 INT002
  )
  USERCATALOGS(
    SOURCE.USERCAT1  TARGET.USERCAT1
    SOURCE.USERCAT2  TARGET.USERCAT2
  )
  CATWORK-DSN(HLQ?.WRK.* )
  JOURNAL-DDN(JOURNAL)
//*
```

Step 2: Copy INTxxx to TGTxxx without backing up the catalog.

The following example is partial JCL for this step:

```
//S1      EXEC  PGM=GCL00010,REGION=8M
//STEPLIB DD  DISP=SHR,DSN=HLQ?.SGCLLOAD
//GCLINI  DD  DISP=SHR,DSN=HLQ?.SGCLPARM(GCLINI)
//GCLPRINT DD SYSOUT=*
//JOURNAL DD  DSN=HLQ?.NUCJRNL,
//          DISP=(,CATLG),UNIT=SYSALLDA,
//          RECOG=KS,KEYLEN=64,KEYOFF=0,
//          LRECL=600,SPACE=(CYL,(10,10))
//VOLPLIST DD DSN=HLQ?.GCLNUC.WRK.VOLPLIST,
//          DISP=(,CATLG),UNIT=SYSALLDA,
//          RECFM=FB,LRECL=80,BLKSIZE=0,
//          SPACE=(CYL,(1,1))
//GCLIN   DD  *
COPY
  FROM-VOLSER(
    INT001 INT002
  )
  TO-VOLSER(
    TGT001 TGT002
  )
  NOUSERCATALOGS
  JOURNAL-DDN(JOURNAL)
//*
```

Step 3: Run GCLRNTGT

The following example is partial JCL for this step:

```
//* GCLIN IS FROM THE IMS Cloning Tool COPY COMMAND WITH A
//* USERCATALOGS KEYWORD, DD VOLPLIST.
//* NUCIN IS FROM THE IMS Cloning Tool COPY COMMAND WITH THE
//* NOUSERCATALOGS KEYWORD, DD VOLPLIST.
//* NEWTGT WILL BE USED BY THE IMS Cloning Tool VOLOPTIONS COMMAND
//S2 EXEC PGM=IRXJCL,REGION=2M,PARM='GCLRNTGT'
//SYSEXEC DD DSN=HLQ?.SGCLPARM,DISP=SHR
//SYSTSIN DD DUMMY
//SYSTSPRT DD SYSOUT=*
//SYSPRINT DD SYSOUT=*,DCB=(LRECL=132,RECFM=VBA,BLKSIZE=0)
//GCLIN DD DSN=HLQ?.GCL.WRK.VOLPLIST,DISP=SHR
//NUCIN DD DSN=HLQ?.GCLNUC.WRK.VOLPLIST,DISP=SHR
//NEWTGT DD DSN=HLQ?.GCL.WRK.NEWTGT,UNIT=SYSDA,DISP=(,CATLG),
// DSORG=PS,LRECL=80,RECFM=FB,BLKSIZE=0,
// SPACE=(CYL,(1,1))
```

Step 4: Run VOLOPTIONS to update journal for RENAME

The following example is partial JCL for this step:

```
//S1 EXEC PGM=GCL00010,REGION=6M
//STEPLIB DD DISP=SHR,DSN=HLQ?.SGCLLOAD
//GCLINI DD DISP=SHR,DSN=HLQ?.SGCLPARM(GCLINI)
//GCLPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//JOURNAL DD DISP=SHR,DSN=HLQ?.JRNL
//NEWTGT DD DSN=HLQ?.GCL.WRK.NEWTGT,UNIT=SYSDA,DISP=SHR
//GCLIN DD *
// VOLOPTIONS UPDATE -
// NEWTARGETS-DDN(NEWTGT) -
// JOURNAL-DDN(JOURNAL)
//*
```

Step 5: RENAME data sets on the TGTxxx volumes

The following example is partial JCL for this step:

```
//S1 EXEC PGM=GCL00010,REGION=8M
//STEPLIB DD DISP=SHR,DSN=HLQ?.SGCLLOAD
//GCLINI DD DISP=SHR,DSN=HLQ?.SGCLPARM(GCLINI)
//SORTMSG DD SYSOUT=*
//GCLPRINT DD SYSOUT=*
//DRSTATS DD SYSOUT=*
//JOURNAL DD DSN=HLQ?.JRNL,DISP=SHR
//BCSRECS DD DSN=HLQ?.WRK.BCSRECS,
// UNIT=SYSALLDA,DISP=(,CATLG),
// SPACE=(CYL,(10,10))
//VOLBKUP DD DSN=HLQ?.WRK.VOLBKUP,
// UNIT=SYSALLDA,DISP=(,CATLG),
// SPACE=(CYL,(40,40))
//GCLIN DD *
// RENAME -
// SAFE -
// VOLBKUP-DDN(VOLBKUP) -
// RENAME-MASKS( -
// PROD1.** TEST1.** -
// PROD2.** TEST2.** -
// ) -
// JOURNAL-DDN(JOURNAL)
//*
```

Cloning an IMS subsystem from an IMS Recovery Expert backup when backup volumes are online

IMS subsystems can be cloned with backup volumes that are created by an IBM IMS Recovery Expert backup. Because the source IMS is running at the time of the IMS Recovery Expert backup, this is an online cloning.

The following procedure allows for repetitive cloning without the need to manually update the volume specifications when LAST is used with the BSY#VOLS program. The BSY#VOLS program is part of the IMS Recovery Expert product.

- The source volumes (referred to as set A) have been copied to the backup volumes (set B) by a IMS Recovery Expert backup.
- The backup volumes (set B) are copied to the target volumes (set C).
- The data sets on the target volumes (set C) are renamed.
- The target IMS subsystems on the target volumes are conditioned.

For this procedure, the source to backup volume pairing is obtained from IMS Recovery Expert and reformatted for use by two COPY commands. Each COPY command must be in its own JCL step.

- The first COPY command identifies the source volume to backup volume pairing and backs up the source ICF catalog copies on the backup volumes. This COPY does not perform volume copies as the copies were done by the IMS Recovery Expert backup.
- The second COPY command copies the backup volumes to the target volumes and does not back up the ICF catalogs.

An additional DD must be added to the COPY steps. The DD name is VOLPLIST and it must have attributes of RECFM=FB,LRECL=80. The data set allocated by the VOLPLIST DD is used by a subsequent step or job.

Step overview:

1. Run the BSY#VOLS program to get the source (set A) and backup (set B) volume pairing used by the IMS Recovery Expert backup and the names of the source ICF user catalogs.
2. Run BACKINFO-REFORMAT to take the backinfo data set created by the BSY#VOLS program (Step 1) and reformat it for use by subsequent COPY commands (Steps 3 and 4).
3. Run COPY with DATA-MOVER(PGM(NONE)). Use VOLPAIRS-DDN to get the source volumes (set A) to backup volumes (set B) pairing (data set from step 2), use a USERCATALOGS-DDN keyword (data set from step 2), and include the VOLPLIST DD.
4. Run COPY using FROM-VOLSER-DDN to get the backup volumes (set B) (data set from step 2), using the NOUSERCATALOGS keyword and including the VOLPLIST DD.
5. Run RXNEWTGT with the VOLPLIST from step 3 on the GCLIN DD and the VOLPLIST from step 4 on the NUCIN DD.
6. Run VOLOPTIONS using NEWTGT data set as input to NEWTARGETS-DDN.
7. Run RENAME for target volumes (set C).
8. Run the IMS conditioning command: IMSUPDATE.

Note: Steps 3, 6, 7, and 8 use the same journal data set. Step 4 uses a different journal data set.

Example

In this example:

- The source IMS resides on the source volumes (SRCxxx)
- The target IMS will reside on the target volumes (TGTxxx).
- There are one or more sets of backup volumes (BKPxxx) that have been created by IMS Recovery Expert backups.

- There are two source ICF catalogs (USERCAT.SRC01 and USERCAT.SRC02) that reside on source volumes.

Step 1 - Get the source to backup volume pairing (SRCxxx to BKPxxx) and the source ICF catalog names from the last IMS Recovery Expert backup taken for IMS subsystem IMSP.

Sample JCL can be found in the IMS Recovery Expert JCL library. The JCL shown here is an example only and the IMS Recovery Expert product documentation should be used to determine the actual JCL necessary.

Partial JCL:

```
//BSY#VOLS EXEC PGM=BSY#VOLS,PARM=(IMSP, LAST)
//STEPLIB DD DISP=SHR,DSN=BSY?.LOADLIB
//BSYBPROF DD DISP=SHR,DSN=BSY?.PROFILES
//BSYBPMAP DD DISP=SHR,DSN=BSY?.PROFILE.MAPS
//BSYBPCAT DD DISP=SHR,DSN=BSY?.PROFILE.CATS
//SYSBACK DD DISP=SHR,DSN=BSY?.SYSBACK
//SYSBOBJ DD DISP=SHR,DSN=BSY?.SYSBACK.OBJ
//SYSBVOL DD DISP=SHR,DSN=BSY?.SYSBACK.VOLS
//SYSBSSD DD DISP=SHR,DSN=BSY?.SYSBACK.SSIDS
//SYBOFFL DD DISP=SHR,DSN=BSY?.OFFOPTS
//BACKINFO DD DSN=HLQ?.WRK.BACKINFO,
//          DISP=(,CATLG),
//          UNIT=3390,SPACE=(CYL,(1,5)),
//          DCB=(RECFM=FB,LRECL=80,BLKSIZE=8000)
//SYSOUT DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//*
```

Step 2 - Reformat the output of step 1 (backinfo data set) for use in the COPY in steps 3 and 4.

The user catalog pairs are also specified here. Sample JCL can be found in the installation JCL library in member GCLBKINF.

Partial JCL:

```
//S1 EXEC PGM=GCL00010,REGION=8M
//STEPLIB DD DSN=HLQ?.LOAD,DISP=SHR
//GCLINI DD DSN=HLQ?.PARMLIB(GCLINI),DISP=SHR
//GCLPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//BACKINFO DD DISP=SHR,DSN=HLQ?.WRK.BACKINFO
//VOLPAIRS DD DSN=HLQ?.WRK.VOLPAIRS,
//          DISP=(,CATLG),UNIT=SYSALLDA,
//          SPACE=(CYL,(1,1))
//FRVOLSER DD DSN=HLQ?.WRK.FRVOLSER,
//          DISP=(,CATLG),UNIT=SYSALLDA,
//          SPACE=(CYL,(1,1))
//UCATS DD DSN=HLQ?.WRK.UCATS,
//        DISP=(,CATLG),UNIT=SYSALLDA,
//        SPACE=(CYL,(1,1))
//GCLIN DD *
BACKINFO-REFORMAT -
BACKINFO-DDN(BACKINFO) -
VOLPAIRS-DDN(VOLPAIRS) -
FROM-VOLSER-DDN(FRVOLSER) -
USERCATALOGS-DDN(UCATS) -
USERCATALOGS(
USERCAT.SRC01 USERCAT.TGT01 -
USERCAT.SRC02 USERCAT.TGT02 -
)
//*
```

Step 3 - Set the pairing between source (SRCxxx) and backup (BKPxxx) volumes in the journal and back up the source ICF catalogs from the backup volumes.

Sample JCL can be found in the installation JCL library in member GCLCOPY.

Partial JCL:

```
//S1      EXEC  PGM=GCL00010,REGION=8M
//STEPLIB DD  DISP=SHR,DSN=HLQ?.LOAD
//GCLINI  DD  DISP=SHR,DSN=HLQ?.PARMLIB(GCLINI)
//GCLPRINT DD SYSOUT=*
//VOLPAIRS DD DISP=SHR,DSN=HLQ?.WRK.VOLPAIRS
//UCATS   DD  DISP=SHR,DSN=HLQ?.WRK.UCATS
//JOURNAL DD  DSN=HLQ?.JRNL,
//          DISP=(,CATLG),UNIT=SYSALLDA,
//          RECOG=KS,KEYLEN=64,KEYOFF=0,
//          LRECL=600,SPACE=(CYL,(10,10))
//VOLPLIST DD DSN=HLQ?.WRK.VOLPLIST,
//          DISP=(,CATLG),UNIT=SYSALLDA,
//          RECFM=FB,LRECL=80,BLKSIZE=0,
//          SPACE=(CYL,(1,1))
//GCLIN   DD  *
//  COPY
//    DATA-MOVER(PGM(NONE))
//    VOLPAIRS-DDN(VOLPAIRS)
//    USERCATALOGS-DDN(UCATS)
//    CATWORK-DSN(HLQ?.WRK.* )
//    JOURNAL-DDN(JOURNAL)
//*
```

Step 4 - Copy the backup volumes (BKPxxx) to the target volumes (TGTxxx) without backing up any ICF catalogs.

Sample JCL can be found in the installation JCL library in member GCLCOPY.

Partial JCL:

```
//S1      EXEC  PGM=GCL00010,REGION=8M
//STEPLIB DD  DISP=SHR,DSN=HLQ?.LOAD
//GCLINI  DD  DISP=SHR,DSN=HLQ?.PARMLIB(GCLINI)
//GCLPRINT DD SYSOUT=*
//FRVOLSER DD DISP=SHR,DSN=HLQ?.WRK.FRVOLSER
//JOURNAL DD  DSN=HLQ?.NUCJRNL,
//          DISP=(,CATLG),UNIT=SYSALLDA,
//          RECOG=KS,KEYLEN=64,KEYOFF=0,
//          LRECL=600,SPACE=(CYL,(10,10))
//VOLPLIST DD DSN=HLQ?.NUC.WRK.VOLPLIST,
//          DISP=(,CATLG),UNIT=SYSALLDA,
//          RECFM=FB,LRECL=80,BLKSIZE=0,
//          SPACE=(CYL,(1,1))
//GCLIN   DD  *
//  COPY
//    FROM-VOLSER-DDN(FRVOLSER)
//    TO-VOLSER(
//      TGT001 TGT002
//    )
//    NOUSERCATALOGS
//    JOURNAL-DDN(JOURNAL)
//*
```

Step 5 - Run RXNEWTGT with the VOLPLIST data sets from steps 3 and 4.

Sample JCL can be found in the installation JCL library in member GCLRBTGT.

Partial JCL:

```
//* GCLIN IS FROM THE GCL COPY COMMAND WITH A USERCATALOGS KEYWORD,
//* DD VOLPLIST.
//* NUCIN IS FROM THE GCL COPY COMMAND WITH THE NOUSERCATALOGS KEYWORD,
//* DD VOLPLIST.
//* NEWTGT WILL BE USED BY THE GCL VOLOPTIONS COMMAND
//S2      EXEC  PGM=IRXJCL,REGION=2M,PARM='RXNEWTGT'
//SYSEXEC DD  DSN=HLQ?.PARMLIB,DISP=SHR
//SYSTSIN DD  DUMMY
//SYSTSPRT DD SYSOUT=*
//SYSPRINT DD SYSOUT=*,DCB=(LRECL=132,RECFM=VBA,BLKSIZE=0)
//GCLIN   DD  DSN=HLQ?.WRK.VOLPLIST,DISP=SHR
//NUCIN   DD  DSN=HLQ?.NUC.WRK.VOLPLIST,DISP=SHR
//NEWTGT  DD  DSN=HLQ?.WRK.NEWTGT,UNIT=SYSDA,DISP=(,CATLG),
```

```
//          DSORG=PS,LRECL=80,RECFM=FB,BLKSIZE=0,
//          SPACE=(CYL,(1,1))
```

Step 6 – Run VOLOPTIONS using NEWTGT data set as input to NEWTARGETS-DDN.

Sample JCL can be found in the installation JCL library in member GCLVOLOP.

Partial JCL:

```
//S1      EXEC PGM=GCL00010,REGION=6M
//STEPLIB DD DISP=SHR,DSN=HLQ?.LOAD
//GCLINI  DD DISP=SHR,DSN=HLQ?.PARMLIB(GCLINI)
//GCLPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//JOURNAL DD DISP=SHR,DSN=HLQ?.JRNL
//NEWTGT  DD DSN=HLQ?.WRK.NEWTGT,UNIT=SYSDA,DISP=SHR
//GCLIN   DD *
        VOLOPTIONS UPDATE      -
        NEWTARGETS-DDN(NEWTGT) -
        JOURNAL-DDN(JOURNAL)
//*
```

Step 7 - RENAME the data sets on the target volumes (TGTxxx).

Sample JCL can be found in the installation JCL library in member GCLREN.

Partial JCL and command:

```
//S1      EXEC PGM=GCL00010,REGION=8M
//STEPLIB DD DISP=SHR,DSN=HLQ?.LOAD
//GCLINI  DD DISP=SHR,DSN=HLQ?.PARMLIB(GCLINI)
//SORTMSG DD SYSOUT=*
//GCLPRINT DD SYSOUT=*
//DRSTATS DD SYSOUT=*
//JOURNAL DD DSN=HLQ?.JRNL,DISP=SHR
//BCSRECS DD DSN=HLQ?.WRK.BCSRECS,
//          UNIT=SYSALLDA,DISP=(,CATLG),
//          SPACE=(CYL,(10,10))
//VOLBKUP DD DSN=HLQ?.WRK.VOLBKUP,
//          UNIT=SYSALLDA,DISP=(,CATLG),
//          SPACE=(CYL,(40,40))
//GCLIN   DD *
        RENAME                      -
        SAFE                        -
        VOLBKUP-DDN(VOLBKUP)        -
        RENAME-MASKS(               -
                PROD1.** TEST1.**    -
                PROD2.** TEST2.**    -
        )                           -
        JOURNAL-DDN(JOURNAL)
//*
```

Step 8 - Run the IMS conditioning command.

Run the IMS conditioning command: IMSUPDATE. For additional information about the conditioning commands, refer to the appropriate section in [“IMS online cloning procedures”](#) on page 65, for your specific type of cloning.

Cloning an IMS subsystem from an IMS Recovery Expert backup when backup volumes are offline

IMS subsystems can be cloned using the backup volumes that are created by an IBM IMS Recovery Expert backup when the backup volumes are offline. The offline backup volumes are exact copies of the source volumes and have an internal volser that is the same as a source volser. Because the source IMS is running at the time of the IMS Recovery Expert backup, this is an online cloning.

The following procedure allows for repetitive cloning without the need to manually update the volume specifications when LAST is used with the BSY#VOLS program. The BSY#VOLS program is part of the IMS Recovery Expert product.

- The source volumes (referred to as set A) have been copied to the backup volumes (set B) by a IMS Recovery Expert backup.
- The backup volumes (set B) are clipped with unique volsers and varied online.
- The backup volumes (set B) are copied to the target volumes (set C).
- The backup volumes (set B) are varied offline and clipped back to their original source volser.
- The data sets on the target volumes (set C) are renamed.
- The target IMS subsystems on the target volumes are conditioned.

For this procedure, the source to backup volume pairing is obtained from IMS Recovery Expert and reformatted for use by two COPY commands. Each COPY command must be in its own JCL step.

- The first COPY command identifies the source volume to backup volume pairing and backs up the source ICF catalog copies on the backup volumes. This COPY does not do any volume copies as the copies were done by the IMS Recovery Expert backup.
- The second COPY command copies the backup volumes to the target volumes and does not back up the ICF catalogs.

An additional DD must be added to the COPY steps. The DD name is VOLPLIST and it must have attributes of RECFM=FB,LRECL=80. The data set allocated by the VOLPLIST DD is used by a subsequent step or job.

Step overview:

1. Run the BSY#VOLS program to get the source (set A) and backup (set B) volume pairing used by the IMS Recovery Expert backup and the names of the source ICF user catalogs.
2. Run BACKINFO-REFORMAT to take the backinfo data set created by the IMS Recovery Expert#VOLS program (Step 1) and reformat it for use by subsequent COPY commands (Steps 3 and 4). The CLIP-IF-OFFLINE(Y) is used to request that the offline backup volumes (set B) be clipped and varied online. The VOLSER-RENAME-MASKS keyword is used to specify how the source volsers should be changed to generate unique volsers for the corresponding backup volumes that are being clipped. The VOLOPTIONS-CMD-DDN keyword is specified to generate a VOLOPTIONS command to unclip the backup volumes after they have been copied to the target volumes.
3. Run COPY with DATA-MOVER(PGM(NONE)). Use VOLPAIRS-DDN to get the source volumes (set A) to backup volumes (set B) pairing (data set from step 2), use a USERCATALOGS-DDN keyword (data set from step 2), and include the VOLPLIST DD.
4. Run COPY using FROM-VOLSER-DDN to get the backup volumes (set B) (data set from step 2), using the NOUSERCATALOGS keyword and including the VOLPLIST DD.
5. Run VOLOPTIONS with GCLIN using the data set created in step 2 by the VOLOPTIONS-CMD-DDN keyword to vary offline and unclip the backup volumes (set B). The journal data set created in step 3 is used.
6. Run RXNEWTGT with the VOLPLIST from step 3 on the GCLIN DD and the VOLPLIST from step 4 on the NUCIN DD.
7. Run VOLOPTIONS using NEWTGT data set as input to NEWTARGETS-DDN.
8. Run RENAME for target volumes (set C).
9. Run the IMS conditioning command: IMSUPDATE.

Note: Steps 3, 5, 7, 8, and 9 use the same journal data set. Step 4 uses a different journal data set.

Example

In this example:

- The source IMS resides on the source volumes (SRCxxx).

- The target IMS resides on the target volumes (TGTxxx).
- There are one or more sets of backup volumes (BKPxxx) that have been created by IMS Recovery Expert backups. The backup volumes are offline and have internal volsers of their corresponding source volumes.
- There are two source ICF catalogs (USERCAT.SRC01 and USERCAT.SRC02) that reside on source volumes.

Step 1 - Get the source to backup volume pairing (SRCxxx to BKPxxx) and the source ICF catalog names from the last IMS Recovery Expert backup taken for IMS subsystem IMSP.

Sample JCL can be found in the IMS Recovery Expert JCL library. The JCL shown here is an example only and the IMS Recovery Expert product documentation should be used to determine the necessary JCL.

```
Partial JCL:
//BSY#VOLS EXEC PGM=BSY#VOLS,PARM=(IMSP, LAST)
//STEPLIB DD DISP=SHR, DSN=BSY?.LOADLIB
//BSYBPROF DD DISP=SHR, DSN=BSY?.PROFILES
//BSYBMAP DD DISP=SHR, DSN=BSY?.PROFILE.MAPS
//BSYBPCAT DD DISP=SHR, DSN=BSY?.PROFILE.CATS
//BSYSBACK DD DISP=SHR, DSN=BSY?.SYSBACK
//BSYSBOBJ DD DISP=SHR, DSN=BSY?.SYSBACK.OBJS
//BSYSBVOL DD DISP=SHR, DSN=BSY?.SYSBACK.VOLS
//BSYSBSSD DD DISP=SHR, DSN=BSY?.SYSBACK.SSIDS
//BSYBOFFL DD DISP=SHR, DSN=BSY?.OFFOPTS
//BACKINFO DD DSN=HLQ?.WRK.BACKINFO,
// DISP=(,CATLG),
// UNIT=3390,SPACE=(CYL,(1,5)),
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=8000)
//SYSOUT DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//*
```

Step 2 - Reformat the output of step 1 (backinfo data set) for use in the COPY in steps 3 and 4.

The offline backup volumes are clipped to new volsers and varied online. The user catalog pairs are also specified here. Sample JCL can be found in the installation JCL library in member GCLBKINF.

```
Partial JCL:
//S1 EXEC PGM=GCL00010,REGION=8M
//STEPLIB DD DSN=HLQ?.LOAD,DISP=SHR
//GCLINI DD DSN=HLQ?.PARMLIB(GCLINI),DISP=SHR
//GCLPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//BACKINFO DD DISP=SHR,DSN=HLQ?.WRK.BACKINFO
//VOLPAIRS DD DSN=HLQ?.WRK.VOLPAIRS,
// DISP=(,CATLG),UNIT=SYSALLDA,
// SPACE=(CYL,(1,1))
//FRVOLSER DD DSN=HLQ?.WRK.FRVOLSER,
// DISP=(,CATLG),UNIT=SYSALLDA,
// SPACE=(CYL,(1,1))
//UCATS DD DSN=HLQ?.WRK.UCATS,
// DISP=(,CATLG),UNIT=SYSALLDA,
// SPACE=(CYL,(1,1))
//VOLOPCMD DD DSN=HLQ?.WRK.VOLOPCMD,
// DISP=(,CATLG),UNIT=SYSALLDA,
// SPACE=(TRK,(1,1))
//GCLIN DD *
BACKINFO-REFORMAT -
BACKINFO-DDN(BACKINFO) -
VOLPAIRS-DDN(VOLPAIRS) -
FROM-VOLSER-DDN(FRVOLSER) -
CLIP-IF-OFFLINE(Y) -
VOLSER-RENAME-MASKS( -
SRC* BKP* -
) -
VOLOPTIONS-CMD-DDN( VOLOPCMD ) -
USERCATALOGS-DDN(UCATS) -
USERCATALOGS( -
USERCAT.SRC01 USERCAT.TGT01 -
```

```

        USERCAT.SRC02 USERCAT.TGT02  -
      )
//*
```

Step 3 - Set the pairing between source (SRCxxx) and backup (BKPxxx) volumes in the journal and back up the source ICF catalogs from the backup volumes.

Sample JCL can be found in the installation JCL library in member GCLCOPY.

```

Partial JCL:
//S1      EXEC  PGM=GCL00010,REGION=8M
//STEPLIB DD  DISP=SHR,DSN=HLQ?.LOAD
//GCLINI  DD  DISP=SHR,DSN=HLQ?.PARMLIB(GCLINI)
//GCLPRINT DD  SYSOUT=*
//VOLPAIRS DD  DISP=SHR,DSN=HLQ?.WRK.VOLPAIRS
//UCATS   DD  DISP=SHR,DSN=HLQ?.WRK.UCATS
//JOURNAL DD  DSN=HLQ?.JRNL,
//          DISP=(,CATLG),UNIT=SYSALLDA,
//          RECOG=KS,KEYLEN=64,KEYOFF=0,
//          LRECL=600,SPACE=(CYL,(10,10))
//VOLPLIST DD  DSN=HLQ?.WRK.VOLPLIST,
//          DISP=(,CATLG),UNIT=SYSALLDA,
//          RECFM=FB,LRECL=80,BLKSIZE=0,
//          SPACE=(CYL,(1,1))
//GCLIN   DD  *
COPY
  DATA-MOVER(PGM(NONE)) -
  VOLPAIRS-DDN(VOLPAIRS) -
  USERCATALOGS-DDN(UCATS) -
  CATWORK-DSN(HLQ?.WRK.* ) -
  JOURNAL-DDN(JOURNAL)
//*
```

Step 4 - Copy the backup volumes (BKPxxx) to the target volumes (TGTxxx) without backing up any ICF catalogs.

Sample JCL can be found in the installation JCL library in member GCLCOPY.

```

Partial JCL:
//S1      EXEC  PGM=GCL00010,REGION=8M
//STEPLIB DD  DISP=SHR,DSN=HLQ?.LOAD
//GCLINI  DD  DISP=SHR,DSN=HLQ?.PARMLIB(GCLINI)
//GCLPRINT DD  SYSOUT=*
//FRVOLSER DD  DISP=SHR,DSN=HLQ?.WRK.FRVOLSER
//JOURNAL DD  DSN=HLQ?.NUCJRNL,
//          DISP=(,CATLG),UNIT=SYSALLDA,
//          RECOG=KS,KEYLEN=64,KEYOFF=0,
//          LRECL=600,SPACE=(CYL,(10,10))
//VOLPLIST DD  DSN=HLQ?.NUC.WRK.VOLPLIST,
//          DISP=(,CATLG),UNIT=SYSALLDA,
//          RECFM=FB,LRECL=80,BLKSIZE=0,
//          SPACE=(CYL,(1,1))
//GCLIN   DD  *
COPY
  FROM-VOLSER-DDN(FRVOLSER) -
  TO-VOLSER(
    TGT001 TGT002
  )
  NOUSERCATALOGS
  JOURNAL-DDN(JOURNAL)
//*
```

Step 5 - Run VOLOPTIONS command created in step 2 to vary offline and unclip the backup volumes.

Sample JCL can be found in the installation JCL library in member GCLVOLOP.

```

Partial JCL:
//S1      EXEC  PGM=GCL00010,REGION=6M
//STEPLIB DD  DISP=SHR,DSN=HLQ?.LOAD
//GCLINI  DD  DISP=SHR,DSN=HLQ?.PARMLIB(GCLINI)
//GCLPRINT DD  SYSOUT=*
```

```
//SYSUDUMP DD SYSOUT=*
//JOURNAL DD DISP=SHR,DSN=HLQ?.JRNL
//GCLIN DD DISP=SHR,DSN=HLQ?.WRK.VOLOPCMD
//*
```

Step 6 - Run RXNEWTGT with the VOLPLIST data sets from steps 3 and 4.

Sample JCL can be found in the installation JCL library in member GCLRBTGT.

Partial JCL:

```
//* GCLIN IS FROM THE GCL COPY COMMAND WITH A USERCATALOGS KEYWORD,
//* DD VOLPLIST.
//* NUCIN IS FROM THE GCL COPY COMMAND WITH THE NOUSERCATALOGS KEYWORD,
//* DD VOLPLIST.
//* NEWTGT WILL BE USED BY THE GCL VOLOPTIONS COMMAND
//S2 EXEC PGM=IRXJCL,REGION=2M,PARM='RXNEWTGT'
//SYSEXEC DD DSN=HLQ?.PARMLIB,DISP=SHR
//SYSTSIN DD DUMMY
//SYSTSPRT DD SYSOUT=*
//SYSPRINT DD SYSOUT=*,DCB=(LRECL=132,RECFM=VBA,BLKSIZE=0)
//GCLIN DD DSN=HLQ?.WRK.VOLPLIST,DISP=SHR
//NUCIN DD DSN=HLQ?.NUC.WRK.VOLPLIST,DISP=SHR
//NEWTGT DD DSN=HLQ?.WRK.NEWTGT,UNIT=SYSDA,DISP=(,CATLG),
// DSORG=PS,LRECL=80,RECFM=FB,BLKSIZE=0,
// SPACE=(CYL,(1,1))
```

Step 7 - Run VOLOPTIONS with the newtgt data set from step 5 to update the journal with the actual source (SRCxxx) to target (TGTxxx) volume pairing for RENAME.

Sample JCL can be found in the installation JCL library in member GCLVOLOP.

Partial JCL:

```
//S1 EXEC PGM=GCL00010,REGION=6M
//STEPLIB DD DISP=SHR,DSN=HLQ?.LOAD
//GCLINI DD DISP=SHR,DSN=HLQ?.PARMLIB(GCLINI)
//GCLPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//JOURNAL DD DISP=SHR,DSN=HLQ?.JRNL
//NEWTGT DD DSN=HLQ?.WRK.NEWTGT,UNIT=SYSDA,DISP=SHR
//GCLIN DD *
    VOLOPTIONS UPDATE -
        NEWTARGETS-DDN(NEWTGT) -
        JOURNAL-DDN(JOURNAL)
//*
```

Step 8 - RENAME the data sets on the target volumes (TGTxxx).

Sample JCL can be found in the installation JCL library in member GCLREN.

Partial JCL and command:

```
//S1 EXEC PGM=GCL00010,REGION=8M
//STEPLIB DD DISP=SHR,DSN=HLQ?.LOAD
//GCLINI DD DISP=SHR,DSN=HLQ?.PARMLIB(GCLINI)
//SORTMSG DD SYSOUT=*
//GCLPRINT DD SYSOUT=*
//DRSTATS DD SYSOUT=*
//JOURNAL DD DSN=HLQ?.JRNL,DISP=SHR
//BCSRECS DD DSN=HLQ?.WRK.BCSRECS,
// UNIT=SYSALLDA,DISP=(,CATLG),
// SPACE=(CYL,(10,10))
//VOLBKUP DD DSN=HLQ?.WRK.VOLBKUP,
// UNIT=SYSALLDA,DISP=(,CATLG),
// SPACE=(CYL,(40,40))
//GCLIN DD *
    RENAME -
    SAFE -
    VOLBKUP-DDN(VOLBKUP) -
    RENAME-MASKS(
        PROD1.** TEST1.** -
        PROD2.** TEST2.** -
    )
```

Step 9 - Run the IMS conditioning commands.

Run the IMS conditioning command: IMSUPDATE. For additional information about the conditioning commands, refer to the appropriate section in [“IMS offline cloning procedures” on page 58](#) for your specific type of cloning.

Chapter 8. Reference: IMS Cloning Tool commands

All IMS Cloning Tool commands are invoked by running the main program GCL00010. Functionality is selected by specifying the appropriate IMS Cloning Tool command and parameters.

Required JCL varies with each command. The major factor in choosing whether COPY and RENAME will be in the GCL00010 execution in separate steps, or in separate jobs, is whether resumption of source volume access will begin after the COPY step, or after the RENAME step.

The format of the IMS Cloning Tool journal records can change between releases. A journal data set created by one release of IMS Cloning Tool should not be used by a different release of IMS Cloning Tool. Use the JRNUPGRADE command (support for 1.6 and later) to upgrade the journal data set of the prior release.

The following table lists IMS Cloning Tool commands and command descriptions.

Table 29. IMS Cloning Tool commands overview	
IMS Cloning Tool Command	Description
BCSCLEAN	Optional command to delete target catalog entries from previous execution.
COPY	Initiates volume copies, and in parallel, backs up the source ICF catalogs that point to data sets on the source volumes to be cloned.
COPYCHECK	Optional command to wait for completion of COPY events, or withdraw from them.
IMSSETLOG	Optional command to suspend or resume an IMS system.
IMSSTART	Optional command to start an IMS subsystem.
IMSSTOP	Optional command to stop an IMS subsystem.
IMSUPDATE	Optional command to update IMS to reflect renamed data sets.
FINDUCATS	Optional command to locate catalogs that are involved with source volume data sets.
JRNUPGRADE	Optional command to upgrade a journal that was created by a prior release of IMS Cloning Tool.
ONLINECLIP	Optional command to relabel the target volumes when the source volume label was copied but the UCB field still points to the target volume label. This can occur when TSO FCESTABL was used.
RENAME	Renames and catalogs data sets on target volumes.
UCATOPTIONS	Optional command that either lists the user catalog pairs from the IMS Cloning Tool journal, or allows the target user catalog names to be changed.
VARYOFF	Optional command to vary target or source volumes offline.
VARYON	Optional command to vary target or source volumes online.
VOLOPTIONS	Optional command to use when the COPY command is run at one site and the RENAME command is run at another.

BCSCLEAN

This command is not required. BCSCLEAN is intended for situations in which the target catalog can be used for data sets other than the data sets involved with a IMS Cloning Tool process.

If an empty target catalog is possible, you can delete and redefine the target catalog before the COPY step as an alternative to BCSCLEAN. If the redefined catalog is on a different volume than before the deletion, the new location must be passed to the catalog address spaces. IBM informational APAR II13354 details the steps necessary to ensure all sharing systems can access the catalog.

BCSCLEAN deletes (with no scratch) all catalog entries that were created in a target catalog by a previous RENAME step. BCSCLEAN deletes target catalog entries that were orphaned as a result of replacing target volume contents in a previous cloning process.

BCSCLEAN addresses situations where a data set used in a previous application cycle no longer exists in the current application cycle.

For persistent data sets (application data sets that exist in every cycle), by emptying the target catalog (delete all entries from a previous run of the IMS Cloning Tool process), the RECATALOG option of the RENAME command can be omitted, and existing catalog entry can be treated as a true error.

BCSCLEAN command syntax

BCSCLEAN

Required keywords:

```
{ JOURNAL-DSN(data set name) | JOURNAL-DDN(ddname) }
```

BCSCLEAN command & keyword definitions

BCSCLEAN

Optional command to delete target catalog entries from previous execution.

- Required: No
- Restrictions: None

JOURNAL-DSN (*data set name*)

or JOURNAL-DDN (*ddname*)

This parameter supplies either the data set name of the IMS Cloning Tool journal file, or a DD name assumed via the JCL to point at a journal data set.

If multiple IMS Cloning Tool setups are used for different volume groups, DO NOT use the same journal data set. Each IMS Cloning Tool 'application' needs a different journal data set.

The journal is used to pass information between IMS Cloning Tool steps (for example, from the COPY step to the RENAME step). Therefore, as noted in the JCL comments, it must be cataloged in the COPY step when first created, and referenced as OLD in subsequent steps.

Do not delete the data set in the last step, in case restarts or reruns need journal information. It is preferable to delete and replace the data set only at the fresh start of a COPY.

- Default: None
- Required: Yes
- Restrictions: None

BCSCLEAN step JCL example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements.

The 'BCSRECS' data set in the JCL contains the list of catalog entries to be deleted.

The BCSCLEAN step JCL is shown in the following example. The numbers that precede the JCL correspond to notes that follow this sample JCL.

```
1 //??????? JOB , 'GCL BCSCLEAN', CLASS=A, MSGCLASS=X
2 //S1 EXEC PGM=GCL00010, REGION=8M
3 //STEPLIB DD DSN=HLQ?.SGCLLOAD, DISP=SHR
4 //GCLINI DD DSN=HLQ?.SGCLPARM(GCLINI), DISP=SHR
5 //BCSRECS DD DSN=GCL.WRK.BCSRECS, DISP=SHR
6 //GCLPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
6 //JOURNAL DD DSN=GCL.JRNL, DISP=OLD
//GCLIN DD *
BCSCLEAN -
6 JOURNAL-DDN(JOURNAL)
//*
```

1. Execution of IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library must be authorized.
3. DD for GCLINI member of the HLQ?.SGCLPARM library. This member provides variables to the IMS Cloning Tool programs and contains the product security license codes.
4. DD for BCSRECS. The BCSRECS data set contains the names of data sets cataloged in a previous RENAME step. The names that are contained in this data set determine the catalog entries to be deleted by BCSCLEAN.
5. DD for GCLPRINT output.
6. Journal data set that is used by IMS Cloning Tool commands. This VSAM data set is used to pass information between IMS Cloning Tool steps, and to log information that is derived from the step executions. The journal file is allocated and cataloged in the COPY step and used as input and output by the RENAME step. The specified data set name must match the data set allocated in the COPY step. If multiple IMS Cloning Tool setups are used for different groups of volumes, take care in specifying the journal data sets for each setup. In the sample JCL, the control statement JOURNAL-DDN(JOURNAL) specifies that a DD with the name JOURNAL is being used rather than a data set name.

COPY

This command is required. COPY invokes volume copies via FlashCopy or SnapShot if the DATA-MOVER(PGM(ADDRDSSU)) is specified, invokes volume copies via TimeFinder/Clone Mainframe SNAP Facility if the DATA-MOVER(PGM(EMCSNAP)) is specified, or assumes copies were created by the user if DATA-MOVER(PGM(NONE)) is specified. , COPY captures catalog data that pertains to source volume data sets.

Note: The ICF catalog backup can be postponed until after COPY by using the USERCATALOGS-NOBACKUP keyword. However, if you postpone the backup, the source ICF catalog information that is backed up must be in synchronization with the contents of the copied volumes. If you specify USERCATALOGS-NOBACKUP, UCATOPTIONS BACKUP backs up the source ICF catalogs after COPY. You must ensure that the source ICF catalogs are logically at the same point in time as when the volumes were copied.

COPY command syntax

COPY

Required keywords:

```
{ JOURNAL-DSN(data set name) | JOURNAL-DDN(ddname) }
USERCATALOGS(sourcecat1 [(volser1)] targetcat1 ...[ ,sourcecatn
[(volsern)] targetcatn]) |
USERCATALOGS-DDN(ddname) |
USERCATALOGS-NOBACKUP(sourcecat1 [(volser1)] targetcat1 ...[ ,
```

```

    sourcecatn[(volsern)] targetcatn)) |
USERCATALOGS-BACKUPFIRST(sourcecat1 targetcat1 ...[ , sourcecatn
    targetcatn]) |
NOUSERCATALOGS

```

Required only if DATA-MOVER(PGM(ADDRSSU)) is specified (FlashCopy or SnapShot) or DATA-MOVER(PGM(EMCSNAP)) is specified (EMC Snap):

```

{[FROM-STORAGEGROUP(storgrp1 | storgrpmask1 ...[ , storgrpn | storgrpmaskn]])
 [FROM-VOLSER(volser1 | volmask1 ...[ , volsern | volmaskn])
 | FROM-VOLSER-DDN(ddname)] }
{[TO-STORAGEGROUP(storgrp1 | storgrpmask1 ...[ , storgrpn | storgrpmaskn]])
 [TO-VOLSER(volser1 | volmask1 ...[ , volsern | volmaskn])
 | TO-VOLSER-DDN(ddname)]}

```

Required only if DATA-MOVER(PGM(NONE)) is specified:

```

{VOLPAIRS(sourcevolser1 targetvolser1 ...[ , sourcevolsern targetvolsern]])
 VOLPAIRS-DDN(ddname)|
VOLPAIRSDEVN(sourcevolser1 targetvolser1 devn1 ...[ , sourcevolsern
    targetvolsern devnn]) | VOLPAIRSDEVN-DDN(ddname) |
VOLPAIRSDEVN-NOCLIP (sourcevolser1 targetvolser1 devn1
    , sourcevolsern targetvolsern devnn [ , ... ]) |
VOLPAIRSDEVN-NOCLIP-DDN (ddname)}

```

Required only if USERCATALOGS or USERCATALOGS-NOBACKUP is specified:

```

CATWORK-DSN(mask)

```

Optional Keywords:

```

CATWORK-ATTR(UNIT(SYSALLDA) SPACE(10 10) CYLINDERS )
DATA-MOVER([PGM(ADDRSSU | EMCSNAP | NONE)]
 [ , BACKGROUNDCOPY(NO | YES)]
 [ , CHECKONLINEPATHSTATUS(NO | YES) ]
 [ , CHECKVTOC ]
 [ , CONSISTENT(NO | YES) ]
 [ , COPYCMDLIMIT( nnn | 24 ) ]
 [ , DIFFERENTIAL( NO | YES) ]
 [ , DSSPARM( ABEND=nnn [ , AMSGCNT=nnnn ] | SDUMP=nnn [ , SMSGCNT=nnnn ] ) ]
 [ , FASTREP(PREF | REQ | NONE)]
 [ , FCNOCOPY ]
 [ , FCSETGTOK ]
 [ , FCTOPPRCPPRIMARY ]
 [ , INCREMENTAL ( NO | YES ) ]
 [ , NOCONCURRENT] )
 [ , MAXIMUM-SUBTASKS(number1,number2)])
EXCLUDE-FROM-VOLSER(volser1 | volmask1 ...[ volsern | volmaskn])
EXCLUDE-TO-VOLSER(volser1 | volmask1 ...[ volsern | volmaskn])
FROM-USER-STORAGEGROUP (storgrp1 | storgrpmask1 ...[ storgrpn | storgrpmaskn])
SIMULATE
SOURCESONLINE(Y | N)
TARGETSONLINE(Y | N)
TARGETSUONLINE(Y | N)
TARGET-VOLS-SHOULD-BE-EMPTY(Y | N)
TO-USER-STORAGEGROUP (storgrp1 | storgrpmask1 ...[ , storgrpn | storgrpmaskn])
USERSGDEFS-DDN (ddname)
USERSGDEFS-OFFSETS (INCLEXCL(nn), SGNAME(nn), VOLSER(nn))

```

Source and target catalog names

Source and target catalog names can be the same. If source and target catalog names are the same, the target catalog is populated. See the RECATALOG option of the [“RENAME” on page 200](#) command, and the [“BCSCLEAN” on page 158](#) command.

For example, when:

- Source volumes contain data sets named A1... and B1....
- Alias A1 points to UCATA1 and alias B1 points to UCATB1
- Alias A2 points to UCATA2 and alias B2 points to UCATB2

- Rename masks (refer to [“RENAME”](#) on page 200): A1.** A2.** B1.** B2.** USERCATALOGS(UCATA1 UCATA2 UCATB1 UCATB2)

Then:

1. Source volume data sets matching A1.** are renamed to A2.**.
2. A2.** data sets are cataloged to UCATA2 because source data sets A1.** were found to be cataloged in UCATA1.
3. Source volume data sets matching B1.** are renamed to B2.**.
4. B2.** data sets are cataloged to UCATB2 because source data sets B1.** were found to be cataloged in UCATB1.

Note: Catalog data must be captured that reflects the status of the source volume data sets at the time of the copies. Data necessary to catalog renamed data sets, such as catalog PATH entries and GDG base records, exist in the catalog only. IMS Cloning Tool does not attempt to ascertain involved catalogs automatically, because of the time it would take and the consequent delay of source volume access.

FlashCopy for backups

When the COPY command is issued, IMS Cloning Tool uses the FlashCopy default of 'background COPY' from the source to target volume after the logical completion occurs.

To copy and rename the target volume data sets so that they can be used as input to a backup, use the FlashCopy 'NO background COPY' (FCNOCOPY) keyword. If you take a point-in-time copy with FlashCopy and the target volume is needed for a short time (such as for input to a backup), copying unchanged tracks is a waste of resources. Instead, use the pointer to the corresponding source volume data set. This concept is called 'NO background COPY'. The “before image” of tracks that change on the source volume must be created on the target. Assuming that a DFSMSdss or FDR DUMP of the target volume is started after the FlashCopy initiation is complete, it is likely that not many source volume tracks will change in the time it takes to complete the backup.

When the backup is finished however, this NO background COPY process should be stopped to prevent changed data from continually being copied to the target volume.

If you use DFSMSdss to back up the FlashCopy target, a DFSMSdss DUMP parameter, FlashCopy Withdraw (FCWITHDRAW), can be used on the DFSMSdss DUMP to tell DSS to withdraw the FlashCopy relationship when the backup is complete. If you use FDR as your memory dump tool, IMS Cloning Tool provides the COPYCHECK WITHDRAW command to withdraw the FlashCopy relationship. For more information, see [“COPYCHECK”](#) on page 173.

Note: If either the source or target volumes are extensively updated during the backup, this option should not be used because excessive overhead occurs when copying changed tracks to the target before the update occurs.

COPY command & keyword definitions

COPY

The COPY command initiates volume copies and in parallel, backs up the source ICF catalogs that point to data sets on the source volumes to be cloned.

- Required: Yes
- Restrictions: None

CATWORK-DSN (*mask*)

Specifies a mask that is used to derive data sets names for catalog backup data sets dynamically allocated during the COPY step.

The mask must include an asterisk (*) as one qualifier. IMS Cloning Tool creates data sets by substituting two eight-byte qualifiers in place of the provided asterisk. Because 17 bytes (8+.+8) of the name are generated, you are responsible for ensuring the resolved names do not exceed 44 characters.

For example, CATWORK-DSN(MAINSTAR.GCL.CATWORK.*) causes data sets to be created such as: MAINSTAR.GCL.CATWORK.UCATBKUP.BKP00001

The asterisk in the mask does not need to be the lowest level qualifier. (for example, CATWORK(MAINSTAR.GCL.CWORK*.DATA)

- Default: None
- Required: Required only if USERCATALOGS or USERCATALOGS-NOBACKUP is specified.
- Restrictions: None
- Short form: CWDSN

**JOURNAL-DSN (data set name)
or JOURNAL-DDN (ddname)**

Optional syntax is: JRNL-DSN or JRNL-DDN

This parameter supplies either the data set name of the IMS Cloning Tool journal file, or a DD name assumed via the JCL to point at a journal data set.

If multiple IMS Cloning Tool setups are used for different volume groups, DO NOT use the same journal data set. Each IMS Cloning Tool 'application' needs a different journal data set.

The journal is used to pass information between IMS Cloning Tool steps (for example, from the COPY step to the RENAME step). Therefore, as noted in the JCL comments, it must be cataloged in the COPY step when first created, and referenced as OLD in subsequent steps.

Do not delete the data set in the last step, in case restarts or reruns need journal information. It is preferable to delete and replace the data set only at the fresh start of a COPY.

- Default: None
- Required: Yes
- Restrictions: None
- Short form: JRNL-DSN JRNL-DDN

USERCATALOGS (sourcecat1[(volser1)] targetcat1 ... [, sourcecatn [(volsern)] targetcatn])

This parameter specifies source ICF catalogs that data sets from source (from) volumes are cataloged in, and the corresponding target catalog that renamed volume data sets are to be cataloged in.

ICF catalog names are specified in pairs of source and target. For each renamed data set, the USERCATALOGS list is searched for the catalog the source volume data set was cataloged in. The renamed data set is cataloged in the corresponding target catalog.

The source ICF catalogs that are specified must include all ICF catalogs that any data set being copied and renamed could be cataloged in.

Target ICF catalogs that are used to catalog the renamed data sets cannot reside on a target volume during the timeframe from the volume copy through the completion of the RENAME step. If desired, you can move the target ICF catalogs from the target volume before the volume copy, and move the target ICF catalogs back to the target volume after the RENAME is complete.

If you specify the VOLSER with the source ICF catalog name, the source catalog is backed up from its copy on the corresponding target volume. The VOLSER specified is the source volume where the source ICF catalog resides. The volume where the source ICF catalog resides must be included as one of the source volumes being copied. The VOLSER of the source ICF catalog is specified because when IMS Cloning Tool does the volume pairing, there is no guarantee the source volume is paired to the same target volume for every cloning. IMS Cloning Tool uses the volume pairing information to determine the target volume VOLSER that corresponds with the specified source volume VOLSER.

- Default: None
- Required: Yes
- Restrictions: Mutually exclusive with NOUSERCATALOGS, USERCATALOGS-NOBACKUP, USERCATALOGS-DDN, and USERCATALOGS-BACKUPFIRST.

- Short form: UCATS

USERCATALOGS-DDN(ddname)

This parameter specifies the DD name that points to a file that contains user catalog pairs. The pairs are the same format as in the USERCATALOGS keyword.

USERCATALOGS-DDN must have an LRECL of 80, and must not contain sequence numbers in columns 73 - 80.

- Default: None
- Required: Yes
- Restrictions: Mutually exclusive with USERCATALOGS, NOUSERCATALOGS, USERCATALOGS-NOBACKUP, and USERCATALOGS-BACKUPFIRST.
- Short form: UCATSDDN

USERCATALOGS-NOBACKUP (sourcecat1 [(volser1)] targetcat1 ... [, sourcecatn [(volsern)] targetcatn]

This parameter specifies source catalogs that data sets from source (from) volumes are cataloged in, and the corresponding target catalog that renamed volume data sets are to be cataloged in.

ICF catalog names are specified in pairs of source and target. For each renamed data set, the USERCATALOGS list is searched for the ICF catalog the source volume data set was cataloged in. The renamed data set is cataloged in the corresponding target catalog.

The source ICF catalogs that are specified must include all ICF catalogs that any data set being copied and renamed could be cataloged in.

Target ICF catalogs that are used to catalog the renamed data sets cannot reside on a target volume during the timeframe from the volume copy through the completion of the RENAME step. If desired, you can move the target ICF catalogs from the target volume before the volume copy, and move the target ICF catalogs back to the target volume after the RENAME is complete.

If you specify the VOLSER with the source ICF catalog name, the source catalog is backed up from its copy on the corresponding target volume. The VOLSER specified is the source volume where the source ICF catalog resides. The volume where the source ICF catalog resides must be included as one of the source volumes being copied. The VOLSER of the source ICF catalog is specified because when IMS Cloning Tool does the volume pairing, it is not guaranteed that the source volume is paired to the same target volume for every cloning. IMS Cloning Tool uses the volume pairing information to determine the target volume VOLSER that corresponds with the specified source volume VOLSER.

The source catalogs are not backed up by COPY. The source catalogs are backed up when UCATOPTIONS BACKUP is run. The backup of the source catalogs with UCATOPTIONS BACKUP must happen before running the RENAME command. If VOLSER is specified for the source catalog, UCATOPTIONS BACKUP makes its backup from the copies of the source catalogs on the target volumes. If VOLPAIRSDEVN-NOCLIP or VOLPAIRSDEVN-NOCLIP-DDN are used with USERCATALOGS-NOBACKUP, VOLOPTIONS OFFLINECLIP must be run before UCATOPTIONS BACKUP, which must be run before the RENAME command.

Note: The ICF catalog backup can be postponed until after COPY by using the USERCATALOGS-NOBACKUP keyword. However, if you choose to postpone the backup, the source ICF catalog information that is being backed up must be in synchronization with the contents of the copied volumes. If USERCATALOGS-NOBACKUP is used (so the source ICF catalogs are backed up after COPY by UCATOPTIONS BACKUP), you must ensure that the source ICF catalogs are logically at the same point in time as when the volumes were copied.

- Default: None
- Required: Yes
- Restrictions: Mutually exclusive with NOUSERCATALOGS, USERCATALOGS, USERCATALOGS-DDN, and USERCATALOGS-BACKUPFIRST.
- Short form: UCATSNB

USERCATALOGS-BACKUPFIRST (sourcecat1 targetcat1 ... [, sourcecatn targetcatn])

This parameter specifies source ICF catalogs that data sets from source (from) volumes are cataloged in, and the corresponding target catalog that renamed volume data sets are to be cataloged in.

ICF catalog names are specified in pairs of source and target. For each renamed data set, the USERCATALOGS list is searched for the catalog the source volume data set was cataloged in. The renamed data set is cataloged in the corresponding target catalog.

The source ICF catalogs that are specified must include all ICF catalogs that a data set being copied and renamed could be cataloged in.

Target ICF catalogs that catalog the renamed data sets cannot reside on a target volume during the volume copy until the RENAME step is complete. You can move the target ICF catalogs from the target volume before the volume copy, and move the target ICF catalogs back to the target volume after the RENAME is complete.

The source ICF catalogs are backed up before the target volumes are processed by the COPY command.

- Default: None
- Required: Yes
- Restrictions: Mutually exclusive with NOUSERCATALOGS, USERCATALOGS, USERCATALOGS-DDN, and USERCATALOGS-NOBACKUP.
- Short form: UCATSBF

NOUSERCATALOGS

This keyword specifies that no ICF catalogs are backed up during the COPY. When the NOUSERCATALOGS keyword is used, RENAME is not possible.

- Default: None
- Required: No
- Restrictions: Mutually exclusive with USERCATALOGS, USERCATALOGS-DDN, USERCATALOGS-NOBACKUP, and USERCATALOGS-BACKUPFIRST.
- Short form: NOUCATS

FROM-STORAGEGROUP (storgrp1 | storgrpmask1 ... [, storgrpn | storgrpmaskn])

Optional syntax: FROMSTORAGEGROUP

This keyword specifies the input volumes to be copied from one or more SMS storage group definitions or storage groups that match a mask. All volumes from the storage groups that are specified are copied, except volumes that are excluded via the EXCLUDE-FROM-VOLSER parameter.

IMS Cloning Tool matches source volumes with target volumes, in keeping with the requirement that each pair is in the same ESS subsystem and LSS (if ESS FlashCopy V1, same partition if RVA), same track format, and same volume size.

- Default: None
- Required: Required only if DATA-MOVER(PGM(ADRDSSU)) is specified (FlashCopy or SnapShot).
- Restrictions: Valid only with DATA-MOVER(PGM(ADRDSSU))
- Short form: FRS

FROM-USER-STORAGEGROUP (storgrp1 | storgrpmask1 ... [, storgrpn | storgrpmaskn])

Optional syntax: FROMUSERSTORAGEGROUP

This keyword specifies the input volumes to be copied from one or more user storage group definitions or storage groups that match a mask. All online volumes from the storage groups that are specified are copied, except volumes that are excluded via the EXCLUDE-FROM-VOLSER parameter.

An input (source) storage group may be specified or referred to only once per execution. IMS Cloning Tool matches source volumes with target volumes, in keeping with the requirement that each pair is in the same ESS subsystem and LSS (if ESS FlashCopy V1, same partition if RVA), same track format, and same volume size.

The storage group definitions that are used are read from the DD statement that is defined by the USERSGDEFS-DDN keyword.

- Default: None
- Required: Required only if DATA-MOVER(PGM(ADRDSSU)) is specified (FlashCopy or SnapShot).
- Restrictions: Valid only with DATA-MOVER(PGM(ADRDSSU))
- Short form: FRUS

FROM-VOLSER (*volser1* | *volmask1* ...[, *volsern* | *volmaskn*])

Optional syntax: FROMVOLSER

This keyword specifies the input volumes to be copied, either by discrete volume serial numbers or volume serial masks (for example, TSO*). See the EXCLUDE-FROM-VOLSER keyword to exclude VOLSERs from a list.

IMS Cloning Tool matches source volumes with target volumes, in keeping with the requirement that each pair is in the same ESS subsystem and LSS (if ESS FlashCopy V1, same partition if RVA), same track format, and same volume size.

If TO-VOLSER is used with FROM-VOLSER, volumes pair one-for-one (that is, first FROM VOLSER to first TO VOLSER), if allowed by the pairing requirements.

- Default: None
- Required: Required only if DATA-MOVER(PGM(ADRDSSU)) is specified (FlashCopy or SnapShot).
- Restrictions: If DATA-MOVER(PGM(NONE)) is used, a volume mask cannot be specified.
- Short form: FRV

TO-STORAGEGROUP (*storgrp1* | *storgrpmask1* ...[, *storgrpn* | *storgrpmaskn*])

Optional syntax: TOSTORAGEGROUP

This keyword specifies that output volumes needed to pair with input volumes are to be selected from one or more SMS storage groups or storage groups that match a mask. All volumes from the storage groups that are specified are target candidates, except volumes that are excluded via the EXCLUDE-TO-VOLSER parameter.

IMS Cloning Tool matches source volumes with target volumes, in keeping with the requirement that each pair is in the same ESS subsystem and LSS (if ESS FlashCopy V1, same partition if RVA), same track format, and same volume size.

If FROM-STORAGE is used, IMS Cloning Tool attempts to match volumes with the same positioned storage group names.

- Default: None
- Required: Required only if DATA-MOVER(PGM(ADRDSSU)) is specified (FlashCopy or SnapShot).
- Restrictions: Valid only with DATA-MOVER(PGM(ADRDSSU))
- Short form: TOS

TO-USER-STORAGEGROUP (*storgrp1* | *storgrpmask1* ...[, *storgrpn* | *storgrpmaskn*])

Optional syntax: TOUSERSTORAGEGROUP

This keyword specifies that output volumes needed to pair with input volumes are to be selected from one or more user storage groups or storage groups that match a mask. All online volumes from the storage groups that are specified are target candidates, except volumes that are excluded via the EXCLUDE-TO-VOLSER parameter. IMS Cloning Tool matches source volumes with target volumes, in keeping with the requirement that each pair is in the same ESS subsystem and LSS (if ESS FlashCopy V1, same partition if RVA), same track format, and same volume size.

If FROM-USER-STORAGEGROUP is used, IMS Cloning Tool attempts to match volumes with the same positioned storage group names that are listed in TO-USER-STORAGEGROUP. If a hardware difference or other issue results in a FROM-USER-STORAGEGROUP volume that does not match its TO-USER-STORAGEGROUP counterpart, the TO- USER-STORAGEGROUP volume is skipped. Then,

IMS Cloning Tool attempts to match the FROMUSER-STORAGEGROUP volume with the next TO-USERSTORAGEGROUP volume in the list.

- Default: None
- Required: Required only if DATA-MOVER(PGM(ADRDSU)) is specified (FlashCopy or SnapShot).
- Restrictions: Valid only with DATA-MOVER(PGM(ADRDSU))
- Short form: TOUS

TO-VOLSER (volser1 | volmask1 ...[, volsern | volmaskn])

Optional syntax: TOVOLSER

This keyword specifies target volumes to be paired with input volumes.

IMS Cloning Tool matches source volumes with target volumes, in keeping with the requirement that each pair is in the same ESS subsystem and LSS (if ESS FlashCopy V1, same partition if RVA), same track format, and same volume size. If TO-VOLSER is used with FROM-VOLSER, volumes pair one-for-one (that is, first FROM VOLSER to first TO VOLSER), if allowed by the pairing requirements.

- Default: None
- Required: Required only if DATA-MOVER(PGM(ADRDSU)) is specified (FlashCopy or SnapShot).
- Restrictions: If DATA-MOVER(PGM(NONE)) is used, a volume mask cannot be specified.
- Short form: TOV

USERSGDEFS-DDN (ddname)

This keyword specifies a DD name that points to a file that contains the user storage group definitions that are used by the FROM-USER-STORAGEGROUP and TO-USER-STORAGEGROUP keywords. The USERSGDEFS-OFFSET keyword is used to specify the offsets of the fields within the records.

The file must have an LRECL of 80. A comment record is denoted by a blank or * in column 1 or a /* in columns 1 and 2.

- Default: None
- Required: Required only if FROM-USER-STORAGEGROUP or TO-USER-STORAGEGROUP are specified.
- Restrictions: Used only if FROM-USER-STORAGEGROUP or TO-USER-STORAGEGROUP are specified.

USERSGDEFS-OFFSETS (INCLEXCL(nn), SGNAME(nn), VOLSER(nn))

This keyword specifies the offsets in the record that the fields are found. These fields are used for the user storage group definitions that are used by the FROM-USER-STORAGEGROUP and TO-USER-STORAGEGROUP keywords. The offsets that are specified can be 1 - 72 inclusive. 1 is the first character position in the record.

INCLEXCL specifies the offset where the single character Include or Exclude indicator can be found. A value of blank or I indicates an include definition. A value of E or X indicates an exclude definition. SGNAME specifies the offset where the eight character storage group name can be found. VOLSER specifies the offset where the six character volser, or volser mask, can be found. For example: using USERSGDEFS-OFFSETS(VOLSER(1), INCLEXCL(8), SGNAME(10)), and USERSGDEFS-DDN file that contains the records:

```
SRC00* SGSRC01
SRC006 E SGSRC01
TGT01* I SGTGT01
TGT02* I SGTGT01
TGT015 X SGTGT01
TGT025 X SGTGT01
```

FROM-USER-STORAGEGROUPS(SGSRC01) would resolve to all online DASD volumes that match the mask SRC00* except for SRC006, which would be excluded.

TO-USER-STORAGEGROUPS(SGTGT01) would resolve to all online DASD volumes that match the masks TGT01* and TGT02* except that TGT015 and TGT025 would be excluded.

- Default: None
- Required: Required only if FROM-USER-STORAGEGROUP or TO-USER-STORAGEGROUP are specified.
- Restrictions: Used only if FROM-USER-STORAGEGROUP or TO-USER-STORAGEGROUP are specified.

VOLPAIRS (*sourcevolser1 targetvolser1 ... [, sourcevolsern targetvolsern]*)

Optional syntax:

- VOLPAIRS-DDN(*ddname*) |
- VOLPAIRSDEVN (*sourcevolser1 targetvolser1 devn1 ... [, sourcevolsern targetvolsern devnn]*)
- VOLPAIRSDEVN-DDN(*ddname*)|
- VOLPAIRSDEVN-NOCLIP (*sourcevolser1 targetvolser1 devn1 ... [, sourcevolsern targetvolsern devnn]*)
- VOLPAIRSDEVN-NOCLIP-DDN (*ddname*)

VOLPAIRS This keyword specifies volume pairs where the target volumes were created by the user before the IMS Cloning Tool COPY command is run. Target volumes must have the desired internal VOLSER (not the VOLSER of the source volume) and be online. Discrete VOLSERs only, no masking allowed. Short form is VP.

VOLPAIRS-DDN specifies a DD name that points to a file that contains the volume pairs. The pairs are the same format as in the VOLPAIRS keyword. VOLPAIRS-DDN must have an LRECL of 80, and must not contain sequence numbers in columns 73-80.

VOLPAIRSDEVN specifies volume pairs with the device number of the target volume where target volumes were created by the user before the IMS Cloning Tool copy command is run. Target volumes must be offline, and the internal VOLSER must match the corresponding source VOLSER specified. IMS Cloning Tool re-labels the specified device (devn) to the corresponding target VOLSER and vary the volume online. Short form is VPD.

VOLPAIRSDEVN-DDN specifies a DD name that points to a file that contains the volume pairs. The pairs are the same format as in the VOLPAIRSDEVN keyword. VOLPAIRSDEVN-DDN must have an LRECL of 80, and must not contain sequence numbers in columns 73-80.

VOLPAIRSDEVN-NOCLIP specifies volume pairs with the device number of the target volume where target volumes were created by the user before the IMS Cloning Tool COPY command is run. Target volumes must be offline and the internal VOLSER must match the corresponding source VOLSER specified. COPY does not relabel the specified device (devn) or vary the volume online. The VOLOPTIONS OFFLINECLIP command can be used to relabel the specified target devices and vary the volumes online. The relabel and vary online of the target volumes with VOLOPTIONS OFFLINECLIP must happen before running the RENAME command. If VOLPAIRSDEVN-NOCLIP or VOLPAIRSDEVN-NOCLIP-DDN are used with USERCATALOGS-NOBACKUP, VOLOPTIONS OFFLINECLIP must be run before UCATOPTIONS BACKUP, which must be run before the RENAME command.

VOLPAIRSDEVN-NOCLIP-DDN specifies a ddname that points to a file that contains the volume pairs. The pairs are the same format as in the VOLPAIRSDEVN-NOCLIP keyword. VOLPAIRSDEVN-NOCLIP-DDN must have an LRECL of 80, and must not contain sequence numbers in columns 73-80.

- Default: None
- Required: One of the VOLPAIRS keywords is required only if DATA-MOVER(PGM(NONE)) is specified.
- Restrictions: Valid only with DATA-MOVER(PGM(NONE)).
- Short form: FRV

CATWORK-ATTR (*catalog backup allocation attributes*)

This keyword specifies the allocation attributes that are used for dynamically allocating catalog backup data sets. Unless unusual attributes are desired for a specific IMS Cloning Tool COPY, these attributes can be globally specified in the HLQ? .SGCLPARM.GCLINI member, :COPY_OPTIONS

section, CATWORK-ATTR token. Specify allocation attributes in TSO allocate syntax (e.g., UNIT(SYSDA) SPACE(1 1) TRACKS, etc.).

The attributes that can be specified include the following:

- DATACLAS(data class name)
- MGMTCLAS(management class name)
- SPACE(quantity increment)
- STORCLAS(storage class name)
- TRACKS/CYLINDERS UNIT(unit)
- VOLUME(serial)

If an initial attempt of running COPY fails because a catalog backup data set exceeds extents, increase the allocation and run again. Once successful, examine the space used and decrease if desired. To accommodate a future increase in the size of catalogs, leave the allocation with room to spare.

- Default: UNIT(SYSALLDA) SPACE(10 10) CYLINDERS
- Required: No.
- Restrictions: None
- Short form: CWATTR

DATA-MOVER ([PGM(ADRDSSU [, CHECKVTOC] [, CONSISTENT] [, COPYCMDLIMIT(nnn | 24)] [, DSSPARM(ABEND=nnn [, AMSGCNT=nnnn] | SDUMP=nnn [, MSGCNT=nnnn])] [, FASTREP(PREF | REQ | NONE)] [, FCNOCOPY] [FCSETGTOK] [, FCTOPPRCPRIARY] [INCREMENTAL(NO | YES)] [, NOCONCURRENT]) | EMCSNAP [, BACKGROUND COPY(NO | YES)] [, CHECKONLINEPATHSTATUS(NO | YES)] [, CONSISTENT(NO | YES)] [, DIFFERENTIAL(NO | YES)] [, MAXIMUM-SUBTASKS(number1, number2)] | NONE)]

Specifies the program to be used to initiate copies and copy options. The values that are specified for the subkeywords depend on the value that is specified in PGM: ADRDSSU, EMCSNAP, or NONE.

- **PGM (ADRDSSU)** specifies that COPY is to initiate FlashCopy or SnapShot in the background via execution of DSS. It is the default and therefore the PGM(ADRDSSU) keyword can be omitted. IMS Cloning Tool invokes DSS 'under the covers' to initiate volume copies with the COPY FULL option. Users should be acquainted with the DSS rules that govern copy full operations. See the topic "Combining copy services operations" in *z/OS DFSMS Advanced Copy Services* for more information.

For a COPY FULL operation, DSS determines by the device types of the volumes to be copied what copy mechanism is to be used. IMS Cloning Tool pairs volumes, so that FlashCopy or SnapShot should be used, and confirms at the time of the COPY step that conflicting relationships do not exist. However, because of the small window between IMS Cloning Tool volume pairing and relationship validation, DSS errors and associated messages must be examined.

IMS Cloning Tool COPY command supplies the ADMINISTRATOR operand when it invokes DFSMSdss. To avoid WTORs, ADRDSSU ADMINISTRATOR is used to gain permission to overlay the target volume VTOCIX and VVDS during the COPY process.

Because the ADMINISTRATOR operand is generated, FACILITY class must be available. The applicable FACILITY-class profile must be defined, and you must have READ access to that profile.

When PGM(ADRDSSU) is specified, the following subkeywords can be specified:

- **CHECKVTOC** (DSS parameter): Specifies to perform a VTOC analysis of the source volume during copy processing.
- **CONSISTENT** (IMS Cloning Tool parameter) Indicates to use a FlashCopy Consistency Group (YES) or not (NO). The default is NO. The CONSISTENT parameter does not apply when FASTREP(NONE or PREF) is also specified. To establish a Consistency Group, add a FCCGFREEZE parameter to each COPY statement passed to ADRDSSU. This causes I/O activity to the FlashCopy source volumes to be held (frozen). Once all the COPY statements have been processed by ADRDSSU, a CGCREATE command is passed to ADRDSSU, causing I/O activity to be resumed on the "frozen" FlashCopy source volumes. The number of volumes being copied

affects the amount of time the I/O activity to the source volumes will be held. If this time exceeds the smallest Consistency Group timer value defined for a LSS, the target volumes will not be consistent.

- **COPYCMDLIMIT**(*nnn* | 24) IMS Cloning Tool parameter): Specifies the maximum COPY FULL commands that are built by IMS Cloning Tool for each DSS execution. If omitted, 24 is the default. If the number of volumes to be copied exceeds the COPYCMDLIMIT, IMS Cloning Tool invokes DSS as many times as necessary. Adjusting this value can affect the performance of ESS copy initiations.
- **DSSPARM**: This parameter can be used to pass execution parameters to ADRDSSU. This parameter is intended for diagnostic purposes and can be used to gather more information when ADRDSSU has problems. The parameter values should be: ABEND=*nnn*[,AMSGCNT=*nnnn*], or SDUMP=*nnn*[,MSGCNT=*nnnn*]. These parameters are described in the "How to control DFSMSdss through PARM information in the EXEC statement" section in the *z/OS DFSMSdss Storage Administration* manual.
- **FASTREP** (DSS parameter): Indicates whether fast replication is preferred (PREF), required (REQ), or not required (NONE). If PREF or REQ is specified, IMS Cloning Tool sets up the source and target pairs for a fast replication. If NONE is specified, IMS Cloning Tool allows a normal copy. If the level of ADRDSSU indicates it supports this keyword, the keyword is passed to ADRDSSU.
- **FCSETGTOK** : (DSS parameter) Indicates that a FlashCopy target volume can also be a space efficient volume. This does not apply when FASTREP(NONE) is also specified. The physical background copy option is not permitted for space efficient FlashCopy. The FCNOCOPY keyword must also be specified with the FCSETGTOK keyword.
- **FCNOCOPY**: (DSS parameter) Indicates that no background copy should be done for the volume pair. This applies to ESS devices only. FCNOCOPY is mutually exclusive with INCREMENTAL.

Note: If you use FCNOCOPY, you must terminate the FlashCopy source and target relationship at the completion of the backup. Either use the DFSMSdss DUMP parameter FCWITHDRAW, or use COPYCHECK WITHDRAW. After the withdraw, some of the tracks on the volume may contain data from the source volume, while other tracks may contain residual data that was on the target volume before the copy. This situation can cause problems in accessing the target volume if the VTOC locations of the source and target volumes were different before the copy.
- **FCTOPPRCPPRIMARY** (DSS parameter): Indicates that a FlashCopy target volume can also be a PPRC primary volume. This parameter applies to ESS devices only. It does not apply when FASTREP(NONE) is also specified.
- **INCREMENTAL (NO | YES)** (DSS parameter): Indicates to use incremental flashcopy when performing volume level copies during subsystem cloning. Incremental flashcopy reduces the amount of data that must be copied in the background by the storage processor when a volume copy request is issued by only copying the changed tracks. The first time a source volume is flaschcopied to a target volume all tracks are copied. With incremental flash copy it can be requested that the source and target volumes be maintained in a persistent relationship after the volume copy completes. On succeeding volume copy requests with incremental flashcopy only the changed tracks need to be copied in the background need to be copied by the storage processor thus reducing use of storage processor resources.

Note: INCREMENTAL(YES) is mutually exclusive with FCNOCOPY.
- **NOCONCURRENT** (DSS parameter): Specifies that the CONCURRENT option will not be supplied to ADRDSSU. This parameter prevents ADRDSSU from using Concurrent Copy during the volume copies.
- **PGM(EMCSNAP)** specifies that COPY is to initiate EMC SNAP 'under the covers' via TimeFinder/Clone Mainframe SNAP Facility. IMS Cloning Tool invokes EMC SNAP 'under the covers' to initiate volume copies with SNAP VOLUME commands. Users should be acquainted with the EMC rules that govern SNAP VOLUME operations (EMC publication *TimeFinder/Clone Mainframe SNAP Facility Product Guide*).

IMS Cloning Tool pairs volumes, so that EMC SNAP should be used, and confirms at the time of the COPY step that conflicting relationships do not exist. However, because of the small window

between IMS Cloning Tool volume pairing and relationship validation, EMC SNAP errors and associated messages may need to be examined. When **PGM(EMCSNAP)** is specified, the following subkeywords can be specified:

- **BACKGROUNDCOPY**: Indicates whether background copy should be done (YES), or not (NO), for the volume pair. The default is YES.
- **CHECKONLINEPATHSTATUS**: Indicates whether a check that paths from other CPUs to the target devices are offline before performing a Volume Snap (YES) or not (NO). The default is NO.
- **CONSISTENT**: Indicates to use Enginuity Consistency Assist (ECA) for consistent SNAP VOLUME operations (YES) or not (NO). The default is NO.
- **DIFFERENTIAL**: Indicates to use the Enginuity Differential Snap feature for SNAP VOLUME operations (YES) or not (NO). The default is NO.
- **MAXIMUM-SUBTASKS**(*number1*, *number2*): Sets a maximum number of subtasks that can be attached and used. SNAP automatically limits the number of subtasks based on the requests that are specified and the low and high region available. SNAP never exceeds the limits that are specified in this parameter. *number1* is the limit to the number of individual requests that can be processed simultaneously. The minimum value that you can specify is two. The maximum value that you can specify is 9999. *number2* is the limit to the number of individual activities that can be performed within a single request, typically as the result of wildcards. If the MAXIMUM-SUBTASKS keyword is not specified, then the system defaults for SNAP are used.
- Default: For PGM, the default is ADRDSSU. For COPYCMDLIMIT, the default is 24. For FASTREP, the default is REQ. For BACKGROUNDCOPY, the default is YES. For CHECKONLINEPATHSTATUS, the default is NO. For CONSISTENT, the default is NO. For DIFFERENTIAL, the default is NO.
- Required: No.
- Restrictions: None.
- Short forms: DM, CHECK, CCL, FR, FCNC, FCTOPPRCP, NOCC

EXCLUDE-FROM-VOLSER (*volser1* | *volmask1* ...[*volsern* | *volmaskn*])

Optional syntax: EXCLUDEFROMVOLSER

Specifies volumes or volumes matching a mask, to be excluded from being specified for either the FROM-VOLSER parameter, or the FROM-STORAGEGROUP parameter.

- Default: None
- Required: No
- Restrictions: Not valid with VOLPAIRS, VOLPAIRSDEVN, VOLPAIRSDEVN-DDN, VOLPAIRSDEVN-NOCLIP, or VOLPAIRSDEVN-NOCLIP-DDN.
- Short form: EXCFRV

EXCLUDE-TO-VOLSER (*volser1* | *volmask1* ...[*volsern* | *volmaskn*])

Optional syntax: EXCLUDETOVOLSER

Specifies volumes or volumes matching a mask, to be excluded (not selected as targets) from being specified for either the TO-VOLSER parameter or the TO-STORAGEGROUP parameter.

If the 'eliminated' target volumes cause there to be more source volumes than targets, the COPY will fail.

If the 'eliminated' target volumes still leave at least as many target volumes as source volumes, the pairing will continue as usual.

- Default: None
- Required: No.
- Restrictions: Not valid with VOLPAIRS, VOLPAIRSDEVN, VOLPAIRSDEVN-DDN, VOLPAIRSDEVN-NOCLIP, or VOLPAIRSDEVN-NOCLIP-DDN.
- Short form: EXCTOV

SIMULATE

For DATAMOVER(PGM(ADRDSSU), SIMULATE specifies that the COPY step is to perform all functions except actual initiation of copies. This option is recommended for new IMS Cloning Tool setups or when modifications to the setup are made.

SIMULATE verifies syntax, match source to target volumes, display DSS COPY FULL commands (but not initiate the copies), and back up user catalogs. User catalogs are backed up to enable the SIMULATE option of the RENAME step.

In the process of pairing volumes, the logic is exercised to assure that the same ESS subsystem, LSS (FlashCopy V1), and volume size requirements permit all source volumes to be paired with targets. If discrete volumes are specified, and one-for-one pairing is desired, the simulated COPY FULL commands verify whether pairing requirements were satisfied for a one-for-one pairing. For DATAMOVER(PGM(NONE), SIMULATE specifies that the COPY step checks syntax, and backs up the source ICF catalogs for input to RENAME SIMULATE.

- Default: None.
- Required: No.
- Restrictions: None.

SOURCESONLINE(Y | N)

IMS Cloning Tool COPY command expects to locate the source volumes online. If N is specified, IMS Cloning Tool COPY will not expect to find all the source volumes online.

Note: If N is specified and the source volumes are not online, the source user catalogs must still be available to the IMS Cloning Tool COPY command.

- Default: Y
- Required: No.
- Restrictions: Valid only with VOLPAIRS, VOLPAIRS-DDN, VOLPAIRSDEVN, VOLPAIRSDEVN-DDN, VOLPAIRSDEVN-NOCLIP, or VOLPAIRSDEVN-NOCLIP-DDN
- Short form: SRCON

TARGETSONLINE(Y | N)

IMS Cloning Tool COPY command expects to locate the target volumes online. If N is specified, IMS Cloning Tool COPY will not expect to find all the target volumes online.

If N is specified, IMS Cloning Tool COPY will not obtain information for the target volumes. IMS Cloning Tool RENAME validates information for the target volumes.

- Default: Y
- Required: No.
- Restrictions: Valid only with VOLPAIRS.
- Short form: TGTON

TARGETSUONLINE(Y | N)

If Y is specified, IMS Cloning Tool COPY expects to locate the target user catalogs. It checks that the security product allows ALTER access to the target user catalogs.

If N is specified, IMS Cloning Tool COPY will not check for the existence or availability of the target user catalogs. IMS Cloning Tool RENAME checks that the target catalogs are available and does the RACF checks.

- Default: Y
- Required: No.
- Short form: TGTUON

TARGET-VOLS-SHOULD-BE-EMPTY(Y | N)

Performs a check during the volume pairing process to ensure the target volumes are empty before FlashCopy or SnapShot is issued. If a subsequent RENAME fails and the COPY must be rerun, IMS

Cloning Tool does not clean off the target volumes if 'Y' was specified for this parameter. Either initialize the target volumes or change this keyword to 'N'.

- Default: N
- Required: No.
- Restrictions: Not valid with VOLPAIRS, VOLPAIRSDEVN, VOLPAIRSDEVN-DDN, VOLPAIRSDEVN-NOCLIP, or VOLPAIRSDEVN-NOCLIP-DDN.
- Short form: TVE

Offline volumes (with DATA-MOVER(PGM(ADRDSSU)))

Source volumes:

- Discrete VOLSER specification: Must be found online, or COPY terminates with a return code 8.
- VOLSER mask specification: At least one online volume must be found that matches the mask, or COPY terminates with a return code 8.
- Storage group specification: At least one volume that is associated with the storage group must be online, or COPY terminates with a return code 8. If at least one volume is not found, a warning with return code 4 is generated. IMS Cloning Tool cannot differentiate between a non-existent volume and an offline volume.

Target volumes (any specification):

- If enough online volumes can be found to pair with source volumes, COPY proceeds.
- If target volumes are not found, but are not necessary, COPY proceeds.
- If fewer target volumes are found than needed to pair with source volumes, COPY terminates with a return code 8.
- Because in some cases IMS Cloning Tool cannot distinguish between a non-existent volume and an offline volume, messages refer to these volumes as 'not found'.

COPY Step JCL Example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements.

The COPY step JCL is shown in the following example. The numbers that precede the JCL correspond to notes following the sample JCL.

```

1 //???????? JOB , 'GCL COPY' , CLASS=A, MSGCLASS=X
2 //S1 EXEC PGM=IDCAMS
3 //SYSPRINT DD SYSOUT=*
4 //SYSIN DD *
5 1 DEL GCL.JRNL
6 2 DEL GCL.WRK.UCATBKUP.*
7 SET MAXCC=0
8 //S1 EXEC PGM=GCL00010, REGION=8M
9 //STEPLIB DD DSN=HLQ?.SGCLLOAD, DISP=SHR
10 //GCLINI DD DSN=HLQ?.SGCLPARM(GCLINI), DISP=SHR
11 //GCLPRINT DD SYSOUT=*
12 //SYSUDUMP DD SYSOUT=*
13 7 //JOURNAL DD DSN=GCL.JRNL, RECOG=KS, KEYLEN=64, KEYOFF=0,
14 // DISP=(,CATLG), UNIT=SYSALLDA,
15 // LRECL=600, SPACE=(CYL,(10,10))
16 //GCLIN DD *
17 COPY
18 DATA-MOVER(
19 )
20 FROM-VOLSER(VSRC02)
21 TO-VOLSER(VTGT02)
22 USERCATALOGS(
23 8 USERCAT.SRC01 USERCAT.TGT01
24 8 USERCAT.SRC02 USERCAT.TGT02
25 )
26 2 CATWORK-DSN(GCL.WRK.*)

```

1. Deletion of journal data set in anticipation of allocating new for each execution. Do not delete the journal data set in any steps except the COPY step. This data set is used to pass information from one IMS Cloning Tool step to another.
2. Deletion of catalog backup work data sets in anticipation of allocating new for each execution. The IMS Cloning Tool COPY step backs up each catalog that is specified by the USERCATALOGS control statement. Output data sets for each catalog backup are dynamically allocated using the CATWORK-DSN(mask) to derive names. Allocation attributes are specified in the GCLNI member of the SGCLPARM:COPY_OPTIONS section, CATWORK-ATTR token. Delete these data sets only in the COPY step.
3. Execution of IMS Cloning Tool main program.
4. The IMS Cloning Tool SGCLLOAD library must be authorized.
5. DD for GCLINI member of the HLQ?.SGCLPARM library. This member provides variables to the IMS Cloning Tool programs and contains the product security license codes.
6. DD for IMS Cloning Tool output.
7. Journal data set that is used by IMS Cloning Tool commands. This VSAM data set is used to pass information between IMS Cloning Tool steps, and to log information that is derived from the step executions. Each IMS Cloning Tool 'application' must have a unique journal data set.

Because logging varies based on errors and warnings that are discovered in the process, the data set size is difficult to predict. Therefore, test an application with the suggested CYL 10,10 allocation and increase if necessary. After a successful execution, the size may be reduced after you examine the total allocation. Allow for changes to the application setup. Number of volumes, number of data sets and number of warnings affect the required size.

As noted in the IDCAMS step, be sure this data set is not deleted before all IMS Cloning Tool steps are complete.

In the sample JCL, the control statement JOURNAL-DDN(JOURNAL) specifies that a DD statement named JOURNAL is used rather than a dynamically allocated data set name.

8. During the COPY process, IMS Cloning Tool produces two work files: BKPnnnnn is the backup of the source catalogs. SRTnnnnn is used as the output from the sorted BCS records that are selected by the RENAME-MASKS.

COPYCHECK

This command is not required. The COPYCHECK command is provided in case other relationships are to be initiated that require the previously initiated copies to complete, or if COPY must be rerun, and withdrawing previously established copies may save time, rather than waiting for them to finish.

COPYCHECK provides a mechanism to either 'WAIT' for copies to complete, or to 'WITHDRAW' or 'STOPSNAP' (terminate) previously established volume relationships.

- WAIT is intended for situations where other relationships must be initiated after the IMS Cloning Tool copies are complete
- WITHDRAW is intended for reruns of the COPY step without waiting for copies to complete when FlashCopy is used.
- STOPSNAP is intended for reruns of the COPY step without waiting for copies to complete after EMC SNAP is used.

If the copy was established with FCNOCOPY or BACKGROUNDCOPY(NO) (no background copy), following the withdraw, some of the tracks on the volume may contain data from the source volume, while other tracks may contain residual data that was on the target volume before the copy. This situation can cause problems when trying to access the target volume if the VTOC locations of the source and target volumes were different before the copy.

COPYCHECK command syntax

COPYCHECK

Required Keywords:

```
{JOURNAL-DSN(dataset name) | JOURNAL-DDN(ddname)}  
WAIT(nnn | 10 [ ,RC(rr | 4)] ) | WITHDRAW | STOPSNAP
```

COPYCHECK command & keyword definitions

COPYCHECK

Optional command to wait for completion of COPY events, or withdraw from them.

- Required: No
- Restrictions: None

JOURNAL-DSN (*data set name*) or JOURNAL-DDN (*ddname*)

This parameter supplies either the data set name of the IMS Cloning Tool journal file or the DD name of the DD statement in the JCL that points to the IMS Cloning Tool journal file.

COPYCHECK, whether used to wait for copy completions or to withdraw copy relationships, relies on the volume pairs that are carried in the journal data set from a previously run COPY command.

If multiple IMS Cloning Tool setups are used for different volume groups, DO NOT use the same journal data set. Each IMS Cloning Tool 'application' needs a different journal data set.

The journal is used to pass information between IMS Cloning Tool steps (for example, from the COPY step to the RENAME step). Therefore, as noted in the JCL comments, it must be cataloged in the COPY step when first created, and referenced as OLD in subsequent steps.

Do not delete the data set in the last step, in case restarts or reruns need journal information. It is preferable to delete and replace the data set only at the fresh start of a COPY.

- Default: None
- Required: Yes
- Restrictions: None

WAIT(*nnn* | 10 [,RC(*rr* | 4)])

WAIT specifies that COPYCHECK is to check at 30-second intervals to see if copy relationships have completed for all volume copies initiated in a corresponding COPY step.

nnn specifies the maximum time in minutes that COPYCHECK should continue checking. If the specified time limit expires before all copies are complete, COPYCHECK terminates with a return code of *rr*. Valid values for *rr* are 0 to 4095.

COPYCHECK examines the volume copies that are passed via the journal data set from a corresponding COPY step.

- Default: 10,RC(4)
- Required: Yes
- Restrictions: Mutually exclusive with WITHDRAW and STOPSNAP.

WITHDRAW

WITHDRAW specifies that COPYCHECK is to withdraw all copy relationships that are initiated in a corresponding COPY step.

If COPY must be rerun, WITHDRAW eliminates the required wait time for one set of volume copies to complete before copies that involve the same volumes can be reinitiated.

- Default: None

- Required: Yes
- Restrictions: Mutually exclusive with WAIT and STOPSNAP.

STOPSNAP

This keyword specifies that COPYCHECK is to stop snap all copy relationships that are initiated in a corresponding COPY step. If COPY must be rerun, STOPSNAP eliminates the required wait time for one set of volume copies to complete before copies that involve the same volumes can be reinitiated.

- Default: None
- Required: Yes
- Restrictions: Mutually exclusive with WAIT and WITHDRAW.

COPYCHECK step JCL example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements.

The COPYCHECK step JCL is shown in the following example. The numbers preceding the JCL correspond to notes that following the sample JCL.

```

1  //??????? JOB , 'GCL COPYCHECK',CLASS=A,MSGCLASS=X
2  //S1      EXEC PGM=GCL00010,REGION=8M
3  //STEPLIB DD DSN=HLQ?.SGCLLOAD,DISP=SHR
4  //GCLINI  DD DSN=HLQ?.SGCLPARM(GCLINI),DISP=SHR
5  //GCLPRINT DD SYSOUT=*
   //SYSUDUMP DD SYSOUT=*
   //JOURNAL DD DSN=GCL.JRNL,DISP=OLD
   //GCLIN   DD *
       COPYCHECK
       WAIT(20)
       JOURNAL-DDN(JOURNAL)
   //*
```

1. Execution of IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library must be authorized.
3. DD for GCLINI member of the HLQ?.SGCLPARM library. This member provides variables to the IMS Cloning Tool programs and contains the product security license codes.
4. DD for GCLPRINT output.
5. Journal data set used by IMS Cloning Tool commands. This VSAM data set is used to pass information between IMS Cloning Tool steps, and to log information that is derived from the step executions. The journal file is allocated and cataloged in the COPY step and used as input and output by the RENAME step. The specified data set name must match the data set allocated in the COPY step. If multiple IMS Cloning Tool setups are used for different groups of volumes, take care in specifying the journal data sets for each setup. In the sample JCL, the control statement JOURNAL-DDN(JOURNAL) specifies that a DD with the name JOURNAL is being used rather than a data set name.

IMSSETLOG

This command is not required. IMSSETLOG is used to suspend or resume an IMS system or systems as part of cloning an online IMS system.

An IMSSETLOG SUSPEND command is used to suspend activity in IMS systems currently available for a set of RECONS. It also prevents additional systems or DLI batch jobs from being started.

An IMSSETLOG RESUME command is used to release IMS systems that were previously suspended by an IMSSETLOG SUSPEND command. It also allows additional IMS systems and batch jobs to be started.

IMSSETLOG command syntax

IMSSETLOG

Required Keywords:

SUSPEND | RESUME

Optional Keywords:

SIMULATE
WTOR

IMSSETLOG command & keyword definitions

IMSSETLOG (SUSPEND | RESUME)

Optional command to suspend or resume an IMS subsystem. Valid values include the following:

- SUSPEND: suspend activity in IMS systems currently available for a set of RECONS. It also prevents additional systems or DLI batch jobs from being started.
- RESUME: release IMS systems that were previously suspended by an IMSSETLOG SUSPEND command. It also allows additional IMS systems and batch jobs to be started.
- Default: None
- Required: No
- Restrictions: None

WTOR

Optional keyword that specifies a WTOR should be issued after IMS activity is suspended. This can be useful in cases where the copy process is being done outside of IMS Cloning Tool.

- Default: None
- Required: No
- Restrictions: Valid on IMSSETLOG SUSPEND command only.

SIMULATE

Optional keyword that specifies that the actual SUSPEND or RESUME command is formatted and validated, but not issued.

- Default: None
- Required: No
- Restrictions: None.

IMSSETLOG step JCL example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements.

The IMSSETLOG step JCL is shown in the following example. The numbers that precede the JCL correspond to notes that follow the sample JCL.

```
1  //??????? JOB , 'GCL IMSSETLOG',CLASS=A,MSGCLASS=X
2  //S1      EXEC PGM=GCL00010,REGION=8M
3  //STEPLIB DD DSN=HLQ?.SGCLLOAD,DISP=SHR
4  //        DD DSN=IMS.SDFSRESL
5  //GCLINI  DD DSN=HLQ?.SGCLPARM(GCLINI),DISP=SHR
6  //GCLPRINT DD SYSOUT=*
7  //RECON1 DD DSN=ims.RECON1,DISP=SHR
   //RECON2 DD DSN=ims.RECON2,DISP=SHR
   //RECON3 DD DSN=ims.RECON2,DISP=SHR
   //GCLIN  DD *
       IMSSETLOG
7  //        SUSPEND
   //*
```

1. Execution of IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library must be authorized.

3. The IMS.SDFSRESL must be included in the STEPLIB for the IMSSETLOG command.
4. DD for GCLINI member of the HLQ?.SGCLPARM library. This member provides variables to the IMS Cloning Tool programs and contains the product security license codes.
5. DD for GCLPRINT output.
6. DDs for the RECON data sets. These data sets can be specified in the JCL or the library that contains the MDA members for these data sets can be included in the STEPLIB.
7. SUSPEND parameter that specifies that IMS Cloning Tool is to suspend activity in IMS that is currently authorized in the RECONS and to prevent new jobs from being authorized.

IMSSTART

This command is not required. IMSSTART is used to start an IMS subsystem, via a z/OS START command, as part of cloning an IMS subsystem. This command is used only for the cloning of an IMS subsystem. The STARTCMD keyword is used to specify the proclib member and optional parameters for the z/OS START command.

The IMSSTART command can optionally start and wait for initialization of an IRLM and common service address spaces. The STARTIRLM keyword specifies the IRLM proclib member and the STARTCSL specifies the common service layer proclib member.

Several of the auxiliary address space (such as CQS, CSL, Repository, and IRLM), can be shared by multiple IMS systems. If multiple IMS systems use these components, specify an IMSSTART command in your job stream for each IMS system, but include the keyword to start the shared components on only the first IMSSTART command.

After the z/OS START command is issued, IMSSTART waits for the IMS subsystem to complete its startup until it is ready to accept a restart command. An IMS subsystem can either be brought up with a cold start, a warm start, or an emergency restart. The RESTART-CMD keyword is used to specify the restart mode. If the IMS subsystem is defined with automatic restart and you want to override the automatic restart command of the subsystem, specify the AUTO=N parameter in the STARTCMD keyword of the IMSSTART command.

After the restart command is issued, IMSSTART waits for the IMS subsystem to complete its initialization. The WAIT keyword is used to specify how long this wait is and the return code to be used when the wait time is exceeded.

Note: The user ID that runs the IMSSTART command must be authorized to issue z/OS START command.

IMSSTART command syntax

IMSSTART

Required Keywords:

IMS-SSID(*ims ssid*)

Optional Keywords:

```
APFLIB-DATASETS(apf_ds1,apf_ds2,...)
IMS-ALREADY-RUNNING(RC(nn) | 4)
RESTART-CMD(ims restart command and parms)
SIMULATE
STARTCMD(start command string and parms)
STARTCSL(CSL proc name and parms)
STARTIRLM(IRLM proc name and parms)
STARTCQS(CQS proc name and parms)
STARTODBM(ODBM proc name and parms)
STARTOM(OM proc name and parms)
STARTRM(RM proc name and parms)
STARTRS(RS proc name and parms)
WAIT(nnn | 5) [,RC(rr) | 8]
WAITONLY
```

IMSSTART command & keyword definitions

IMSSTART

Optional command to start an IMS subsystem.

- Required: No
- Restrictions: None

IMS-SSID(*IMS-SSID*)

Required keyword that indicates which IMS subsystem is to be started.

- Default: None
- Required: Yes
- Restrictions: 1-4 characters

STARTCMD(*start command string and parameters*)

Optional keyword that specifies the IMS start command that should be used to start the IMS subsystem. The length of the parameter is limited to 256 bytes.

For example: STARTCMD(I9QACR1.I9QA,IMSID=I9QA)

To override the subsystem automatic restart command with the IMSSTART command RESTART-CMD keyword, include the AUTO=N parameter in this STARTCMD keyword. For example:
STARTCMD(I9ACR9,AUTO=N)

- Default: None
- Required: Yes
- Restrictions: Maximum length of this parameter is limited to 256 bytes.

RESTART-CMD(*restart command and parameters*)

Optional keyword that specifies the IMS restart command to be issued during the restart of the IMS subsystem.

The value that is entered for the RESTART-CMD is exactly the value that is used when issuing the restart command to IMS. The IMS restart command and restart options are defined in the *IMS Commands* reference guide.

An '/NRE CHKPT 0', or cold start, is recommended for starting the cloned, or target, IMS subsystem.

Typically, an '/NRE', or warm start, would be used when restarting the source IMS subsystem if it has been shut down normally.

There is no default value. The length of the parameter is limited to 256 bytes.

For example: RESTART-CMD(/NRE CHKPT 0)

If the IMS subsystem is defined with automatic restart, IMS Cloning Tool ignores this RESTART-CMD keyword. If you want to override the automatic restart command of the subsystem, the AUTO=N parameter should be included in the STARTCMD keyword.

- Default: None
- Required: Yes
- Restrictions: Maximum length of this parameter is limited to 256 bytes.

APFLIB-DATASETS(*apf_ds1,apf_ds2,...*)

Optional keyword that supplies a list of data set names to be APF authorized on the target.

- Default: None
- Required: No.
- Restrictions: Up to 100 data set names can be specified.
- The submitter of the job must be authorized to use SETPROG APF via the z/OS MGCRE service.

IMS-ALREADY-RUNNING(RC(nn) | 4)

Optional keyword that determines the IMSSTART function return code to issue if the IMS subsystem is found to be already running. The default return code is 4. If WAITONLY is not specified, the default return code is 4, else the default return code is 0.

- Default: 4, or 0 if WAITONLY
- Required: No
- Restrictions: None.

SIMULATE

Optional keyword that specifies that the actual START command is formatted and validated, but not issued.

- Default: None
- Required: No
- Restrictions: None.

STARTCSL(SCI start command and parameters)

Optional keyword that indicates that the CSL (Common Service Layer) address space should be started by the IMSSTART command. The parameter that is supplied should be the command and parameters to start the associated SCI address space.

For example: STARTCSL (SCI , SCINAME=SCI1) *or* STARTCSL (SCI)

If the SCI address space is already available, IMSSTART does not issue an additional START command.

- Default: None
- Required: No
- Restrictions: Maximum length of this parameter is limited to 256 bytes.

STARTCQS(CQS proc name and parameters)

Optional keyword to start the CQS (Common Queue Server) address space with the IMSSTART command. Include the command and parameters to start the associated CQS address space as the STARTCQS parameter variable value.

For example: STARTCQS (IMSCQS , PARM='SSN=IMS1') *or* STARTCQS (IMSCQS)

If the CQS address space is already available, IMSSTART does not issue an additional START command.

- Default: None
- Required: No
- Restrictions: None

STARTIRLM(IRLM start command and parameters)

Optional keyword that indicates that the IRLM address space should be started by the IMSSTART command. The parameter that is supplied should be the command and parameters to start the associated IRLM address space.

For example: STARTIRLM (IRLM , IRLMNM=IRL1) *or* STARTIRLM (IRLM)

If the IRLM address space is already available, IMSSTART does not issue an additional START command.

- Default: None
- Required: No
- Restrictions: Maximum length of this parameter is limited to 256 bytes.

STARTODBM(*ODBM proc name and parameters*)

Optional keyword to start the ODBM (Open Database Manager) address space with the IMSSTART command. Include the command and parameters to start the associated ODBM address space as the STARTODBM parameter variable value.

For example: STARTODBM(IMSODBM,ODMNINIT=IMS) *or* STARTODBM(IMSODBM)

If the ODBM address space is already available, IMSSTART does not issue an additional START command

- Default: None
- Required: No
- Restrictions: None.

STARTOM(*OM proc name and parameters*)

Optional keyword to start the OM (Operations Manager) address space with the IMSSTART command. Include the command and parameters to start the associated OM address space as the STARTOM parameter variable value.

For example: STARTOM(IMSOM,PARM='OMINIT=IMS') *or* STARTOM(IMSOM)

If the OM address space is already available, IMSSTART does not issue an additional START command.

- Default: None
- Required: No
- Restrictions: None

STARTRM(*RM proc name and parameters*)

Optional keyword to start the RM (Resource Manager) address space with the IMSSTART command. Include the command and parameters to start the associated RM address space as the STARTRM variable value.

For example: STARTRM(IMSRM,PARM='RMINIT=IMS') *or* STARTRM(IMSRM)

If the RM address space is already available, IMSSTART does not issue an additional START command.

- Default: None
- Required: No
- Restrictions: None

STARTRS(*RS proc name and parameters*)

Optional keyword to start the RS (Repository Server) address space should with the IMSSTART command. Include the command and parameters to start the associated RS address space as the STARTRS parameter variable value.

For example: STARTRS(IMSRS,SOUT=X) *or* STARTRS(IMSRS)

If the repository server address space is already available, IMSSTART does not issue an additional START command.

- Default: None
- Required: No
- Restrictions: None.

WAIT(*nnn | 5*)[,RC(*rr*) | 8]

Optional keyword that specifies the number of minutes (nnn) the IMSSTART command should wait for the IMS subsystem to complete startup. If the specified time limit expires before the IMS subsystem start is complete, IMSSTART terminates with a return code of *rr*. The default wait time is 5 minutes. The default return code is 8.

- Default: 5,RC(8)
- Required: No

- Restrictions: None.

WAITONLY

Optional keyword, that when specified, indicates that the command to start of the IMS address spaces will not be used by this job step. The job step verifies that the IMS address spaces are available, or waits until the IMS address spaces are manually started.

- Default: None
- Required: No
- Restrictions: None.

IMSSTART step JCL example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements.

The IMSSTART step JCL is shown in the following example. The numbers that precede the JCL correspond to notes that follow this sample JCL.

```

1 //??????? JOB , 'GCL IMSSTART', CLASS=A, MSGCLASS=X
2 //S1 EXEC PGM=GCL00010, REGION=8M
3 //STEPLIB DD DSN=HLQ?.SGCLLOAD, DISP=SHR
4 //GCLINI DD DSN=HLQ?.SGCLPARM(GCLINI), DISP=SHR
5 //GCLPRINT DD SYSOUT=*
6 //SYSUDUMP DD SYSOUT=*
7 //GCLIN DD *
  IMSSTART
5   IMS-SSID(IMS1)
6   STARTCMD(IMS1CR)
7   RESTART-CMD(/NRE CHKPT 0)
  /**

```

1. The issue of IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library must be authorized.
3. DD for GCLINI member of the HLQ?.SGCLPARM library. This member provides variables to the IMS Cloning Tool programs and contains the product security license codes.
4. DD for GCLPRINT output.
5. IMS-SSID parameter specifies the IMS ssid, IMS1, of the IMS subsystem that is to be started.
6. STARTCMD parameter specifies the proc name for the IMS control region to be started.
7. RESTART-CMD parameter specifies the type of restart to start the IMS subsystem with.

IMSSTOP

This command is not required. IMSSTOP is an optional command that is used to stop an IMS subsystem with an IMS /CHE command as part of cloning an IMS subsystem. This command is used only for cloning of an IMS subsystem. The MODE keyword is used to specify the type of checkpoint to use to shut down the IMS subsystem.

The IMSSTOP command can optionally stop and wait for termination of the common service layer address spaces and an IRLM address space after the IMS subsystem has terminated. The STOPCSL keyword is used to specify the SCI started task name. The STOPIRLM keyword is used to specify the IRLM started task name.

Several of the auxiliary address spaces (such as CQS, CSL, Repository, and IRLM), do not shut down unless all of the subsystems that are connected to that component are shut down. Therefore, if other IMS systems are using these components, specify an IMSSTOP command in your job stream for each IMS system, but specify the keyword to stop the shared components on only the last IMSSTOP command.

After the IMS /CHE command is issued, IMSSTOP waits for the IMS subsystem to complete its shutdown. The WAIT keyword is used to specify how long this wait is and the return code to be used when the wait time is exceeded.

Note: The user ID that runs the IMSSTOP command must be authorized to issue z/OS MODIFY and STOP commands if STOPCSL or STOPIRLM is specified.

IMSSTOP command syntax

IMSSTOP

Required Keywords:

IMS-SSID(*ims ssid*)

Optional Keywords:

```
IMS-ALREADY-STOPPED(RC(nn) | 8 )  
MODE(FREEZE | DUMPQ | PURGE)  
SIMULATE  
STOPIRLM(IRLM proc name)  
STOPCSL(sci proc name,LOCAL|PLEX)  
STOPCQS(CQS proc name)  
STOPODBM(ODBM proc name)  
STOPOM(OM proc name)  
STOPRM(RM proc name)  
STOPRS(RS proc name [,ALL])  
WAIT(nnn | 5 ) [,RC(nn) | 8 ]  
WAITONLY
```

IMSSTOP command & keyword definitions

IMSSTOP

Optional command to stop an IMS subsystem.

- Required: No
- Restrictions: None

IMS-SSID(*IMS-SSID*)

Required keyword that indicates which IMS subsystem to stop.

- Default: None
- Required: Yes
- Restrictions: 1-4 characters

IMS-ALREADY-STOPPED(RC(*nn*) | 8)

Optional keyword that determines the IMSSTOP function return code to issue if the IMS subsystem is not running. The default return code is 8.

- Default: 8
- Required: No
- Restrictions: None.

MODE(FREEZE | DUMPQ | PURGE)

Optional keyword that determines the IMS shutdown variations. An IMS “/CHECKPOINT” command is issued with the specified mode as the parameter. If the DUMPQ parameter is requested and the IMS subsystem is a DBCTL system, the command with the default option of PURGE is used. The default value is DUMPQ for a DB/DC or a DCCTL subsystem, and PURGE for a DBCTL subsystem.

- Default: DUMPQ for DB/DC , PURGE for DBCTL
- Required: No.
- Restrictions: None.

SIMULATE

Optional keyword that specifies that the STOP command is formatted and validated, but not issued.

- Default: None

- Required: No
- Restrictions: None.

STOPIRLM(*IRLM proc name*)

Optional keyword that stops the IRLM address space with the IMSSTOP command after the IMS subsystem has terminated. The parameter that is supplied is the name of the IRLM started task name.

- Default: None
- Required: No
- Restrictions: None.

STOPCSL(*sci proc name*,LOCAL|PLEX)

Optional keyword that stops the CSL address spaces after IMS address space is stopped. The default is to shut down the address spaces associated with the CSL on a single z/OS image. If all CSL addresses within an IMSplex are to be shut down, specify PLEX as the second parameter for this keyword.

- Default: None
- Required: No
- Restrictions: None.

STOPCQS(*CQS proc name*)

Optional keyword to stop the CQS (Common Queue Server) address space with the IMSSTOP command. Include the name of the CQS started task name as the parameter variable value.

- Default: None
- Required: No
- Restrictions: None.

STOPODBM(*ODBM proc name*)

Optional keyword to stop the ODBM (Open Database Manager) address space with the IMSSTOP command. Include the name of the ODBM started task name as the parameter variable value.

- Default: None
- Required: No
- Restrictions: None.

STOPOM(*OM proc name*)

Optional keyword to stop the OM (Operations Manager) address space with the IMSSTOP command. Include the name of the OM started task name as the parameter variable value.

- Default: None
- Required: No
- Restrictions: None.

STOPRM(*RM proc name*)

Optional keyword to stop the RM (Resource Manager) address space with the IMSSTOP command. Include the name of the RM started task name as the parameter variable value.

- Default: None
- Required: No
- Restrictions: None.

STOPRS(*RS proc name*[,ALL])

Optional keyword to stop the RS (Repository Server) address space with the IMSSTOP command. Include the name of the repository server started task name as the parameter variable value. 'ALL' is an optional parameter to stop the master and secondary repository servers address spaces. If 'ALL' is not specified, the SHUTDOWN command is issued to only the specified repository server. For example: STOPRS(IMSRS,ALL) or STOPRS(IMSRS)

- Default: None
- Required: No
- Restrictions: None.

WAIT(nnn | 5) [,RC(rr) | 8]

Optional keyword that specifies the number of minutes (nnn) the IMSSTOP command waits for the IMS subsystem to complete termination. If the specified time limit expires before the IMS termination has completed, IMSSTOP terminates with a return code of rr. The default wait time is 5 minutes. The default return code is 8.

- Default: 5,RC(8)
- Required: No
- Restrictions: None.

WAITONLY

Optional keyword that, when specified, indicates that the command to shut down the IMS address spaces that are not used by this job step. The job step verifies only that the IMS address spaces are not available, or it waits until the IMS address spaces are manually stopped.

- Default: None
- Required: No
- Restrictions: None.

IMSSTOP step JCL example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements.

The IMSSTOP step JCL is shown in the following example. The numbers that precede the JCL correspond to notes that follow the sample JCL.

```

1  //??????? JOB , 'GCL IMSSTOP',CLASS=A,MSGCLASS=X
2  //S1      EXEC PGM=GCL00010,REGION=8M
3  //STEPLIB DD DSN=HLQ?.SGCLLOAD,DISP=SHR
4  //GCLINI  DD DSN=HLQ?.SGCLPARM(GCLINI),DISP=SHR
5  //GCLPRINT DD SYSOUT=*
6  //SYSUDUMP DD SYSOUT=*
   //GCLIN  DD *
       IMSSTOP
5       IMS-SSID(IMS1)
6       MODE(DUMPQ)

```

1. Execution of IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library must be authorized.
3. DD for GCLINI member of the HLQ?.SGCLPARM library. This member provides variables to the IMS Cloning Tool programs and contains the product security license codes.
4. DD for GCLPRINT output.
5. IMS-SSID parameter that specifies the IMS ssid, IMS1, of the IMS subsystem to be stopped.
6. MODE parameter that specifies the type of checkpoint for IMS to do when shutting down.

IMSUPDATE

This command is not required. Use IMSUPDATE to change the data set names in dynamic allocation members based on the rename masks specified in the RENAME command, when the MDA-DATASETS or MDA-DDN keyword is specified. If an IMS subsystem is in the process of being cloned, with the intent of a second IMS subsystem accessing the renamed data sets, IMSUPDATE can be used to make some of the changes within IMS to reflect the renamed data sets.

The IMSUPDATE command modifies JCL and PROCLIB members. The modifications are based on the rename masks specified in the RENAME command, the volume pairs that are specified in the COPY command, and the IMS-SSID parameter if the JCLPDS-DATASETS or JCLPDS-DDN keyword is specified.

RENAME command ARCHIVE log data sets are modified only if the optional RENAME-ARCHIVE-LOGS keyword is specified. Image copy records in the RECONS are modified only if the optional RENAME-ICS keyword is specified. Change accumulation records in the RECONS are modified only if the optional RENAME-CAS keyword is specified.

The target IMS subsystem cannot be started until the IMS Cloning Tool COPY, RENAME, and IMSUPDATE commands are complete. The target IMS subsystem must be stopped before the source subsystem is cloned again (next IMS Cloning Tool COPY command).

IMSUPDATE can be run only when the previous RENAME was not a SIMULATE.

IMSUPDATE command syntax

IMSUPDATE

Required Keywords:

```
IMS-SSID(src_ssid,tgt_ssid)
JOURNAL-DSN(data set name) | JOURNAL-DDN(dd name)
IMS-RESLIB-DATASETS(reslib_ds1,reslib_ds2) |
IMS-RESLIB-DDN(ddname)_
```

Optional Keywords:

```
ACB-NOT-FOUND(RC(nn) | 4 ))
ALLOW-RENAME-SIM
COMPRESS-MDA-CNT(nnn | 0)
DSNAME-ERROR-DBRC-SYMBOLS(ERROR|WARN|IGNORE)
EXTERNAL-SSID(src_ssid1,tgt_ssid1,src-ssid2,tgt_ssid2...)
IMS-ACBLIB-DATASETS(acb1ib_ds1,acnlib_ds2) |
IMS-ACBLIB-DDN(ddname)
IMS-GROUP(ims group name)
IMS-MACLIB-DATASETS(mac1ib_ds1,mac1ib_ds2) |
IMS-MACLIB-DDN(ddname)
IMSRDS-DSN(dataset name)
IMSRDS2-DSN(dataset name)
IMS-RSENAME(src_rsename,tgt_rsename)
IMS-SUFFIX(x | 0)
JCLPDS-DATASETS(jclpds_ds1,jclpds_ds2,jclpds_ds3) |
JCLPDS-DDN(ddname)
JCLPDS-NOT-UPDATED(RC(nn) | 4 ))
MDA-DATASETS(mda_ds1,mda_ds2,mda_ds3) |
MDA-DDN(ddname)
MDA-NOT-UPDATED(RC(nn) | 4 ))
MODBLKS-DSN(dataset name)
MODBLKSA-DSN(dataset name)
MODBLKSB-DSN(dataset name)
MODSTAT-DSN(dataset name)
MODSTAT2-DSN(dataset name)
MSDBCP-DATASETS(msdbcp_ds1,msdbcp_ds2,...)
NOT-RENAME-JCLPDS-LIST(N|Y)
RDDS-DATASETS(rdds1_ds1,rdds2_ds1,rdds3_ds1) |
RDDS-DDN(ddname)
RDDS-NOT-UPDATED(RC(nn) | 4 ))
RECON-DATASETS(recon1_ds1,recon2_ds1,recon3_ds1) |
RECON-DDN(ddname)
RECON-NOT-UPDATED(RC(nn) | 4 ))
REMOVE-MEMBER
RENAME-ARCHIVE-LOGS(N|Y)
RENAME-CAS(N|Y)
RENAME-ICS(N|Y)
REPO-MEMBER-DATASETS(repo_mbr_ds2,repo_mbr_ds2) |
REPO-MEMBER-DDN(ddname)
REPO-INDEX-DATASETS(repo_idx_ds2,repo_idx_ds2) |
REPO-INDEX-DDN(ddname)
REPO-NOT-UPDATED(RC(nn) | 4 ))
SIMULATE
UPDATE-SLDS(Y|N)
XRF-CAPABLE( N | Y)
```

IMSUPDATE command & keyword definitions

IMSUPDATE

Optional keyword to update IMS to reflect renamed data sets.

- Required: No
- Restrictions: None

IMS-SSID(*src_ssid, tgt_ssid*)

Required keyword that allows the specification of an IMS subsystem name pairing. The name that appears first in a pair reflects the SOURCE IMS subsystem name, the second, the TARGET IMS subsystem name.

- Default: None
- Required: Yes
- Restrictions: None.

JOURNAL-DDN (*ddname*)

or JOURNAL-DSN (*data set name*)

Required keyword that supplies either a data set name of the IMS Cloning Tool journal file, or a DD name assumed via the JCL to point at a journal data set.

The journal data set name for the IMSUPDATE step must be the same data set specified for the COPY step.

- Default: None
- Required: Yes
- Restrictions: None

IMS-RESLIB-DATASETS(*data set name1, dataset name2, data set name3*)

or IMS-RESLIB-DDN(*DD name*)

Required keyword that supplies either data set names or a DD name in the JCL for the IMS RESLIB for the target IMS subsystem. If the COPY and RENAME processes are done in a different job step, the JCLPDS_DDND can be used to point to a DD in the job step JCL which includes these data sets.

- Default: None
- Required: Yes
- Restrictions: Up to 100 data set names can be specified.

ACB-NOT-FOUND(RC(*nn*) | 4)

Optional keyword that supplies the return code that is used if a DMB is not found in the ACBLIB for a database that is defined to an IMS subsystem. This keyword prevents updating a corresponding MDA member for the database. The default value returned is 4.

- Default: 4
- Required: No.
- Restrictions: None.

ALLOW-RENAME-SIM

Optional keyword that is used to indicate that the IMSUPDATE command can update IMS data sets even if the previous RENAME command was run with SIMULATE. This keyword can be used in cases where IMS Cloning Tool did not perform the copy and rename of the target data sets but the target data sets still must be updated with the information for the target IMS.

- Default: Do not allow IMSUPDATE to run if RENAME was run with SIM.
- Required: No
- Restrictions: None.

COMPRESS-MDA-CNT(*nnn* | 0)

Optional keyword that indicates that the MDA library should be compressed after the specified number of MDA members have been updated. This parameter can be used to help prevent x37 type

ABENDs when a large number of MDA members are being updated and the PDS directory size is not large enough to accommodate all of the updates without periodically compressing the MDA library between updates. When 0 (the default) is specified, the target MDA library is not compressed while updating the MDA members during IMSUPDATE processing. Valid values are a number between 0 and 999.

- Default: 0 (do not compress)
- Required: No
- Restrictions: None.

DSNAME-ERROR-DBRC- SYMBOLS (ERROR | WARN | IGNORE))

Optional keyword that specifies the action to take when a resulting target data set name is more than the allowable 44 characters and the data set names contain DBRC symbolic keywords. The default value is ERROR.

ERROR indicates that this condition causes an error message to be displayed and the data set name is not updated.

WARN indicates that this condition causes a warning message to be displayed but the data set name is updated.

IGNORE indicates that this condition does not trigger a message and the data set name is updated.

- Default: Error
- Required: No
- Restrictions: None

EXTERNAL-SSID(*src_ssid1,tgt_ssid1,src-ssid2,tgt_ssid2...*)

Optional keyword that identifies any external Db2 subsystems that the source IMS was connected to at the time that COPY was done. The values specified for the EXTERNAL-SSID keyword are pairs of Db2 subsystem IDs. The first value in a pair is the Db2 subsystem ID that the source IMS subsystem was connected to, the second value in the pair is the Db2 subsystem ID that the target IMS subsystem will connect to.

- Default: None
- Required: No
- Restrictions: None

IMS-ACBLIB-DATASETS (*data set name 1 ,data set name 2, data set name 3*) or IMS-ACBLIB-DDN(*DD name*)

Optional keyword that supplies either data set names or a DD name in the JCL for the IMS ACBLIB data sets for the target IMS subsystem. If the COPY and RENAME processes are done in a different job step, the IMS-ACBLIB-DDN can be used to point to a DD in the job step JCL that includes these data sets. The data sets specified are used in updating MDA members. This keyword is required if the MDA-DATASETS or MDA-DDN keyword is specified.

- Default: IMS-ACBLIB-DDN (ACBLIB)
- Required: No
- Restrictions: This keyword is required if the MDA-DATASETS or MDA-DDN keyword is specified. Up to 100 data set names can be specified.

IMS-GROUP(*IMS group name*)

Optional keyword that specifies an IMS group name to associate a group of IMS subsystems. The same IMS Name must be used on the IMSUPDATE commands for each member in a data sharing environment.

- Default: None
- Required: When cloning data sharing subsystems.
- Restrictions: None.

**IMS-MACLIB-DATASETS(data set name 1, data set name 2, data set name 3)
or IMS-MACLIB-DDN(DD name)**

Optional keyword that supplies either data set names or a DD name in the JCL for the IMS MACLIB for the target IMS subsystem. If the COPY and RENAME processes are done in a different job step, the MACLIB-DDN can be used to point to a DD in the job step JCL that includes these data sets. The data sets specified are used in updating MDA members. This keyword is required if the MDA-DATASETS or MDA-DDN keyword is specified.

- Default: None.
- Required: No.
- Restrictions: This keyword is required if the MDA-DATASETS or MDA-DDN keyword is specified. Up to 100 data set names can be specified.

IMSRDS-DSN(data set name)

This keyword is required for online cloning, but is optional for offline cloning.

For offline cloning: This optional keyword supplies the data set name of the restart data set for the target IMS subsystem. This keyword is required if the source IMS system is offline but was abnormally terminated.

For online cloning: This keyword is required if the source IMS system was online while the COPY of the source volumes occurred. This data set is updated to allow the target IMS to be emergency restarted. If the COPY and RENAME processes are done in a different job step, then an IMSRDS DD in the job step JCL can be used instead of the IMSRDS-DSN keyword. If the IMSRDS DD included in the job step JCL, then this parameter is ignored.

- Default: None
- Required: For online cloning.
- Restrictions: None.

IMSRDS2-DSN(data set name)

This keyword is required for online cloning, but is optional for offline cloning.

For offline cloning: This optional keyword supplies the data set name of the second restart data set for the target IMS subsystem. This keyword is required if the source IMS system is offline but was abnormally terminated.

For online cloning: This keyword is required if the source IMS system was online while the COPY of the source volumes occurred. This data set is updated to allow the target IMS to be emergency restarted. If the COPY and RENAME processes are done in a different job step, then an IMSRDS2 DD in the job step JCL can be used instead of the IMSRDS2-DSN keyword. If the IMSRDS2 DD included in the job step JCL, then this parameter is ignored.

- Default: None
- Required: For online cloning and XRF capable.
- Restrictions: None.

IMS-RSENAME(src_rsename, tgt_rsename)

This keyword is required for XRF capable systems and is ignored for non-XRF capable systems. This keyword allows the specification of an RSENAME name pairing. The name that appears first in a pair reflects the SOURCE IMS RSENAME, the second reflects the TARGET IMS RSENAME.

In an XRF environment, IMS uses the RSENAME, instead of the subsystem ID, to record information in DBRC related to either the primary or backup IMS subsystem. Such DBRC information where the RSENAME would be used includes the subsystem record and log records.

IMS Cloning Tool uses the IMS-RSENAME pairing to update the information in DBRC with the target RSENAME specified. If the target IMS environment is not XRF capable, then the target IMS subsystem ID should be specified for the target RSENAME.

The RSENAME for an IMS environment is specified in the DFSHSBxx member of the IMS PROCLIB, where 'xx' is the value for the HSBMBR parameter for the IMS environment.

If XRF functionality is defined during the SYSGEN process (HSB=YES on the IMSCTRL macro), but XRF is disabled through either the DFSPBxxx member, or the HSBID parameter when starting the IMS control region, then the XRF-CAPABLE(N) keyword can be specified to prevent receiving error message GCL32051E indicating IMS-RSENAME is required.

- Default: None
- Required: Required for an XRF capable system, if you specify XRF-CAPABLE(Y).
- Restrictions: None.

IMS-SUFFIX(x | 0)

This optional keyword specifies the one-byte character suffix of the IMS control blocks for the target IMS subsystem.

- Default: 0
- Required: Required if the IMS subsystem being cloned was generated with a different suffix than '0'.
- Restrictions: None.

JCLPDS-DATASETS (data set name 1, data set name 2, data set name 3) or JCLPDS-DDN(DD name)

Optional keyword that supplies either a data set names of all the JCL or PROCLIB data sets for the target IMS subsystems to update with the target IMS SSID and data set names. If the COPY and RENAME processes are done in a different job step, the JCLPDS_DDND can be used to point to a DD in the job step JCL that includes these data sets.

- Default: None
- Required: No.
- Restrictions: Up to 100 data set names can be specified.

Note:

If the source IMS subsystem was online at the time of the COPY, then this is used for JCLPDS DD in the target LOG CLOSE processing:

```
CHANGE.SUBSYS SSID(target ssid) ABNORMAL
GENJCL.CLOSE  SSID(target ssid)
```

JCLPDS-NOT-UPDATED(RC(nn) | 4)

Optional keyword that supplies the return code to use when members of the JCLPDS data sets were found to have an SSID variable that did not match the source SSID, or data set names that did not match the source data set names. The default value is 4.

- Default: 4
- Required: No.
- Restrictions: None.

MDA-DATASETS (data set name 1, data set name 2, data set name 3) or MDA-DDN(DD name)

Optional keyword that supplies the data set names of all of the MDA (dynamic allocation member) data sets for the target IMS subsystems. This should also include the DFSRESL if it contains any dynamic allocation members. If the COPY and RENAME processes are done in a different job step, the MDA_DDND can be used to point to a DD in the job step JCL that includes the MDA data sets.

If this keyword is specified, the following keywords must also be specified:

ACBLIB-DDN or ACBLIB-DATASETS

IMS-MACLIB-DDN, or IMS-MACLIB-DATASETS RECON-DDN, or RECON-DATASETS

And either: MODBLKS-DSN or MODSTAT-DSN, MODBLKSA-DSN, and MODBLKSB-DSN

- Default: Up to 100 data set names can be specified.
- Required: No.

- Restrictions: None.

MDA-NOT-UPDATED(RC(*nn*) | 4)

Optional keyword that supplies the return code that to use if a member of the MDALIB data sets, for a database that is defined to the source IMS subsystem, contained a data set name that did not match a source data set name. The default value is 4.

- Default: 4
- Required: No.
- Restrictions: None.

MODBLKS-DSN(*data set name*)

Optional keyword that supplies the data set name of the MODBLKS data set for the target IMS subsystem. This data set is used for MDA member updating. If the COPY and RENAME processes are done in a different job step, then a MODBLKS DD in the job step JCL can be used instead of the MODBLKS-DSN keyword. If the MODBLKS DD is included in the job step JCL, then the MODSTAT-DSN, MODSTAT2-DSN, MODBLKSA-DSN, and MODBLKSB-DSN keywords are not applicable.

- Default: None
- Required: No.
- Restrictions: Cannot be specified with MODBLKSA-DSN, MODBLKSB-DSN, MODSTAT-DSN, or MODSTAT2-DSN keywords.

MODBLKSA-DSN(*data set name*)

Optional keyword that supplies the data set name of the MODBLKSA data set for the target IMS subsystem. This data set is used for MDA member updating. If the COPY and RENAME processes are done in a different job step, then a MODBLKSA DD in the job step JCL can be used instead of the MODBLKSA-DSN keyword. If the MODBLKS DD is included in the job step JCL, then this data set is ignored.

- Default: None.
- Required: No.
- Restrictions: Cannot be specified with the MODBLKS-DSN keyword.

MODBLKSB-DSN(*data set name*)

Optional keyword that supplies the data set name of the MODBLKSB data set for the target IMS subsystem. This data set is used for MDA member updating. If the COPY and RENAME processes are done in a different job step, then a MODBLKSB DD in the job step JCL can be used instead of the MODBLKSB-DSN keyword. If the MODBLKS DD is included in the job step JCL, then this data set is ignored.

- Default: None
- Required: No.
- Restrictions: Cannot be specified with the MODBLKS-DSN keyword.

MODSTAT-DSN(*data set name*)

Optional keyword that supplies the data set name of the MODSTAT data set for the target IMS subsystem. This data set is used for MDA member updating. If the COPY and RENAME processes are done in a different job step, then a MODSTAT DD in the job step JCL can be used instead of the MODSTAT-DSN keyword. If the MODBLKS DD is included in the job step JCL, then this data set is ignored.

- Default: None
- Required: No.
- Restrictions: Cannot be specified with the MODBLKS-DSN keyword.

MODSTAT2-DSN(*data set name*)

Optional keyword that supplies the data set name of the MODSTAT2 data set for the target IMS subsystem. This data set is used for MDA member updating. If the COPY and RENAME processes are done in a different job step, then a MODSTAT2 DD in the job step JCL can be used instead of the

MODSTAT2-DSN keyword. If the MODBLKS DD is included in the job step JCL, then this data set is ignored.

- Default: None.
- Required: No.
- Restrictions: Cannot be specified with the MODBLKS-DSN keyword.

MSDBCP-DATASETS(*msdbcp_ds1,msdbcp_ds2,...*)

Optional keyword that identifies the MSDB checkpoint data sets for the target IMS system.

- Default: None
- Required: Only for online subsystem cloning and if the source IMS has MSDBs and is using shared queues.
- Restrictions: None.

NOT-RENAMED-JCLPDS-LIST(Y | N)

Specifies whether IMSUPDATE JCLPDS processing produces a list of the data sets not renamed.

- Default: N if SIMULATE is not specified. Y if SIMULATE is specified.
- Required: No
- Restrictions: None.

RDDS-DATASETS(*RDDS1_dsn1, RDDS2_dsn1, RDDS3_dsn1, RDDS1_dsn2, RDDS2_dsn2, RDDS3_dsn2*) or RDDS-DDN(*DD name*)

Optional keyword that supplies the data set names of the RDDS1, RDDS2, and RDDS3 data sets for the target IMS subsystems. If the COPY and RENAME processes are done in a different job step, the RDDS_DDND can be used to point to a DD in the job step JCL that includes the RDDS data sets.

- Default: None
- Required: No.
- Restrictions: Up to 100 data set names can be specified.

RDDS-NOT-UPDATED(RC(*nn*) | 4)

Optional keyword that supplies the return code to use if any of the RDDS data sets contained an SSID that did not match a source SSID. The default value is 4.

- Default: 4
- Required: No.
- Restrictions: None.

RECON-DATASETS (*RECON1_dsn1, RECON2_dsn1, RECON3_dsn1, RECON1_dsn2, RECON2_dsn2, RECON3_dsn2*) or RECON-DDN(*DD name*)

Optional keyword that supplies either the data set names of the RECON1, RECON2, RECON3 data sets for the target IMS subsystems. If the COPY and RENAME processes are done in a different job step, the RECON_DDND can be used to point to a DD in the job step JCL that includes the RECON data sets. The data set names for all three RECON data sets for the target IMS subsystem must be specified. One of these keywords is required if the MDA-DATASETS or MDA-DDN keyword is specified.

- Default: None
- Required: No.
- Restrictions: Up to 100 data set names can be specified.

RECON-NOT-UPDATED (RC(*nn*) | 4)

Optional keyword that supplies the return code to use if any records in the RECON data sets contained either an SSID, data set name, or volume serial that did not match a source SSID, data set name, or volume serial. The default value is 4.

- Default: 4

- Required: No.
- Restrictions: None.

REMOVE-MEMBER

Optional keyword that indicates this IMSUPDATE is for an IMS subsystem that is to be removed from the cloned IMS environment. If this keyword is present, the only processing to occur is the removal of recovery information from the target RECON data sets that are specific to the source IMS-SSID.

- Default: None
- Required: No.
- Restrictions: None.

RENAME-ARCHIVE-LOGS(N|Y)

Optional keyword that indicates that if the IMS archive logs are on the source DASD volumes and were copied to the target volumes, this keyword changes the data set names and VOLSERs of the IMS archive logs in the RECON data sets. The default value is N.

- Default: N
- Required: No.
- Restrictions: None.

RENAME-CAS(N|Y)

Optional keyword that indicates if the Change Accumulation data sets are on the source DASD volumes and were copied to the target volumes, this keyword changes the data set names and VOLSERs of the Change Accumulation records in the RECON data sets. The default value is N.

- Default: N
- Required: No.
- Restrictions: None.

RENAME-ICS(N|Y)

Optional keyword that indicates if the Image Copy data sets are on the source DASD volumes and were copied to the target volumes, this keyword changes the data set names and VOLSERs of Image Copy records in the RECON data sets. The default value is N.

- Default: N
- Required: No.
- Restrictions: None.

REPO-INDEX-DATASETS(*REPO_idx_dsn1*, *REPO_idx_dsn2*) or REPO-INDEX-DDN(*DD name*)

Optional keyword that supplies the repository index data sets for the target IMS subsystems. If the COPY and RENAME processes are performed in a different job step, the REPO-INDEX-DDN keyword can be used to point to a DD in the job step JCL that includes the repository index data sets.

- Default: N
- Required: No.
- Restrictions: None.

REPO-MEMBER-DATASETS(*REPO_mbr_dsn1*, *REPO_mbr_dsn2*) or REPO-MEMBER-DDN(*DD name*)

Optional keyword that supplies the repository member data sets for the target IMS subsystems. If the COPY and RENAME processes are performed in a different job step, the REPO-MEMBER-DDN keyword can be used to point to a DD in the job step JCL that includes the repository member data sets.

- Default: N
- Required: No.
- Restrictions: None.

REPO-NOT-UPDATED(RC(*nn*) | 4)

Optional keyword that supplies the return code to be used if the repository data sets contained a data set name that did not match a source data set name.

- Default: N
- Required: No.
- Restrictions: None.

SIMULATE

Optional keyword that specifies that the changes to be made are displayed but no modifications are made.

- Default: N
- Required: No.
- Restrictions: None.

UPDATE-SLDS(Y|N)

Optional keyword that indicates whether the archive log data sets should be updated during the IMSUPDATE process. If the archive logs were not copied during the COPY phase, then UPDATE-SLDS(N) can be specified to prevent any update to update the archive log data sets. Even with UPDATE-SLDS(N), IMS Cloning Tool will still update the OLDS data sets for the target IMS subsystem. By not updating the archive log data sets for the target IMS subsystem, then either the target IMS subsystem must be cold started or emergency restart must be able to complete without needing the archive log data sets.

- Default: Y
- Required: No
- Restrictions: If N is specified, then the target IMS subsystem must be cold started or emergency restart must be able to compete with needing to use the archive logs.

XRF-CAPABLE(N | Y)

This keyword can be used to override the XRF enabled setting in the IMS control blocks created by the IMS SYSGEN process.

If this keyword is omitted, then IMS Cloning Tool checks the control blocks generated by the IMS SYSGEN process to determine if a system is XRF capable or not.

If XRF functionality is defined during the SYSGEN process (HSB=YES on the IMSCTRL macro), but XRF is disabled through either the DFSPBxxx member, or the HSBID parameter when starting the IMS control region, then the XRF-CAPABLE(N) keyword can be specified to prevent receiving error message GCL32051E indicating IMS-RSENAME is required.

If the source IMS subsystem is not XRF capable, and you want the target IMS subsystem to be XRF capable, then you can specify XRF-CAPABLE(Y). If you specify XRF-CAPABLE(Y), then you must specify the IMS-RSENAME keyword.

- Default: None.
- Required: No.
- Restrictions: None.

IMSUPDATE step JCL example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements.

The IMSUPDATE step JCL is shown in the following example. The numbers that precede the JCL correspond to the notes that following the sample JCL.

```

1 //????????? JOB , 'GCL IMSUPDATE' , CLASS=A
2 //*
3 //UPDATE EXEC PGM=GCL00010
4 //STEPLIB DD DISP=SHR, DSN=HLQ?.SGCLLOAD
5 //GCLINI DD DISP=SHR, DSN=HLQ?.SGCLPARM(GCLINI)
6 //GCLPRINT DD SYSOUT=*
7 //JCLOUT DD SYSOUT=(A, INTRDR)
8 //JOURNAL DD DISP=SHR, DSN=GCL. JOURNAL
9 //GCLIN DD * (Req'd)

```

```

IMSUPDATE -
7 IMS-SSID(src-ssid,tgt-ssid) -
8 JOURNAL-DDN(JOURNAL) -
9 IMS-RESLIB-DATASETS( -
    ims.SDFSRESL -
    ) -
10 IMS-ACBLIB-DATASETS( -
    ims.ACBLIB -
    ) -
11 IMS-MACLIB-DATASETS( -
    ims.SDFSMAc -
    ) -
12 IMS-SUFFIX(0) -
13 IMSRDS-DSN(ims.RDS) -
14 JCLPDS-DATASETS( -
    ims.ssid.PROCLIB -
    ims.ssid.JOBS -
    ) -
15 MDA-DATASETS( -
    ims.MDALIB -
    ) -
16 MODBLKS-DSN( -
    ims.MODBLKS -
    ) -
17 RECON-DATASETS( -
    ims.RECON1 -
    ims.RECON2 -
    ims.RECON3) -

```

Notes:

1. Execution of IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library must be authorized.
3. DD for GCLINI member of the HLQ?.SGCLPARM library. This member provides variables to the IMS Cloning Tool programs and contains the product security license codes.
4. DD for GCLPRINT output.
5. DD for JCLOUT that is allocated to the internal reader.
6. Journal data set that is used by IMS Cloning Tool commands. This VSAM data set is used to pass information between IMS Cloning Tool steps, and to log information that is derived from the step executions. The journal file is allocated and cataloged in the COPY step, and used as input and output by the IMSUPDATE step. The specified data set name must match the data set allocated in the COPY step. If multiple IMS Cloning Tool processes are created for different applications, each must use a unique journal data set. In the sample JCL, the control statement JOURNAL-DDN(JOURNAL) specifies that a DD with the name JOURNAL is being used, rather than a data set name.
7. IMS-SSID parameter that specifies the source and target IMS subsystem IDs.
8. JOURNAL-DDN parameter that indicates the IMS Cloning Tool journal data set is referenced by the JOURNAL DD in the JCL.
9. IMS-RESLIB-DATASETS parameter that indicates the IMS RESLIB data set for the target IMS subsystem is referenced by the DFSRESLB DD in the JCL. The IMS RESLIB is used by IMSUPDATE to determine information about the IMS subsystem it is updating.
10. ACBLIB-DATASETS parameter defines the IMS ACBLIB data sets that contain the DMB control blocks for the databases that are defined to the IMS subsystem to be updated.
11. IMS-MACLIB-DATASETS parameter defines the IMS MACLIB data sets to be used when generating MDA members.
12. IMS-SUFFIX parameter identifies the suffix for the IMS subsystem used to generate the control blocks for the DMBs and ACBs.
13. IMSRDS-DSN parameter identifies the IMS restart data set to be updated to allow the target IMS to be emergency restarted. This keyword is only required if the source IMS system was online while the source volumes were copied, or if the source IMS system was offline but was abnormally terminated.
14. JCLPDS-DATASETS parameter identifies the PROCLIB and JOBS data sets to be updated with the new data set names.
15. MDA-DATASETS parameter identifies the MDA libraries to be updated by the IMSUPDATE command.

16. MODBLKS-DSN parameter identifies the MODBLKS data set is used to determine the list of databases that are defined to the IMS subsystem. By specifying this keyword, the MODBLKS-DSN, MODBLKSA-DDN, MODBLKSB-DSN, MODSTAT-DSN, and MODSTAT2-DSN keywords do not have to be specified in GCLIN control statements.
17. RECON-DATASETS parameter identifies the RECON data sets to be updated with the new data set names.

FINDUCATS

This command is not required. FINDUCATS identifies catalogs that are involved with source volume data sets. It is still necessary to specify source and target catalog pairs in the COPY command.

Initially, run FINDUCATS to determine involved ICF user catalogs. Run FINDUCATS again whenever you need to verify that the ICF user catalogs involved with source volume data sets are as specified in the COPY command.

FINDUCATS command syntax

FINDUCATS

Required Keywords:

```
FROM-STORAGEGROUP(storgrp1 [ , storgrp2] [ , ... ] ) |  
FROM-VOLSER(volser1 | volmask [ , volser2 | volmask ] [ , ... ] )
```

Optional Keywords:

```
EXCLUDE-FROM-VOLSER(volser1 [volser2] [volsernnn])
```

FINDUCATS command & keyword definitions

FINDUCATS

Optional command to locate catalogs that are involved with source volume data sets.

- Required: No
- Restrictions: None

FROM-STORAGEGROUP (*storgrp 1* [, *storgrp 2*] [, ...]) or FROMSTORAGEGROUP

This keyword specifies the input volumes to be scanned for involved ICF user catalogs. All volumes that are defined to the specified storage groups are included in the scan. A warning is generated for volumes that are not found, but the scan continues.

- Default: None
- Required: Yes
- Restrictions: FROM-STORAGEGROUP is mutually exclusive with FROM-VOLSER.
- Short form: FRS

FROM-VOLSER (*volser 1* | *volmask* [, *volser 2* | *volmask*] [, ...]) or FROMVOLSER

This keyword specifies the input volumes to scan for involved ICF user catalogs.

- Default: None
- Required: Yes
- Restrictions: FROM-VOLSER is mutually exclusive with FROM-STORAGEGROUP.
- Short form: FRV

EXCLUDE-FROM-VOLSER (volser 1 [volser 2] [volser nnn])

or EXCLUDEFROMVOLSER

This keyword specifies volumes, or a volume mask for volumes to be excluded from the volumes that are specified for the FROM-VOLSER parameter or the FROM-STORAGEGROUP parameter.

- Default: None
- Required: No
- Restrictions: None.
- Short form: EXCFRV

FINDUCATS step JCL example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements.

The FINDUCATS step JCL is shown in the following example. The numbers that precede the JCL correspond to the notes that follow this sample JCL.

```
1 //??????? JOB , 'FINDUCATS', CLASS=A, MSGCLASS=X
2 //S1 EXEC PGM=GCL00010, REGION=8M
3 //STEPLIB DD DSN=HLQ?.SGCLLOAD, DISP=SHR
4 //GCLINI DD DSN=HLQ?.SGCLPARM(GCLINI), DISP=SHR
5 //GCLPRINT DD SYSOUT=*
6 //SYSUDUMP DD SYSOUT=*
7 //GCLIN DD *
8 FINDUCATS
9 FROM-VOLSER(ABC*)
10 EXCLUDE-FROM-VOLSER(ABCTST)
11 //*
```

1. Execution of IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library must be authorized.
3. DD for GCLINI member of the HLQ?.SGCLPARM library. This member provides variables to the IMS Cloning Tool programs and contains the product security license codes.
4. DD for IMS Cloning Tool output. Two reports are generated:
 - Report 1 – lists each volume serial number, the ICF user catalog names that are involved, and the aliases or high-level qualifiers on the volume.
 - Report 2 – summarizes the involved ICF user catalog names. Use the catalogs found to determine the source catalogs that are required in the USERCATALOGS parameter of the COPY command. For each source ICF user catalog, you must supply a corresponding target catalog name to satisfy the USERCATALOGS requirement for source and target catalog pairs.

The alias information from report 1 is useful in determining the target catalog aliases that must be created.

Note: FINDUCATS invokes DCOLLECT to identify ALIAS names of the source volume data sets in order to identify the correct source ICF user catalogs. DCOLLECT controls access to the DCOLLECT function, by issuing a security (RACF) check for a facility class profile of STGADMIN.IDC.DCOLLECT. If this profile exists, then Read authority is necessary. The command cannot be successful if the user is not authorized.

JRNLUPGRADE

This command is not required. Use the JRNLUPGRADE command when a current release of the IMS Cloning Tool RENAME, IMSUPDATE, or BCSCLEAN command needs to use a journal data set that was created by an older release of IMS Cloning Tool.

IMS Cloning Tool commands that use the journal (except for the COPY and JRNLUPGRADE commands) can process only a journal that was created by the same release of IMS Cloning Tool.

Sometimes a journal that was created by a prior IMS Cloning Tool release must be used by the current release. The JRNLUPEGRADE command can be used to upgrade a journal that was created by a prior release to the current release.

The following three scenarios require JRNLUPEGRADE:

- Scenario 1: IMS Cloning Tool COPY was run with a prior release, and you want to run the current release of the IMS Cloning Tool RENAME command.
- Scenario 2: IMS Cloning Tool COPY and RENAME were run with a prior release, and you want to run the IMS Cloning Tool IMSUPDATE command and other IMS conditioning commands from the current release.
- Scenario 3: The journal was created by a prior release and you want to run the IMS Cloning Tool BCSCLEAN command from the current release.

It is not valid to run JRNLUPEGRADE between multiple runs of the RENAME command.

After you run the JRNLUPEGRADE command, you might want to rename the old and new journal data sets, so that the new journal data set has the same name as the prior old journal. This way, you do not have to change the JCL in existing IMS Cloning Tool cloning jobs.

Scenario 1: For scenario 1, the steps are:

1. Using the previous release of IMS Cloning Tool: Run the IMS Cloning Tool COPY command.
2. Back up the journal, the UCATBKUP data sets, and the target volumes.
3. At a later date or at a different site: Restore the journal, the UCATBKUP data sets, and the target volumes.
4. Using the current release of IMS Cloning Tool: Run the IMS Cloning Tool JRNLUPEGRADE command.
5. Using the current release of IMS Cloning Tool: Run the IMS Cloning Tool RENAME command.
6. For IMS, using the current release of IMS Cloning Tool: Run the IMS Cloning Tool IMS conditioning commands.

Scenario 2: For scenario 2, the steps include:

1. Using the previous release of IMS Cloning Tool: Run the IMS Cloning Tool COPY command.
2. Using the previous release of IMS Cloning Tool: Run the IMS Cloning Tool RENAME command.
3. Using the current release of IMS Cloning Tool: Run the IMS Cloning Tool JRNLUPEGRADE command.
4. Using the current release of IMS Cloning Tool: Run the IMS Cloning Tool IMSUPDATE command. Using the current release of IMS Cloning Tool: Run the other IMS Cloning Tool IMS conditioning commands.

Scenario 3: Use Scenario 3 if a new release of IMS Cloning Tool is being installed and repetitive clones are being run. For the repetitive clones, BCSCLEAN is run before COPY for the next iteration. If the journal records used by BCSCLEAN changed in the new release, the new release of the BCSCLEAN command fails. For this scenario, JRNLUPEGRADE should be run before BCSCLEAN.

JRNLUPEGRADE command syntax

JRNLUPEGRADE

Required Keywords:

```
{NEW-JOURNAL-DDN(ddname) | NEW-JOURNAL-DSN(data set name)}  
{OLD-JOURNAL-DDN(ddname) | OLD-JOURNAL-DSN(data set name)}
```

JRNLUPEGRADE command & keyword definitions

JRNLUPEGRADE

Optional command to upgrade a journal that was created with a prior release of IMS Cloning Tool.

- Required: No

- Restrictions: None

**NEW-JOURNAL-DDN (ddname)
or NEW-JOURNAL-DSN (data set name)**

This parameter supplies either the data set name of the new IMS Cloning Tool journal file, or the DD name of the DD statement in the JCL that points to the new IMS Cloning Tool journal file.

- Default: None
- Required: Yes
- Restrictions: None.

**OLD-JOURNAL-DDN (ddname)
or OLD-JOURNAL-DSN (data set name)**

This parameter supplies either the data set name of the old IMS Cloning Tool journal file, or the DD name of the DD statement in the JCL that points to the old IMS Cloning Tool journal file.

- Default: None
- Required: Yes
- Restrictions: None.

JRNLUPGRADE step JCL example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements.

The JRNLUPGRADE step JCL is shown in the following example. The numbers that precede the JCL correspond to the notes that follow the sample JCL.

```

1 //????????? JOB   , 'GCL JRNLUPGRADE', CLASS=A, MSGCLASS=X
  //S0          EXEC  PGM=IDCAMS
  //SYSPRINT DD   SYSOUT=*
  //SYSIN      DD   *
2   DEL GCL.UPGRADED.JRNL
   SET MAXCC=0
3   //S1          EXEC  PGM=GCL00010, REGION=6M
4   //STEPLIB DD   DSN=HLQ?.SGCLLOAD, DISP=SHR
5   //GCLINI DD   DSN=HLQ?.SGCLPARM(GCLINI), DISP=SHR
6   //GCLPRINT DD   SYSOUT=*
7   //SYSUDUMP DD   SYSOUT=*
   //OLDJRNL DD   DSN=GCL.JRNL, DISP=SHR
   //NEWJRNL DD   DSN=GCL.UPGRADED.JRNL,
   //          RECO=KS, KEYLEN=64, KEYOFF=0,
   //          DISP=(, CATLG), UNIT=SYSALLDA,
   //          LRECL=600, SPACE=(CYL, (10, 10))
   //GCLIN      DD   *
   JRNLUPGRADE
6   OLD-JOURNAL-DDN(OLDJRNL)
7   NEW-JOURNAL-DDN(NEWJRNL)
  //*
```

1. Deletes previously existing new journal data set, in anticipation of JRNLUPGRADE allocating a new upgraded journal for subsequent use by IMS Cloning Tool. Because this data set is used to pass information from one IMS Cloning Tool step to another, do not delete the new upgraded journal data set in steps except the JRNLUPGRADE step.
2. Execution of IMS Cloning Tool main program.
3. The IMS Cloning Tool SGCLLOAD library must be authorized.
4. DD for GCLINI member of the HLQ?.SGCLPARM library. This member provides variables to the IMS Cloning Tool programs and contains the product security license codes.
5. DD for IMS Cloning Tool output.
6. The old journal data set that is to be upgraded. In the sample JCL, the control statement OLD-JOURNAL-DDN(OLDJRNL) specifies that a DD with the name OLDJRNL is being used rather than a data set name.

7. The new upgraded journal data set that is created by JRNLUPTGRADE and used by subsequent IMS Cloning Tool commands. In the sample JCL, the control statement NEW-JOURNAL-DDN(NEWJRNLI) specifies that a DD with the name NEWJRNLI is being used rather than a data set name.

ONLINECLIP

This command is not required. ONLINECLIP is intended for situations where the process used to copy the volumes (IMS Cloning Tool COPY was not used) does not change the internal label of the target volumes back to the target volume serial; that is, the internal label reflects the source volume serial.

For IMS Cloning Tool RENAME to function properly, the internal label must be corrected to contain the target volume serial.

ONLINECLIP does this function. It expects to find the target volumes online. It reads the internal label of the target device. If it has the corresponding source volume serial, it is changed to the target volume serial.

For example, if you use the TSO FCESTABL command with the ONLINETGT=YES option, the target volume starts out with a target volume label. During the TSO FCESTABL, the target volume remains online, but the volume label from the source volume is copied to the target volume. The UCB however, still retains the target volume name. IMS Cloning Tool RENAME requires the target volume to retain the target volume label. The IMS Cloning Tool ONLINECLIP command reads the journal file to identify the original source and target volume pairs. It then scans the UCBs for the target volume names, and changes the target label so that it matches the original target volume serial number. This works because the system 'thinks' the target VOLSER is still online. It does not know the label at that device number was changed by FlashCopy. After the ONLINECLIP command is issued, the target volumes are in the condition that is expected by IMS Cloning Tool RENAME.

ONLINECLIP Command Syntax

ONLINECLIP

Required Keywords:

{JOURNAL-DSN (*data set name*) | JOURNAL-DDN(*ddname*) }

Optional Keywords:

WRONG-VOLSER(RC (4 | 8))

ONLINECLIP command & keyword definitions

ONLINECLIP

Optional command that is used to relabel the target volumes when the source volume label was copied but the UCB field still points to the target volume label. This can occur when TSO FCESTABL was used.

- Required: No
- Restrictions: None

JOURNAL-DSN (*data set name*) or JOURNAL-DDN (*ddname*)

This parameter supplies either the data set name of the IMS Cloning Tool journal file, or a DD name assumed via the JCL to point at a journal data set. If multiple IMS Cloning Tool setups are used for different volume groups, DO NOT use the same journal data set. Each IMS Cloning Tool 'application' needs a different journal data set.

The journal is used to pass information between IMS Cloning Tool steps (for example, from the COPY step to the RENAME step). Therefore, as noted in the JCL comments, it must be cataloged in the COPY step when first created, and referenced as OLD or SHR in subsequent steps.

- Default: None
- Required: Yes
- Restrictions: None.
- Short forms: JDSN, or JDDN

WRONG-VOLSER(RC(4 | 8))

This option addresses the situation in which the internal VOLSER of a target volume does not have the expected value. The ONLINECLIP command return code is used as the specified value.

- Default: 4
- Required: No
- Restrictions: None.

ONLINECLIP step JCL example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements.

The ONLINECLIP step JCL is shown in the following example. The numbers that precede the JCL correspond to the notes that follow the sample JCL.

```

1  //***** JOB , 'GCL ONLINECLIP', CLASS=A, MSGCLASS=X
2  //S1      EXEC PGM=GCL00010, REGION=8M
3  //STEPLIB DD DSN=HLQ?.SGCLLOAD, DISP=SHR
4  //GCLINI  DD DSN=HLQ?.SGCLPARM(GCLINI), DISP=SHR
5  //GCLPRINT DD SYSOUT=*
   //SORTMSG DD SYSOUT=*
   //SYSUDUMP DD SYSOUT=*
6  //JOURNAL DD DSN=GCL.JRNL, DISP=OLD
   //GCLIN  DD *
   ONLINECLIP
7  JOURNAL-DDN(JOURNAL)
   //*

```

1. Execution of IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library must be authorized.
3. DD for GCLINI member of the HLQ?.SGCLPARM library. This member provides variables to the IMS Cloning Tool programs and contains the product security license codes.
4. DD for GCLPRINT output.
5. Journal data set that is used by IMS Cloning Tool commands. This VSAM data set passes information between IMS Cloning Tool steps, and logs information that is derived from the step executions. The journal file is allocated and cataloged in the COPY step and used as input to the ONLINECLIP command. In the sample JCL, the control statement JOURNAL-DDN(JOURNAL) is specifying that a DD with the name JOURNAL is being used rather than a data set name.

RENAME

This command is required. The RENAME step renames and catalogs the data sets from the COPY step onto target volumes. RENAME-MASKS are processed in order. The first occurrence of the source data set name is the one that is used for the target data set name.

RENAME command syntax

RENAME

Required keywords:

```

{JOURNAL-DSN (data set name) | JOURNAL-DDN(ddname)}
RENAME-MASKS (mask pairs )
RENAME-MASKS-DDN (ddname)

```


Optional Keywords:

```
DATACLAS (data class | SOURCE) |
DATACLAS-PAIRS(
    Sourcedataclas1, Targetdataclas1,
    Sourcedataclas2, Targetdataclas2, ...
DEFAULT_IF_NO_MATCH,
    Targetdataclasd | SOURCE )
DRIVEACS
EXCLUDE-SRCNAME (RC (0 | NOTRENAMED-RC) )
EXCLUDE-SRCNAME-MASKS(masks) | EXCLUDE-SRCNAME-MASKS-DDN(ddname)
GDG-ALL-MIGRATED(SKIP) | GDG-ALL-MIGRATED(RETAIN, RC(0 | 4))
GDG-EMPTY(SKIP) | GDG-EMPTY(RETAIN, RC(0 | 4))
GDG-MIGRATED(ERROR) | GDG-MIGRATED(RETAIN, RC(0 | 4))
GDG-TAPE(ERROR) | GDG-TAPE(RETAIN, RC(0 | 4))
ISSUE-VCLOSE(NO) | ISSUE-VCLOSE(YES | BEFORE | AFTER [ , LOCAL | SYSPLEX])
MAX-TASKS(nnn | 1)
MGMTCLAS( mgmt_class | SOURCE ) |
MGMTCLAS-PAIRS(
    Sourcegmtclas1, Targetgmtclas1,
    Sourcegmtclas2, Targetgmtclas2, ...
DEFAULT_IF_NO_MATCH,
    Targetgmtclasd | SOURCE)
MISSINGUCAT(DELETE | KEEP [ , RC(0 | 4 | 8)])
NOTRENAMED(DELETE | KEEP [ , RC( 0 | 4 | 8)])
ORPHANCATENTRY(DELETE | KEEP [,RC(0 | 4 | 8)])
RECATALOG(Y | N)
RENAME-AUDIT-LOG(N | SMF(nnn))
RENAME-ERROR(ABORT) | RENAME-ERROR(CONTINUE, RC(0 | 4 | 8))
RENAME-LIST(Y | N)
RERUN
SAFE | SPEED
SIMULATE
STORCLAS( stor_class | SOURCE ) |
STORCLAS-PAIRS(
    Sourcestorclas1, Targetstorclas1,
    Sourcestorclas2, Targetstorclas2, ...
DEFAULT_IF_NO_MATCH,
    Targetstorclasd | SOURCE)
TEMPDSN(DELETE | KEEP [ , RC (0 | 4 | 8)])
UPDATE-IAM-ASSOCIATIONS (Y | N)
VALIDATE-SMS-CLASSES ( Y | N )
VOLBKUP-DDN(ddname)
```

Rename considerations

- The work data sets and output data sets created by the RENAME job step cannot reside on target volumes.
- RENAME-MASKS are processed in order. The first occurrence of the source data set name is the one that is used for the target data set name.
- Name lengths: Whether changing a qualifier to a longer new name qualifier, or applying the + feature to add qualifiers, ensure that new names do not exceed 44 characters. Ensure that GDG base names do not exceed 35 characters.
- Catalog aliases and new names: Catalog aliases must be set up to match names that are results of renaming.
- Rename collisions: Be sure rename masks cannot cause two or more old names to rename to the same new name.
- If all data sets on all volumes that are copied should be renamed, use the NOTRENAMED option with a return code of 8, assuming that the application that uses the target volumes requires less than an 8 return code from RENAME.
- If non-VSAM data set aliases are used, ensure that if a rename mask matches a data set, the same mask, or other masks, match all aliases that are defined for the data set.
- An ICF catalog can be renamed but it cannot be used as an ICF catalog.

Oldname syntax

Use the old name filter mask to select the data sets to apply the RENAME new name mask. The following table provides a list of the allowable filter characters and a description of each character.

Table 30. Filter characters allowed for old name filter masks:	
Character	Description
*	A single asterisk represents exactly one DSN qualifier of any value. For example: *. or *. or *. * combined with valid DSN characters or % means 0 to nn characters of any value.
**	A double asterisk represents 0 to nn DSN qualifiers of any value. For example: **. or **. or **. ** cannot appear with any other characters within a qualifier. Three or more adjacent * are not allowed within a qualifier. ** can be used more than once in an 'old name' mask. Example: **.abcd.** or abc.**.defg.**
%	A percent sign represents one non-blank character.
!	An exclamation point represents one national character. @ # \$
<	A less-than sign represents one non-numeric character, national symbols included.
>	A greater-than sign represents one numeric character.

For example, Filter = **.PAYROLL*.%%%23*.DATA would match DSN = TLQ050.PAYROLL.CYCLE23.DATA

Newname syntax

Use the new name mask to rename the data sets selected by the old name filter mask. The following table provides a list of the allowable filter characters and a description of each character.

Table 31. Filter characters allowed for new name filter masks:	
Character	Description
*	A single asterisk represents exactly one DSN qualifier. * cannot be used for a partial qualifier in a new name mask. Example: aaa.*bb.* is not valid.
**	A double asterisk represents 0 to nn DSN qualifiers. ** cannot appear with any other characters within a qualifier. Three or more adjacent asterisks are not allowed within a qualifier. ** can only be used only once in a 'new name' mask. Example: **.abcd.** is not valid.
%	A percent sign represents one non-blank character.
!	An exclamation point represents one national character. @ # \$
+cccccc	A plus sign followed by 1 to 8 characters inserts those characters as a new qualifier
-	A minus sign removes the qualifier from the new name.

For example: Original DSN or mask:GCLI.LAB9.DEM01.SDS.ORIG, renamed to the following DSN or mask: GCLI.+TEST.XX%.-.** New Name: GCLI.TEST.XXB9.SDS.ORIG

RENAME command & keyword definitions

RENAME

Renames and catalogs data sets on target volumes.

- Required: Yes.

- Restrictions: None.

JOURNAL-DSN (*data set name*)
or JOURNAL-DDN (*ddname*)

This parameter supplies either a data set name of the IMS Cloning Tool journal file or a DD name assumed via the JCL to point at a journal data set.

Note: The journal data set for the RENAME step must be the same data set specified for the COPY step.

If multiple IMS Cloning Tool setups are used for different volume groups, DO NOT use the same journal data set. Each IMS Cloning Tool application requires a different journal data set.

The journal is used to pass information between IMS Cloning Tool steps (for example, from the COPY step to the RENAME step). Therefore, as noted in the JCL comments, it must be cataloged in the COPY step while first created and referenced as OLD in subsequent steps. Do not delete the data set in the last step in case restarts or reruns require journal information. Instead, delete and replace the data set at the fresh start of a COPY.

- Default: None
- Required: Yes
- Restrictions: None

RENAME-MASKS (*mask pairs*)

RENAME-MASKS are specified in old-name and new-name pairs. RENAME-MASKS are processed in order. The first occurrence of the source data set name is used for the target data set name.

- Default: None
- Required: Yes
- Restrictions: Syntax.

RENAME-MASKS-DDN (*ddname*)

This parameter specifies a DD name that points to a file that contains rename mask pairs. The pairs are the same format as in the RENAME-MASKS keyword. RENAME-MASKS-DDN must have an LRECL of 80 and must not contain sequence numbers in columns 73 - 80.

- Default: None
- Required: Yes
- Restrictions: Mutually exclusive with RENAME-MASKS.
- Short form: RM-DDN

DATACLAS (*data class* | SOURCE)

or DATACLAS-PAIRS (*Sourcedataclas1, Targetdataclas1, Sourcedataclas2, Targetdataclas2, ...*
DEFAULT_IF_NO_MATCH, Targetdataclasd | SOURCE)

DATACLAS

Specifies the SMS DATACLAS to be used for all renamed data sets on SMS managed volumes if the value is in quotation marks, or if it is copied from the corresponding source volume data set if SOURCE is specified. The default is SOURCE.

DATACLAS-PAIRS

Specifies the source and target pairs for dataclas. If a data set has the specified source dataclass, the target data set uses the paired target dataclass.

DEFAULT_IF_NO_MATCH

Indicates a dataclass to be assigned to a target data set for which the source dataclass was not matched by another DATACLAS-PAIR entry.

SOURCE

Indicates such data sets should be assigned the dataclass that is used by the source data set. If you want to use an SMS dataclass, SOURCE, enter SOURCE in quotation marks.

- Default: For DATACLAS, the default is SOURCE.

- Required: No
- Restrictions: DATACLAS and DATACLAS-PAIRS are mutually exclusive with DRIVEACS.
- Short forms: DC, or DCP.

DRIVEACS

This keyword specifies that SMS class information for renamed data sets is derived by 'driving' ACS routines. Variables that are supplied to ACS include: DSN, STORCLAS, DATACLAS, MGMTCLAS, ACSENVIR (BATCH), XMODE (RENAME), JOB_ACCT, STEP_ACCT, USERID, GROUP, APPLIC, SYSNAME, SYSPLEX, JOBNAME, PGM, and NAME.

Using the DRIVEACS parameter can slow down the RENAME performance.

- Default: None
- Required: No
- Restrictions: DRIVEACS is mutually exclusive with DATACLAS, DATACLAS-PAIRS, MGMTCLAS, MGMTCLAS-PAIRS, STORCLAS, and STORCLAS-PAIRS.

EXCLUDE-SRCNAME (RC (0 | NOTRENAMED-RC))

This parameter specifies the return code to be used for data sets that match entries in the EXCLUDE-SRCNAME-MASKS keyword.

0 specifies that a return code of zero is returned for data sets that match entries in the EXCLUDE-SRCNAME-MASKS keyword.

NOTRENAMED-RC specifies that the return code specified in the NOTRENAMED keyword is used for data sets that match entries in the EXCLUDE-SRCNAME-MASKS keyword.

Using RC(0) addresses the situation in which known data sets on the volumes are not renamed and you do not want to use NOTRENAMED (RC(8)) to know whether unknown data sets are on the volumes.

- Default: NOTRENAMED-RC
- Required: No
- Restrictions: Only used when EXCLUDE-SRCNAME-MASKS is specified.
- Short form: XS

EXCLUDE-SRCNAME-MASKS (*masks*)

This parameter supplies a list of source data set names to be excluded from renaming.

Data sets that are not renamed because of this keyword are treated as if no rename masks matched. The disposition of these not-renamed data sets is controlled by the NOTRENAMED keyword. The return code that is generated is specified by the EXCLUDE-SRCNAME keyword.

To exclude a GDG and its GDS entries, use two masks. For the first mask, use the GDG base name. For the second mask, use the GDG base name plus G>>>>V>>.

For example: GDG . BASE . NAME GDG . BASE . NAME . G>>>>V>>

Using two masks of this form is necessary because of the different ways that the data set names are stored in the volume VTOC and ICF catalog.

- Default: None
- Required: No
- Restrictions: Mutually exclusive with EXCLUDE-SRCNAME-MASKS-DDN. See Oldname Syntax.
- Short form: XSM

EXCLUDE-SRCNAME-MASKS-DDN(*ddname*)

This parameter specifies the DD name that points to a file that contains EXCLUDE SRCNAME MASKS. The entries are the same format as in the EXCLUDE-SRCNAME-MASKS keyword. EXCLUDE-SRCNAME-MASKS-DDN must have an LRECL of 80, and must not contain sequence numbers in columns 73 - 80.

- Default: None

- Required: No
- Restrictions: Mutually exclusive with EXCLUDE-SRCNAME-MASKS. See Oldname Syntax.
- Short form: XSM-DDN

GDG-ALL-MIGRATED(SKIP)

or GDG-ALL-MIGRATED (RETAIN, RC (0 | 4))

This command supports DFSMSHsm, FDR, and CA-Disk. This option addresses the situation in which a GDG matches a RENAME mask and all the source generations were migrated.

The GDG entry can be skipped, or the GDS entries in the GDG base record can be RETAINED with a corresponding return code of 0 or 4. If not specified in the control statements, the defaults are obtained from the GCLINI member of SGCLPARM.

Note: If RETAIN is used, the migrated generations do not exist under the new name. Subsequent access to the generations fail whether one is accessed by name or by base name. This option is provided to retain relativity.

Note: To avoid destroying the relativity of active generations, IMS Cloning Tool does NOT allow removing selected generations. For data that is migrated and required on the target volumes, they must be recalled before the COPY.

- Default: The default is SKIP. For RETAIN, the default is RC(4)
- Required: No
- Restrictions: RC is mutually exclusive with SKIP.

GDG-EMPTY(SKIP)

or GDG-EMPTY (RETAIN, RC (0 | 4))

This option addresses an empty base GDG that matches a RENAME mask.

The GDG entry can be skipped, or the new base entry can be added to the target user catalog. If not specified in the control statements, the defaults are obtained from the GCLINI member of SGCLPARM.

- Default: The default is SKIP. For RETAIN, the default is RC(4)
- Required: No
- Restrictions: RC is mutually exclusive with SKIP.

GDG-MIGRATED(ERROR)

or GDG-MIGRATED (RETAIN, RC(0 | 4))

This option addresses the situation in which a GDG matches a rename mask and at least one generation is indeed found on a volume, yet one or more generations are migrated. The migrated generation can be treated as an ERROR. Or, the GDS entry in the GDG base record can be RETAINED with a corresponding return code of 0 or 4.

If not specified in the control statements, the defaults are obtained from the GCLINI member of SGCLPARM.

Note: If RETAINED, the migrated generation does not exist under the new name. Subsequent access to the generation fails whether it is accessed by name or by base name.

To avoid destroying the relativity of active generations, IMS Cloning Tool does not allow removing selected generations. Retaining non-existent migrated generations can be suitable for situations such as overstated GDG limits, where it is normal for older generations to be migrated and rarely accessed. It can also be suitable for log files, when only the current generation is kept, and older migrated generations are kept as a backup.

- Default: The default is ERROR. For RETAIN, the default is RC(4)
- Required: No
- Restrictions: RC is mutually exclusive with ERROR.

GDG-TAPE(ERROR)**or GDG-TAPE (RETAIN, RC (0 | 4))**

This option addresses the situation in which a GDG matches a rename mask and at least one generation is indeed found on a volume, yet one or more generations are on tape. The tape generation can be treated as an ERROR, or the GDS entry in the GDG base record can be RETAINED with a corresponding return code of 0 or 4.

If not specified in the control statements, the defaults are obtained from the GCLINI member of SGCLPARM.

Note: If RETAIN is specified, accessing a target tape GDS causes a S813 abend whether it is accessed by name or by base name.

To avoid destroying the relativity of active generations, IMS Cloning Tool does not allow removing selected generations. Retaining non-existent tape generations can be suitable for situations such as overstated GDG limits where older generations were created on tape.

- Default: The default is ERROR. For RETAIN, the default is RC(4)
- Required: No
- Restrictions: RC is mutually exclusive with ERROR.

ISSUE-VCLOSE(NO)**or ISSUE-VCLOSE (YES | BEFORE | AFTER [, LOCAL | SYSPLEX])**

This keyword specifies whether a catalog modify command, F CATALOG,VCLOSE(targetvolser), is issued as part of the volume RENAME processing. The Catalog Address Space (CAS), caches VVDS information. The modify command requests that the VVDS information cached for the target volume being refreshed.

NO specifies that the modify command is NOT issued.

BEFORE specifies that the modify command is issued only before the VVDS is updated.

AFTER specifies that the modify command is issued only after the VVDS is updated.

YES specifies that the modify command is issued both before the VVDS is updated and after the VVDS is updated.

If not specified in the control statements, the defaults are obtained from the GCLINI member of SGCLPARM.

LOCAL – the catalog modify command, F CATALOG,VCLOSE(targetvolser), is issued only on the system that RENAME is running on.

SYSPLEX – the catalog modify command, F CATALOG,VCLOSE(targetvolser), is issued on the local system, and the modify command is routed to all the other systems in the sysplex, via an MVS ROUTE *OTHER command, after the VVDS is updated.

- Default: YES, LOCAL
- Required: No
- Restrictions: LOCAL and SYSPLEX are mutually exclusive with NO.

MAX-TASKS (nnn | 1)

This keyword specifies the maximum subtasks that are used for volume processing in the RENAME step. Increasing the number of subtasks can greatly reduce the volume processing time. Provide a reasonably large region size and increase the number of subtasks until a point of no gain is realized. Because contention issues can contribute to the point of no gain varies by installation, experiment with this parameter to determine the optimum setting. Although the RENAME step can be rerun, because volume VTOCs, VTOC indexes, and VVDSs are restored when RERUN is specified, comparative times are distorted. Hence, while experimenting, run the process from the COPY step. This exercise can also be a good time to experiment with the COPY COPYCMDLIMIT option.

Another factor to consider is the cataloging time. The cataloging is performed by a subtask of RENAME that runs in parallel with the volume processing subtasks. If the number of data sets involved is high compared to the number of volumes, because the cataloging subtask can take longer than all

volume processing subtasks, increasing the volume processing MAX-TASKS can have no effect on the complete run time of RENAME. The time the cataloging process ends, relative to the end time of the entire step, can be found in the output.

The maximum value is 255.

- Default: 1
- Required: No
- Restrictions: None.

MGMTCLAS(*mgmt_class* | SOURCE)

or **MGMTCLAS-PAIRS (*Sourcemgmtclas1*, *Targetmgmtclas1*, *Sourcemgmtclas2*, *Targetmgmtclas2*, ...
DEFAULT_IF_NO_MATCH, *Targetmgmtclasd* | SOURCE)**

MGMTCLAS

Specifies the SMS management class to be assigned to the renamed data sets.

mgmt_class

Indicates that the specified SMS management class is to be used for all renamed data sets on SMS managed volumes.

SOURCE

Indicates that the SMS management class will be copied from the corresponding source volume data set. This is the default.

MGMTCLAS-PAIRS

Specifies source and target pairs for the SMS management class.

***Sourcemgmtclas1*, *Targetmgmtclas1*, ...**

If a data set has the specified source management class (*Sourcemgmtclasn*), the target data set uses the paired target management class (*Targetmgmtclasn*).

DEFAULT_IF_NO_MATCH

Indicates, in the subsequent parameter, which management class is to be assigned to a target data set whose source management class does not match any MGMTCLAS-PAIRS entries.

Targetmgmtclasd

Indicates that such data sets should be assigned the specified target management class.

SOURCE

Indicates such data sets should be assigned the management class that is used by the source data set. This is the default.

- Default: The default for MGMTCLAS is SOURCE. The default for DEFAULT_IF_NO_MATCH is SOURCE.
- Required: No
- Restrictions: MGMTCLAS, MGMTCLAS-PAIRS, and DRIVEACS are mutually exclusive.
- Short forms: MC (for MGMTCLAS) or MCP (for MGMTCLAS-PAIRS).

MISSINGUCAT (DELETE | KEEP [, RC (0 | 4 | 8)])

This keyword specifies the disposition and return code to be generated for data sets found on a volume, where the data set name matches a rename mask, but the catalog back-pointer is not one of the 'source' catalogs that are specified in the corresponding COPY command. If not otherwise specified in the control statements, the default disposition and return code are obtained from this token in the GCLINI member of the SGCLPARM library.

Only data sets with VVDS records have a catalog back-pointer. A return code of 8 is suggested because MISSINGUCAT errors are likely because of the omission of a catalog name in the COPY step.

Catalog back-pointers could be in error from the start. To avoid continual review of pre-existing catalog back-pointer errors when using a return code of 8, it is suggested to run an IDCAMS DIAGNOSE function to diagnose and correct these errors. Correcting pre-existing catalog back-pointer errors help ensure that when a MISSINGUCAT error is detected that a user catalog was omitted in the COPY step.

- Default: KEEP, RC(4)

- Required: No
- Restrictions: None.

NOTRENAMED (DELETE | KEEP [, RC (0 | 4 | 8)])

This keyword specifies the disposition of data sets that do not match a rename mask, and the return code to be generated if at least one occurrence is detected. If not otherwise specified in the control statements, the default disposition and return code are obtained from this token in the GCLINI member of the SGCLPARM library.

If you require that rename masks match all data sets on all volumes, and if they do not, you want the entire process to fail, specify a return code of 8 and the corresponding conditional use of the target volumes set for execution only if the return code is less than 8. If the RENAME and or COPY step will be rerun, specify KEEP as the disposition.

If you want the process to fail when the target volumes contain data sets not needed by the application that is accessing the target volumes (without renaming these non-application data sets), specify a return code of 8. Additionally, specify EXCLUDE-SRCNAME(RC(0)) and EXCLUDE-SRCNAME-MASKS with entries that identify the expected non-application data sets. If all of the data sets on the volumes are renamed, or if they match an entry in EXCLUDE-SRCNAME-MASKS, the return code is 0. If data sets on the volume are not renamed, and they do not match an entry in EXCLUDE-SRCNAME-MASKS, the return code is 8 and the process fails. Because the data sets that match an entry in EXCLUDE-SRCNAME-MASKS are not renamed or cataloged, you should specify the DELETE option (especially for SMS-managed volumes). Specifying DELETE frees up space if allocations occur on target volumes.

If volumes contain data sets that are not needed by the application to access target volumes, and rename masks may not match all data sets, specify a return code of 0 or 4. Because not-renamed data sets are not cataloged, especially for SMS-managed volumes, you should specify the DELETE option. This also frees up the space if allocations can occur on target volumes.

If not all of the data sets are renamed, and an acceptable return code (0 or 4) is set, the list of not-renamed data sets must be reviewed for assurance that needed data sets are indeed renamed. Obviously, it is best if the application involved 'owns' the volumes and hence all data sets should be renamed. In a compromise situation, where the volumes are used by other applications, if feasible, the advantage of renaming data sets that are not required, is that the NOTRENAMED return code can be set to 8 to avoid reviewing the list of not-renamed data sets each cycle.

If you use effective naming conventions, a single, or few rename masks match all required data sets. If, for instance, all data sets belonging to the application match the mask A1.**, it is safe to ignore data sets that do not match the mask.

- Default: KEEP, RC(8)
- Required: No
- Restrictions: None.

ORPHANCATENTRY (DELETE | KEEP [, RC(0 | 4 | 8)])

This keyword specifies the disposition and return code to be generated for data sets that are found in a catalog but one or more catalog volume cells are not in the list of volumes copied. If not otherwise specified in the control statements, the default disposition and return code are obtained from this token in the GCLINI member of the SGCLPARM library.

- Default: KEEP, RC(8)
- Required: No
- Restrictions: None.

RECATALOG(Y | N)

This keyword specifies that IMS Cloning Tool can replace an existing catalog entry without considering it an error. If RECATALOG is not specified, and a target catalog entry for a renamed data set is found to exist, the process fails. If not specified in the control statements, the defaults are obtained from the GCLINI member of SGCLPARM.

Because an incorrect rename 'to' mask could accidentally replace a catalog entry for a data set not involved with the process, the setup should be established such that RECATALOG is not required. This setup can be achieved by utilizing a target catalog that is used only for target data sets. Because catalog entries for data sets used in each cycle of the process are 'orphaned' by the target volumes to be reused, at the beginning of the next cycle, delete and redefine the catalog, or use the IMS Cloning Tool BCSCLEAN command to delete catalog entries from the previous cycle.

If a target catalog is populated with entries not involved with the copy process, use the BCSCLEAN command sometime between the time target volume usage ends and before the next copy process starts. By eliminating catalog entries from the previous cycle, omitting the RECATALOG option should not result in errors – unless rename 'to' masks are wrong, in which case the replacement of a catalog entry should indeed be prevented.

- Default: N
- Required: No
- Restrictions: None.

RENAME-AUDIT-LOG (N | SMF(nnn))

This keyword specifies whether an audit log of the data sets being renamed is to be created by RENAME volume processing.

SMF(nnn) specifies that the audit log is created and written to SMF with a record type of nnn. Valid values for nnn are 128 - 255 inclusive. SMF must be recording the specified record type. The layout of the records that are written can be found in member RENSMT of the IMS Cloning Tool SGCLJCL library.

- Default: N
- Required: No
- Restrictions: None.

RENAME-ERROR(ABORT)

or RENAME-ERROR(CONTINUE, RC(0 | 4 | 8))

This option specifies how processing proceeds when a RENAME error is encountered.

ABORT terminates with an RC=8 after the first error to preserve integrity. ABORT is recommended.

CONTINUE continues processing after most errors and the RENAME command completes with the specified return code unless an error not handled by the CONTINUE logic is encountered.

Note: The use of CONTINUE can cause inconsistencies between the contents of the volumes and catalogs. Possible problems include:

- data sets could be cataloged but are not renamed on disk
- data sets could be renamed on disk but are not cataloged
- data sets that are not renamed on disk cannot be deleted from disk
- GDG base and GDS entries will not exist in the catalog when there is a missing GDS
- a catalog entry may not point at the correct volume
- a catalog entry may be invalid
- leave uncataloged data sets on SMS managed volumes.

If this keyword is specified, IMS Cloning Tool cannot guarantee integrity and the specific results are not fixed by IMS Cloning Tool.

If not specified in the control statements, the defaults are obtained from the GCLINI member of SGCLPARM.

- Default: ABORT. For CONTINUE, the default is RC(8)
- Required: No
- Restrictions: RC is mutually exclusive with ABORT.

RENAME-LIST(Y | N)

This option specifies whether a list of the renamed data sets is to be produced by RENAME volume processing.

- Default: N if SIMULATE is not specified. Y if SIMULATE is specified.
- Required: No
- Restrictions: None.

RERUN

This option specifies that the RENAME step is being run a second time with the same target volumes that resulted from the COPY step. Rerun of the RENAME step only is not possible unless SAFE was specified in first execution.

SAFE causes a backup during the RENAME step of the portions of volumes that are changed during the volume processing – VTOC, VTOCIX, and VVDS. This backup data is used on a rerun to restore volumes that were changed to the state they were in following the COPY step.

Certain errors, such as incorrect rename masks, where the list of volumes that were copied and the catalogs that were backed up are correct, can be corrected by rerunning the RENAME step.

Examine the problem to determine if a rerun of the RENAME step can resolve the problem or if the COPY step must be rerun. Errors resulting from an omitted volume or an omitted catalog in the COPY step requires a rerun of the COPY step.

The BCSRECS and VOLBKUP data sets must not be deleted by the JCL running the RENAME RERUN. The contents of the BCSRECS and VOLBKUP must be from the prior run of RENAME with either the SAFE or RERUN keywords. If the BCSRECS or VOLBKUP data sets are deleted, you need to run the COPY step again.

- Default: None.
- Required: No
- Restrictions: RERUN is mutually exclusive with SAFE and SPEED.

SAFE | SPEED

SAFE allows a rerun of the RENAME command by backing up critical volume structures that are changed during the volume processing – the VTOC, VTOCIX, and VVDS. This backup data is used on a rerun to restore volumes that are changed to the state they were in following the COPY step. This adds slight execution time for RENAME to capture the portions of target volumes that are modified by RENAME.

Incorrect rename masks cause a necessary rerun the RENAME step. If multiple and complicated masks are required, this option is recommended. Additionally, the renaming is affected by whether the data set naming conventions that are used by the application are static or subject to frequently change – inferring that rename masks must be watched.

SAFE requires the VOLBKUP parameter. Note the JCL comments that warn about making sure the VOLBKUP data set is not deleted before a rerun of RENAME. If the VOLBKUP data set is lost, you need to run the COPY step again, if the opportunity for correct point-in-time images has not been lost.

If source volume access is not resumed until the entire process is complete (implying that the same point-in-time images can be recopied), the time to rerun the COPY step can be insignificant compared to adding overhead with the SAFE option for every cycle.

SPEED is the opposite of SAFE. The RERUN option for the RENAME step is rejected if attempted. Error correction requires the COPY and RENAME step to be run again.

- Default: SPEED.
- Required: No
- Restrictions: SAFE is mutually exclusive with SPEED and RERUN. SPEED is mutually exclusive with SAFE and RERUN.

SIMULATE

This option specifies that only non-destructive RENAME activities are to be performed. RENAME SIMULATE must be used with a COPY as the volumes and catalogs are specified only in the COPY step and are passed via the journal to the RENAME step. The COPY execution can be with or without SIMULATE.

Scenario 1 – a real COPY (without SIMULATE) followed by a RENAME SIMULATE uses only the target volumes.

Scenario 2 – a COPY SIMULATE followed by a RENAME SIMULATE uses only the source volumes because no target volumes exist yet.

If COPY DATAMOVER(PGM(NONE)) was used with SIMULATE, it can be followed by a RENAME SIMULATE.

SIMULATE performs the masking comparisons to both catalog and volume records. Errors can be discovered such as not all data sets renamed, incomplete renaming of VSAM sphere associations and components, multivolume data sets not wholly contained in the volume list, GDG generations that stray outside of the volume list, catalog entries that match a mask but one or volumes were not copied.

Because omitting one or more catalogs or volumes in the COPY step is not detected until the RENAME step, it is recommended to use SIMULATE whenever significant changes are made to the involved applications. This is true especially when resumption of source volume access is triggered by completion of the COPY step – that is, the opportunity for recapturing point-in-time images has been lost.

- Default: None.
- Required: No.
- Restrictions: None.
- Short form: SIM

STORCLAS(stor_class | SOURCE)

**or STORCLAS-PAIRS (Sourcestorclas1, Targetstorclas1, Sourcestorclas2, Targetstorclas2, ...
DEFAULT_IF_NO_MATCH, Targetstorclasd | SOURCE)**

STORCLAS

Specifies the SMS storage class to be assigned to the renamed data sets.

stor_class

Indicates that the specified SMS storage class is to be used for all renamed data sets on SMS managed volumes.

SOURCE

Indicates that the SMS storage class will be copied from the corresponding source volume data set. This is the default.

STORCLAS-PAIRS

Specifies source and target pairs for the storage class.

Sourcestorclas1, Targetstorclas1, ...

If a data set has the specified source storage class (*Sourcestorclasn*), the target data set uses the paired target storage class (*Targetstorclasn*).

DEFAULT_IF_NO_MATCH

Indicates, in the subsequent parameter, which storage class is to be assigned to a target data set whose source storage class does not match any STORCLAS-PAIRS entries.

Targetstorclasd

Indicates that such data sets should be assigned the specified target storage class.

SOURCE

Indicates such data sets should be assigned the storage class that is used by the source data set. This is the default.

- Default: The default for STORCLAS is SOURCE. The default for DEFAULT_IF_NO_MATCH is SOURCE.
- Required: No.
- Restrictions: STORCLAS, STORCLAS-PAIRS, and DRIVEACS are mutually exclusive.
- Short forms: SC (for STORCLAS) or SCP (for STORCLAS-PAIRS)

TEMPDSN (DELETE | KEEP [,RC(0 | 4 | 8)])

This option specifies the disposition of temporary data sets and the return code to be generated if at least one occurrence is discovered. If not otherwise specified in the control statements, the default disposition and return code are obtained from this token in the GCLINI member of THE SGCLPARM LIBRARY.

- Default: DELETE, RC(4)
- Required: No.
- Restrictions: None.

UPDATE-IAM-ASSOCIATIONS (Y | N)

This option specifies whether IAM data set associations are to be updated as part of RENAME processing. IAM must be active on the system for the updates to happen. This option addresses the situation in which IAM data sets are being cloned that include AIXes and PATHs, and it is desired to update the associations to correspond with the new data set names. The association information for IAM data sets is determined and updated by internally using IDCAMS LISTCAT and IDCAMS DEFINE RECATALOG commands. When RERUN is used, it is possible to get missing component errors when rename mask entries that cover IAM data sets were changed. This is because the IAM association data not being in the ICF catalog, VTOC, VTOCIX, or VVDS, so IMS Cloning Tool is unable to properly determine the changed IAM associations. When SIMULATE is used, it is not possible for IMS Cloning Tool to determine the IAM associations and verify that all the associated cloned IAM data sets.

- Default: N
- Required: No
- Restrictions: None
- Short form: UIA

VALIDATE-SMS-CLASSES (Y | N)

Specifies whether the SMS class names specified in the DATACLAS, DATACLAS-PAIRS, MGMTCLAS, MGMTCLAS-PAIRS, STORCLAS, and STORCLAS-PAIRS keywords will be validated as being defined to SMS (Y) or not (N).

This option addresses the situation where the target SMS class names are not defined on the system where RENAME is run.

- Default: Y
- Required: No.
- Restrictions: None.

VOLBKUP-DDN (ddname)

This option specifies the DD name for the backup data set to be used for backing up target volume VTOCs, VTOCIXs, and VVDSs, to be used in the event of a rerun of the RENAME step. SAFE is required with this parameter.

- Default: None
- Required: No.
- Restrictions: None.

Note: Variables that are supplied to ACS do not include data set attributes. IMS Cloning Tool catalogs target data sets concurrently with changing target volumes, as opposed to cataloging data sets only after volumes are modified. This method greatly improves the performance of RENAME, at the expense of the cataloging task not being aware of data set attributes that are normally supplied when driving ACS.

If SMS treatment of target volume data sets is special, specific SMS classes can be supplied with the DATACLAS, MGMTCLAS, and STORCLAS keywords, or you can also set up a construct that triggers the IMS Cloning Tool job name.

RENAME Step JCL Example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements.

The RENAME step JCL is shown in the following example. The numbers that precede the JCL correspond to the notes that follow the sample JCL.

```

      //??????? JOB , 'GCL RENAME', CLASS=A, MSGCLASS=X
      //S0      EXEC PGM=IDCAMS
      //SYSPRINT DD   SYSOUT=*
      //SYSIN    DD   *
1     DEL GCL.WRK.VOLDUMP
1     DEL GCL.WRK.BCSRECS
2     //S1      EXEC PGM=GCL00010, REGION=8M
3     //STEPLIB DD   DSN=HLQ?.SGCLLOAD, DISP=SHR
4     //GCLINI  DD   DSN=HLQ?.SGCLPARM(GCLINI), DISP=SHR
5     //SORTMSG DD   SYSOUT=*
6     //SORTWK01 DD  UNIT=SYSALLDA, SPACE=(CYL,(10,10))
      //SORTWK02 DD  UNIT=SYSALLDA, SPACE=(CYL,(10,10))
      //SORTWK03 DD  UNIT=SYSALLDA, SPACE=(CYL,(10,10))
      //SORTWK04 DD  UNIT=SYSALLDA, SPACE=(CYL,(10,10))
      //SORTWK05 DD  UNIT=SYSALLDA, SPACE=(CYL,(10,10))
      //SORTWK06 DD  UNIT=SYSALLDA, SPACE=(CYL,(10,10))
7     //DRSTATS DD   SYSOUT=*
8     //GCLPRINT DD   SYSOUT=*
      //SYSUDUMP DD   SYSOUT=*
9     //JOURNAL DD   DSN=GCL.JRNL, DISP=OLD
10    //BCSRECS DD   DSN=GCL.WRK.BCSRECS, UNIT=SYSALLDA, DISP=(,CATLG),
      //          SPACE=(CYL,(10,10))
11    //VOLDUMP DD   DSN=GCL.WRK.VOLDUMP, UNIT=SYSALLDA, DISP=(,CATLG),
      //          SPACE=(CYL,(10,10))
      //GCLIN   DD   *
      RENAME
11      SAFE
11      VOLBKUP-DDN(VOLDUMP)
      MAX-TASKS(5)
9      JOURNAL-DDN(JOURNAL)
      NOTRENAMED(DELETE,RC(4))
      MISSINGUCAT(DELETE,RC(8))
      ORPHANCATENTRY(KEEP,RC(8))
      RECATALOG(N)
      DATACLAS(TGTDATA)
      MGMTCLAS(TGTMGMT)
      STORCLAS-PAIRS(SRCSTOR1,TGTSTOR1
                     SRCSTOR2,TGTSTOR2
                     DEFAULT_IF_NO_MATCH,TGTSTORX)
      RENAME-MASKS(
        ASRC.** ATGT.**
        BSRC.** BTGT.**
        PROD.** TEST.**
      )
      //*

```

1. Deletion of volume memory dumps and BCSRECS in anticipation of allocating new for each execution. Because these data sets recover target volume information and remove BCS entries during a rerun of the RENAME step, DO NOT set up the rerun JCL to delete these data sets.
2. Execution of IMS Cloning Tool main program.
3. The IMS Cloning Tool SGCLLOAD library must be authorized.
4. DD for GCLINI member of the HLQ?.SGCLPARM library. This member provides variables to the IMS Cloning Tool programs and contains the product security license codes.
5. DD for sort messages.
6. DDs for sort work data sets. Sort data sets are provided if needed by the sort product used.
7. DD for DRSTATS, SAFE option memory dump and Restore output.
8. DD for GCLPRINT, mainline RENAME output.

9. Journal data set that is used by IMS Cloning Tool commands. This VSAM data set is used to pass information between IMS Cloning Tool steps, and to log information that is derived from the step executions. The journal file is allocated and cataloged in the COPY step, and used as input and output by the RENAME step. The specified data set name must match the data set allocated in the COPY step. If multiple IMS Cloning Tool processes are created for different applications, each must use a unique journal data set. In the sample JCL, the control statement JOURNAL-DDN(JOURNAL) specifies that a DD with the name JOURNAL is being used, rather than a data set name.
10. DD for BCSRECS. The data set pointed at by this DD is used to store data set names that are used if RENAME is rerun, and for the BCSCLEAN command. Required regardless of whether rerunning is anticipated or BCSCLEAN is expected to be used. The data set specified in the RENAME step must match the name that is used in the corresponding BCSCLEAN step. However, if multiple IMS Cloning Tool processes are created for different applications, each must have a unique BCSRECS data set.

Note: This file cannot be striped.

11. VOLDUMP DD statement. This DD points to a data set used to back up information about target volumes, in case a rerun of the RENAME step is required. This data set is used only if the SAFE parameter is specified.

The normal and abnormal disposition must be CATLG.

In the sample JCL, the control statement VOLBKUP-DDN(VOLDUMP) specifies that a DD with the name VOLDUMP is being used rather than a data set name. If the number of volumes that are involved is high, and the VTOCs, VVDSs, and VTOC indexes are large, this data set may require a substantial amount of space.

Note: The RENAME output also includes output for each volume that is processed with dynamically allocated DD names of VVOLSERX.

UCATOPTIONS

This command is not required. UCATOPTIONS BACKUP backs up source catalogs when the COPY command uses the USERCATALOGS-NOBACKUP keyword. If VOLSER was specified for the source catalog when running COPY with the USERCATALOGS-NOBACKUP keyword, the backup is taken from the copies of the source catalogs that reside on target volumes. UCATOPTIONS BACKUP must be run before the RENAME command.

UCATOPTIONS LIST lists the source and target ICF catalog pairs and CATWORK data set names in the IMS Cloning Tool journal.

UCATOPTIONS UPDATE allows the target user catalog names or CATWORK data set names to be changed.

For example, if you specify a target catalog in the COPY command, and want to change the target catalog during the RENAME command, this command lists the source and target ICF catalog pairs currently in the journal and allow you to update the journal with the new target ICF catalog names.

Note: If the COPY command used the USERCATALOGS-NOBACKUP keyword, the catalog backup can be done by using the UCATOPTIONS command with the BACKUP keyword. However, the source ICF catalog information that is being backed up must be in synchronization with the contents of the copied volumes. If UCATOPTIONS BACKUP is used (meaning that USERCATALOGS-NOBACKUP was specified for the COPY command), the user must ensure that the source ICF catalogs are logically at the same point in time as when the volumes were copied.

UCATOPTIONS command syntax

UCATOPTIONS

Required Keywords:

```
{ JOURNAL-DSN (data set name) | JOURNAL-DDN(ddname) }
```

Optional Keywords:

BACKUP [FORCE] | LIST | UPDATE

If UPDATE is specified, one of the following keywords must be specified:

```
NEWCATWORKS (current-dsn1, new-dsn1, current-dsn2, new-dsn2, ...) |  
NEWCATWORKS-DDN(ddname)  
NEWTARGETS(srcusercatalog1, newtgtusercatalog1,  
            srcusercatalog2, newtgtusercatalog2, ... ) |  
NEWTARGETS-DDN(ddname)
```

UCATOPTIONS command & keyword definitions

UCATOPTIONS

Optional command that either lists the user catalog pairs from the IMS Cloning Tool journal, or allows the target user catalog names to be changed, or back up source catalogs.

- Required: No
- Restrictions: None

JOURNAL-DSN (data set name) or JOURNAL-DDN (ddname)

This parameter supplies either the data set name of the IMS Cloning Tool journal file, or a DD name assumed via the JCL to point to a journal data set. The journal is used to pass information between IMS Cloning Tool steps.

- Default: None
- Required: Yes
- Restrictions: None

BACKUP [FORCE] | LIST | UPDATE

BACKUP requests that the source catalogs be backed up. The backup was not done by COPY because the USERCATALOGS-NOBACKUP keyword was used. If VOLSER was specified for the source catalog when running COPY with the USERCATALOGS-NOBACKUP keyword, the backup is taken from copies of the source catalogs that reside on target volumes. UCATOPTIONS BACKUP must be run before the RENAME command. If VOLPAIRSDEVN-NOCLIP or VOLPAIRSDEVN-NOCLIP-DDN were used with USERCATALOGS-NOBACKUP in the COPY, VOLOPTIONS OFFLINECLIP must be run before UCATOPTIONS BACKUP, which must be run before the RENAME command.

BACKUP FORCE requests that the source catalogs be backed up even if they are already backed up.

LIST requests a display of the current source and target ICF catalog pairs.

UPDATE changes the existing target ICF catalog entries that are found in the journal with the new target ICF catalog names. UPDATE cannot be used if the catalog has not been backed up.

Note: The existing source ICF catalogs must be entered in pairs with the new target ICF catalogs as shown in the NEWTARGETS and NEWTARGETSDDN keyword description.

- Default: LIST
- Required: No
- Restrictions: None for LIST or BACKUP. UPDATE requires one of the following: NEWCATWORKS, NEWCATWORKS-DDN, NEWTARGETS, or NEWTARGETSDDN.

NEWCATWORKS (current-dsn1, new-dsn1, current-dsn2, new-dsn2, ...) or NEWCATWORKS-DDN(ddname)

NEWCATWORKS specifies the current CATWORK data set name and the new CATWORK data set name. The current CATWORK data set name must match an IMS Cloning Tool journal entry.

new-dsn1 replaces the current CATWORK data set name with the value of *current-dsn1*, with the new CATWORK data set name in the journal entry.

NEWCATWORKS-DDN specifies a DD name assumed via the JCL to point to a data set containing the current and new CATWORK data set name pairs. The pairs are the same format as in the NEWCATWORKS keyword.

- Default: None
- Required: No
- Restrictions: Can be specified only with UPDATE.

NEWTARGETS(srcusercatalog1, newtgtusercatalog1, srcusercatalog2, newtgtusercatalog2, ...)
or **NEWTARGETS-DDN(ddname)**

NEWTARGETS specifies the current source ICF catalog and the new target ICF catalog. The current source ICF catalog must match an IMS Cloning Tool journal entry.

newtgtusercatalog1 replaces the current target user catalog that is paired with *srcusercatalog1* in the journal entry.

NEWTARGETS-DDN specifies a DD name assumed via the JCL to point to a data set containing the source and target ICF catalog pairs. The pairs are the same format as in the NEWTARGETS keyword.

- Default: None
- Required: No
- Restrictions: Can be specified only with UPDATE.

UCATOPTIONS step JCL example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements.

The UCATOPTIONS step JCL is shown in the following example. The numbers that precede the JCL correspond to the notes that follow the sample JCL.

```

1  //***** JOB , 'GCL UCATOPTIONS', CLASS=A, MSGCLASS=X
2  //S1      EXEC PGM=GCL00010, REGION=8M
3  //STEPLIB DD DSN=HLQ?.SGCLLOAD, DISP=SHR
4  //GCLINI  DD DSN=HLQ?.SGCLPARM(GCLINI), DISP=SHR
5  //GCLPRINT DD SYSOUT=*
6  //SYSUDUMP DD SYSOUT=*
7  //JOURNAL DD DSN=GCL.JRNL, DISP=OLD
8  //GCLIN   DD *
9  UCATOPTIONS
10 JOURNAL - DDN(JOURNAL)
11 //*
```

1. Execution of IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library must be authorized.
3. DD for GCLINI member of the HLQ?.SGCLPARM library. This member provides variables to the IMS Cloning Tool programs and contains the product security license codes.
4. DD for GCLPRINT output.
5. Journal data set used by IMS Cloning Tool commands. This VSAM data set is used to pass information between IMS Cloning Tool steps, and to log information that is derived from the step executions. The journal file is allocated and cataloged in the COPY step and used as input to the UCATOPTIONS command. In the sample JCL, the control statement JOURNAL-DDN(JOURNAL) specifies specifying that a DD with the name JOURNAL is being used rather than a data set name.

VARYOFF

This command is not required. VARYOFF is provided to vary target or source volumes offline on only the local system where the command is run, on all systems in the sysplex, or on all systems in the sysplex other than the local system.

Note: VARYOFF should not be used in JES3 environment. The VARYOFF command issues an MVS VARY command, which is not recommended for JES3-managed devices.

The volumes to be varied offline can be specified by:

- Using the vary file: Volumes are determined when the VARYOFF command is run by reading a COPY command, (COPY-CMD-DDN(COPYCMD), DD that points to a file that contains COPY command syntax. The COPY syntax is read for volume information but is not run during the VARYOFF processing). The volumes are then saved in the vary file for use by a subsequent VARYON command to bring the volumes online.

The vary file can be used when the volumes have different device numbers on different systems. For this case, run the VARYOFF command with SCOPE(LOCAL) on each system with a separate vary file for each system.

- Using an existing journal data set. The volumes are predetermined by the IMS Cloning Tool COPY command that created the journal. If the volumes are varied offline later in the process, they can be used.

When SCOPE(SYSPLEX(ALL)) or SCOPE(SYSPLEX(OTHER)) is specified, the volumes must have the same device numbers on the systems in the sysplex.

VARYOFF command syntax

VARYOFF

Required Keywords:

```
{JOURNAL-DSN (data set name) | JOURNAL-DDN(ddname) |  
  VARY-DDN(ddname)}  
TARGET | SOURCE
```

Required only if VARY-DDN(*ddname*) is specified:

```
COPY-CMD-DDN(ddname)
```

Optional Keywords:

```
MAX-VOLS-PER-CMD(nn | 8)  
SCOPE(LOCAL | SYSPLEX({ALL | OTHER} [, T(nnn)]))  
SIMULATE  
VOL-ALREADY-OFFLINE ({QUIT | CONTINUE} [, (RC(nnn | 8))])
```

VARYOFF command & keyword definitions

VARYOFF

Optional command to vary volumes offline.

- Required: No
- Restrictions: None.

JOURNAL-DSN (*data set name*) or JOURNAL-DDN (*ddname*)

This parameter supplies either the data set name of the IMS Cloning Tool journal file, or a DD name assumed via the JCL to point to a journal data set. The journal is used to pass information between IMS Cloning Tool steps.

- Default: None
- Required: Yes, if VARY-DDN is not specified.
- Restrictions: Mutually exclusive with VARY-DDN.
- Short forms: JDSN, JDDN

TARGET | SOURCE

This option specifies the volume set to use. **TARGET** specifies that the target volumes are used. **SOURCE** specifies that the source volumes are used.

- Default: None
- Required: Yes
- Restrictions: None

VARY-DDN(ddname)

This parameter supplies the DD name of the IMS Cloning Tool vary file that is assumed via the JCL to point at a vary data set.

If multiple IMS Cloning Tool setups are used for different volume groups, DO NOT use the same vary data set. Each IMS Cloning Tool volume group needs a different vary data set.

The vary file is used to pass VOLSERs and device numbers between a VARYOFF step and a VARYON step. Therefore, as noted in the JCL comments, it must be cataloged in the VARYOFF step when first created, and referenced in the VARYON step.

- Default: None
- Required: Yes, if JOURNAL-DSN and JOURNAL-DDN are not specified.
- Restrictions: Mutually exclusive with JOURNAL-DSN and JOURNAL-DDN.

COPY-CMD-DDN(ddname)

This parameter supplies the DD name of the IMS Cloning Tool copy command.

- Default: None
- Required: Yes, if VARY-DDN is specified.
- Restrictions: None

MAX-VOLS-PER-CMD(nn | 8)

Specifies the maximum number of volumes that are used in a single SYSPLEX vary offline command.

- Default: 8
- Required: no
- Restrictions: Used only when SCOPE(SYSPLEX(..)) is specified.

SCOPE(LOCAL | SYSPLEX ({ ALL | OTHER } [, T(nnn)]))

Specifies the scope of the VARYOFF commands.

LOCAL specifies that the VARYOFF commands are issued only on the local system.

SYSPLEX specifies that the VARYOFF commands are issued sysplex-wide.

ALL specifies that the volumes are varied offline to the local system and VARYOFF commands are routed to all the other systems in the sysplex.

OTHER specifies that VARYOFF commands are routed to all of the other systems in the sysplex, no VARYOFF commands are issued on the local system.

T specifies an optional timeout interval that is added to the sysplex vary commands.

- Default: Local
- Required: No
- Restrictions: None

SIMULATE

Simulate verifies the syntax and determine the volumes to be varied offline but does not issue VARYOFF commands.

- Default: None
- Required: No
- Restrictions: None
- Short form: SIM

VOL-ALREADY-OFFLINE {QUIT | CONTINUE} [, (RC (nnn | 8))]

Specifies the action to be taken when a volume to be processed is already offline.

QUIT specifies that processing quits when the first volume already offline is encountered.

CONTINUE specifies that processing continues with the next volume when a volume already offline is encountered.

RC specifies the return code that used when a volume already offline is encountered.

- Default: QUIT, RC(8)
- Required: No
- Restrictions: Used only when SCOPE(LOCAL) or SCOPE(SYSPLEX(ALL)) are specified.

VARYOFF Step JCL: example to vary volumes offline using vary file

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements.

The VARYOFF step JCL is shown in the following example. The numbers that precede the JCL correspond to the notes that follow the sample JCL.

```
//??????? JOB , 'GCL VARYOFF', CLASS=A, MSGCLASS=X
//S0 EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
1 DEL GCL.VARY
  SET MAXCC=0
2 //S1 EXEC PGM=GCL00010, REGION=6M
3 //STEPLIB DD DSN=HLQ?.SGCLLOAD, DISP=SHR
4 //GCLINI DD DSN=HLQ?.SGCLPARM(GCLINI), DISP=SHR
5 //GCLPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
6 //VARY DD DSN=GCL.VARY, RECOG=KS, KEYLEN=64, KEYOFF=0,
// DISP=(,CATLG), UNIT=SYSALLDA,
// LRECL=600, SPACE=(CYL,(10,10))
//GCLIN DD *
  VARYOFF -
7 TARGET -
8 SCOPE(LOCAL) -
9 COPY-CMD-DDN(COPYCMD) -
6 VARY-DDN(VARY)
//*
9 //COPYCMD DD *
  COPY -
  DATA-MOVER( -
    COPYCMDLIMIT(24) -
  ) -
  FROM-VOLSER(VSRC02) -
  TO-VOLSER(VTGT02) -
  USERCATALOGS( -
    USERCAT.SRC01 USERCAT.TGT01 -
    USERCAT.SRC02 USERCAT.TGT02 -
  ) -
  CATWORK-DSN(GCL.WRK.* ) -
  JOURNAL-DDN(JOURNAL)
//*
```

1. Deletion of journal data set in anticipation of allocating new for each execution.
2. Execution of IMS Cloning Tool main program.
3. The IMS Cloning Tool SGCLLOAD library must be authorized.
4. DD for GCLINI member of the HLQ?.SGCLPARM library. This member provides variables to the IMS Cloning Tool programs and contains the product security license codes.
5. DD for GCLPRINT output.
6. Vary data set. This VSAM data set is used to pass information between the IMS Cloning Tool VARYOFF and VARYON steps. The vary file is allocated and cataloged in the VARYOFF step and used as input to the VARYON command. In the sample JCL, the control statement VARY-DDN(VARY) is specifying that a DD with the name VARY is being used.

7. TARGET parameter that specifies the target volumes that are found in the journal are varied offline. In the COPY command, the target volumes that are specified are used.
8. SCOPE parameter that specifies LOCAL causes the VARYOFF commands to be issued only on the local system.
9. The COPY command. The COPY command is used to derive the volumes for processing. In the sample JCL, the control statement COPY-CMD-DDN(COPYCMD) is specifying that a DD with the name COPYCMD is being used to read the copy command.

VARYOFF Step JCL: example to vary volumes offline using journal

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements.

The VARYOFF step JCL is shown in the following example. The numbers that precede the JCL correspond to the notes that follow the sample JCL.

```

1 //??????? JOB , 'GCL VARYOFF', CLASS=A, MSGCLASS=X
2 //S1 EXEC PGM=GCL00010, REGION=6M
3 //STEPLIB DD DSN=HLQ?.SGCLLOAD, DISP=SHR
4 //GCLINI DD DSN=HLQ?.SGCLPARM(GCLINI), DISP=SHR
5 //GCLPRINT DD SYSOUT=*
6 //SYSUDUMP DD SYSOUT=*
7 //JOURNAL DD DSN=GCL.JRNL, DISP=OLD
8 //GCLIN DD *
9 VARYOFF -
10 TARGET -
11 SCOPE(SYSPLEX(OTHER)) -
12 JOURNAL-DDN(JOURNAL)
13 //*

```

1. Execution of IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library must be authorized.
3. DD for GCLINI member of the HLQ?.SGCLPARM library. This member provides variables to the IMS Cloning Tool programs and contains the product security license codes.
4. DD for GCLPRINT output.
5. Journal data set that is used by IMS Cloning Tool commands. This VSAM data set is used to pass information between IMS Cloning Tool steps, and to log information that was derived from the step executions. The journal file is allocated and cataloged in the COPY step and used as input to the VARYOFF command. In the sample JCL, the control statement JOURNAL-DDN(JOURNAL) is specifying that a DD with the name JOURNAL is being used rather than a data set name.
6. TARGET parameter that specifies the target volumes that are found in the journal are varied offline.
7. SCOPE parameter that specifies SYSPLEX(OTHER) causes the VARYOFF commands to be routed to all other systems in the sysplex.

VARYON

This command is not required. VARYON is provided to vary target or source volumes online. The VARYON command can vary volumes online on only the local system where the command is run, on all systems in the sysplex, or on all systems in the sysplex other than the local system.

With SCOPE(SYSPLEX(ALL)) or SCOPE(SYSPLEX(OTHER)) the volumes need to have the same device numbers on the systems in the sysplex.

Note: VARYON should not be used in JES3 environment. The VARYON command issues an MVS VARY command, which is not recommended for JES3-managed devices.

The volumes to be varied online can be specified by:

- Using the vary file. By using the vary file, the volumes are predetermined by the IMS Cloning Tool VARYOFF command that created the vary file. The vary file can be used when the volumes have

different device numbers on different systems. For this case, the VARYON command would be run with SCOPE(LOCAL) on each system with a separate vary file for each system.

- Using an existing journal data set. The volumes are predetermined by the IMS Cloning Tool COPY command that created the journal.

When using SCOPE(SYSPLEX(ALL)) or SCOPE(SYSPLEX(OTHER)) the volumes need to have the same device numbers on the systems in the sysplex.

VARYON command syntax

VARYON

Required Keywords:

```
{JOURNAL-DSN (data set name) | JOURNAL-DDN(ddname) |  
  VARY-DDN(ddname)}
```

Required only if JOURNAL-DSN(data set name) or JOURNAL-DDN(ddname) is specified:

```
TARGET | SOURCE
```

Optional Keywords:

```
MAX-VOLS-PER-CMD(nn | 8)  
SCOPE(LOCAL | SYSPLEX({ALL | OTHER} [, T(nnn)]))  
SIMULATE  
VOL-ALREADY-ONLINE ({QUIT | CONTINUE} [, (RC (nnn | 8) )])  
WRONG-VOLSER ({QUIT | CONTINUE} [, (RC (nnn | 8) )])
```

VARYON command & keyword definitions

VARYON

Optional command to vary volumes online.

- Required: No
- Restrictions: None

JOURNAL-DSN (data set name) or JOURNAL-DDN (ddname)

This parameter supplies either the data set name of the IMS Cloning Tool journal file, or a DD name assumed via the JCL to point to a journal data set. The journal is used to pass information between IMS Cloning Tool steps.

- Default: None
- Required: Yes, if VARY-DDN is not specified.
- Restrictions: Mutually exclusive with VARY-DDN.
- Short forms: JDSN, JDDN

TARGET | SOURCE

This keyword specifies the volume set to use. **TARGET** specifies to use the target volumes. **SOURCE** specifies to use the source volumes.

- Default: None
- Required: Yes, if JOURNAL-DSN or JOURNAL-DDN is specified.
- Restrictions: Mutually exclusive with VARY-DDN.

VARY-DDN(ddname)

This parameter supplies the DD name of the IMS Cloning Tool vary file that is assumed via the JCL to point at a vary data set.

If multiple IMS Cloning Tool setups are used for different volume groups, DO NOT use the same vary data set. Each IMS Cloning Tool volume group needs a different vary data set.

The vary file is used to pass VOLSERs and device numbers between a VARYOFF step and a VARYON step. Therefore, as noted in the JCL comments, it must be cataloged in the VARYOFF step when first created, and referenced in the VARYON step.

- Default: None
- Required: Yes, if JOURNAL-DSN and JOURNAL-DDN are not specified.
- Restrictions: Mutually exclusive with JOURNAL-DSN and JOURNAL-DDN.

MAX-VOLS-PER-CMD(*nn* | 8)

Specifies the maximum number of volumes to use in a single SYSPLEX VARYON command.

- Default: 8
- Required: no
- Restrictions: Used only when SCOPE(SYSPLEX(..)) is specified.

SCOPE(LOCAL | SYSPLEX({ ALL | OTHER } [, T(*nnn*)]))

Specifies the scope of the VARYON commands.

LOCAL specifies that the VARYON commands are issued only on the local system.

SYSPLEX specifies that the VARYON commands are issued sysplex-wide.

ALL specifies that the volumes are varied online to the local system and VARYON commands are routed to all the other systems in the sysplex.

OTHER specifies that VARYON commands are routed to all the other systems in the sysplex, no vary online commands are issued on the local system.

T specifies an optional timeout interval that is added to the sysplex vary commands.

- Default: Local
- Required: No
- Restrictions: None

SIMULATE

Simulate verifies the syntax and determines the volumes to be varied offline but does not issue VARYON commands.

- Default: None
- Required: No
- Restrictions: None
- Short form: SIM

VOL-ALREADY-ONLINE({ QUIT | CONTINUE } [, (RC(*nnn* | 8))])

Specifies the action to be taken when a volume to be processed is already online.

QUIT specifies that processing quits when the first volume already offline is encountered.

CONTINUE specifies that processing continues with the next volume when a volume already online is encountered.

RC specifies the return code that is used when a volume already online is encountered.

- Default: QUIT, RC(8)
- Required: No
- Restrictions: Used only when SCOPE(LOCAL) or SCOPE(SYSPLEX(ALL)) are specified.

WRONG-VOLSER({ QUIT | CONTINUE } [, (RC(*nnn* | 8))])

Specifies the action to be taken when a volume that is brought online has a different VOLSER than expected.

QUIT specifies that processing quits when the first volume with a wrong VOLSER is encountered.

CONTINUE specifies that processing continues with the next volume when a volume with a wrong VOLSER is encountered.

RC specifies the return code that is used when a volume with a wrong VOLSER is encountered.

- Default: QUIT, RC(8)
- Required: No
- Restrictions: Used only when SCOPE(LOCAL) or SCOPE(SYSPLEX(ALL)) are specified.

VARYON Step JCL: example to vary volumes online using vary file

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements.

The VARYON step JCL is shown in the following example. The numbers that precede the JCL correspond to the notes that follow the sample JCL.

```
//??????? JOB , 'GCL VARYON', CLASS=A, MSGCLASS=X
1 //S1 EXEC PGM=GCL00010, REGION=6M
2 //STEPLIB DD DSN=HLQ?.SGCLLOAD, DISP=SHR
3 //GCLINI DD DSN=HLQ?.SGCLPARM(GCLINI), DISP=SHR
4 //GCLPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
5 //VARY DD DSN=GCL.VARY, DISP=OLD
//GCLIN DD *
VARYON -
6 SCOPE(LOCAL) -
5 VARY-DDN(VARY)
//*
```

1. Execution of IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library must be authorized.
3. DD for GCLINI member of the HLQ?.SGCLPARM library. This member provides variables to the IMS Cloning Tool programs and contains the product security license codes.
4. DD for GCLPRINT output.
5. Vary data set. This VSAM data set is used to pass information between the IMS Cloning Tool VARYOFF and VARYON steps. The vary file is allocated and cataloged in the VARYOFF step and used as input to the VARYON command. In the sample JCL, the control statement VARY-DDN(VARY) is specifying that a DD with the name VARY is being used.
6. SCOPE parameter specifies that LOCAL causes the VARYON commands to be issued only on the local system.

VARYOFF Step JCL: example to vary volumes online using journal

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements.

The VARYOFF step JCL is shown in the following example. The numbers that precede the JCL correspond to the notes that follow the sample JCL.

```
//??????? JOB , 'GCL VARYON', CLASS=A, MSGCLASS=X
1 //S1 EXEC PGM=GCL00010, REGION=6M
2 //STEPLIB DD DSN=HLQ?.SGCLLOAD, DISP=SHR
3 //GCLINI DD DSN=HLQ?.SGCLPARM(GCLINI), DISP=SHR
4 //GCLPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
5 //JOURNAL DD DSN=GCL.JRNL, DISP=OLD
//GCLIN DD *
VARYON -
6 TARGET -
7 SCOPE(SYSPLEX(OTHER)) -
5 JOURNAL-DDN(JOURNAL)
//*
```

1. Execution of IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library must be authorized.
3. DD for GCLINI member of the HLQ?.SGCLPARM library. This member provides variables to the IMS Cloning Tool programs and contains the product security license codes.
4. DD for GCLPRINT output.
5. Journal data set that is used by IMS Cloning Tool commands. This VSAM data set is used to pass information between IMS Cloning Tool steps, and to log information that is derived from the step executions. The journal file is allocated and cataloged in the COPY step and used as input to the VARYON command. In the sample JCL, the control statement JOURNAL-DDN(JOURNAL) is specifying that a DD with the name JOURNAL is being used rather than a data set name.
6. TARGET parameter that specifies to vary the target volumes that are found in the journal online.
7. SCOPE parameter specifies SYSPLEX(OTHER) causes the VARYON commands to be routed to all other systems in the sysplex.

VOLOPTIONS

This command is not required. VOLOPTIONS is intended for situations where the IMS Cloning Tool COPY step is run at one site (SITEA) and the IMS Cloning Tool RENAME step is run at another site (SITEB). VOLOPTIONS LIST, CLIP, and UPDATE are intended to support such scenarios.

VOLOPTIONS can also be used when the target volumes are offline to the IMS Cloning Tool COPY step and it is not desirable for IMS Cloning Tool COPY to re-label and vary online the target volumes. For instance, the target offline volumes will be backed up prior to the IMS Cloning Tool RENAME step being run. For this function, COPY would use the VOLPAIRSDEVN-NOCLIP or VOLPAIRSDEVN-NOCLIP-DDN keywords, which cause COPY to not re-label or vary online the target volumes. The offline target volumes are then backed up, and VOLOPTIONS OFFLINECLIP is used to re-label and vary online the target volumes prior to running the RENAME command.

VOLOPTIONS can also be used when the target volumes are online and it is desired to vary them offline and relabel them to their corresponding source volume volser. VOLOPTIONS UNCLIP can be used to support this scenario.

For example: SITEA runs the IMS Cloning Tool COPY which FlashCopys (or snaps) source volumes SRC001, SRC002, and SRC003 to target volumes TGT001, TGT002, and TGT003. SITEA then dumps TGT001, TGT002, TGT003 to tape and sends them to SITEB. The COPY also backs up the source user catalogs and establishes the source/target user catalog relationship.

In addition, SITEA backs up the IMS Cloning Tool journal file and the data sets created under the CATWORK-DSN prefix. The journal file and CATWORK-DSN data sets are created by the IMS Cloning Tool COPY command.

SITEB restores the IMS Cloning Tool journal file and the CATWORK-DSN data sets on their system. The CATWORK-DSN data set names must match those used by SITEA. The journal file and CATWORK-DSN data sets must be cataloged.

SITEB restores the tape(s) using 'ADRDSU RESTORE COPYVOLID'.

At this point, SITEB has SRC001, SRC002, and SRC003 online to their system. The data sets on these volumes are not cataloged.

In order for IMS Cloning Tool RENAME to rename and catalog the SITEB data sets, the volumes need to be clipped to the corresponding target volume serials.

VOLOPTIONS CLIP will do this function. It will vary SRC001, SRC002, and SRC003 offline on the image where the command is executed. It will then use ICKDSF to change SRC001 to TGT001, SRC002 to TGT002, and SRC003 to TGT003. The target volumes will be varied online by VOLOPTIONS CLIP to the image where the command is executed.

If SITEB needs to see the volume pairs used by SITEA, VOLOPTIONS LIST will display the current source/target volume pairs.

IMS Cloning Tool uses the IMS Cloning Tool journal to identify and communicate source and target volume pairs to IMS Cloning Tool commands. If SITEB needs to use different target volume serials than those used at SITEA, VOLOPTIONS UPDATE NEWTARGETS will allow the current target volume serials in the IMS Cloning Tool journal to be changed.

VOLOPTIONS LIST could be used to provide the initial input for the NEWTARGETS keyword. The new target volume serial(s) would need to be added to the source/target pairs from the VOLOPTIONS LIST command.

VOLOPTIONS UPDATE NEWTARGETS and NEWTARGETSDEVN do not support changing any target volume serial to a source volume serial.

VOLOPTIONS Command Syntax

VOLOPTIONS

Required Keywords:

```
{ JOURNAL-DSN( data set name ) | JOURNAL-DDN( ddname ) }
```

Optional Keywords:

```
LIST | CLIP | OFFLINECLIP | UNCLIP | UPDATE  
RESUME  
SIMULATE
```

Required only if UPDATE is specified:

```
{ NEWTARGETS( srcvolser1 tgtvolser1 newtgtvolser1 ... [ , srcvolsern  
tgtvolsern newtgtvolsern ] ) |  
  NEWTARGETS-DDN( ddname ) |  
  NEWTARGETSDEVN  
  ( srcvolser1 tgtvolser1 newtgtvolser1 newtgtdevn1 ... [ , srcvolsern tgtvolsern  
    newtgtvolsern newtgtdevnn ] ) |  
  NEWTARGETSDEVN-DDN( ddname ) }
```

VOLOPTIONS Command & Keyword Definitions

VOLOPTIONS

Optional command to use when the COPY command is run at one site and the RENAME command is run at another.

- Required: No
- Restrictions: None

JOURNAL-DSN (*data set name*) or JOURNAL-DDN (*ddname*)

This parameter supplies either the data set name of the IMS Cloning Tool journal file, or a DD name assumed via the JCL to point at a journal data set.

If multiple IMS Cloning Tool setups are used for different volume groups, DO NOT use the same journal data set. Each IMS Cloning Tool 'application' needs a different journal data set.

The journal is used to pass information between IMS Cloning Tool steps (e.g., from the COPY step to the RENAME step). Therefore, as noted in the JCL comments, it must be cataloged in the COPY step when first created, and referenced as OLD in subsequent steps.

Do not delete the data set in the last step, in case restarts or reruns need journal information. It is preferable to delete and replace the data set only at the fresh start of a COPY.

- Default: None
- Required: Yes
- Restrictions: None

- Short form(s): JDSN, JDDN

LIST | CLIP | OFFLINECLIP | UNCLIP | UPDATE

LIST requests a display of the current source volume serial/target volume serial pairs.

CLIP requests that the online source volume serials be changed with ICKDSF to their paired target volume serials.

OFFLINECLIP requests that the offline target volumes which currently have source volume serials have their volume serials changed with ICKDSF to their target volume serials and varied online. If VOLPAIRSDEVN-NOCLIP or VOLPAIRSDEVN-NOCLIP-DDN were used with USERCATALOGS-NOBACKUP in the COPY, VOLOPTIONS OFFLINECLIP must be run before UCATOPTIONS BACKUP which must be run before the RENAME command.

UNCLIP requests that the online target volumes be varied offline and the target serials be changed with ICKDSF to their paired source volume serials.

UPDATE requests changing specified target volume serials to new target volume serials.

- Default: LIST
- Required: No
- Restrictions: UPDATE requires NEWTARGETS or NEWTARGETSDEVN. No restrictions for LIST, CLIP, or OFFLINECLIP, or UNCLIP.

RESUME

RESUME specifies that CLIP, OFFLINECLIP, or UNCLIP should resume processing of any volumes that failed to be completely processed by a previous CLIP, OFFLINECLIP, or UNCLIP command.

Prior to running CLIP, OFFLINECLIP, or UNCLIP with RESUME, the problem that caused a volume to not be completely processed by CLIP, OFFLINECLIP, or UNCLIP should be resolved.

- Default: None
- Required: No
- Restrictions: This keyword can only be specified if CLIP, OFFLINECLIP, or UNCLIP is specified.

SIMULATE

Simulate will verify the syntax and determine the volumes to be processed and will display what action would have been taken but will not vary any volumes offline or online or change any volume serials with ICKDSF or update the journal.

- Default: None
- Required: No
- Restrictions: None
- Short form: SIM

NEWTARGETS (*srcvolser1 tgtvolser1 newtgtvolser1 ... [, srcvolsern tgtvolsern newtgtvolsern]*)
or NEWTARGETS-DDN (*ddname*) | NEWTARGETSDEVN (*srcvolser1 tgtvolser1 newtgtvolser1*
***newtgtdevn1 ... [srcvolsern tgtvolsern newtgtvolsern newtgtdevnn]*)**
or NEWTARGETSDEVN-DDN (*ddname*)

NEWTARGETS specifies the current source volume serial, the current target volume serial, and the new target volume serial. The current source volume serial and current target volume serial must match the IMS Cloning Tool journal entries. For example: 'newtgtvolser1' will replace 'tgtvolser1' in the journal entry. The short form is NTGT.

NEWTARGETS-DDN specifies a DD name which has a file containing the volume serial triplets. The triplets are the same format as in the NEWTARGETS keyword.

NEWTARGETSDEVN specifies the current source volume serial, the current target volume serial, and the new target volume serial and new target device number. The current source volume serial and current target volume serial must match the IMS Cloning Tool journal entries. For example: 'newtgtvolser1' will replace 'tgtvolser1' and 'newtgtdevn1' will replace the target device number in the journal entry. The short form is NTGTD.

NEWTARGETSDEVN-DDN specifies a DD name which has a file containing the volume serial and devn quadruplets. The quadruplets are the same format as in the NEWTARGETSDEVN keyword.

- Default: None
- Required: One of the NEWTARGETS keywords is required if UPDATE is specified.
- Restrictions: May only be specified with UPDATE.

VOLOPTIONS Step JCL Example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements.

The VOLOPTIONS step JCL is shown in the following example. The numbers preceding the JCL correspond to notes, (following this sample JCL) containing an explanation of the line of JCL.

```
1 //??????? JOB , 'GCL VOLOPTIONS', CLASS=A, MSGCLASS=X
2 //S1 EXEC PGM=GCL00010, REGION=8M
3 //STEPLIB DD DSN=HLQ?.SGCLLOAD, DISP=SHR
4 //GCLINI DD DSN=HLQ?.SGCLPARM(GCLINI), DISP=SHR
5 //GCLPRINT DD SYSOUT=*
6 //SYSUDUMP DD SYSOUT=*
7 //JOURNAL DD DSN=GCL.JRNL, DISP=OLD
8 //GCLIN DD *
9 VOLOPTIONS
10 JOURNAL-DDN(JOURNAL)
11 /*
```

1. Execution of IMS Cloning Tool main program.
2. IMS Cloning Tool SGCLLOAD library must be authorized.
3. DD for GCLINI member of the HLQ?.SGCLPARM library. This member provides variables to the IMS Cloning Tool programs and contains the product security license codes.
4. DD for GCLPRINT output.
5. Journal data set used by IMS Cloning Tool commands. This VSAM data set is used to pass information between IMS Cloning Tool steps, and to log information derived from the step executions. The journal file is allocated and cataloged in the COPY step and used as input to the VOLOPTIONS command. In the sample JCL, the control statement JOURNAL-DDN(JOURNAL) specifies that a DD with the name JOURNAL is being used rather than a data set name.

Note: The previous JCL example used LIST, the default, so no keyword was specified. The following two JCL examples are provided for CLIP and UPDATE.

Example using VOLOPTIONS (CLIP):

```
VOLOPTIONS CLIP -
JOURNAL-DDN(JOURNAL)
```

Example using VOLOPTIONS (UPDATE):

```
VOLOPTIONS UPDATE
NEWTARGETS(VSRC01, VTGT11, VTGT01 -
VSRC02, VTGT22, VTGT02 -
VSRC03, VTGT13, VTGT03) -
JOURNAL-DDN(JOURNAL)
```


Chapter 9. Reference: database refresh commands

All IMS Cloning Tool commands are invoked by running the main program GCL00010. Functionality is selected by specifying the appropriate IMS Cloning Tool command and parameters.

The following table lists IMS Cloning Tool commands for refreshing databases. Each command is explained in detail in separate topics in this chapter.

Table 32. IMS Cloning Tool database refresh commands overview	
Command	Description
IMSDBSTOP	Optional command to stop target databases before refreshing.
IMSDBSTART	Optional command to start databases after the refresh process.
IMSDBREFRESH	Required command to perform the refreshing of a database
IMSDBCLEAN	Optional command to delete target data sets that were previously refreshed with the IMSDBREFRESH command

IMSDBSTOP

This command is not required. If the target databases are on another LPAR, you can use IMSDBSTOP to stop the target IMS database from online access before a database is refreshed.

The GLOBAL keyword can be used to have the database stopped across multiple IMS subsystems in a data-sharing environment.

The INDEXES keyword can control whether primary and secondary indexes are also stopped.

After you issue a DBR command to stop a database, IMSDBSTOP will wait to see if the database is stopped. The WAIT keyword can control the amount of time IMSDBSTOP waits for the database to be stopped, and the return code to use if the wait time is exceeded.

Note:

1. The IMSDBREFRESH command automatically stops the source databases unless FUZZY-COPY(Y) or SIMULATE keywords are used.
2. The IMSDBREFRESH command that is used with keyword, PRECOPY, automatically stops the source databases unless FUZZY-COPY(Y) or SIMULATE keywords are used.
3. The IMSDBSTOP command must run on the same z/OS image where the target IMS subsystem is active.

IMSDBSTOP Command Syntax

IMSDBSTOP

Required keywords:

```
IMS-SSID(ims ssid)
  DBD (dbdname1,dbdname2,dbdname3)
Optional Keywords:
GLOBAL
INDEXES(Y|N|P)
NOFE0V
```

```
IMSPLEX(xxxxx)
STOP-COMMAND(DBR|DBD|QUIESCE)
WAIT(nnn | 5) [,RC(nn) | 8 ]
SIMULATE
```

IMSDBSTOP command & keyword definitions

IMSDBSTOP

Optional command to stop a database on a target IMS subsystem.

- Required: No
- Restrictions: None

IMS-SSID(*IMS ssid*)

Required keyword that indicates on which IMS subsystem the target databases are to be stopped

- Default: None
- Required: Yes
- Restrictions: None

DBD(*dbdname1, dbdname2, dbdname3*)

Required keyword that specifies up to 256 databases to be stopped on an IMS subsystem.

- Default: None
- Required: Yes
- Restrictions: None

GLOBAL

Optional keyword that specifies that the /DBR DB command is issued with the GLOBAL parameter.

- Default: None
- Required: No
- Restrictions: None

IMSPLEX(*xxxxxx*)

Optional keyword that indicates the IMSPLEX name for the source IMS CSL components. The IMSPLEX name is used to issue IMS Type-2 commands such as the UPDATE DB QUIESCE.

- Default: None
- Required: No
- Restrictions: Required if STOP-COMMAND(QUIESCE) is specified

INDEXES(*Y|N|P*)

Optional keyword that indicates whether related indexes should be stopped as well. N indicates that only the specified DBDs are stopped. Y indicates that related primary or secondary indexes are also stopped. P indicates that the primary index, if one exists, is also stopped but related secondary indexes are not stopped. The default is Y.

- Default: Y
- Required: No
- Restrictions: None

NOFEOV

Optional keyword that specifies that the /DBR DB command is issued with the NOFEOV parameter.

- Default: None
- Required: No
- Restrictions: None

SIMULATE

Optional keyword that specifies that the actual IMSDBSTOP command is formatted and validated, but not issued.

- Default: None
- Required: No
- Restrictions: None

STOP-COMMAND (DBR|DBD|QUIESCE)

Optional keyword that indicates the IMS command to be used to stop the source databases. When DBR is specified, the DBRECOVER command is used, and all access to the source databases are stopped. When DBD is specified, the DBDUMP command is issued and the full function source databases are put into read-only mode, and a DBRECOVER command is issued for DEDBs. When QUIESCE is specified, an UPDATE DB QUIESCE command is used and IMS only pauses access to the source databases for the copy.

- Default: DBR
- Required: No
- Restrictions: If QUIESCE is specified, IMSPLEX must also be specified.

WAIT(nnn | 5) [,RC(rr) | 8]

Optional keyword that specifies the number of minutes (nnn) the IMSDBSTOP command should wait to get exclusive access to the database data sets. If the specified time limit expires before the databases are stopped, IMSDBSTOP terminates with a return code of rr. The default wait time is 5 minutes. The default return code is 8.

- Default: 5,RC(8)
- Required: No
- Restrictions: None

IMSDBSTOP Step JCL Example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements.

The IMSDBSTOP step JCL is shown in the following example. The numbers that precede the JCL correspond to notes that follow this sample JCL.

```
1  //??????? JOB , 'GCL DB STOP',CLASS=A,MSGCLASS=X
2  //S1      EXEC PGM=GCL00010,REGION=8M
3  //STEPLIB DD DSN=HLQ?.SGCLLOAD,DISP=SHR
4  //GCLINI  DD DSN=HLQ?.SGCLPARM(GCLINI),DISP=SHR
5  //GCLPRINT DD SYSOUT=*
6  //SYSUDUMP DD SYSOUT=*
7  //ssidACB DD DSN=ims.ACBLIB,DISP=SHR
8  //ssidMDA DD DSN=ims.MDALIB,DISP=SHR
9  //ssidREC1 DD DSN=ims.RECON1,DISP=SHR
10 //ssidREC2 DD DSN=ims.RECON2,DISP=SHR
11 //ssidREC3 DD DSN=ims.RECON3,DISP=SHR
12 //GCLIN   DD *
    IMSDBSTOP
10    IMS-SSID(IMS1)
11    DBD(dbdname1,dbdname2)
12    WAIT(2,(RC7))
```

1. Execution of IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library must be authorized.
3. DD for GCLINI member of the HLQ?.SGCLPARM library. This member provides variables to the IMS Cloning Tool programs and contains the product security license codes.
4. DD for GCLPRINT output.
5. Required DD that specifies the IMS ACBLIB data sets that contain the DMB control blocks for the target databases to be stopped. The ddname is prefixed with the IMS SSID followed by 'ACB'.

6. Required DD that specifies the IMS MDALIB data sets that contain the MDA members for the target databases to be stopped. The ddname is prefixed with the IMS SSID followed by 'MDA'.
7. Required DD that specifies the target IMS RECON1 data set. The ddname is prefixed with the IMS SSID followed by 'REC1'.
8. Required DD that specifies the target IMS RECON2 data set. The ddname is prefixed with the IMS SSID followed by 'REC2'.
9. Required DD that specifies the target IMS RECON3 data set. The ddname is prefixed with the IMS SSID followed by 'REC3'.
10. IMS-SSID parameter that specifies the target IMS ssid, IMS1, of the IMS subsystem where the databases are to be stopped.
11. DBD parameter that lists the DBDs to be stopped.
12. WAIT parameter that indicates the command should wait a maximum of 2 minutes for all databases that are specified on the DBD parameter to be stopped. If all databases are not stopped within 2 minutes, the command ends with a return code of 7.

IMSDBSTART

This command is not required. IMSDBSTART can be used to start an IMS database for online access after a database refresh process is complete. This command can be used with the IMSDBREFRESH command when refreshing IMS databases.

The INDEXES keyword can control whether primary and secondary indexes are also started.

The GLOBAL keyword can be used to have the database started across multiple IMS subsystems in a data-sharing environment.

The ACCESS keyword can be used to override the default access value a database is assigned when it is started.

Note:

1. If the IMSDBREFRESH command includes keywords, AUTO-START-SOURCE-DB(Y) and AUTO-START-TARGET-DB(Y) and the source and target databases are in the same LPAR or in a datasharing environment with the GLOBAL keyword specified, then the IMSDBSTART command is not necessary.
2. If the IMSDBREFRESH command is used with the PRECOPY keyword, and AUTO-START-SOURCE-DB(Y) is specified, then the IMSDBSTART command is not necessary.
3. If the IMSDBREFRESH command is used with the POSTCOPY keyword, and AUTO-START-TARGET-DB(Y) is specified, if the target is in a different LPAR than the source, the job can be run on the target IMS unless in a datasharing environment with the GLOBAL keyword specified. In this case, the IMSDBSTART command is not necessary.
4. The IMSDBSTART command must run on the same z/OS image where the IMS subsystem is active.

IMSDBSTART Command Syntax

IMSDBSTART

Required Keywords:

```
IMS-SSID(ims ssid)
DBD(dbdname1,dbdname2,dbdname3)
```

Optional Keywords:

```
ACCESS(cc)
GLOBAL
INDEXES(Y|N|P)
SIMULATE
```


IMSDBSTART command & keyword definitions

IMSDBSTART

Optional command to start a database on an IMS subsystem.

- Required: No
- Restrictions: None

IMS-SSID(*IMS ssid*)

Required keyword that indicates on which IMS subsystem the databases are to be started.

- Default: None
- Required: Yes
- Restrictions: None

DBD(*dbdname1, dbdname2, dbdname3*)

Required keyword that specifies up to 256 databases to be started on an IMS subsystem.

- Default: None
- Required: Yes
- Restrictions: None

ACCESS(cc)

Optional keyword that indicates the ACCESS mode the database is to be started with. This keyword is not valid if the GLOBAL keyword is specified. The valid values are RO, RD, UP, or EX as described in the *IMS Commands* reference guide.

- Default: None
- Required: No
- Restrictions: Use of this keyword is not valid if the GLOBAL keyword is specified.

GLOBAL

Optional keyword that specifies that the /START DB command is issued with the GLOBAL parameter. The GLOBAL keyword is not valid if the ACCESS keyword is specified.

- Default: None
- Required: No
- Restrictions: GLOBAL is not valid if the ACCESS keyword is specified

IMSPLEX(*xxxxx*)

Optional keyword that indicates the IMSPLEX name for the source IMS CSL components. The IMSPLEX name is used to issue IMS Type-2 commands such as UPDATE DB QUIESCE.

- Default: None
- Required: No
- Restrictions: Required if STOP-COMMAND(QUIESCE) is specified

INDEXES(Y|N|P)

Optional keyword that indicates whether related indexes should be started as well. N indicates that only the specified DBDs is started. Y indicates that related primary, or secondary indexes are also started. P indicates that the primary index, if one exists, is also started but related secondary indexes are not started. The default is Y.

- Default: Y
- Required: No
- Restrictions: None

NOFEOV

Optional keyword that specifies that the UPDATE DB QUIESCE command is issued with the NOFEOV parameter.

- Default: Y
- Required: No
- Restrictions: None

SIMULATE

Optional keyword that specifies that the actual IMSDBSTART command is formatted and validated, but not issued.

- Default: None
- Required: No
- Restrictions: None

STOP-COMMAND (DBR|DBD|QUIESCE)

Optional keyword that indicates the IMS command that was used to stop the databases and will indicate the associated command that should be used to start the databases.

- Default: None
- Required: No
- Restrictions: If QUIESCE is specified, IMSPLEX must also be specified.

IMSDBSTART step JCL example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements.

The IMSDBSTART step JCL is shown in the following example. The numbers that precede the JCL correspond to notes that follow this sample JCL.

```

1  //??????? JOB , 'GCL DB START',CLASS=A,MSGCLASS=X
2  //S1      EXEC PGM=GCL00010,REGION=8M
3  //STEPLIB DD DSN=HLQ?.SGCLLOAD,DISP=SHR
4  //GCLINI  DD DSN=HLQ?.SGCLPARM(GCLINI),DISP=SHR
5  //GCLPRINT DD SYSOUT=*
6  //SYSUDUMP DD SYSOUT=*
7  //ssidACB DD DSN=ims.ACBLIB,DISP=SHR
8  //ssidMDA DD DSN=ims.MDALIB,DISP=SHR
9  //ssidREC1 DD DSN=ims.RECON1,DISP=SHR
10 //ssidREC2 DD DSN=ims.RECON2,DISP=SHR
11 //ssidREC3 DD DSN=ims.RECON3,DISP=SHR
12 //GCLIN  DD *
13 IMSDBSTART
14 IMS-SSID(IMS1)
15 DBD(dbdname1,dbdname2)

```

1. Execution of IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library must be authorized.
3. DD for GCLINI member of the HLQ?.SGCLPARM library. This member provides variables to the IMS Cloning Tool programs and contains the product security license codes.
4. DD for GCLPRINT output.
5. Required DD that specifies the IMS ACBLIB data sets that contain the DMB control blocks for the databases to be started. The ddname is prefixed with the IMS SSID followed by ACB.
6. Required DD that specifies the IMS MDALIB data sets that contain the MDA members for the databases to be started. The ddname is prefixed with the IMS SSID followed by MDA.
7. Required DD that specifies the IMS RECON1 data set. The ddname is prefixed with the IMS SSID followed by REC1.
8. Required DD that specifies the IMS RECON2 data set. The ddname is prefixed with the IMS SSID followed by REC2.
9. Required DD that specifies the IMS RECON3 data set. The ddname is prefixed with the IMS SSID followed by REC3.

10. IMS-SSID parameter that specifies the IMS ssid, IMS1, of the IMS subsystem where the databases are to be started.
11. DBD parameter that lists the DBDs to be started.

IMSDBREFRESH

This command is not required. IMSDBREFRESH finds data set names from database names, verifies the compatibility of the source and target databases, optionally stops the target databases, by default stops the source databases (unless keywords, FUZZY-COPY or SIMULATE are used), optionally performs the data set copies, and optionally starts the source and target databases after the copies have been performed and the target DBRC has been updated.

If the DATA-MOVER(PGM(ADRDSSU)) keyword is specified, IMSDBREFRESH invokes FlashCopy or SnapShot to perform data set copies. If the DATA-MOVER(PGM(EMCAPI)) keyword is specified, IMSDBREFRESH invokes EMC/Timefinder Clone to perform data set copies.

If the DATA-MOVER(PGM(NONE)) keyword is specified, you must specify either the PRECOPY or POSTCOPY keyword. PRECOPY or POSTCOPY should be used to perform all of the same functions that are specified except for the actual copy. Instead, a list of data sets is built which can be used as input to your copy utility. After the copy, the IMSDBREFRESH command with POSTCOPY keyword performs all of the same functions. See [“Setup procedures for copy by data set with FlashCopy or SnapShot” on page 81](#) and [“Setup procedures for all other copy methodologies” on page 88](#) for more details.

The IMSDBREFRESH command performs the following:

1. Gets the database characteristics from the source IMS subsystem that is defined by the IMS-SSID keyword.
2. Gets a list of database data sets from the source IMS subsystem RECON and MDA members.
3. Gets the database characteristics from the target IMS subsystem that is defined by the IMS-SSID keyword.
4. Verifies the compatibility between the source and target databases.
5. If COPY-IF-NO-IMS-TARGET-DB(Y) is specified, dynamically define the target database to the target IMS system.
6. Issues IMS DBR commands for the target databases (if requested).
7. Issues IMS DBR commands for the source databases unless keywords, FUZZY-COPY or SIMULATE are used
8. (If PGM=ADRDSSU): Invokes FlashCopy or SnapShot (if available). If PGM=EMCAPI: invokes EMC Timefinder/Clone (if available).
9. (If PGM=NONE): Use IMSDBREFRESH command keywords, PRECOPY and POSTCOPY.
10. Issues IMS START DB commands for the source database if previously stopped.
11. Resets recovery information for the target database.
12. Issues IMS START DB commands for the target database.

IMSDBREFRESH command syntax

IMSDBREFRESH

Required keywords:

```
IMS-SSID(ims ssid)
DBD(dbdname1,dbdname2,dbdname3)
```

Required if source and target IMS-SSID are the same:

```
TGT-DBD(dbdname1,dbdname2,dbdname3)
```

Optional keywords:

```
ACCESS(cc)
ALLOW-NONRECOV(ABORT | CONTINUE[,RC(nn)] | SKIP[,RC(nn)])
ALLOW-PARTIAL(N|Y)
ARCHIVE-WAIT(xx,RC(nn))
AUTO-START-SOURCE-DB(Y|N)
AUTO-START-TARGET-DB(Y|N)
AUTO-STOP-TARGET-DB(Y|N)
COPY-IF-DIFFERENT-HALDB(N|Y,NOTGTDBD|ALLOWGTDBD)
COPY-IF-NO-IMS-TARGET-DB(N|Y)
DATA-MOVER( PGM( ADDRSSU | EMCAPI | NONE )
            [,DATACLAS( class ) ]
            [,FASTREP( PREF | REQ | NONE ) ]
            [,FCTOPPRCPPRIMARY( PRESMIRREQ | PRESMIRPREF | PRESMIRNONE ) ]
            [,MGMTCLAS( class ) ]
            [,NULLSTORCLAS( Y | N ) ]
            [,STORCLAS( class ) ] )
DATA-MASKING(N|Y,RESTART|RERUN,LOGICALS)
DBRC-ACTION(REDEFINE|REORG,ICOFF|NOICOFF,NOHALDBREDEFINE|HALDBREDEFINE)
DDIN(ddname1,ddname2,ddname3,...)
DDOUT(ddname1,ddname2,ddname3,...)
FUZZY-COPY(N|Y)
GLOBAL
IMSPLEX(xxxxx,yyyyy)
INDEXES(Y|N|P)
LOG-APPLY(N|Y [,MONITOR(nnn)])
LOGICALLY-RELATED(Y|N)
NOAUTH-TARGETS(N|Y)
NOFE0V
PRECOPY
POSTCOPY
REGISTER-DBRC (N|Y)
RENAME-MASKS( mask pairs )
REPLACE-TARGET-DS(Y|N)
SIMULATE
SRC-RECON-DATASETS(recon_dsn1,recon_dsn2,recon_dsn3)
STOP-COMMAND(DBR|DBD|QUIESCE)
SWITCH-OLDS(Y|N)
TGT-RECON-DATASETS(recon_dsn1,recon_dsn2,recon_dsn3)
UNLOAD-ALLOC-PARMS (DB|OVERRIDE)
UNLOAD-ALLOC-PRIQTY (nnnnn)
UNLOAD-ALLOC-SECQTY (nnnnn)
UNLOAD-ALLOC-UNIT (CYL|TRK|REC)
VERIFY-NO-UPDATERS(N | Y [,RC(tr)])
WAIT(nnn | 5 ) [,RC(nn) | 8 ]
```

IMSDBREFRESH command & keyword definitions

IMSDBREFRESH

If using FlashCopy, SnapShot, or EMC Timefinder/Clone, use this command to perform analysis, cause a database, or databases, and indexes to be copied from one IMS subsystem to another and perform target updates.

If using Other Copy Methodologies, use the PRECOPY and POSTCOPY keywords in separate jobs to perform analysis, build the list of data sets as input to your copy methodology, and perform target updates.

- Required: No
- Restrictions: None

IMS-SSID(*ims ssid*)

Required keyword that provides the specification of IMS subsystem name pairing. The name that appears first in the pair reflects the SOURCE IMS subsystem name, the second, the TARGET IMS subsystem name.

- Default: None
- Required: Yes
- Restrictions: None

DBD(*dbdname1*, *dbdname2*, *dbdname3*, ...)

Required keyword that specifies up to 3,200 database names to be refreshed from the source IMS subsystem to the target IMS subsystem. If the TGT-DBD parameter is omitted, then the target DBD name will be the same as the source DBD name.

- Default: None
- Required: Yes
- Restrictions: None

An asterisk (*) wildcard, can be used in the *dbdname* values in following ways:

- as a database name mask to be applied to the database names defined in the source ACB library
- as a character within a database name to exclude that character position from the comparison. For example: 'DBD(IV*DB1).
- as the last character in the database name mask to select all databases in the ACB library that match the mask that is specified up to the wildcard character. For example: 'DBD(IVP*).

TGT-DBD(*dbdname1*, *dbdname2*, *dbdname3*)

Only required if source and target IMS-SSID are the same, this keyword that specifies up to 256 database pairings to be refreshed from the source IMS subsystem to the target IMS subsystem. If the target DBD names are omitted, the source DBD name is used as the target DBD name.

- Default: None
- Required: If source and target IMS-SSID are the same
- Restrictions: None

ACCESS(cc)

Optional keyword that indicates the ACCESS mode the databases are to be started with. This keyword is not valid if the GLOBAL keyword is specified.

- Default: None
- Required: No
- Restrictions: Use of this keyword is not valid if the GLOBAL keyword is specified.

ALLOW-NONRECOV(ABORT | CONTINUE[,RC(*nn*)] | SKIP[,RC(*nn*)])

Optional keyword that specifies whether the IMSDBREFRESH command should continue processing even if non-recoverable primary databases are detected when LOG-APPLY(Y) is specified on the IMSDBREFRESH command. Valid values are:

ABORT - (the default) The IMSDBREFRESH command terminates with RC=8 and message GCL34073E.

CONTINUE - The IMSDBREFRESH command refreshes the non-recoverable primary databases and returns message GCL34074W and a return code of *nn*. Even if LOG-APPLY(Y) is specified, the IMSDBREFRESH command does not apply any logs to the target data sets of the non-recoverable primary databases after the data sets have been copied. The return code *nn* must be a numeric value 0 - 4095.

SKIP - The IMSDBREFRESH command skips refreshing the non-recoverable primary databases and returns message GCL34074W. It then continues to refresh the other databases and ends the job with a return code of *nn*. The return code *nn* must be a numeric value 0 - 4095.

- Default: ABORT. For CONTINUE and SKIP, the default for RC(*nn*) is RC(4).
- Required: No
- Restrictions: If ABORT is specified, RC is ignored.

ARCHIVE-WAIT (*nnn* | 5) [,RC(*rr*) | 8]

Optional keyword that indicates how long IMS Cloning Tool should wait for an online log data set to be archived before the IMSDBREFRESH job should abnormally terminate. This keyword controls the amount of time in minutes to wait for an online log data set to be archived and also the return code IMS Cloning Tool should terminate with if the online log was not archived in the specified time limit.

The wait time is the first parameter and must be a numeric value 0 - 999. The value that is specified indicates the number of minutes to wait. The return code that is specified must be a numeric value 0 - 4095.

- Default: 5,RC(8)
- Required: No
- Restrictions: Is only applicable if LOG-APPLY(Y) is specified.

ALLOW-PARTIAL(N|Y)

Optional keyword that indicates that IMS Cloning Tool should continue processing even if an error is encountered with one of the databases (for example, if one of the databases that is being refreshed had a compatibility issue). When Y (yes) is specified, IMS Cloning would still refresh the other databases.

- Default: N
- Required: No
- Restrictions: None.

AUTO-START-SOURCE-DB(Y|N)

Optional keyword that indicates whether the source databases should be started after the copy process is complete. The default value is Y.

- Default: Y
- Required: No
- Restrictions: None

AUTO-START-TARGET-DB(Y|N)

Indicates whether to start each target IMS database after the copy process is complete. The default value is Y.

- Default: Y
- Required: No
- Restrictions: None

AUTO-STOP-TARGET-DB(Y|N)

Indicates whether the database refresh job should stop (DBR) each target IMS database before the copy process starts. If N is specified, IMS Cloning Tool assumes that it can get exclusive access to the target database data sets. If the database is not stopped, IMS Cloning Tool gets an allocation error. The default value is Y.

- Default: Y
- Required: No
- Restrictions: None

COPY-IF-DIFFERENT-HALDB(N|Y,NOTGTDBD|ALLOWGTDBD)

Optional keyword that indicates whether IMS Cloning Tool should redefine the target DBRC definitions of the target HALDB if the source and the target HALDBs have different definitions. The definitions that might be different are: the number of partitions, the partition ID, and the M-V data sets.

N - If COPY-IF-DIFFERENT-HALDB(N) is specified, the target HALDB will not be refreshed even if the source and the target HALDBs have different definitions.

Y - If COPY-IF-DIFFERENT-HALDB(Y) is specified, the target HALDB will be refreshed and redefined in the target DBRC so that it has the same definitions as the source HALDB. You must also specify the RENAME-MASKS keyword to determine the new target data set names. The following additional parameters can also be specified:

- **ALLOWGTDBD**: Indicates that the TGT-DBD keyword can be specified when Y is specified for the first operand on the COPY-IF-DIFFERENT-HALDB keyword. You must also specify the RENAME-MASKS keyword to determine the following target names when the target HALDB is redefined:

- DBD name
- Partition name
- DD name
- Data set name
- **NOTGTDBD**: Indicates that the TGT-DBD keyword is not allowed. NOTGTDBD is the default value if COPY-IF-DIFFERENT-HALDB(Y) is specified.
- Default: N
- Required: No
- Restrictions:
 - If COPY-IF-DIFFERENT-HALDB(Y) is specified, RENAME-MASKS must also be specified.
 - COPY-IF-DIFFERENT-HALDB(Y) is used only if the DBRC-ACTION(REDEFINE) or DBRC-ACTION(REORG,HALDBREDEFINE) keyword is specified.
 - COPY-IF-DIFFERENT-HALDB(Y) is not allowed with the following keywords:
 - TGT-DBD
 - FUZZY-COPY(Y) and UNLOAD-FROM(SOURCE)
 - INDEXES(N) or INDEXES(P)
 - LOGICALLY-RELATED(N)

COPY-IF-NO-IMS-TARGET-DB(N|Y)

Optional keyword that indicates whether IMS Cloning Tool defines elements for target databases on the target IMS if they do not currently exist. These elements would include DBRC definitions, MDA members, and ACB members, and a **CREATE DB** command is submitted to define the database to the target IMS system. The process to perform the **CREATE DB** command requires the CSL and the target IMS system to be active.

If COPY-IF-NO-IMS-TARGET-DB(N) is specified and elements for the target database are not found, IMS Cloning Tool does not refresh the database. If COPY-IF-NO-IMS-TARGET-DB(Y) is specified, the RENAME-MASKS keyword is required to determine the target data set names. The RENAME-MASKS keyword is also required to determine the target DBD and DD names if the target database is in the same IMS system as the source database.

- Default: No
- Required: No
- Restrictions: If YES is specified, RENAME-MASKS must also be specified. If IMSPLEX is specified, then databases can be created using the CREATE DB command on the target IMS. If IMSPLEX is not specified, then the CREATE DB command is skipped.

DATA-MASKING(N|Y , RESTART|RERUN)

Optional keyword that indicates whether IMS Cloning Tool applies data masking during the refresh, leaving the data in the source object in its original state, but modifying it before it is moved to the target object. Any changes that are made to the data is determined by user-specified masking rules that are applied during the copy. For more information on data masking with IMS Cloning Tool, see [Chapter 6, “Masking data while refreshing databases,” on page 127.](#)

If N (No) is specified, IMS Cloning Tool does not perform data masking.

If Y (Yes) is specified, IMS Cloning Tool does perform data masking, and the following additional parameter can also be specified:

- **RESTART** or **RERUN**: An IMSDBREFRESH job that is masking some data may be restartable if a JRNLDBRF or JOURNAL DD is included in the original IMSDBREFRESH job. If the IMSDBREFRESH fails, then DATA-MASKING(Y,RESTART) can be specified to restart the IMSDBREFRESH from the previous point of failure. If the IMSDBREFRESH job fails and you want to start the database refresh job from the beginning, specify DATA-MASKING(Y,RERUN). If Y (Yes) is specified, IMS Cloning Tool performs data masking, and the following additional keywords can also be specified:

If Y (Yes) is specified, IMS Cloning Tool performs data masking, and the following additional parameters can also be specified:

- UNLOAD-FROM(TEMP|SOURCE): Indicates whether to unload from the original source database or to create a temporary copy of the source database. The default is TEMP.
- TEMP-DB-HLQ(USERID|xxxxx): Up to 26 byte high level qualifier to use to allocate the temporary database data sets used during the IMSDBREFRESH job. This keyword is only applicable if UNLOAD-FROM(TEMP) is specified. When USERID (the default) is specified, the user ID associated with the job performing the IMSDBREFRESH process is used. IMS Cloning Tool appends 'database name.ddname' to this value to create the data set name for the temporary database data sets. When the database to be masked is a HALDB, IMS Cloning Tool appends '.master database name.6-character suffix' to the high-level qualifier to create the data set name for the temporary database data sets. When the database is a FFDB or DEDB, the standard naming convention, 'HLQ.database name.ddname', is used. IMS Cloning Tool also appends 'RECON1' or 'RECON2' to this value to create the data set name for the temporary RECON data sets. The temporary RECON data sets are deleted once the unload file is created.

IMS Cloning Tool creates a temporary unload file for each source database as part of the masking process. The following parameters are used to specify the allocation parameters to use when allocating the temporary unload file:

- TEMP-UNLOAD-HLQ(USERID|xxxxx): Specifies the high-level qualifier to use to allocate the temporary unload file to create during the IMSDBREFRESH job. This value can be up to 33 bytes. When USERID, the default, is specified, the user ID associated with the job performing the IMSDBREFRESH process is used. IMS Cloning Tool appends 'database name.T' to this value to create the data set name for the temporary unload file.
- TEMP-UNLOAD-UNIT(xxxxxxxx) - Specifies the UNIT to use when allocating the temporary unload file. There is no default.
- TEMP-UNLOAD-VOLUME(xxxxxxxx) - Specifies the volume serial to use when allocating the temporary unload file. There is no default.
- TEMP-UNLOAD-STORCLAS(xxxxxxxx) - Specifies the SMS Storage Class to use when allocating the temporary unload file. There is no default.
- TEMP-UNLOAD-DATACLAS(xxxxxxxx) - Specifies the SMS Data Class to use when allocating the temporary unload file. There is no default.
- TEMP-UNLOAD-MGMTCLAS(xxxxxxxx) - Specifies the SMS Management Class to use when allocating the temporary unload file. There is no default.

IMS Cloning Tool creates a permanent unload file for each source database as part of the masking process. The following parameters are used to specify the allocation parameters to use when allocating the permanent unload file.

- PERM-UNLOAD-HLQ(USERID|xxxxx) - Specifies the high-level qualifier to use to allocate the permanent unload file to create from the IMSDBREFRESH job. This value can be up to 33 bytes. When USERID, the default, is specified, the user ID associated with the job performing the IMSDBREFRESH process is used. IMS Cloning Tool appends 'database name.P' to this value to create the data set name for the permanent unload file.
- PERM-UNLOAD-UNIT(xxxxxxxx) - Specifies the UNIT to use when allocating permanent unload file. There is no default.
- PERM-UNLOAD-VOLUME(xxxxxxxx) - Specifies the volume serial to use when allocating permanent unload file. There is no default.
- PERM-UNLOAD-STORCLAS(xxxxxxxx) - Specifies the SMS Storage Class to use when allocating permanent unload file. There is no default.
- PERM-UNLOAD-DATACLAS(xxxxxxxx) - Specifies the SMS Data Class to use when allocating permanent unload file. There is no default.
- PERM-UNLOAD-MGMTCLAS(xxxxxxxx) - Specifies the SMS Management Class to use when allocating permanent unload file. There is no default.

- Default: No
- Required: No
- Restrictions:

DATA-MOVER(PGM(ADDRSSU | EMCAPI | NONE)
[,DATACLAS(class)]
[,FASTREP(PREF | REQ | NONE)]
[,FCTOPPRCPRIARY(PRESMIRREQ | PRESMIRPREF | PRESMIRNONE)]
[,MGMTCLAS(class)]
[,NULLSTORCLAS(Y | N)]
[,STORCLAS(class)])

Optional keyword that specifies the program to be used to initiate copies and copy options.

PGM(ADDRSSU) - (the default) specifies that IMSDBREFRESH command is to initiate FlashCopy or SnapShot 'under the covers' via execution of DSS.

PGM(EMCAPI) - specifies that IMS Cloning Tool Database Refresh is to invoke EMC TimeFinder/Clone to make the copies using the data set snap facility. When IMS Cloning Tool initiates EMC copies using the EMCAPI, most GLOBAL command parameter values use the default EMC value. The following table lists the GLOBAL parameters and the associated default setting used by IMS Cloning Tool for database refreshing.

<i>Table 33. GLOBAL parameter defaults setting by IMS Cloning Tool Database Refresh</i>	
GLOBAL parameter	IMS Cloning Tool Database Refresh setting
WAIT	NO
WAITFORCOMPLETION	NO
NOTIFY LEVEL	DATASET
REUSEALLOCATION	YES
TOLERATEALLOCATIONFAILURE	YES
TOLERATECOPYFAILURE	YES
TOLERATEREUSEFAILURE	YES
VERIFY	NO
VSAMENQMODE	NONE

The following table lists the GLOBAL values that are set during processing using the IMS Cloning Tool Database Refresh parameters.

<i>Table 34. GLOBAL values set during processing by IMS Cloning Tool Database Refresh</i>	
EMC GLOBAL value	IMS Cloning Tool Database Refresh setting
HOSTCOPYMODE	If FUZZY-COPY(N), this parameter value is set to EXCLUSIVE. Otherwise, it is set to SHARED
MAXRC	This parameter always uses the IMS Cloning Tool Database Refresh MAX-COPY-RC value.
REPLACE	This parameter is set to YES if REPLACE-TARGET-DS(Y). Otherwise, it is set to NO.
TOLERATEENQFAILURE	If FUZZY-COPY(N), this parameter is set to NO. Otherwise, it is set to YES.
TYRUN	If SIMULATE is specified this value is set to NORUN. Otherwise, it is set to RUN.

Table 34. GLOBAL values set during processing by IMS Cloning Tool Database Refresh (continued)	
EMC GLOBAL value	IMS Cloning Tool Database Refresh setting
ENQWAIT	If FUZZY-COPY(N), this parameter is set to YES. Otherwise, it is set to NO.

PGM(NONE) - specifies that no DATA-MOVER is to be invoked by the IMSDBREFRESH command. NONE infers that data set copies are initiated by the user. When NONE is specified, IMSDBREFRESH still validates necessary IMS database characteristics, stops the source databases if requested, and builds the list of data sets as input to the user copy.

DATACLAS - specifies the SMS DATACLAS to be used for the target data set allocation or reallocation. This keyword is not supported for PGM(NONE) or PGM(ADRDSSU). If this keyword is specified, the DATA-MOVER PGM uses the supplied class for allocating or reallocating the target data sets. If this keyword is not specified, the behavior depends on the DATA-MOVER PGM:

- EMCAPI uses the SMS defaults.
- ADRDSSU always allocates or reallocates the target data sets using the DATACLAS of the source data sets.

FASTREP (DSS parameter) - indicates whether fast replication is preferred (PREF), required (REQ), or not required (NONE). PREF is the default.

IMS Cloning Tool sets up the source/target pairs for a fast replication if PREF or REQ is specified. IMS Cloning Tool allows a normal copy if NONE is specified. If the level of ADRDSSU indicates it supports this keyword, the keyword is passed to ADRDSSU.

FCTOPPRCPRIARY (DSS parameter) - Indicates that a FlashCopy target volume can also be a PPRC primary volume. This applies to ESS devices only. This does not apply when FASTREP(NONE) is also specified. IBM Remote Pair FlashCopy (also known as Preserve Mirror) can be specified by including one of the optional keywords. Preserve Mirror mirrors the FlashCopy command that is issued at the local site to the remote site. This allows FlashCopy operations to occur to PPRC primary volumes without affecting the PPRC duplex state. IBM Remote Pair FlashCopy must be installed in the storage controller along with the corresponding software support in z/OS. In addition, both the source and target volumes being PPRC primary volumes and in the same storage controller and their corresponding PPRC secondary volumes being in the same storage controller. Specify one of the following to use this functionality:

- PRESMIRREQ: Require the use of Preserve Mirror. If a Preserve Mirror operation cannot be accomplished, the FlashCopy operation is not completed.
- PRESMIRPREF: Prefer the use of Preserve Mirror. If a Preserve Mirror operation cannot be accomplished, the FlashCopy operation is still performed.
- PRESMIRNONE: Do not use Preserve Mirror.

MGMTCLAS - specifies the SMS MGMTCLAS to be used for the target data set allocation or reallocation. This keyword is not supported for PGM(NONE). If this keyword is specified, the DATA-MOVER PGM uses the supplied class for allocating or reallocating the target data sets. If this keyword is not specified, the behavior depends on the DATA-MOVER PGM:

- EMCAPI uses the SMS defaults.
- ADRDSSU uses the MGMTCLAS of the source data sets.

NULLSTORCLAS - This keyword is applicable only for DATA-MOVER PGM(ADRDSSU). If set to Y (the default), a null storage class will be passed to the automatic class selection (ACS) routine when copying data sets. This allows the ACS routine to assign storage classes to the target data sets. If set to N, input to the ACS will be storage class of the source data sets. For more information on this keyword, consult the *z/OS DFSMSdss Storage Administration* documentation. This keyword is mutually exclusive with the STORCLAS keyword.

STORCLAS - specifies the SMS STORCLAS to be used for the target data set allocation or reallocation. This keyword is not supported for PGM(NONE) and is mutually exclusive with the NULLSTORCLAS(Y)

keyword. When this keyword is specified with NULLSTORCLAS(Y), set NULLSTORCLAS to N and use the supplied storage class of this keyword. If this keyword is specified, the DATA-MOVER PGM uses the supplied storage class for allocating or reallocating the target data sets. If this keyword is not specified, the behavior depends on the DATA-MOVER PGM:

- EMCAPI uses the SMS defaults.
- ADRDSSU uses storage class of the source data sets when NULLSTORCLAS(N) is specified. ADRDSSU uses the SMS defaults, when NULLSTORCLAS(Y) is specified.

When any of these options are specified, they are used as part of the source to target volume pairing criteria. The specified option is also passed to ADRDSSU as part of the generated copy commands. When FCTOPPRCPPRIMARY is not specified or if the capability is not supported by the ESS, a PPRC primary volume is not eligible to become a FlashCopy target volume. For additional information about Preserve Mirror, refer to the documentation for your version of z/OS.

Note: Do not specify the FCTOPPRCPPRIMARY keyword with the FASTREP (NONE) keyword.

- Default: None
- Required: No
- Restrictions: None

DBRC-ACTION(REDEFINE|REORG,ICOFF|NOICOFF,NOHALDBREDEFINE|HALDBREDEFINE)

The optional DBRC-ACTION keyword indicates the DBRC action to perform on the refreshed target databases. Valid values for the DBRC-ACTION parameter include:

REORG - All database data sets that were refreshed are updated with a NOTIFY.REORG. When REORG is specified, you can optionally include the following additional REORG parameters:

- **ICOFF**: Turns off the Image Copy Needed flag in the DBRC after the NOTIFY.REORG command is issued. When the Image Copy Needed flag is turned off, you do not need to make an image copy in order to access the database. ICOFF is the default value if DBRC-ACTION(REORG) is specified.
- **NOICOFF**: Does not reset the Image Copy Needed flag in DBRC, and you must image copy the database data set in order to access the database.
- **HALDBREDEFINE**: If there are differences in the partition between source and target database, IMS Cloning Tool deletes and redefines the target database rather than issuing a NOTIFY.REORG.
- **NOHALDBREDEFINE**: If there are differences in the partition between source and target database, IMS Cloning Tool reports an error during the database compatibility check. Deleting and redefining the target database would be necessary to complete the cloning process, but this parameter prevents IMS Cloning Tool from deleting and redefining automatically. NOHALDBREDEFINE is the default value if DBRC-ACTION(REORG) is specified.

REDEFINE - Issues a LIST.DB command to provide a reference for current DBRC definitions, followed by a DELETE.DB command, an INIT.DB command, and any INIT.DBDS, INIT.PART, and INIT.AREA commands to redefine the target database.

- Default: REDEFINE
- Required: No
- Restrictions: If the database that is being refreshed is a HALDB, and the partition numbers are different between the source and the target databases, then REDEFINE is always done for those databases.

DDIN(ddname1, ddname2, ddname3,...)

Optional keyword that specifies input DDnames to ADRDSSU to locate the volsers for non-SMS managed data sets.

- Default: None
- Required: No
- Restrictions: None

DDOUT(ddname1, ddname2, ddname3,...)

Optional keyword that specifies output DDnames to ADRDSSU to locate the volsers for non-SMS managed data sets.

- Default: None
- Required: No
- Restrictions: None

FUZZY-COPY(Y|N)

Optional keyword that indicates whether the source databases should be stopped before replicating them. If used with DATA-MOVER(PGM(ADRDSSU)) it indicates that ADRDSSU should be invoked with TOLERATE(ENQFAILURE). If used with DATA-MOVER(PGM(NONE)) and the PRECOPY keyword, the source database is not stopped. The default value is N.

- Default: N
- Required: No
- Restrictions: None

GLOBAL

Optional keyword that specifies that the /DBR DB and /START DB commands are issued with the GLOBAL parameter. The GLOBAL keyword is not valid if the ACCESS keyword is specified.

- Default: None
- Required: No
- Restrictions: GLOBAL is not valid if the ACCESS keyword is specified

IMSPLEX(xxxxx,yyyyy)

Optional keyword that indicates the IMSPLEX name for the source and target IMS CSL components. The first parameter that is specified indicates the IMSPLEX name for the source IMS system and the second parameter that is specified indicates the IMSPLEX name for the target IMS system. The IMSPLEX name is used to issue IMS Type-2 commands such as the UPDATE DB QUIESCE.

- Default: None
- Required: No
- Restrictions: Required if STOP-COMMAND(QUIESCE) is specified

INDEXES(Y|N|P)

Optional keyword that indicates whether related indexes should be copied as well. N indicates that only the specified DBDs are copied. Y indicates that related primary or secondary indexes are also started. P indicates that the primary index, if one exists, is also copied but related secondary indexes are not copied. The default value is Y.

- Default: Y
- Required: No
- Restrictions: None

LOG-APPLY(N|Y [,MONITOR(nnn)])

Optional keyword that indicates whether or not IMS Cloning Tool applies log updates from the source databases to the target databases after copying the source databases. Valid values include:

- **N:** IMS Cloning Tool does not apply any logs to the target data set after the data set has been copied.
- **Y:** IMS Cloning Tool applies logs to the target databases after copying source databases. After the target data sets have been copied, IMS Cloning Tool reads the archive logs from the source IMS system for the source databases. IMS Cloning Tool then applies these logs to the target data sets until all of the databases that were refreshed in the IMSDBREFRESH job step do not have any uncommitted updates. This leaves all of the target databases in a transactionally-consistent state.

If log updates were applied to a primary target database, any indexes for the target database that are non-recoverable will be flagged as recovery-needed in DBRC. These indexes must be rebuilt in order to sync them with the primary database.

Additionally, when Y is specified, you can also include the optional **MONITOR** parameter to have IMS Cloning Tool output messages every *nnn* minutes. These messages indicate the amount of log apply activity that has occurred in the previous specified number of minutes. The *nnn* value can be any numeric value from 0 to 999 and indicates the interval, in minutes, in which IMS Cloning Tool should issue messages displaying log apply activity. If 0 is specified, no messages showing log apply activity are issued. If LOG-APPLY(Y) is specified but the MONITOR parameter is not, then MONITOR(0) will be in effect unless a different value is specified in the LOG_APPLY_MONITOR parameter, located in the DB_COPY_OPTIONS section of GCLINI.

If LOG-APPLY(Y) is specified, all primary source databases must be marked as recoverable in DBRC.

- Default: No
- Required: No
- Restrictions: Is only applicable if FUZZY-COPY(Y) is specified.

LOGICALLY-RELATED(Y|N)

Optional keyword that indicates whether a database should be copied if not all logically related databases are copied in the same command. If LOGICALLY-RELATED(Y) is specified, IMS Cloning Tool only copies a database if all logically related databases are also being copied in the same IMS Cloning Tool command. If LOGICALLY-RELATED(N) is specified, IMS Cloning Tool copies the databases specified even if not all logically related databases may be copied. The default value is Y.

- Default: Y
- Required: No
- Restrictions: None

NOAUTH-TARGETS(N|Y)

Optional keyword that indicates that IMS Cloning Tool sets PROHIBIT AUTH=ON in the target RECONS for the target databases before starting the data set copy process. This prevents other IMS jobs from authorizing the target databases until the database refresh process has completed. If IMS Cloning Tool sets PROHIBIT AUTH=ON, the flag is reset after the data set copy process is complete. Valid values include Y (prevent IMS jobs from authorizing the target databases until the database refresh process is complete), and N (do not set PROHIBIT AUTH=ON).

Note: The NOAUTH-TARGETS value from the IMSDBREFRESH command overrides this value from the GCLINI member in the SGCLPARM library.

- Default: N
- Required: No
- Restrictions: None.

NOFEOV

Optional keyword that specifies that when stopping databases, the /DBR DB command is issued with the NOFEOV parameter.

- Default: None
- Required: No
- Restrictions: None

PRECOPY

Optional keyword that indicates IMS Cloning Tool is to perform pre-copy operations only that includes everything except for the actual copy of the data sets. This keyword is used when IMS Cloning Tool is not used to perform the copy process.

- Default: None
- Required: When DATA-MOVER(PGM(NONE)) is specified, you must specify either PRECOPY or POSTCOPY.
- Restrictions: None

POSTCOPY

Optional keyword that indicates IMS Cloning Tool is to perform post copy operations only such as start the source database, update the target IMS DBRC, and start the target database. This keyword is used when IMS Cloning Tool was not used to perform the copy process.

- Default: None
- Required: When DATA-MOVER(PGM(NONE)) is specified, you must specify either PRECOPY or POSTCOPY.
- Restrictions: None

REGISTER-DBRC (N|Y)

Optional keyword that indicates whether to register the target database to DBRC after creating a new database on the target IMS system. When N is specified, the new database is not registered to DBRC. When Y is specified, the new database is registered to DBRC. If Y is specified, the source database must be registered to DBRC. The new data set names and the DBRC definitions are copied from the source database. This keyword does not apply to HALDBs as they will always be registered.

- Default: No
- Required: No
- Restrictions: Is only applicable if COPY-IF-NO-IMS-TARGET-DB(Y) is specified.

RENAME-MASKS(*mask value1, mask value2,...mask value x*)

Optional keyword that specifies the source to target masks to apply when defining new database elements for a target database. RENAME-MASKS are specified in oldname and newname pairs. RENAME-MASKS are processed in order and can be applied to DBD names, DD names, and data set names when defining elements for target databases if they do not exist on the target IMS system.

RENAME-MASKS are processed in order. The first occurrence of the source DBD, DD or data set name is the one that is used for the target DBD, DD, or data set name

Note: Whether changing a qualifier to a longer new name qualifier, or using the + feature to add qualifiers, be careful that new names do not exceed 44 characters. Additionally, ensure that rename masks cannot cause two or more old names to rename to the same new name. For more information, see [“Rename considerations” on page 201](#).

- Default: None
- Required: No
- Restrictions: Required if COPY-IF-NO-IMS-TARGET-DB(Y) is specified

Oldname syntax:

Use the old name filter mask to select the DBD, DD, or data sets to apply the IMSDBREFRESH new name mask against. The following table lists the allowable filter characters and a description for each character.

Table 35. Filter characters allowed for old name filter masks:	
Character	Description
*	A single asterisk represents exactly one DSN qualifier of any value. For example: *. or *. or *. * combined with valid DSN characters or % means 0 to nn characters of any value.
**	A double asterisk represents 0 to nn DSN qualifiers of any value. For example: **. or **. or **. ** cannot appear with any other characters within a qualifier. Three or more adjacent * are not allowed within a qualifier. ** can be used more than once in an 'old name' mask. Example: **.abcd.** or abc.**.defg.**
%	A percent sign represents one non-blank character.
!	An exclamation point represents one national character. @ # \$

Table 35. Filter characters allowed for old name filter masks: (continued)	
Character	Description
<	A less-than sign represents one non-numeric character, national symbols included.
>	A greater-than sign represents one numeric character.

For example, Filter = ****PAYROLL*.%%%23*.DATA** would match DSN = TLQ050.PAYROLL.CYCLE23.DATA

Newname syntax:

Use the new name mask to rename the data sets selected by the old name filter mask. The following table lists the allowable filter characters and a description for each character.

Table 36. Filter characters allowed for new name filter masks:	
Character	Description
*	A single asterisk represents exactly one DSN qualifier. * may not be used for a partial qualifier in a 'new name' mask. Example: aaa.*bb.** would not be valid.
**	A double asterisk represents 0 to nn DSN qualifiers. ** cannot appear with any other characters within a qualifier. Three or more adjacent * are not allowed within a qualifier. ** may only be used once in a 'new name' mask. Example: **.abcd.** would not be valid.
%	A percent sign represents one non-blank character.
!	An exclamation point represents one national character. @ # \$
+cccccc	A plus sign followed by 1 to 8 characters means 'insert this new qualifier'.
-	A minus sign means 'remove this qualifier from the new name'.

REPLACE-TARGET-DS(Y|N)

Optional keyword that indicates whether the target data sets should be overwritten if they exist. If the target data sets do exist, and REPLACE-TARGET-DS(N) is specified, then the copy fails. The default value is Y.

- Default: Y
- Required: No
- Restrictions: None

SIMULATE

Optional keyword that specifies that the actual IMSDBREFRESH command is formatted and the databases are validated, but no stopping of databases and no copying of data sets occurs.

- Default: None
- Required: No
- Restrictions: None

SRC-RECON-DATASETS(recon_dsn1,recon_dsn2,recon_dsn3)

Optional keyword that specifies up to three source RECON data set names to be used for dynamic allocation. Use the **TGT-RECON-DATASETS** keyword to specify the target RECON data sets names for dynamic allocation.

When these keywords are specified, RECONS specified in the JCL are ignored. If these keywords are not specified, then the RECON JCL allocations are converted to dynamic allocations.

- Default: None
- Required: No

- Restrictions: Up to 3 data set names can be specified.

STOP-COMMAND (DBR|DBD|QUIESCE)

Optional keyword that indicates the IMS command to be used to stop the source databases. When DBR is specified, the DBRECOVER command is used, and all access to the source databases are stopped. When DBD is specified, the DBDUMP command is issued and the full function source databases are put into read-only mode, and a DBRECOVER command is issued for DEDBs. When QUIESCE is specified, an UPDATE DB QUIESCE command is used and IMS only pauses access to the source databases during the copy.

- Default: DBR
- Required: No
- Restrictions: The IMSPLEX keyword must also be specified if QUIESCE is specified.

SWITCH-OLDS(Y|N)

Optional keyword that indicates if IMS Cloning Tool issues a /SWI OLDS command to the source IMS system after refreshing the target data sets and before doing log apply updating.

If SWITCH-OLDS(N) is specified, IMS Cloning Tool issues a /SWI OLDS command before reading the archive log data sets in order to read and apply log updates to the target databases. If SWITCH-OLDS(Y) is specified, IMS Cloning Tool issues a /SWI OLDS command to the source IMS system before reading the archive log data sets.

- Default: Yes
- Required: No
- Restrictions: Is only applicable if LOG-APPLY(Y) is specified.

TGT-RECON-DATASETS(*recon_dsn1*,*recon_dsn2*,*recon_dsn3*)

Optional keyword that specifies up to three target RECON data set names to be used for dynamic allocation. Use the **SRC-RECON-DATASETS** keyword to specify the source RECON data sets names for dynamic allocation.

When these keywords are specified, RECONs specified in the JCL are ignored. If these keywords are not specified, then the RECON JCL allocations are converted to dynamic allocations.

- Default: None
- Required: No
- Restrictions: Up to 3 data set names can be specified.

UNLOAD-ALLOC-PARMS (DB|OVERRIDE)

This optional keyword indicates how to determine the allocation values to use to allocate the temporary and permanent unload data sets in the data masking process. When DB is specified, the allocation values are based on the amount of currently used space on the source database. A primary and secondary allocation equal to one fourth of the current number of used tracks on the source database is used. When OVERRIDE is specified, the values from UNLOAD-ALLOC-UNIT, UNLOAD-ALLOC-PRIQTY, and UNLOAD-ALLOC-SECQTY are used to allocate the temporary and permanent unload files.

- Default: DB
- Required: No
- Restrictions: Is only applicable if DATA-MASKING(Y) is specified.

UNLOAD-ALLOC-PRIQTY (*nnnnn*)

This optional keyword indicates the primary allocation amount to use to allocate the temporary and permanent unload files that are used in the data masking process. Specify a numeric value 1 - 99999.

- Default: 00020
- Required: No
- Restrictions: Is only applicable if DATA-MASKING(Y) and UNLOAD-ALLOC-PARMS(OVERRIDE) are specified.

UNLOAD-ALLOC-SECQTY (nnnnn)

This optional keyword indicates the secondary allocation amount to use to allocate the temporary and permanent unload files that are used in the data masking process. Specify a numeric value 0 - 99999.

- Default: 00050
- Required: No
- Restrictions: Is only applicable if DATA-MASKING(Y) and UNLOAD-ALLOC-PARMS(OVERRIDE) are specified.

UNLOAD-ALLOC-UNIT (CYL|TRK|REC)

This optional keyword indicates the unit of allocation (cylinders, tracks, or records) to use to allocate the temporary and permanent unload files that are used in the data masking process. Specify CYL if the UNLOAD-ALLOC-PRIQTY and UNLOAD-ALLOC-SECQTY values are in cylinders, specify TRK if the values are in tracks, or specify REC if the values are in records.

- Default: CYL
- Required: No
- Restrictions: Is only applicable if DATA-MASKING(Y) and UNLOAD-ALLOC-PARMS(OVERRIDE) are specified.

VERIFY-NO-UPDATERS(N | Y [,RC(rr)])

This optional keyword specifies whether the IMSDBREFRESH command should verify that the source database does not have any updaters before refreshing the databases. If any of the databases are currently authorized by an IMS subsystem or batch job for update, IMSDBREFRESH terminates with a return code of rr. This check is only done when IMSDBREFRESH is doing a fuzzy copy of the source databases. The default action is to not check for updaters. The default return code is 8.

- Default: N,RC(8)
- Required: No
- Restrictions: This keyword is only applicable if FUZZY-COPY(Y) is specified.

WAIT(nnn | 5) [,RC(rr) | 8]

Optional keyword that specifies the number of minutes (nnn) the IMSDBREFRESH command should wait to get exclusive access to the database data sets – waiting for databases to be stopped. If the specified time limit expires before the databases are stopped, IMSDBREFRESH terminates with a return code of rr. The default wait time is 5 minutes. The default return code is 8.

- Default: 8
- Required: No
- Restrictions: None

IMSDBREFRESH DD definition**GCLIIUIN**

Optional DD that specifies the output data set where IMS Cloning Tool will put the control statements of IMS Index Builder for the target databases that have indexes to be rebuilt. Those control statements will be passed to the IMS Index Builder step for rebuilding target indexes before using the target databases. The specified data set should be LRECL=80, RECFM=FB and DSORG=PO. For each DBD, the control statements for each primary database are built into the specified PDS.

When LOG-APPLY(Y) keyword is specified, IMS Cloning Tool applies log updates to the primary target database after copying the source database. When the primary target database has either a non-recoverable secondary index, or ILDS or Primary Index for a HALDB, IMS log records are not generated from these indexes, so they may be out of sync after IMS Cloning Tool applied log updates to the associated primary target database.

If this DD is omitted, IMS Cloning Tool will not build the IIUIN control statements. GCL34539W message will be printed for the target database or non-recoverable secondary indexes to be rebuilt.

GCL34183W and GCL34179E messages will be printed and the indicated HALDB will not be copied when the REORG# in partition data set will be smaller than the REORG# in target RECON.

- Default: None
- Required: No

Example: The following example shows the control statements of IMS Index Builder that is built in IMSDBREFRESH command. For detailed description about the generated control statements, see "Required control statements" in the *IMS Index Builder User's Guide*.

```
PROC BLD_PRIMARY,dbdname
PROC BLD_ILDS,dbdname
INPUT IBSCAN,DBRC=Y
```

IMSDBREFRESH step JCL example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements.

The IMSDBREFRESH step JCL is shown in the following example. The numbers that precede the JCL correspond to notes that follow this sample JCL.

```
1  //??????? JOB , 'GCL DB COPY',CLASS=A,MSGCLASS=X
2  //S1      EXEC PGM=GCL00010,REGION=8M
3  //STEPLIB DD DSN=HLQ?.SGCLLOAD,DISP=SHR
4  //GCLINI  DD DSN=HLQ?.SGCLLOAD(GCLINI),DISP=SHR
5  //GCLPRINT DD SYSOUT=*
6  //SYSUDUMP DD SYSOUT=*
7  //ssidsACB DD DSN=imsa.ACBLIB,DISP=SHR
8  //ssidsMDA DD DSN=imsa.MDALIB,DISP=SHR
9  //ssidsREC1 DD DSN=imsa.RECON1,DISP=SHR
10 //ssidsREC2 DD DSN=imsa.RECON2,DISP=SHR
11 //ssidsREC3 DD DSN=imsa.RECON3,DISP=SHR
12 //ssidtACB DD DSN=imsb.ACBLIB,DISP=SHR
13 //ssidtMDA DD DSN=imsb.MDALIB,DISP=SHR
14 //ssidtREC1 DD DSN=imsb.RECON1,DISP=SHR
15 //ssidtREC2 DD DSN=imsb.RECON2,DISP=SHR
16 //ssidtREC3 DD DSN=imsb.RECON3,DISP=SHR
17 //IMS     DD DSN=imsb.DBDLIB,DISP=SHR
18 //JRNLDLBRF DD DISP=SHR,DSN=HLQ?.DBCLEAN.JRNL
19 //GCLIN   DD *
20
21 IMSDBREFRESH -
22 IMS-SSID(imsa,imsb) -
23 DBD(dbdname1,dbdname2) -
24 DATA-MOVER(PGM(ADRDSSU))
```

1. Execution of IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library must be authorized.
3. DD for GCLINI member of the HLQ?.SGCLPARM library. This member provides variables to the IMS Cloning Tool programs and contains the product security license codes.
4. DD for GCLPRINT output.
5. Required DD that specifies the source IMS ACBLIB data sets that contain the DMB control blocks for the databases to be cloned. The ddname is prefixed with the source IMS SSID followed by ACB.
6. Required DD that specifies the source IMS MDALIB data sets that contain the MDA members for the databases to be cloned. The ddname is prefixed with the source IMS SSID followed by MDA.
7. Required DD that specifies the source IMS RECON1 data set. The ddname is prefixed with the source IMS SSID followed by 'REC1'.
8. Required DD that specifies the source IMS RECON2 data set. The ddname is prefixed with the source IMS SSID followed by 'REC2'.
9. Required DD that specifies the source IMS RECON3 data set. The ddname is prefixed with the source IMS SSID followed by 'REC3'.

10. Required DD that specifies the target IMS ACBLIB data sets that contain the DMB control blocks for the databases to be cloned. The ddname is prefixed with the target IMS SSID followed by 'ACB'. This DD maybe omitted if the databases are being cloned within the same IMS subsystem.
11. Required DD that specifies the target IMS MDALIB data sets that contain the MDA members for the databases to be cloned. The ddname is prefixed with the target IMS SSID followed by 'MDA'. This DD maybe omitted if the databases are being cloned within the same IMS subsystem.
12. Required DD that specifies the target IMS RECON1 data set. The ddname is prefixed with the target IMS SSID followed by 'REC1'. This DD maybe omitted if the databases are being cloned within the same IMS subsystem.
13. Required DD that specifies the target IMS RECON2 data set. The ddname is prefixed with the target IMS SSID followed by 'REC2'. This DD maybe omitted if the databases are being cloned within the same IMS subsystem.
14. Required DD that specifies the target IMS RECON3 data set. The ddname is prefixed with the target IMS SSID followed by 'REC3'. This DD maybe omitted if the databases are being cloned within the same IMS subsystem.
15. Required DD that specifies the target IMS DBDLIB data set. This DD is required to invoke DBRC to update the information about the target IMS subsystem.
16. Optional DD that specifies a JRNLDLBRF or JOURNAL data set where IMS Cloning Tool records the target data sets that were successfully refreshed. This data set can then be used as input to the IMSDBCLEAN command in order to delete the target data sets after they are no longer needed.
17. IMS-SSID parameter specifying that specifies the source and target IMS subsystem names. If the databases are to be cloned within the same IMS subsystem, then only one IMS SSID must be specified.
18. DBD parameter that lists the DBDs to be cloned.
19. DATA-MOVER parameter that indicates DFSMSDss is invoked to do the data set replications.

IMSDBCLEAN

This command is not required. IMSDBCLEAN can be used to delete target data sets that were previously refreshed with the IMSDBREFRESH command. This can be done after the target data sets are no longer needed in order to free up disk space.

The JOBNAME keyword can be used to limit the target data sets that are deleted to only the data sets that were refreshed by a specific jobname.

The TGT-SSID keyword can be used to limit the target data sets that are deleted to only the data sets that belong to a specific target IMS SSID.

The BUILDJCL-ONLY keyword can be used to have the IDCAMS control statements to delete the target data sets created in data set specified in the IDCOUT DD.

After selecting and processing the target data sets from the JOURNAL file, information about the target data sets is deleted from the JOURNAL file unless SIMULATE is specified

IMSDBCLEAN command syntax

IMSDBCLEAN

Required keywords:

TGT-SSID(ssid)

Optional keywords:

JOBNAME(jobname)
BUILDJCL-ONLY(N|Y)
DATA-MASKING(N|Y)
SIMULATE

IMSDBCLEAN command & keyword definitions

IMSDBCLEAN

Optional command to delete target database data sets from previous IMSDBREFRESH executions.

- Required: No
- Restrictions: None

TGT-SSID(*ims ssid*)

Required keyword that indicates on which IMS subsystem the target databases are to be deleted. Any database data set recorded in the JOURNAL data set that were refreshed by prior IMSDBREFRESH commands is deleted. The JOBNAME keyword must be used to further limit the database data sets to be deleted.

- Default: None
- Required: Yes
- Restrictions: None

JOBNAME(*jobname*)

Optional keyword that is used to restrict the data sets to be deleted to only those database data sets that were refreshed by the jobname specified. If JOBNAME is not specified, then all data sets recorded in the JOURNAL data set for the target IMS ssid are deleted.

- Default: None
- Required: No
- Restrictions: None

BUILDJCL-ONLY(N | Y)

Optional keyword that is used to indicate whether to build the JCL to invoke IDCAMS to delete the target database data sets, or to delete the target database data set. If BUILDJCL-ONLY(N) is specified IMSDBCLEAN deletes the target database data sets. If BUILDJCL-ONLY(Y) is specified, IMSDBCLEAN does not delete the target database data sets.

- Default: N
- Required: No
- Restrictions: BUILDJCL-ONLY(Y) requires the IDCOUT DD to be specified in the JCL that invokes IMSDBCLEAN.

DATA-MASKING(N|Y)

Optional keyword that is used to indicate whether data set cleanup should be performed on databases that also have an active journal entry that is associated with an IMSDBREFRESH job that performed data masking.

The DATA-MASKING keyword on the IMSDBCLEAN command specifies whether IMSDBCLEAN deletes any data sets associated with a prior IMSDBREFRESH that performed data masking (when IMSDBREFRESH is run with DATA-MASKING(Y), data masking journal entries are created so that the job can be restarted if an error occurs).

If IMSDBCLEAN DATA-MASKING(N) is specified, and IMSDBCLEAN attempts to delete data sets that are associated with data masking, the deletion fails. If IMSDBCLEAN DATA-MASKING(Y) is specified, IMSDBCLEAN can delete data sets that are associated with data masking. The default is N.

- Default: No
- Required: No
- Restrictions: None

SIMULATE

Optional keyword that specifies that the actual IMSDBCLEAN command should not delete the target data sets but only validate that the JCL and keywords are correct and to list what data sets would be deleted if the command were run without SIMULATE specified.

- Default: None
- Required: No
- Restrictions: None

IMSDBCLEAN step JCL example

For completeness and to illustrate where JCL parameters and IMS Cloning Tool control statements must match, the following JCL includes sample IMS Cloning Tool control statements.

The IMSDBCLEAN step JCL is shown in the following example. The numbers that precede the JCL correspond to notes that follow this sample JCL.

```

1  //??????? JOB , 'GCL DB CLEAN', CLASS=A, MSGCLASS=X
2  //S1 EXEC PGM=GCL00010, REGION=8M
3  //STEPLIB DD DSN=HLQ?.SGCLLOAD, DISP=SHR
4  //GCLINI DD DSN=HLQ?.SGCLPARM(GCLINI), DISP=SHR
5  //GCLPRINT DD SYSOUT=*
6  //JOURNAL DD DSN=HLQ?.JOURNAL, DISP=SHR
7  //IDCOUT DD DSN=user.IDCOUT(IDCAMS), DISP=SHR
8  //GCLIN DD *
9      IMSDBCLEAN -
10         TGT-SSID(ssid) -
11         JOBNAME(jobname)
12 /*

```

1. Execution of IMS Cloning Tool main program.
2. The IMS Cloning Tool SGCLLOAD library must be authorized.
3. DD for GCLINI member of the HLQ?.SGCLPARM library. This member provides variables to the IMS Cloning Tool programs and contains the product security license codes.
4. DD for GCLPRINT output.
5. Required DD that specifies the JOURNAL file that contains the target data set names that were refreshed by a previous or multiple previous IMSDBREFRESH commands
6. Optional DD that specifies a file where the IMSDBCLEAN command builds JCL to run IDCAMS to delete the target data sets recorded in the JOURNAL file. The file that is specified must be LRECL=80, RECFM=F or FB.
7. GCLIN DD to specify the IMSDBCLEAN command and additional parameters.

Chapter 10. Reference: IMS Cloning Tool messages

Message naming conventions

The product message identifiers (message IDs) are unique and have the format *pppmmnnx*.

Where:

- *ppp* is the 3-alpha-character product code, GCL
- *mmm* is the module identifier
- *nn* is the message number
- *x* is the message type:
 - **E**: error
 - **I**: information only
 - **W**: warning

Example 1: GCL31070I would be the message ID for the message that is from the module GCL00310, has a message number of 70, and is an Informational message.

Example 2: GCLVSE12E is the message ID for the message that is from the module GCL01VSE, has a message number of 12, and is an Error message.

GCL002E	INSUFFICIENT REGION SIZE. AVAILABLE REGION SIZE OF AT LEAST 30000 IS REQUIRED
----------------	--

Explanation:

The current region size is insufficient.

User response:

Increase the region size to 30000 or greater.

GCL017I	THE DB2 CLONING TOOL IS NOT AVAILABLE
----------------	--

Explanation:

The requested Db2 Cloning Tool function is not available.

User response:

Verify that the GCLCKZ and GCLCKZCL CLISTs have been configured correctly to point to the proper Db2 Cloning Tool library and CLIST.

GCL018I	THE DB2 SUBSYSTEM CLONING TOOL IS NOT AVAILABLE
----------------	--

Explanation:

The requested Db2 Cloning Tool function is not available.

User response:

Verify that the GCLCKZ and GCLCKZCL CLISTs have been configured correctly to point to the proper Db2 Cloning Tool library and CLIST. See Ch. 2 – Customizing the ISPF CLIST.

GCL01000E	????????? SUPPORT MODULE MISSING ???????? DD STATEMENT MISSING
------------------	---

Explanation:

During program start, either required modules or DD statements were not discovered.

User response:

For missing modules, ensure the proper //STEPLIBs are available. For missing DDs, add the appropriate DD statement to the execution JCL.

GCL01001I	IMS CLONING TOOL (C) dd mmm yyyy hh.mm.ss
------------------	--

Explanation:

Welcome message.

User response:

None. This message is informational.

GCL01002E	UNRECOGNIZABLE COMMAND (N) ccccccccc
------------------	---

Explanation:

During command interpretation, command ccccccccc could not be identified. As this situation can be determined in several places, sequence "N" isolates the point the error was detected.

User response:

Check the spelling of the command.

GCL01003E	COMMAND HAS NO OPERANDS
------------------	--------------------------------

Explanation:

During command interpretation, the command preceding this message did not have any operands.

User response:

Most commands have operands. Ensure continuation indicators are present if the command was continued onto a second line.

GCL01005E FATAL ERRORS HAVE OCCURRED DURING //GCLINI PROCESSING.

Explanation:

During program start, one or more problems occurred during decoding of the //GCLINI member. As the //GCLINI provides vital information for IMS Cloning Tool, the program cannot continue execution.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of IMS Cloning Tool.

GCL01006E IMS CLONING TOOL MUST EXECUTE AS AN Z/OS APF AUTHORIZED PROGRAM

Explanation:

During program start, IMS Cloning Tool determined it was not z/OS APF authorized. Due to restraints set forth by z/OS, numerous functions will not work, thus the program cannot continue execution.

User response:

Ensure that the library from which IMS Cloning Tool is executing is z/OS APF authorized.

GCL01007E INI AND MODULE RELEASES DO NOT MATCH.

Explanation:

During program start, IMS Cloning Tool determined that the release in the INI does not match the internal release. Processing terminates.

User response:

Ensure that INIMERGE has been run.

GCL01009I GCL EXECUTION COMPLETE. HIGHEST RETURN CODE WAS n.

Explanation:

Program termination message. "n" is the highest return encountered during processing of the commands. See other messages to determine the cause of a non-zero return code.

User response:

None. This message is informational.

GCL01010E UNABLE TO DETERMINE MASTER CATALOG

Explanation:

During program start, a problem occurred attempting to determine the name of the master catalog. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of IMS Cloning Tool.

GCL01011E SWAREQ FAILED; R15=nnnnnnnn BLOCK REQUESTED=block

Explanation:

An SWAREQ has failed for the indicated block. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL01020I PROGRAM: name info

Explanation:

Displays the maintenance level of a loaded IMS Cloning Tool program.

User response:

None. This message is informational.

GCL01030E xxx ENVIRONMENT SETUP FAILED

Explanation:

The xxx environment has failed to initialize.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL01089E AUTHORIZATION DID NOT INITIALIZE CORRECTLY

Explanation:

During program start, an error was detected in the AUTHCODE.

User response:

Compare the //GCLINI member's ":Product_security" section entries with those sent by IBM. If the contents agree, letter for letter, contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of IMS Cloning Tool.

GCL01099E ABEND DURING GCL PROCESSING

Explanation:

During execution of a command within IMS Cloning Tool, an abend took place that the command did not rectify.

User response:

Ensure that all parameters on the command are coded correctly, that external data sets used in the command are valid and try again. If the problem persists, contact IBM Software Support with the listing that contains this message. Ensure all software run information is

available: this includes the original JCL and control statements used to invoke IMS Cloning Tool, and all the spooled output from its execution.

GCL02001I **hh:mm:ss COPY PROCESS
STARTED - PROGRAM REV=rrr
| hh:mm:ss COPY PROCESS
COMPLETED; RETURN CODE=nnn**

Explanation:

COPY command processing message. For the 'completed' message, if the return code is non-zero, check other messages for errors and/or warnings.

User response:

None. This message is informational.

GCL02003I **DDNAME=ddname ALLOCATED
FOR DSN=datasetname**

Explanation:

'ddname' has been dynamically allocated for the specified data set.

User response:

None. This message is informational.

GCL02004E **DDNAME MISSING: ddname**

Explanation:

'ddname' was specified for IMS Cloning Tool to use. Processing terminates.

User response:

Either correct the ddname specified, or, add the appropriate ddname to the job's JCL.

GCL02005E **ALLOCATION FAILED FOR DSN:
datasetname**

Explanation:

Dynamic allocation for a data set failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

GCL02005W **DEALLOCATION FAILED FOR
DDNAME: ddname**

Explanation:

Dynamic deallocation for a ddname failed. The associated z/OS messages are displayed. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

GCL02006E **ERROR CALLING GCL01VV1 tttttt
FUNCTION: function R15=nnnn
R0=nnnnnnnn LOC=llll**

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table, and *lllll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of IMS Cloning Tool.

GCL02007W **ERROR CALLING GCL01HEX;
FUNCTION: function R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL02008E **UNABLE TO LOAD PROGRAM:
program name**

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL02009E **ERROR ACCESSING JOURNAL
FILE; LOC=lllll**

Explanation:

VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL02010E **DUPLICATE JOURNAL ENTRY;
LOC=lllll**

Explanation:

A duplicate record was detected. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL02011E **JOURNAL CONTROL RECORD NOT
FOUND**

Explanation:

An expected record was not found in the IMS Cloning Tool journal file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL02017E THE DDNAME IS EMPTY OR HAS BEEN DUMMIED, DDNAME: *ddn*

Explanation:

No records were read from the ddname specified for a keyword. Processing terminates.

User response:

Check that the DD has not been specified as 'DD DUMMY' or 'DD DSN=NULLFILE'. Check that the DSN specified in the ddname has been created successfully.

GCL02019E The keyword DOES NOT HAVE A LRECL OF 80, DDNAME: *ddn*

Explanation:

The data set allocated to the ddname for the keyword does not have a LRECL of 80. The LRECL of this dataset must be 80.

User response:

Change the data set allocated to the ddname to have a LRECL of 80.

GCL02020I TARGET VOLUMES WILL BE CLIPPED WHEN THE VOLOPTIONS OFFLINECLIP COMMAND IS EXECUTED

Explanation:

The target volumes will not be clipped by the COPY command due to the use of the VOLPAIRSDEVN-NOCLIP or VOLPAIRSDEVN-NOCLIP-DDN keywords. The target volumes will be clipped when the VOLOPTIONS OFFLINECLIP command is executed.

User response:

None. This message is informational.

GCL02021I SOURCE USER CATALOGS WILL BE BACKED UP WHEN THE UCATOPTIONS BACKUP COMMAND IS EXECUTED

Explanation:

The source user catalogs will not be backed by the COPY command due to the use of the USERCATALOGS-NOBACKUP keyword. The source user catalogs will be backed up when the UCATOPTIONS BACKUP command is executed.

User response:

None. This message is informational.

GCL02022I VOLSER: *volser* LOGICAL NUMBER OF CYLINDERS: *nnnnnnnn* IS LESS THAN PHYSICAL NUMBER OF CYLINDERS: *nnnnnnnn*

Explanation:

The identified volume has a logical size, from the Format 4 DSCB, that is less than the physical size, from

the DCE. The logical size will be used for pairing this volume. This may lead to a condition where there are not enough target volumes available of the correct size to pair with all the source volumes.

User response:

None is required. ICKDSF can be used to make the logical size equal to the physical size.

GCL02030I THE LEVEL OF DSS RETURNED BY ADRMCLVL.

Explanation:

The source user catalogs will not be backed by the COPY command due to the use of the USERCATALOGS-NOBACKUP keyword. The source user catalogs will be backed up when the UCATOPTIONS BACKUP command is executed.

User response:

None. This message is informational.

GCL02040E INVALID VALUE FOUND FOR item IN keyword RECORD: *value*

Explanation:

An invalid value has been found for an item in a record in the data set allocated to the ddname for the keyword. The record is printed. Processing terminates.

User response:

Correct the value for the item in the record to have a valid value.

GCL02041E GCL00900 UNEXPECTED RESULTS; *error text*

Explanation:

An unexpected condition occurred calling program GCL00900. 'error text' has a description of the problem. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL02043I ANTRQST LEVEL=*nn*; ESSRVCS LEVEL=*nnn*

Explanation:

The level returned by ANTRQST REQUEST=LEVEL.

User response:

None. This message is informational.

GCL02044W ANTRQST LEVEL NOT SUPPORTED; LEVEL=*nn*

Explanation:

For FlashCopy support, the level must be greater than four (4). For Snapshot support, the level must be greater than one (1). The level returned by ANTRQST is not supported. Processing terminates.

User response:

None.

GCL02045E	ANTMAIN NOT ACTIVE
Explanation: An ANTRQST request failed because the system task, ANTMAIN, is not active. Processing terminates.	
User response: Start the system task, ANTMAIN.	
GCL02047E	ANTRQST ERROR; request type RETURN CODE=nnnn X'hhhh' REASON CODE=nnnn X'hhhh' LOC=lllll VOLSER=volser
Explanation: An ANTRQST request failed. 'request type' indicates if the macro was incorrect, or, if the Data Mover failed the request. The return code and reason code are displayed in decimal and hexadecimal format. 'lllll' is an internal indicator of where the problem occurred. Processing terminates.	
User response: Contact IBM Software Support with the listing that contains this message.	
GCL02048I	OPTIONS IN EFFECT FOR THIS EXECUTION: merged options
Explanation: Informational message indicating how COPY will handle the options. The displayed options are derived from the INI and any overriding specifications in the command input.	
User response: None. This message is informational.	
GCL02050E	ERROR IN PARAMETERS FOR keyword
Explanation: The parameters for the indicated keyword were incorrect. Processing terminates.	
User response: Check the keyword parameters. Mutually exclusive keywords may have been used.	
GCL02051E	REQUIRED KEYWORD MISSING: keyword
Explanation: A keyword required for processing has been omitted. Processing terminates.	
User response: Specify the required keyword.	
GCL02052E	REQUIRED INI SECTION/TOKEN MISSING: SECTION=section TOKEN=token REQUIRED INI VALUE MISSING FOR SECTION=section TOKEN=token

**| INVALID INI VALUE FOR
SECTION=section TOKEN=token**

Explanation:
An error occurred validating the GCLINI parmlib options. Processing terminates.

User response:
Correct the GCLINI member in the IMS Cloning Tool PARMLIB data set.

GCL02053E **KEYWORD: keyword MAXIMUM
LENGTH: nnn EXCEEDED | TOKEN:
token MAXIMUM LENGTH: nnn
EXCEEDED**

Explanation:
The operand entered for a keyword or INI token exceeded the maximum length allowed. nnn is the maximum allowed length. Processing terminates.

User response:
Correct the length of the keyword's operand or the token's value.

GCL02054E **KEYWORD HAS MORE THAN 1
OPERAND; ONLY 1 ALLOWED:
keyword**

Explanation:
Multiple operands were detected for a keyword; only one operand is permitted. Processing terminates.

User response:
Correct the keyword to use one operand.

GCL02055E **STORAGE GROUPS NOT
SUPPORTED WITH DATA-MOVER
PROGRAM NONE**

Explanation:
The DATA-MOVER program was specified as 'NONE'. Storage group names/masks were specified for the source and/or target volume serials. Processing terminates.

User response:
Correct the DATA-MOVER program specified, or, use keywords FROM-VOLSER/TO-VOLSER for the volume serials.

GCL02056E **NOTHING SPECIFIED FOR
KEYWORD: keyword**

Explanation:
A keyword was entered without an appropriate operand. Processing terminates.

User response:
Specify an appropriate operand for the keyword.

GCL02057E **DUPLICATE FOUND; KEYWORD:
keyword ENTRY: entry**

Explanation:

The indicated 'entry' for the keyword was previously specified. Processing terminates.

User response:

Remove the duplicate entry.

GCL02058E INVALID VALUE IN KEYWORD:
keyword VALUE: value error text

Explanation:

The value in the keyword is invalid. 'error text' indicates the problem detected with the value. Processing terminates.

User response:

Correct the value specified in the keyword.

GCL02059E ALLOCATION FOR USERCATALOG
FAILED; DSN=*bcs dname*

Explanation:

The BCS dname was not successfully allocated for further checking.

User response:

Check that the user catalogs have been specified correctly.

GCL02060E UCBSCAN ERROR; RETURN
CODE=*nn* REASON CODE=*nn*
| UCBINFO ERROR; RETURN
CODE=*nn* REASON CODE=*nn*

Explanation:

An error occurred using UCBSCAN or UCBINFO. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL02061E GCL01SMF ERROR; RETURN
CODE=*nnnn* LOC: *llllll* entry

Explanation:

An error occurred using GCL01SMF to obtain SSI information for the 'entry'. llllll is the internal location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL02062E NO STORAGE GROUPS RETURNED
BY SSI | NO VOLUME SERIALS
RETURNED BY SSI

Explanation

Storage groups: The COPY command was requested to determine volume serial numbers by storage group names. SSI did not return any storage groups to GCL01SMF. Processing terminates.

Volume serials: The COPY command was requested to check the SMS status of volume serials. SSI did not

return any volume serials to GCL01SMF. Processing terminates.

User response

Storage groups: Check that storage groups are defined on the system. If unable to determine the cause of this message, contact IBM Software Support with the listing that contains this message.

Volume serials: Check that storage groups are defined on the system. If unable to determine the cause of this message, contact IBM Software Support with the listing that contains this message.

GCL02063W NO VOL/STG MATCH FOUND;
KEYWORD: keyword ENTRY: entry
(If the keyword involved source
volumes, one of the following will
be issued.) | EXPLICIT SOURCE
STORAGE GROUP NOT FOUND |
EXPLICIT VOLSER NOT FOUND
ONLINE | MASK FOR SOURCE NOT
RESOLVED

Explanation:

The indicated 'entry' for the keyword was not matched. For VOL, the indicated volser, or, the volser derived from a storage group, was not found. For STG, the indicated storage group was not found. Processing continues if only a warning ('W') message was issued.

User response:

None required for a warning. For an error with a source keyword, correct the keyword specification, or ensure that all source volumes are online.

GCL02064E INVALID VOLSER: volser IN
KEYWORD: keyword

Explanation:

The volume serial number specified is invalid. Processing terminates.

User response:

Correct the volser specification.

GCL02065E STORAGE GROUP REFERENCED
AS BOTH SOURCE AND TARGET:
storage group name

Explanation:

The storage group was used in both the FROM-STORAGEGROUP and TO-STORAGEGROUP keywords. Processing terminates.

User response:

Correct the storage group specification.

GCL02066E VOLSER REFERENCED AS BOTH
SOURCE AND TARGET: volser

Explanation:

The volume serial was used in both the FROM-VOLSER and TO-VOLSER keywords. Processing terminates.

User response:

Correct the volume serial specification.

**GCL02067W NO VOLUME SERIALS FOR
STORAGE GROUP: *storage group***

Explanation:

SSI did not return any volsers for the storage group to GCL01SMF. Processing continues.

User response:

None.

**GCL02068E UNMATCHED ENTRIES IN
KEYWORD: *keyword***

Explanation:

For USERCATALOGS, there must be a source BCS followed by a target BCS. An uneven number of BCS's was specified. For VOLPAIRS, there must be a source volume serial, target volume serial. An uneven number of entries was specified. For VOLPAIRSDEVN, there must be a source volume serial, target volume serial, target device number. Unmatched entries were found. Processing terminates.

User response:

Correct the keyword specification.

**GCL02069E UNRESOLVED SYMBOL IN
KEYWORD: *keyword R15=nnnn*
ERR=*error text***

Explanation:

A symbol was used in the keyword. GCL01KSS was unable to resolve the symbol. Processing terminates.

User response:

Define the symbol or remove the symbol.

**GCL02070E SECURITY PRODUCT DENIED
ACCESS TO DSN: *datasetname***

Explanation:

The dsn indicated is not authorized for alter by your security product. If the RACF profile that is associate

User response:

Change the dsn to one you can use, or, have your security administrator give you 'ALTER' authority to the data set.

**GCL02071E RACROUTE ERROR; SAF RC=*nnnn*
RACF RC=*nnnn* RACF REASON
CODE=*nnnn***

Explanation:

An unexpected return code from SAF or RACF occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL02072E MORE SOURCE VOLSERS THAN
TARGET VOLSERS**

Explanation:

More volsers were found in the FROM-VOLSER or FROM-STORAGEGROUP keywords than were found in the TO-VOLSER or TO-STORAGEGROUP keywords. Processing terminates.

User response:

Correct the FROM- or TO- specifications. There must be at least as many target volumes as source volumes.

**GCL02073E DATA-MOVER PGM
NOT RECOGNIZED;
PROGRAM=*program***

Explanation:

A program was specified in the DATA-MOVER(PGM(..)) keyword. The program is not recognized. Processing terminates.

User response:

Correct the program specification.

**GCL02074E USERCATALOG USED AS BOTH
SOURCE AND TARGET: BCS
*dsname***

Explanation:

The BCS dsname was designated as a source in one pair and as a target in another pair. Processing terminates.

User response:

Correct the USERCATALOGS specification.

**GCL02075E NO VOLUME SERIALS SELECTED
FOR *source/target***

Explanation:

No volume serials have been found for IMS Cloning Tool to use as source volser, or, no volume serials have been found for IMS Cloning Tool to use as target volser. Processing terminates.

User response:

For 'SOURCE', check if volsers specified in the FROM-keyword have been removed by use of the EXCLUDE-FROM- keyword. For 'TARGET', check if volsers specified in the TO- keyword have been removed by use of the EXCLUDE-TO- keyword.

**GCL02076E DEVICE TYPE AND MODEL NOT
FOUND FOR *volser***

Explanation:

IOSCDs for the volser did not return information needed to pair source with target volsers.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL02077E EXCLUDE NOT ACCEPTED WITH
DATA-MOVER PROGRAM NONE**

Explanation:

EXCLUDE-FROM-VOLSER and EXCLUDE-TO-VOLSER are not accepted with DATA-MOVER program 'NONE'. Processing terminates.

User response:

Remove the EXCLUDE keyword.

**GCL02078E VOLPAIRS ONLY ACCEPTED WITH
DATA-MOVER PROGRAM NONE. |
VOLPAIRSDEVN ONLY ACCEPTED
WITH DATA-MOVER PROGRAM
NONE or PPRC.**

Explanation:

Keyword VOLPAIRS was used, but, the DATA-MOVER program is not 'NONE'. Keyword VOLPAIRSDEVN was used, but, the DATA-MOVER program was neither 'NONE' nor 'PPRC'. Processing terminates.

User response:

Correct the keyword specifications.

**GCL02079E TARGET DEVICE NUMBER *nnnn*
IS CURRENTLY ONLINE; VOLSER:
*volser***

Explanation:

Keyword VOLPAIRSDEVN was used, but, a specified target device number is online. Processing terminates.

User response:

Check the VOLPAIRSDEVN specification. The target volume serials should be offline to the executing system and have the paired source volume serial in the label.

**GCL02080E TARGET DEVICE NUMBER *nnnn*
PREVIOUSLY SELECTED FOR
VOLSER: *previous volser* CURRENT
VOLSER: *current volser***

Explanation:

DESCRIPTION: The same device number was used for more than one target volume serial. Processing terminates.

User response:

Check the VOLPAIRSDEVN specification. The target volume serials should be offline to the executing system and have the paired source volume serial in the label.

**GCL02081E VOLUME *volser* DEVICE NUMBER
nnnn HAS NO chpid PATHS
AVAILABLE**

Explanation:

The indicated device has no paths available for IMS Cloning Tool to use to access the volume. Processing terminates.

User response:

Ensure that at least one chpid is online for each target device specified.

**GCL02082E TARGET DEVICE NUMBER: *nnnn* IS
NOT AN ECKD DEVICE**

Explanation:

The indicated device does not appear to support ECKD commands. Processing terminates.

User response:

Ensure that only supported devices are specified.

**GCL02083E FASTREP PARAMETER NOT
RECOGNIZED; PARM=*parameter***

Explanation:

The parameter specified in the DATA-MOVER(FASTREP(...)) keyword is not recognized. Processing terminates.

User response:

Correct the parameter specification.

**GCL02084E OFFLINE SOURCES NOT
ACCEPTED WITH DATA-MOVER
PROGRAM ADRDSSU**

Explanation:

SOURCEOFFLINE(Y) was specified with DATA-MOVER(PGM(ADRDSSU)) specified (or defaulted). The source volumes must be online for ADRDSSU. Processing terminates.

User response:

Either remove the SOURCESONLINE keyword, or, specify DATA-MOVER(PGM(NONE)).

**GCL02085I DSNS FOR KEYWORD: *keyword list*
*of dsns***

Explanation:

Parsing found the listed dsns for the keyword.

User response:

None. This message is informational.

**GCL02086I STORAGE GROUPS/MASKS FOR
KEYWORD: *keyword***

Explanation:

Parsing found the listed storage groups/masks for the keyword.

User response:

None. This message is informational.

**GCL02087I *nnnnn* VOLUMES OR MASKS
FOR KEYWORD: *keyword* |
nnnnn VOLUMES DERIVED
FOR KEYWORD: *keyword* |
nnnnn VOLUMES RESOLVED FOR
KEYWORD: *keyword* | *nnnnn*
VOLUME PAIRS FOR KEYWORD:
keyword nnnnn | VOLUMES/**

**DEVICES FOR KEYWORD: *keyword*
list of volsers**

Explanation:

Parsing found the listed volsers/masks for a keyword, or derived the listed volsers from a storage group keyword. nnnnn is the number of volume serials. The third format, RESOLVED, indicates the number of volume serials found online for the associated keyword.

User response:

None. This message is informational.

**GCL02088I VOLUME SERIALS TO BE USED
FOR SOURCE | VOLUME SERIALS
TO BE USED FOR TARGET *list of*
volsers**

Explanation:

The listed volsers will be used during IMS Cloning Tool COPY processing.

User response:

None. This message is informational.

**GCL02089I TARGET VOLUMES WILL NOT BE
CHECKED FOR EMPTY**

Explanation:

Informational message.

User response:

None. This message is informational.

**GCL02090I TARGET VOLUMES WILL BE
CHECKED FOR EMPTY**

Explanation:

Informational message.

User response:

None. This message is informational.

GCL02091I VALIDATING KEYWORD: *keyword*

Explanation:

Parsing is checking the indicated keyword indicated in the command.

User response:

None. This message is informational.

**GCL02101I hh:mm:ss VOLUME COPY STARTED
- PROGRAM REV=*rrr* (**
SIMULATION **) | hh:mm:ss
VOLUME COPY COMPLETED;
RETURN CODE=*nnn***

Explanation:

VOLUME PAIRING processing message.

User response:

None. This message is informational.

**GCL02111E JOURNAL VOLUME PAIR
RECORD(S) NOT FOUND |**

**JOURNAL UCAT PAIR RECORD(S)
NOT FOUND**

Explanation:

An expected record was not found in the IMS Cloning Tool journal file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL02104E OPEN FAILED FOR
DDNAME=*ddname***

Explanation:

'ddname' was allocated for IMS Cloning Tool to use, but the open for the file failed. Processing terminates.

User response:

If unable to determine the reason the open failed, contact IBM Software Support with the listing that contains this message.

**GCL02107W ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=*nnnn***

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL02108E UNABLE TO LOAD PROGRAM:
*program name***

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL02109E ERROR ACCESSING JOURNAL
FILE; LOC=*lllll***

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL02110E DUPLICATE JOURNAL ENTRY;
LOC=*lllll***

Explanation:

A duplicate record was detected. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains these messages.

**GCL02112E JOURNAL UCAT PAIR RECORD IS
WRONG VERSION**

Explanation:

The journal record does not match the expected format. The record is printed. Processing terminates.

User response:

Verify that different releases of IMS Cloning Tool have not been run using the same journal data set. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL02130I ADRDSSU TASK COMPLETED;
RETURN CODE=*nn* SYSOUT
DD=*ddname***

Explanation:

An ADRDSSU task has ended.

User response:

None if the RETURN CODE is zero. If the RETURN CODE is not zero, check the indicated sysout file for warning or error messages for the volume copy task.

**GCL02131I PRE-COPIED VOLUME PAIRS
ACCEPTED: SOURCE TARGET**

Explanation:

The DATA-MOVER program was NONE. The source and target volume serials have been paired as entered.

User response:

None. This message is informational.

**GCL02140E UNEXPECTED CONDITION; *error*
*text***

Explanation:

An unexpected condition occurred while dispatching a copy task or while waiting for the completion of a copy task. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL02141E INTERNAL ERROR; DATA MOVER
SETTING *xx* INVALID**

Explanation:

The setting for the data mover to be used was not recognized. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL02142E MORE SOURCE VOLSERs THAN
TARGET VOLSERs**

Explanation:

Volume pairing detected more source volumes than target volumes. Processing terminates.

User response:

This may have been caused by the use of TARGET-VOLS-SHOULD-BE-EMPTY eliminating target volumes. If unable to determine the cause, contact IBM Software Support with the listing that contains this message.

GCL02144E ANTRQST LEVEL NOT SUPPORTED

Explanation:

For FlashCopy support, the level must be greater than four (4). For SnapShot support, the level must be greater than one (1). The level returned by ANTRQST is not supported. Processing terminates.

User response:

Check with your system programmer for upgrading the system.

GCL02145E ANTMMAIN NOT ACTIVE

Explanation:

An ANTRQST request failed because the system task, ANTMMAIN, is not active. Processing terminates.

User response:

Start the system task, ANTMMAIN.

**GCL02146E ANTRQST DID NOT RETURN
ANY INFORMATION; RESTART
ANTMAIN SYSTEM TASK**

Explanation:

The ANTRQST REQUEST=FCQUERY did not receive information for a device. Processing terminates.

User response:

Restart the ANTMMAIN system task.

**GCL02147E ANTRQST ERROR; *request type*
RETURN CODE=*nnnn* X'*hhhh*'
REASON CODE=*nnnn* X'*hhhh*'
LOC=*lllll* VOLSER=*volser***

Explanation:

An ANTRQST request failed. '*request type*' indicates if the macro was incorrect, or, if the Data Mover failed the request. The return code and reason code are displayed in decimal and hexadecimal format. '*lllll*' is an internal indicator of where the problem occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL02148E SOURCE VOLUME NOT ELIGIBLE
FOR PROCESSING; VOLSER=*volser*
| TARGET VOLUME NOT ELIGIBLE
FOR PROCESSING; VOLSER=*volser*
WILL BE SKIPPED. '*reason text*'**

Explanation:

A request for SDVCINFO or SQRVDVCS indicated the indicated volume serial is not eligible for FlashCopy or SnapShot. 'reason text' indicates the system response. For a source volume, processing terminates. For a target volume, the target volume is eliminated for pairing; processing continues.

User response:

If this message was for a source volume, eliminate source volumes which are not eligible for FlashCopy or SnapShot. If this message was for a target volume, no action is required.

**GCL02149E SOURCE VOLSER: *volser* ACTIVE
IN COPY RELATIONSHIP | TARGET
VOLSER: *volser* ACTIVE IN COPY
RELATIONSHIP**

Explanation

An FCQUERY request indicated the volser is currently in a copy relationship. The FCQUERY response is printed. For a source volser, processing terminates. For a target volser, processing continues, but, that target volser will not be used by IMS Cloning Tool.

The format of the FCQUERY response for FlashCopy V1 is: *devn,ssid,lss,cca,cu,serial,status*

Where:

- devn is the device number.
- ssid is the subsystem ID for the device.
- lss is logical subsystem number.
- cca is the subsystem device address.
- cu is the subsystem type number.
- serial is the subsystem serial number.
- status is the current status of the device:
 - XRC: Device is in XRC pair.
 - PPRC: Device is in PPRC pair.
 - CCL: Device is in CC session.
 - FC: Device is in FlashCopy (no background copy).
 - FC..xxx%: Device is in FlashCopy (background copy).
 - SIMPLEX: Device is not in any copy status.

The format of the FCQUERY response for FlashCopy V2 is: *devn,ssid,lss,cca,cu,serial,act,max,xc,pc,cc*

- devn is the device number.
- ssid is the subsystem ID for the device.
- lss is logical subsystem number.
- cca is the subsystem device address.
- cu is the subsystem type number.
- serial is the subsystem serial number.

- act is the current number of FlashCopy relationships that the device has. This value is indicated in decimal format.
- max is the maximum number of FlashCopy relationships that the device may have. This value is indicated in decimal format.
- xc is either S indicating that the device is an XRC source volume, or is N indicating that the device is not an XRC source volume.
- pc is either P indicating that the device is a PPRC primary volume, is S indicating that the device is an PPRC secondary volume, or is N for neither.
- cc is either S indicating that the device is a concurrent copy source volume, or is N indicating that the device is not a concurrent copy source volume.

User response:

Exclude that source volume from processing, or, ensure that all copy relationships have terminated before initiating the COPY.

**GCL02150E NO INFORMATION RETURNED FOR
SOURCE VOLSER=*volser***

Explanation:

SDVCINFO did not return information for the indicated source volume. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL02151E NO TARGETS RETURNED FOR
SOURCE VOLSER=*volser***

Explanation:

SQRVDVCS did not return any target volsers for the indicated source volume. Processing terminates.

User response:

Ensure that for every source volume, there is a target volume that meets the criteria required for FlashCopy or SnapShot. If unable to determine the reason for this message, contact IBM Software Support with the listing that contains this message.

**GCL02152E NO TARGET VOLSER FOUND
FOR SOURCE VOLSER=*volser*
source volser information returned
volser(s) information**

Explanation:

Based on the source volume's device type, FlashCopy or SnapShot capability, LSS, and number of tracks, no suitable target volume was found for a COPY FULL.

User response:

Ensure that for every source volume, there is a target volume that meets the criteria required. If volser masks were used, you may need to explicitly code

volume serial pairs in the FROM/TO parameters to ensure particular volumes are paired. If unable to determine the reason for this message, contact IBM Software Support with the listing that contains this message.

**GCL02154I TARGET VOLUME ELIMINATED,
VOLSER=volser | DATA SET
OTHER THAN SYS1.VTOCIX OR
SYS1.VVDS FOUND: datasetname**

Explanation:

An unexpected data set was found on a target volume in response to TARGET-VOLS-SHOULD-BE-EMPTY. Processing continues.

User response:

None required, unless this causes fewer target volumes than source volumes for the pairing process.

**GCL02155I SMS SOURCE VOLSER=volser HAS
BEEN PAIRED TO NON SMS
TARGET VOLSER=volser | NON
SMS SOURCE VOLSER=volser HAS
BEEN PAIRED TO SMS TARGET
VOLSER=volser**

Explanation:

A source volume has been paired to a target volume that does not have the same SMS attribute. There may be problems when accessing or deleting data sets on the target volume.

User response:

None. This message is informational.

**GCL02156E SOURCE VOLSER: volser NOT
FLASHCOPY CAPABLE | TARGET
VOLSER: volser \NOT FLASHCOPY
CAPABLE**

Explanation:

An FCQUERY request indicated the volser is not FlashCopy capable. Information returned by FCQUERY is printed. For a source volser, processing terminates. For a target volser, processing continues, but, that target volser will not be used.

User response:

Exclude that source volume from processing, or, determine why the volume is not FlashCopy capable and correct if possible.

**GCL02157E type VOLSER: volser IS EXTENDED
ADDRESS VOLUME**

Explanation:

The indicated volser is an Extended Address Volume (EAV). Extended Address Volumes are not currently supported by IMS Cloning Tool. Processing terminates.

User response:

Exclude the volume from processing.

**GCL02160E THE VOLSER SPECIFIED FOR A
SOURCE USERCATALOG IS NOT A
SOURCE VOLSER VOLSER=volser
BCS=catalogname**

Explanation:

The volser specified for a source catalog in the USERCATALOGS keyword is not a source volser. Processing terminates.

User response:

Correct the volser specified for the source catalog in the USERCATALOGS keyword to be source volser.

**GCL02161I SOURCE USERCATALOG WILL BE
READ FROM TARGET VOLUME;
VOLSER=volser BCS=catalogname**

Explanation:

The source catalog will be read from the shown target volume.

User response:

None. This message is informational.

**GCL02201I hh:mm:ss BCS BACKUP STARTED
- PROGRAM REV=rrr | hh:mm:ss
BCS BACKUP COMPLETED;
RETURN CODE=nnn**

Explanation:

BCS backup processing message.

User response:

None. This message is informational.

**GCL02205E ALLOCATION FAILED FOR DSN:
datasetname | DEALLOCATION
FAILED FOR DSN: datasetname**

Explanation:

Dynamic allocation for a data set failed, or, dynamic deallocation for a ddname failed. The associated z/OS messages are displayed. Processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL02206E ERROR CALLING GCL01VV1 tttttt
FUNCTION: function R15=nnnn
R0=nnnnnnnn LOC=lllll**

Explanation:

A problem occurred using a dataspace. tttttt is the name of the internal table. lllll is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of IMS Cloning Tool.

**GCL02207W ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=*nnnn***

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL02209E ERROR ACCESSING JOURNAL
FILE; LOC=*lllll***

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL02211E JOURNAL CONTROL RECORD NOT
FOUND | JOURNAL USER CATALOG
RECORD(S) NOT FOUND**

Explanation:

An expected record was not found in the IMS Cloning Tool journal file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL02212E JOURNAL CONTROL RECORD IS
WRONG VERSION | JOURNAL
UCAT PAIR RECORD IS WRONG
VERSION**

Explanation:

The journal record does not match the expected format. The record is printed. Processing terminates.

User response:

Verify that different releases of IMS Cloning Tool have not been run using the same journal data set. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL02213E COUNT MISMATCH; RECORDS
READ=*rrrr* PARM COUNT=*pppp***

Explanation:

The number of User Catalog records read from the IMS Cloning Tool journal, *rrrr*, is not the same as the number indicated in the IMS Cloning Tool journal control record, *pppp*. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL02230I BCS BACKUP TASK COMPLETED;
RETURN CODE=*nn* SYSOUT
DD=*ddname***

Explanation:

A BCS backup task has ended.

User response:

None if the RETURN CODE is zero. If the RETURN CODE is not zero, check the indicated sysout file for warning or error messages for the BCS backup task.

**GCL02241I BCS=*bcs dsname* WILL BE
BACKED UP TO DSN=*backup
dsname***

Explanation:

The indicated BCS will be backed up to the indicated backup dataset name. The backup data set name was derived from the CATWORK-DSN parameter.

User response:

None.

**GCL02241I BCS=*bcs dsname* WILL BE
BACKED UP TO DSN=*backup
dsname***

Explanation:

The indicated BCS will be backed up to the indicated backup data set. The backup data set name was derived from the CATWORK-DSN parameter.

User response:

None. This message is informational.

**GCL02242E ERROR PARSING CATWORK-DSN:
*catwork dsn***

Explanation:

An internal error occurred handling the CATWORK-DSN.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL02301I hh:mm:ss EMC VOLUME COPY
STARTED - PROGRAM REV=*rrr*
(** SIMULATION **) | hh:mm:ss
EMC VOLUME COPY COMPLETED;
RETURN CODE=*nnn***

Explanation:

EMC VOLUME PAIRING processing message.

User response:

No action is required.

**GCL02304E OPEN FAILED FOR
DDNAME=*ddname***

Explanation:

'ddname' was allocated for IMS Cloning Tool to use, but the open for the file failed. Processing terminates.

User response:

If unable to determine the reason the open failed, contact IBM Software Support with the listing that contains this message.

**GCL02307W ERROR CALLING GCL01HEX;
FUNCTION: function R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL02308E UNABLE TO LOAD PROGRAM:
program name**

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL02309E ERROR ACCESSING JOURNAL
FILE; LOC=lllll**

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL02310E DUPLICATE JOURNAL ENTRY;
LOC=lllll**

Explanation:

A duplicate record was detected. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains these messages.

**GCL02311E JOURNAL VOLUME PAIR
RECORD(S) NOT FOUND |
JOURNAL UCAT PAIR RECORD(S)
NOT FOUND**

Explanation:

An expected record was not found in the IMS Cloning Tool journal file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains these messages.

**GCL02312E JOURNAL UCAT PAIR RECORD IS
WRONG VERSION**

Explanation:

The journal record does not match the expected format. The record is printed. Processing terminates.

User response:

Verify that different releases of IMS Cloning Tool have not been run using the same journal data set. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL02330I EMCSNAPI COMPLETED; RETURN
CODE=return_code**

Explanation:

An EMCSNAPI call ended.

User response:

If the return code is 0, no action is required. If the return code is not 0, check the SYSOUT file for warning or error messages that are related to the volume snap. A return code of 4 may result if any target volume is online to another system.

**GCL02340E VOLP ENTRY NOT FOUND FOR
VOLSER=volser**

Explanation:

An unexpected condition occurred while processing. A previously found VOLP entry cannot be found. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL02341E INTERNAL ERROR REASON

Explanation:

An internal error has occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL02342E MORE SOURCE VOLSERs THAN
TARGET VOLSERs**

Explanation:

Volume pairing detected more source volumes than target volumes. Processing terminates.

User response:

This may have been caused by the use of TARGET-VOLS-SHOULD-BE-EMPTY eliminating target volumes or by some of the target volumes not having the necessary capabilities. If unable to determine the cause, contact IBM Software Support with the listing that contains this message.

GCL02343I module-name VERSION version

Explanation:

This message reports the version information retrieved from the indicated module.

User response:

No action is required.

GCL02345E EMCSCF NOT ACTIVE; LOC=llll

Explanation:

An EMC request failed because the system task, EMCSCF, is not active. Processing terminates.

User response:

Start the system task, EMCSCF.

**GCL02346E *module-name* ERROR; request
type R15=nnnn X'hhhh' LOC=llll
VOLSER=volser**

Explanation:

The call to the indicated module for the indicated request type failed. The return code is displayed in decimal and hexadecimal format. 'lllll' is an internal indicator of where the problem occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL02347E *module-name* ERROR; request
type RETURN CODE=nnnn X'hhhh'
REASON CODE=nnnn X'hhhh'
LOC=lllll VOLSER=volser**

Explanation:

The call to the indicated module for the indicated request type failed. The return code and reason code are displayed in decimal and hexadecimal format. 'lllll' is an internal indicator of where the problem occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL02348E SOURCE VOLUME NOT ELIGIBLE
FOR PROCESSING; VOLSER=volser**

Explanation:

It has been determined that the indicated volume serial is not eligible for use. 'reason text' indicates the reason. Processing terminates.

User response:

Eliminate source volumes which are not eligible for use.

**GCL02348I TARGET VOLUME NOT ELIGIBLE
FOR PROCESSING; VOLSER=volser
WILL BE SKIPPED. 'reason text'**

Explanation:

It has been determined that the indicated volume serial is not eligible for use. 'reason text' indicates the reason. Processing continues.

User response:

No action is required.

**GCL02352E NO TARGET VOLSER FOUND FOR
SOURCE VOLSER=volser source
volser information target volser(s)
information**

Explanation:

Based on the source volume's device type, EMC SNAP capability, Storage Subsystem, and number of tracks, no suitable target volume was found for a SNAP VOLUME.

User response:

Ensure that for every source volume, there is a target volume that meets the criteria required. If volser masks were used, you may need to explicitly code volume serial pairs in the FROM/TO parameters to ensure particular volumes are paired. If unable to determine the reason for this message, contact IBM Software Support with the listing that contains this message.

**GCL02353E ERROR DURING VVAS; RC=X'nnnn'
REASON=X'nnnn' VOLSER=volser**

Explanation:

An error occurred using VVAS to check a target volume. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL02354I TARGET VOLUME ELIMINATED,
VOLSER=volser | DATA SET
OTHER THAN SYS1.VTOCIX OR
SYS1.VVDS FOUND: datasetname**

Explanation:

An unexpected data set was found on a target volume in response to TARGET-VOLS-SHOULD-BE-EMPTY. Processing continues.

User response:

No action is required, unless this causes fewer target volumes than source volumes for the pairing process.

**GCL02355I SMS SOURCE VOLSER=volser HAS
BEEN PAIRED TO NON SMS
TARGET VOLSER=volser | NON
SMS SOURCE VOLSER=volser HAS
BEEN PAIRED TO SMS TARGET
VOLSER=volser**

Explanation:

A source volume has been paired to a target volume that does not have the same SMS attribute. There may be problems when accessing or deleting data sets on the target volume.

User response:

No action is required.

**GCL02356I CURRENT SNAP RELATIONSHIPS
FOR type VOLSER: volser volser
relationship information**

Explanation:

The current snap relationships for the volser are listed. 'type' indicates if the volser is a SOURCE or TARGET volume.

User response:

No action is required.

GCL02341E INTERNAL ERROR REASON

Explanation:

An internal error has occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL02501I hh:mm:ss COPYRESTART
STARTED - PROGRAM REV=rrr
| hh:mm:ss COPYRESTART
COMPLETED; RETURN CODE=nnn**

Explanation:

COPYRESTART processing message.

User response:

None. This message is informational.

**GCL02503I DDNAME=ddname ALLOCATED
FOR DSN=datasetname**

Explanation:

'ddname' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

GCL02504E DDNAME MISSING: ddname

Explanation:

'ddname' was specified for IMS Cloning Tool to use. Processing terminates.

User response:

Either correct the ddname specified, or, add the appropriate ddname to the job's JCL.

**GCL02505E ALLOCATION FAILED FOR DSN:
datasetname | DEALLOCATION
FAILED FOR DDNAME: ddname**

Explanation:

Dynamic allocation for a data set failed, or, dynamic deallocation for a ddname failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL02506E ERROR CALLING GCL01VV1 tttttt
FUNCTION: function R15=nnnn
R0=nnnnnnnn LOC=llll**

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *llll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of IMS Cloning Tool.

**GCL02507W ERROR CALLING GCL01HEX;
FUNCTION: function R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL02508E UNABLE TO LOAD PROGRAM:
program name**

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL02509E ERROR ACCESSING JOURNAL
FILE; LOC=llll**

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL02511E JOURNAL CONTROL RECORD NOT
FOUND | JOURNAL VOLUME PAIR
RECORD(S) NOT FOUND**

Explanation:

An expected record was not found in the IMS Cloning Tool journal file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL02513E RECORD COUNT IS ZERO; LOC=llll
| COUNT MISMATCH; RECORDS
READ=rrrr CONTROL RECORD
COUNT=cccc**

Explanation:

There was a problem with the journal records needed to initiate the command. For the first format, the journal control record indicates no entries were added. For the second format, the number of records read from the journal, rrrr, is not the same as the number indicated in the journal control record, cccc. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL02515E THE COPY PROCESS WAS NOT
INITIATED BY A METHOD WHICH
IS SUPPORTED BY RESTART**

Explanation:

Only a copy initiated by PPRC where the pairs have not been terminated may be restarted. Processing terminates.

User response:

If PPRC was used to initiated the volume copies and the copies are still in progress, contact IBM Software Support with the listing that contains this message.

GCL02516E COPY STATUS IS n

Explanation:

Only a copy initiated by PPRC supports the COPYRESTART command. The journal indicates that PPRC was not initiated by IMS Cloning Tool. Processing terminates.

User response:

If PPRC was used as the COPY DATA-MOVER PGM, contact IBM Software Support with the listing that contains this message.

GCL02531W COPY STEP WAS A SIMULATION

Explanation:

The journal indicates that the COPY command was a simulation. No restart of the copy will be done.

User response:

None.

**GCL02551E REQUIRED KEYWORD MISSING:
keyword**

Explanation:

A keyword required for processing has been omitted. Processing terminates.

User response:

Specify the required keyword.

**GCL02553E KEYWORD: keyword MAXIMUM
LENGTH: nnn EXCEEDED**

Explanation:

The operand entered for a keyword exceeded the maximum length allowed for the operand. *nnn* is the maximum allowed length for the keyword. Processing terminates.

User response:

Correct the length of the keyword's operand.

**GCL02554E KEYWORD HAS MORE THAN 1
OPERAND; ONLY 1 ALLOWED:
keyword**

Explanation:

Multiple operands were detected for a keyword; only one operand is permitted. Processing terminates.

User response:

Correct the keyword to use one operand.

**GCL02556E NOTHING SPECIFIED FOR
KEYWORD: keyword**

Explanation:

A keyword was entered without an appropriate operand. Processing terminates.

User response:

Specify an appropriate operand for the keyword.

**GCL02557E DUPLICATE FOUND; KEYWORD:
keyword ENTRY: xentry**

Explanation:

The indicated 'entry' for the keyword was previously specified. Processing terminates.

User response:

Remove the duplicate entry.

**GCL02558E INVALID VALUE IN KEYWORD:
keyword VALUE: value error text**

Explanation:

The value in the keyword is invalid. 'error text' indicates the problem detected with the value. Processing terminates.

User response:

Correct the value specified in the keyword.

**GCL02564E INVALID VOLSER: volser IN
KEYWORD: keyword**

Explanation:

The volume serial number indicated is invalid. Processing terminates.

User response:

Correct the volser specification.

**GCL02568E UNPAIRED ENTRIES IN
KEYWORD: keyword**

Explanation:

For REPL-TGT-DEVN, there must be a target volume serial followed by a target device number. An uneven number of entries was specified. Processing terminates.

User response:

Correct the keyword specification.

GCL02587I *nnnnn* **VOLUMES/DEVICES FOR**
KEYWORD: *keyword* list of volsers

Explanation:

Parsing found the listed volsers/device numbers for a keyword. *nnnnn* is the number of entries.

User response:

None. This message is informational.

GCL02601I **hh:mm:ss PPRC RESTART**
STARTED - PROGRAM REV=rrr
| hh:mm:ss PPRC RESTART
COMPLETED; RETURN CODE=nnn

Explanation:

PPRC RESTART processing message.

User response:

None. This message is informational.

GCL02607W **ERROR CALLING GCL01HEX;**
FUNCTION: function R15=nnnn

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL02608E **UNABLE TO LOAD PROGRAM:**
program name

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL02611E **NO MATCH FOUND IN VOLUME**
PAIRS FOR VOLSER targetvolser

Explanation:

No matching target volume serial number was found in the originally specified VOLPAIRSDEVN with what was specified in REPL-TGT-DEVN. Processing terminates.

User response:

Correct the specified target volume serial number.

GCL02632I **PPRC RELATIONSHIP**
ESTABLISHED; SOURCE:

sourcevolser sourcedevicenumber

TARGET: targetvolser
targetdevicenumber

Explanation:

A new PPRC relationship has been established between the indicated volumes.

User response:

None. This message is informational.

GCL02644E *system task* **NOT ACTIVE**

Explanation:

An ANTRQST request failed because a system task is not active. Processing terminates.

User response:

Start the indicated system task.

GCL02644E *system task* **NOT ACTIVE**

Explanation:

An ANTRQST request failed because a system task is not active. Processing terminates.

User response:

Start the indicated system task.

GCL02646E **ANTRQST DID NOT RETURN ANY**
INFORMATION; RESTART system
task **SYSTEM TASK**

Explanation:

The ANTRQST REQUEST=PQUERY did not receive information for a device. Processing terminates.

User response:

Restart the indicated system task.

GCL02647E **ANTRQST ERROR; request type**
RETURN CODE=nnnn X'hhhh'
REASON CODE=nnnn X'hhhh'
LOC=lllll

Explanation:

An ANTRQST request failed. 'request type' indicates if the macro was incorrect, or, if the Data Mover failed the request. The return code and reason code are displayed in decimal and hexadecimal format. 'lllll' is an internal indicator of where the problem occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL02650E **UNRECOGNIZED STATUS FROM**
PQUERY

Explanation:

The device status returned by PQUERY was not recognized. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL02920W MESSAGE NUMBER NOT FOUND;
 nnnn x'nnnn'**

Explanation:

The message number for an ANTRQST error was not found in an internal messages table. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL03001I hh:mm:ss COPY STARTED -
 PROGRAM REV=rrr | hh:mm:ss
 COPY COMPLETED; RETURN
 CODE=nnn**

Explanation:

COPY task processing message.

User response:

None. This message is informational.

**GCL03003I DDNAME=ddname ALLOCATED
 FOR DSN=datasetname**

Explanation:

'ddname' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

**GCL03004E OPEN FAILED FOR
 DDNAME=ddname**

Explanation:

'ddname' was allocated for IMS Cloning Tool to use, but, the open for the file failed. Processing terminates.

User response:

If unable to determine the reason the open failed, contact IBM Software Support with the listing that contains this message.

**GCL03005E ALLOCATION FAILED FOR DSN:
 datasetname | ALLOCATION
 FAILED FOR DDNAME: ddname
 | DEALLOCATION FAILED FOR
 DDNAME: ddname**

Explanation:

Dynamic allocation for a data set or ddname failed, or dynamic deallocation for a ddname failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL03008E UNABLE TO LOAD PROGRAM:
 program name**

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL03012E UNABLE TO ESTABLISH ESTAEX;
 R15=nnnn**

Explanation:

The program was not able to establish an estaex environment. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL03021E ADRDSSU COPY FAILED;
 R15=nnnn**

Explanation:

A non-zero return code was received from ADRDSSU. The ADRDSSU messages will be contained in the sysout for the copy task. Processing terminates.

User response:

Check the ADRDSSU messages for the cause of the failure. If assistance is required, contact IBM Software Support with the listing that contains this message.

**GCL03041E GCL00900 UNEXPECTED
 RESULTS; error text**

Explanation:

An unexpected condition occurred calling program GCL00900. 'error text' has a description of the problem. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL03042E NO MATCH FOUND FOR DSS TASK
 NUMBER: nnn**

Explanation:

The DSS task number was not matched to any of the volume pairs for this task. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL03043E NO MATCH FOUND FOR TASK DD
 IN VOLUME PAIRS**

Explanation:

The copy task was dispatched, but, no volume pairs had been assigned to it. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL03099E NO MATCH FOUND FOR TASK DD
IN VOLUME PAIRS**

Explanation:

An abend occurred for a copy task. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL03101I hh:mm:ss CLIP TARGETS STARTED
- PROGRAM REV=rrr (**
SIMULATION **) | hh:mm:ss CLIP
TARGETS COMPLETED; RETURN
CODE=nnn**

Explanation:

Offline target processing message.

User response:

None. This message is informational.

**GCL03103I DDNAME=ddname ALLOCATED
FOR DSN=datasetname**

Explanation:

'ddname' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

**GCL03104E OPEN FAILED FOR
DDNAME=ddname**

Explanation:

'ddname' was allocated for IMS Cloning Tool to use, but, the open for the file failed. Processing terminates.

User response:

If unable to determine the reason the open failed, contact IBM Software Support with the listing that contains this message.

**GCL03105E ALLOCATION FAILED FOR DSN:
datasetname**

Explanation:

Dynamic allocation for a data set failed. The associated z/OS messages are displayed. Processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL03105W DEALLOCATION FAILED FOR
DDNAME: ddname**

Explanation:

Dynamic deallocation for a ddname failed. Processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL03108E UNABLE TO LOAD PROGRAM:
program name**

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL03131E CAPTURE FOR UCB FAILED; UCB
ADDRESS: nnnnnnnnn R15: nnnn
TARGET VOLUME SERIAL: volser**

Explanation:

An attempt to use IOSCAPU to capture a UCB failed. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL03132E GCL03132E UNCATURE FOR UCB
FAILED; UCB ADDRESS: nnnnnnnnn
R15: nnnn TARGET VOLUME
SERIAL: volser**

Explanation:

An attempt to use IOSCAPU to uncapture a UCB failed. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL03133E EXCP FAILED FOR DEVICE: nnnn
TARGET VOLSER: volser SYNAD
TEXT: text**

Explanation:

An error occurred reading the volume label for an offline target device. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL03134E VOLUME SERIAL FOR DEVICE:
nnnn IS existing volser; VOLUME
SERIAL SHOULD BE: paired source
volser**

Explanation:

The volume serial number for the indicated device is 'existing volser'. Based on the volume pairs specified,

the expected volume serial number is '*paired source volser*'. Processing terminates.

User response:

Correct the volume pairs specified.

**GCL03135E ICKDSF COMMAND FAILED FOR
TARGET VOLSER: *volser***

Explanation:

The invocation of ICKDSF to change a device label failed. The messages from ICKDSF are printed.

User response:

If unable to determine the reason for the failure from the associated ICKDSF messages, contact IBM Software Support with the listing that contains these messages.

**GCL03136W IEEVARYD VARY ONLINE FAILED
FOR TARGET VOLSER: *volser*
INVALID PARAMETERS**

Explanation:

The parameters given to IEEVARYD are incorrect. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message. The indicated target volume serial will need to be manually varied online in order to proceed with IMS Cloning Tool RENAME processing.

**GCL03137W IEEVARYD VARY ONLINE FAILED
FOR TARGET VOLSER: *volser*
DEVICE: *nnnn* RETURN CODE:
nnnnnnnn REASON CODE:
*nnnnnnnn***

Explanation:

The vary online for the indicated device failed. Processing continues.

User response:

When the problem that caused the vary to fail is corrected, the indicated target volume serial will need to be manually varied online in order to proceed with IMS Cloning Tool RENAME processing.

**GCL03138W IEEVARYD VARY ONLINE FAILED
FOR TARGET VOLSER: *volser*
DEVICE: *nnnn* R15: *nnnnnnnn***

Explanation:

The vary online for the indicated device failed. Processing continues.

User response:

When the problem that caused the vary to fail is corrected, the indicated target volume serial will need to be manually varied online in order to proceed with IMS Cloning Tool RENAME processing.

**GCL03140I DEVICE NUMBER: *nnnn*
SUCCESSFULLY CHANGED TO
VOLUME SERIAL: *volser***

Explanation:

The label of the indicated device has been changed by ICKDSF to the indicated volume serial number.

User response:

None. This message is informational.

**GCL03141I VOLUME SERIAL: *volser* DEVICE
NUMBER: *nnnn* IS NOW ONLINE**

Explanation:

The indicated target volume is now online to the current image.

User response:

None. This message is informational.

**GCL03142I DEVICE NUMBER: *nnnn* IS ONLINE
AS TARGET VOLUME SERIAL:
*volser***

Explanation:

The indicated device is currently online with the target volume serial.

User response:

None. This message is informational.

**GCL03143E DEVICE NUMBER: *nnnn* IS ONLINE
AS SOURCE VOLUME SERIAL:
*volser***

Explanation:

The indicated device is currently online with the source volume serial. The device is expected to be either offline or online with the target volume serial. Processing terminates.

User response:

The device should be taken offline and the command rerun.

**GCL03144E DEVICE NUMBER: *nnnn* HAS
UNEXPECTED VOLUME SERIAL:
*volser***

Explanation:

The indicated device is currently online with a volume serial that is neither the source or target volume serial. The device is expected to have a volume serial that is either the source or target volume serial. Processing terminates.

User response:

Verify the device has not been overlaid with the contents of the wrong volume.

**GCL03145I *nnnn* ALREADY CHANGED TO
TARGET VOLUME SERIAL: *volser***

Explanation:

The indicated device currently has the desired target volume serial.

User response:

None. This message is informational.

GCL03146I **DEVICE NUMBER: *nnnn* ICKDSF
FAILED; DEVICE MAY HAVE
ALREADY BEEN CLIPPED**

Explanation:

The clip of the indicated device by ICKDSF has failed. This failure is probably caused by the device having already been clipped.

User response:

See the next IMS Cloning Tool message in the listing to determine the appropriate action.

GCL03148I **VOLUME SERIAL: *vvvvvv* DEVICE
NUMBER: *nnnn* NOT CLIPPED TO
VOLUME SERIAL: *vvvvvv* DUE TO
SIMULATION**

Explanation:

The clip of the indicated device was not done because this run is a simulation.

User response:

None. This message is informational.

GCL03501I **hh:mm:ss CHECK USERCATALOGS
STARTED - PROGRAM REV=*rrr* |
hh:mm:ss CHECK USERCATALOGS
COMPLETED; RETURN CODE=*nnn***

Explanation:

CHECK USERCATALOGS processing message.

User response:

None. This message is informational.

GCL03503I **DDNAME=*ddname* ALLOCATED
FOR DSN=*datasetname***

Explanation:

'*ddname*' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

GCL03505W **DEALLOCATION FAILED FOR
DDNAME: *ddname***

Explanation:

Dynamic deallocation for a *ddname* failed. The associated z/OS messages are displayed. Processing continues.

User response:

None.

GCL03507W **ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=*nnnn***

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL03559E **ALLOCATION FOR USERCATALOG
FAILED; DSN=*bcs dsname***

Explanation:

The BCS *dsname* was not successfully allocated for further checking.

User response:

Check that the user catalog have been specified correctly.

GCL03560I **WAITING FOR SHARED CONTROL
OF BCS *bcs name***

Explanation:

The BCS is currently in use by another job. The wait will continue until the BCS is no longer in use by another job or the wait time limit is exceeded. Processing continues.

User response:

None. This message is informational.

GCL03561E **UNABLE TO ALLOCATE BCS:
bcs name; WAIT TIME LIMIT
EXCEEDED**

Explanation:

The wait for shared control of the BCS has exceeded the wait time limit. Processing terminates.

User response:

Change the scheduling of the jobs so the IMS Cloning Tool job does not run when another job has the BCS allocated. Or increase the wait time limit so the IMS Cloning Tool job can wait longer for the other job to terminate. The wait time limit is set by the GCLINI parameter CONCURRENT_EXECUTIONS_WAIT_TIME.

GCL03570E **SECURITY PRODUCT DENIED
ACCESS TO DSN: *datasetname***

Explanation:

The *dsn* indicated is not authorized for alter by your security product. If the RACF profile that is associated is returned, it will be displayed. Processing terminates.

User response:

Change the *dsn* to one you can use, or, have your security administrator give you 'ALTER' authority to the data set.

GCL03571E **RACROUTE ERROR; SAF RC=*nnnn*
RACF RC=*nnnn* RACF REASON
CODE=*nnnn***

Explanation:

An unexpected return code from SAF or RACF occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL04001I hh:mm:ss BCS BACKUP STARTED
- PROGRAM REV=rrr | hh:mm:ss
BCS BACKUP COMPLETED;
RETURN CODE=nnn**

Explanation:

BCS BACKUP processing message.

User response:

None. This message is informational.

**GCL04003I DDNAME=ddname ALLOCATED
FOR DSN=datasetname**

Explanation:

'ddname' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

**GCL04004E OPEN FAILED FOR
DDNAME=ddname**

Explanation:

'ddname' was allocated for IMS Cloning Tool to use, but, the open for the file failed. Processing terminates.

User response:

If unable to determine the reason the open failed, contact IBM Software Support with the listing that contains this message.

**GCL04005E ALLOCATION FAILED FOR DSN:
datasetname | ALLOCATION
FAILED FOR DDNAME: ddname**

Explanation:

Dynamic allocation for a data set or ddname failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL04005W DEALLOCATION FAILED FOR
DDNAME: ddname**

Explanation:

Dynamic deallocation for a ddname failed. The associated z/OS messages are displayed. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL04007W ERROR CALLING GCL01HEX;
FUNCTION: function R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL04008E UNABLE TO LOAD PROGRAM:
program name**

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL04030E AMSOPEN FAILED; R15=nnnn

Explanation:

An attempt was made to issue an IDCAMS command. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL04031I NON-ZERO RETURNED BY
IDCAMS; RC=nnnn**

Explanation:

An IDCAMS command failed with return code *nnnn*. The IDCAMS messages are displayed. Processing will continue if the IDCAMS return code is less than or equal to 4. Processing will terminate if the IDCAMS return code is greater than 4 or if IDCAMS returned more than 50 errors.

User response:

If the IDCAMS return code was greater than 8, there is a problem with the source user catalog that will probably prevent IMS Cloning Tool backing it up. Correct the problem before invoking IMS Cloning Tool COPY.

**GCL04033I IDCAMS VERIFY FOR BCS WAS
SUCCESSFUL**

Explanation:

An IDCAMS VERIFY was issued for the BCS to be backed up. The VERIFY completed normally.

User response:

None. This message is informational.

**GCL04034I IDCAMS EXAMINE INDEXTEST
FOR BCS WAS SUCCESSFUL**

Explanation:

An IDCAMS EXAMINE INDEXTEST was issued for the BCS to be backed up. The EXAMINE completed normally.

User response:

None. This message is informational.

**GCL04035I NUMBER OF RECORDS READ
FROM BCS: *nnnnnnnn***

Explanation:

The indicated number of records were read from the BCS.

User response:

None. This message is informational.

**GCL04036I NUMBER OF RECORDS WRITTEN
TO BACKUP: *nnnnnnnn***

Explanation:

The indicated number of records were written to the BCS backup file.

User response:

None. This message is informational.

**GCL04040W BCS RECORD HAS BEEN SKIPPED;
LENGTH MISMATCH; VSAM
RECORD LENGTH: *nnnnnnnn* BCS
RECORD LENGTH: *nnnnnnnn***

Explanation:

There is a mismatch in records lengths. VSAM READ returned a length that was different than the length indicated in the BCS record. The BCS record is printed, but, because of this length error, the BCS record is not written to the backup file.

User response:

None required. But, this does indicate a problem with the entry in the source user catalog.

**GCL04045E ERROR ACCESSING BCS=*bcs*
dsname; LOC=*lllll***

Explanation:

A VSAM error occurred accessing the indicated BCS. Processing terminates.

User response:

See associated GCLERR*nn*E error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL04046E ERROR CALLING GCL00045;
FUNCTION: *function* R15=*nnnn***

Explanation:

An error occurred using GCL00045 to read a source catalog. Processing terminates.

User response:

See associated GCL*nnnnn*E error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL04047W READING OF SOURCE
USERCATALOG BYPASSED DUE
TO SIMULATION AND SOURCE
VOLUME BEING OFFLINE
VOLSER=*volser* BCS=*catalogname***

Explanation:

The source catalog cannot be read because this is a simulation run and the source volume is not online. For a simulation run the source catalog is read from the source volume. Processing continues.

User response:

None, unless a RENAME simulation is desired. To have RENAME SIM process with this catalogs entries either bring the source volume online for COPY SIM or run COPY without SIM.

**GCL04060I WAITING FOR EXCLUSIVE
CONTROL OF BCS *bcs name***

Explanation:

The BCS is currently in use by another job. The wait will continue until the BCS is no longer in use by another job or the wait time limit is exceeded. Processing continues.

User response:

None. This message is informational.

**GCL04061E ERROR DURING UCBLOOK FOR
VOLSER=*volume* - RETURN
CODE=*nnnn* REASON CODE=*nnnn***

Explanation:

An error occurred using the UCBLOOK macro. Processing terminates.

User response:

If unable to determine the cause of the error, contact IBM Software Support with the listing that contains this message.

**GCL04070E ERROR DURING UCBLOOK FOR
VOLSER=*volume* - RETURN
CODE=*nnnn* REASON CODE=*nnnn***

Explanation:

An error occurred using the UCBLOOK macro. Processing terminates.

User response:

If unable to determine the cause of the error, contact IBM Software Support with the listing that contains this message.

GCL04501I GCL00045 PROGRAM REV=*x*

Explanation:

Program GCL00045 displaying its versioning information.

User response:

None. This message is informational.

**GCL04502E REQUESTED CATALOG *xxx* NOT
FOUND ON VOLUME *vvv***

Explanation:

The specified catalog was not found on the volume. Processing terminates.

User response:

Correct USERCATALOGS parameters to specify the source volser where the catalog resides.

GCL04513E VOLSER *xxx* NOT FOUND ONLINE

Explanation:

VOLSER was not found on the system. Processing terminates.

User response:

Correct the JOBs volser and resubmit.

**GCL04515E UNRECOGNIZED DEVICE TYPE:
*devicetype***

Explanation:

The UCBTYP for to volume is not defined as dasd. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL04517E ERROR PROCESSING VVCNs:
*message***

Explanation:

An error occurred during VVDS processing. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL04521E UCBLOOK ERROR FOR
VOLSER=*volser* RETURN CODE=*nn*
REASON CODE=*nn***

Explanation:

An error occurred during UCBLOOK processing. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL04572I ACCESSING CATALOG *xxx* ON
VOLUME *yyy***

Explanation:

The identified catalog is being accessed.

User response:

None. This message is informational.

GCL04573I CLOSING CATALOG *xxx*

Explanation:

The identified catalog is no longer being accessed.

User response:

None. This message is informational.

GCL04584E XXSETR FAILED

Explanation:

Initialization of the catalog processor failed.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL04621E APF AUTHORIZATION FAILURE.

Explanation:

The EXCP access routine requires APF authorization. Processing terminates.

User response:

The load library being used (or one in the concatenation) is not APF authorized. Ensure all specified load libraries are authorized on that LPAR.

GCL04624E LDS DATASETS NOT SUPPORTED

Explanation:

An attempt was made to process a LDS using EXCPMODE. LDS support is not anticipated. Processing terminates.

User response:

Only process LDS using record mode technology, not EXCP. This message should not occur, as the invoking code should be aware of the EXCPMODE inability.

**GCL04626W DSN=COMPONENT NOT FOUND ON
VOLSER VTOC.**

Explanation:

The Format-1 DSCB for the VSAM component was not found on the VTOC. EXCP processing will attempt to use the data set extents carried in the VVR, instead. However, I/O errors may occur if the physical data on the tracks has been reused by another data set.

User response:

None. Informational warning message.

**GCL04627E ERROR CALLING GCL01VV1
TABLE=*tablename* FUNC=*function*
R15=*register15* R0=*register0*
LOC=*location***

Explanation:

An error occurred processing an internal table. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL04628E UCB CAPTURE FAILED FOR
VOLUME *volser*, ADR=*ucbaddress*,
RC=*'returncode'*, RSN=*'reasoncode'***

Explanation:

An error occurred while attempting to acquire the UCB for the specified volume. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL04629E **VVR IS MISSING**
volumeinformationcell
DSN=dsname

Explanation:

The VSAM Volume Record for the specified DSN was not located in the VVDS. Processing terminates.

User response:

Ensure the validity of VVDS by executing a DIAGNOSE. If the problem persists, contact IBM Software Support with the listing that contains this message.

GCL04631E **DSN=dsname NOT FOUND -**
module(returncode - reason code)

Explanation:

An error occurred will attempting to retrieve volume data from the catalog. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL04633A **EBLOCK ERROR(code)**
volser CCHHR=cyl_head_record
RDF_OFFSET=offset

Explanation

An error occurred while deblocking a control interval. Processing continues, but certain affected logical records may be unrecoverable. The CCHHR value indicates the physical block that is in error on the DASD device. The physical contents of that track can be displayed using the ADRDSSU PRINT command.

ADRDSSU command example:

```
PRINT TRACKS
(X'cccc',X'hh',X'cccc',X'hh')
INDY(volser)
```

User response:

Contact IBM Software Support with the listing that contains this message. Tech Support may also request the ADRDSSU output for the PRINT TRACKS command.

GCL04634A **INVALID CIDF DATA X'???????'**
volser CCHHR=cccc_hhhh_rr

Explanation

A control interval failed validation and could not be deblocked. Processing continues, but certain affected logical records may be unrecoverable. The CCHHR value indicates the physical block that is in error on the

DASD device. The physical contents of that track can be displayed using the ADRDSSU PRINT command.

ADRDSSU command example:

```
PRINT TRACKS
(X'cccc',X'hh',X'cccc',X'hh')
INDY(volser)
```

User response:

Contact IBM Software Support with the listing that contains this message. Tech Support may also request the ADRDSSU output for the PRINT TRACKS command.

GCL04635A **SPANNED RECORD ERROR - volser**
CCHHR=cccc_hhhh_rr

Explanation:

While processing a spanned record, an error occurred. Spanned records, for all but ESDS, must be re-assembled by using the data in the index entry - specifically the sequence of segments is controlled by the FLP in the index entry. The Volser and CCHHR value represents the physical address of the beginning of the Control Interval that is in error. Processing continues.

User response:

Refer to other associated messages issued in conjunction with this error.

GCL04636W **TRUNCATED RECORD -**
RBA=X'xxxxxxxx.xxxxxxxx'

Explanation:

While processing a spanned record, an error occurred. Processing continues.

User response:

Refer to other associated messages issued in conjunction with this error.

GCL04638E **XTENDED-FORMAT STRIPED**
DATASETS NOT SUPPORTED.

Explanation:

An attempt was made to process a striped object in EXCPMODE. This is not supported. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL04639E **EXTENDED-FORMAT**
COMPRESSED DATASETS NOT
SUPPORTED.

Explanation:

An attempt was made to process a compressed object in EXCPMODE. This is not supported. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL04640E DATASET NOT FOUND OR NOT SPECIFIED

Explanation:

The EXCPMODE interface was incorrectly used. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL04641E DATASET NOT FOUND OR NOT SPECIFIED

Explanation:

The XXSET macro had one or more incorrectly specified arguments. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL04642E VOLSER NOT SPECIFIED

Explanation:

The XXSET macro had no VOLSER argument coded. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL04643E INVALID VOLSEQ VALUE SPECIFIED

Explanation:

The XXSET macro had an invalid SEQ argument coded. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL04644E DUPLICATE XXSET FOR *component*
DSN=*datasetname* VOL=*volser*
SEQ=*sequence#***

Explanation:

Multiple XXSET macros with the same arguments were processed. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL04645E FIRST VOLSEQ MISSING
FOR DATA COMPONENT
DSN=*comp.name***

Explanation:

The first volume of a multi-volume set for the Data Component was not identified. Processing cannot

continue because necessary information such as the C/I Size cannot be determined. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message. IBM Software Support may ask for additional listings from various utilities to identify the problem.

**GCL04645W FIRST VOLSEQ MISSING
FOR INDEX COMPONENT
DSN=*comp.name***

Explanation:

The first volume of a multi-volume set for the Index Component was not identified. Processing continues without the Index Component to assist in reassembling spanned logical records. However, if any spanned records are encountered, deblocking errors are likely to occur.

User response:

None. Informational warning message.

**GCL04646E FIRST DATA COMPONENT
VVR NOT A "Z" RECORD,
DSN=*comp.name***

Explanation:

The first volume's VVR for the Data Component was an unexpected type. Processing cannot continue because necessary information such as the C/I Size cannot be determined. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message. IBM Software Support may ask for additional listings from various utilities to identify the problem.

**GCL04647E EXCP ERROR - *cmd descr volser*
*cc_hh_r dsn***

Explanation:

An EXCP error occurred while reading the dataset. Information is extracted from the standard IBM SYNAD Message. It is likely that the data set has been physically corrupted. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message. IBM Software Support may ask for additional listings from various utilities to identify the problem.

**GCL04647W EXCP ERROR - *cmd descr volser*
*cc_hh_r dsn***

Explanation:

An EXCP error occurred while reading the data set. Information is extracted from the standard IBM SYNAD Message. It is likely that the data set has been physically corrupted. The nature of this error is not considered immediately critical. Processing continues.

User response:

None. Informational warning message.

GCL04700I PGM GCL00047 PROGRAM REV=x

Explanation:

Program GCL00047 displaying its versioning information.

User response:

None. This message is informational.

**GCL04701E GCL00047 PARAMETER ERROR.
(parameter description)**

Explanation:

GCL00047 has detected invalid parameters from the calling routine. This is an internal error.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL04702I PGM GCL00047 INVOKED TO
PERFORM ???????? FUNCTION
ON VOL=volser UNIT=addr -
PROGRAM REV=rrr**

Explanation:

Program GCL00047 is acknowledging a request to DUMP or RESTORE the VTOC and VVDS of the indicated volume.

User response:

None. This message is informational.

**GCL04704E DSPSERV CREATE ERROR
RC=xx,RSN=yy, REQUESTING
nnnnn 4K DATASPACE BLOCKS.**

Explanation:

Dataspace Creation failed with the above Return and Reason codes.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL04705E ALESERV ADD ERROR R15=xx
CREATING DATASPACE ALET**

Explanation:

An error occurred while attempting to add an entry into the DU-AL for a private dataspace that has been created.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL04706I PGM GCL00047 returncode
PROCESSING COMPLETED RC=xx
timestamp**

Explanation:

Program GCL00047 processing is terminating with the above return-code.

User response:

If RC=00, None. If the Return-Code is any non-zero value, then contact IBM Software Support with the listing that contains this message. There will be previous messages indicating the error causing the bad return code.

**GCL04710E GCL00047 ABENDED S-xxx |
GCL00047 ABENDED U-xxxx**

Explanation:

Program GCL00047 has suffered an abend and is taking appropriate recovery and cleanup actions. The requested function appearing in the GCL04700I message has failed.

User response:

Contact IBM Software Support with the listing that contains this message and the SYSUDUMP output. Also, make note of the MVS operating system release, and the type of hardware that was being accessed.

**GCL04720E I/O ERROR READING VOLUME
LABEL ON DEVICE /xxxx**

Explanation:

Program GCL00047 was unable to read the volume label at the indicated device address.

User response:

Determine if the device at the indicated address can be varied OFFLINE and ONLINE. The volume may be uninitialized. If the volume can be successfully mounted, then contact IBM Software Support with the listing that contains this message. Also, make note of the MVS operating system release, and the type of hardware that was being accessed.

**GCL04721E VALIDATION ON DEVICE /xxxx
FAILED. DETECTED VOL=yyyyyy**

Explanation:

Program GCL00047 read the volume label at the indicated device address and found a volume serial number that was different than what was expected.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL04733E DATASPACE SIZE IS
INSUFFICIENT.**

Explanation:

While preparing to DUMP the VTOC and/or VVDS of the volume indicated by the GCL04700I message, program GCL00047 was unable to allocate a private dataspace of a sufficient size.

User response:

Contact IBM Software Support with the listing that contains this message. Also, make note of the MVS operating system release.

**GCL04747E ERROR ALLOCATING ????? BYTES
FOR RECORD ????? OF ????
| DATASPACE SIZE ????-K IS
INSUFFICIENT. | ????-K USED UP
TO THIS POINT.**

Explanation:

While preparing to RESTORE the VTOC and/or VVDS of the indicated volume, GCL00047 exceeded a predetermined dataspace size.

User response:

Contact IBM Software Support with the listing that contains this message. If possible, save the backup data set indicated by this message in case it is requested by IBM Software Support.

**GCL04748E INVALID DUMP RECORD.
ID ????????**

Explanation:

While preparing to RESTORE the VTOC and/or VVDS of the indicated volume, GCL00047 has determined that the logical contents of the sequential backup data set are invalid.

User response:

Contact IBM Software Support with the listing that contains this message. If possible, save the backup data set indicated by this message in case it is requested by IBM Software Support.

**GCL04749E BUFFER CAPACITY EXCEEDED.
TYPE=????**

Explanation:

RESTORE processing has failed due to incorrect buffer size calculations. This is an internal error.

User response:

Contact IBM Software Support with the listing that contains this message. Also, make note of the MVS operating system release, and the type of hardware that was being accessed.

**GCL04750E ** EXCP I/O ERROR PROCESSING
THE ?????????? ** | TRACK(CCHH)
ADDRESS: cchh / Synad: <SYNAD
error text>**

Explanation:

An uncorrectable error has occurred to the device being DUMPed or RESTORed while GCL00047 was performing I/O using the EXCP access method.

User response:

Contact IBM Software Support with the listing that contains this message. Also, make note of the MVS operating system release, and the type of hardware that was being accessed.

**GCL04754E DEVICE ???? - NO PATHS
AVAILABLE. REASON: ?????? |
REASON: IOS Message text**

Explanation:

While attempting to access the device, GCL00047 could not identify an available channel path to the device slated for DUMP or RESTORE processing.

User response:

Verify that channel paths are available to device by issuing MVS display commands such as D M=DEV(xxxx) and D M=CHP(yy). If device pathing appears valid, then contact IBM Software Support with the listing that contains this message. Also, make note of the MVS operating system release, and the type of hardware that was being accessed.

**GCL04755E STORAGE SUBSYSTEM FOR
DEVICE ???? DOES NOT SUPPORT
ECKD CCWs.**

Explanation:

GCL00047 has detected an old technology DASD Control Unit that does not support hardware features that are minimally required by this. Such control units are typically used for supporting devices that pre-date 3380's. All control units for 3390's support ECKD transfer protocol.

User response:

None. IMS Cloning Tool cannot be used for this device.

**GCL04761E ** ERROR ** REQUESTED VVDS
DATASET NOT FOUND. | ** ERROR
** REQUIRED VVDS DATASET NOT
FOUND.**

Explanation:

A VVDS was not found on the volume that was being processed for dump. In addition, the volume was SMS managed, and/or contained VSAM data sets.

User response:

Verify that the volume is usable. If not, then a volume restore is in order. In either case, contact IBM Software Support with the listing that contains this message.

GCL04761I variable text

Explanation:

Informational statistics regarding DUMP processing.

User response:

None. This message is informational.

**GCL04761W NOTE: REQUESTED VVDS DATASET
NOT IN USE.**

Explanation:

Informational warning regarding DUMP processing. The caller of GCL00047 specified a non-standard dataset name for the VVDS, which was not found on

the volume. The correct data set name for the VVDS was found, and will be assumed as valid for DUMP processing.

User response:

None. DUMP processing continues.

**GCL04807W ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL04808E UNABLE TO LOAD PROGRAM:
*program name***

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL04817E UNABLE TO LOAD PROGRAM:
*program name***

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL04818E VOLSER: *vvvvvv* IS NOT ONLINE

Explanation:

The indicated volume is not online. Processing terminates.

User response:

Bring the volume online.

**GCL04860E UCBLOOK ERROR; RETURN
CODE=*nn* REASON CODE=*nn*
LOC=*lllll***

Explanation:

An error occurred during UCBLOOK processing. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL04861E IOSCAPU *function* ERROR;
RETURN CODE=*nn* REASON
CODE=*nn* LOC=*lllll***

Explanation:

An attempt to use IOSCAPU to capture or uncapture a UCB failed. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL05003I DDNAME=*ddname* ALLOCATED
FOR DSN=*datasetname***

Explanation:

'*ddname*' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

GCL05004E DDNAME MISSING: *ddname*

Explanation:

'*ddname*' was specified for IMS Cloning Tool to use, but, the *ddname* was not found in the JCL. Processing terminates.

User response:

Compare the specification of the *ddname* with the JCL used for the command.

**GCL05005E ALLOCATION FAILED FOR DSN:
datasetname | ALLOCATION
FAILED FOR DDNAME: *ddname***

Explanation:

Dynamic allocation for a data set or *ddname* failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL05005W ALLOCATION FAILED FOR DSN:
datasetname | ALLOCATION
FAILED FOR DDNAME: *ddname***

Explanation:

Dynamic deallocation for a *ddname* failed. The associated z/OS messages are displayed. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL05007W ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL05008E UNABLE TO LOAD PROGRAM:
 *program name***

Explanation:

The indicated program name was not found.
Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL05009E ERROR ACCESSING JOURNAL
 FILE; LOC=////**

Explanation:

A VSAM error occurred accessing the journal file.
Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL05011E JOURNAL CONTROL RECORD NOT
 FOUND | JOURNAL VOLUME PAIR
 RECORD(S) NOT FOUND**

Explanation:

An expected record was not found in the IMS Cloning Tool journal file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL05013E RECORD COUNT IS ZERO; LOC=////
 | COUNT MISMATCH; RECORDS
 READ=rrrr CONTROL RECORD
 COUNT=cccc**

Explanation:

There was a problem with the journal records needed to initiate the command. For the first format, the journal control record indicates no entries were added. For the second format, the number of records read from the journal, rrrr, is not the same as the number indicated in the journal control record, cccc. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL05015W THE COPY COMMAND WAS
 NOT INITIATED BY A METHOD
 REQUIRING THE COPYSYNC
 COMMAND.**

Explanation:

Only a copy initiated by PPRC requires the COPYSYNC command. Processing terminates.

User response:

If PPRC was used to initiate the volume copies, contact IBM Software Support with the listing that contains this message.

GCL05016E COPY STATUS IS *n*

Explanation:

Only a copy initiated by PPRC requires the COPYSYNC command. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL05031I COPY STEP WAS A SIMULATION

Explanation:

The journal indicates that the COPY command was a simulation. No volume synchronization checking will be done.

User response:

None. This message is informational.

**GCL05051E REQUIRED KEYWORD MISSING:
 *keyword***

Explanation:

A keyword required for processing has been omitted.
Processing terminates.

User response:

Specify the required keyword.

**GCL05053E KEYWORD: *keyword* MAXIMUM
 LENGTH: *nnn* EXCEEDED**

Explanation:

The operand entered for a keyword exceeded the maximum length allowed for the operand. nnn is the maximum allowed length for the keyword. Processing terminates.

User response:

Correct the length of the keyword's operand.

**GCL05054E KEYWORD HAS MORE THAN 1
 OPERAND; ONLY 1 ALLOWED:
 *keyword***

Explanation:

Multiple operands were detected for a keyword; only one operand is permitted. Processing terminates.

User response:

Correct the keyword to use one operand.

**GCL05056E NOTHING SPECIFIED FOR
 KEYWORD: *keyword***

Explanation:

A keyword was entered without an appropriate operand. Processing terminates.

User response:

Specify an appropriate operand for the keyword.

GCL05058E INVALID VALUE IN KEYWORD:
keyword VALUE: value error text

Explanation:

The value in the keyword is invalid. 'error text' indicates the problem detected with the value. Processing terminates.

User response:

Correct the value specified in the keyword.

GCL05101I hh:mm:ss PPRC COPYSYNC
STARTED - PROGRAM REV=rrr
| hh:mm:ss PPRC COPYSYNC
COMPLETED; RETURN CODE=nnn

Explanation:

PPRC COPYSYNC processing message.

User response:

None. This message is informational.

GCL05107W ERROR CALLING GCL01HEX;
FUNCTION: function R15=nnnn

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL05108E ERROR CALLING GCL01HEX;
FUNCTION: function R15=nnnn

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL05130I VOLUME PAIRS STATUS source
volser/target volser status

Explanation:

The status of each source/target volume serial pair is displayed.

User response:

None. This message is informational.

GCL05141W TIME LIMIT EXCEEDED

Explanation:

The WAIT time for the command has been reached. Some volume pairs may still be in a copy relationship.

User response:

Rerun the COPYSYNC command with a higher WAIT time specified.

GCL05143I ANTRQST LEVEL=nn

Explanation:

The level returned by ANTRQST REQUEST=LEVEL

User response:

None. This message is informational.

GCL05144E ANTRQST LEVEL NOT SUPPORTED

Explanation:

For PPRC support, the level must be one (1). The level returned by ANTRQST is not supported. Processing terminates.

User response:

Check with your system programmer for upgrading the system.

GCL05145E system task NOT ACTIVE

Explanation:

An ANTRQST request failed because a system task is not active. Processing terminates.

User response:

Start the indicated system task.

GCL05146E ANTRQST DID NOT RETURN ANY
INFORMATION; RESTART system
task SYSTEM TASK

Explanation:

The ANTRQST REQUEST=PQUERY did not receive information for a device. Processing terminates.

User response:

Restart the indicated system task.

GCL05147E ANTRQST ERROR; request type
RETURN CODE=nnnn X'hhhh'
REASON CODE=nnnn X'hhhh'
LOC=lllll

Explanation:

An ANTRQST request failed. 'request type' indicates if the macro was incorrect, or, if the Data Mover failed the request. The return code and reason code are displayed in decimal and hexadecimal format. 'lllll' is an internal indicator of where the problem occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL05150E UNRECOGNIZED STATUS FROM
PQUERY

Explanation:

The device status returned by PQUERY was not recognized. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL05151I **VOLSER PAIR *source volser/target volser* COPY STILL IN PROGRESS, *nnn*% COMPLETED**

Explanation:

PQUERY indicates the volumes are still in a copy relationship. *nnn*% indicates the percent of the copy that is completed.

User response:

None. This message is informational.

GCL05152I **VOLSER PAIR *source volser/target volser* PDELPAIR ISSUED**

Explanation:

PDELPAIR has been issued for the volumes.

User response:

None. This message is informational.

GCL05501I **hh:mm:ss VOLUME CHECK
STARTED - PROGRAM REV=*rrr*
| hh:mm:ss VOLUME CHECK
COMPLETED; RETURN CODE=*nnn***

Explanation:

COPYCHECK command processing message.

User response:

None. This message is informational.

GCL05503I **DDNAME=*ddname* ALLOCATED
FOR DSN=*datasetname***

Explanation:

'*ddname*' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

GCL05504E **DDNAME MISSING: *ddname***

Explanation:

'*ddname*' was specified for IMS Cloning Tool to use. Processing terminates.

User response:

Either correct the *ddname* specified, or, add the appropriate *ddname* to the job's JCL.

GCL05505E **ALLOCATION FAILED FOR DSN:
*datasetname***

Explanation:

Dynamic allocation for a data set failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

GCL05505W **DEALLOCATION FAILED FOR
DDNAME: *ddname***

Explanation:

Dynamic deallocation for a *ddname* failed. The associated z/OS messages are displayed. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

GCL05507W **ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=*nnnn***

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL05507W **ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=*nnnn***

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL05508E **UNABLE TO LOAD PROGRAM:
*program name***

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL05509E **ERROR ACCESSING JOURNAL
FILE; LOC=*lllll***

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL05511E **JOURNAL CONTROL RECORD NOT
FOUND | JOURNAL VOLUME PAIR
RECORD(S) NOT FOUND**

Explanation:

An expected record was not found in the IMS Cloning Tool journal file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL05512E JOURNAL CONTROL RECORD IS
WRONG VERSION | JOURNAL
VOLP RECORD IS WRONG
VERSION**

Explanation:

The journal record does not match the expected format. The record is printed. Processing terminates.

User response:

Verify that different releases of IMS Cloning Tool have not been run using the same journal data set. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL05513E RECORD COUNT IS ZERO; LOC=||||
| COUNT MISMATCH; RECORDS
READ=rrrr CONTROL RECORD
COUNT=cccc LOC=||||**

Explanation:

There was a problem with the journal records needed to initiate the volume check. For the first format, the journal control record indicate no entries were added. For the second format, the number of records read from the journal, rrrr, is not the same as the number indicated in the journal control record, cccc Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL05515W THE COPY PROCESS DID NOT
COMPLETE SUCCESSFULLY**

Explanation:

The journal indicates that the COPY command did not complete successfully. Processing continues.

User response:

None.

GCL05531I COPY STEP WAS A SIMULATION

Explanation:

The journal indicates that the COPY command was a simulation. No volume checking will be done.

User response:

None. This message is informational.

**GCL05540W COPIES DONE OUTSIDE OF GCL;
NO VOLUME CHECKING WILL BE
DONE**

Explanation:

The volume pairing was not initiated by the IMS Cloning Tool COPY command.

User response:

None.

**GCL05550E ERROR IN PARAMETERS FOR
keyword**

Explanation:

The parameters for the indicated keyword were incorrect. Processing terminates.

User response:

Check the keyword parameters. Mutually exclusive keywords may have been used.

**GCL05551E REQUIRED KEYWORD MISSING:
keyword**

Explanation:

A keyword required for processing has been omitted. Processing terminates.

User response:

Specify the required keyword.

**GCL05553E KEYWORD: keyword MAXIMUM
LENGTH: nnn EXCEEDED**

Explanation:

The operand entered for a keyword exceeded the maximum length allowed for the operand. *nnn* is the maximum allowed length for the keyword. Processing terminates.

User response:

Correct the length of the keyword's operand.

**GCL05554E KEYWORD HAS MORE THAN 1
OPERAND; ONLY 1 ALLOWED:
keyword**

Explanation:

Multiple operands were detected for a keyword; only one operand is permitted. Processing terminates.

User response:

Correct the keyword to use one operand.

**GCL05556E NOTHING SPECIFIED FOR
KEYWORD: keyword**

Explanation:

A keyword was entered without an appropriate operand. Processing terminates.

User response:

Specify an appropriate operand for the keyword.

**GCL05558E INVALID VALUE IN KEYWORD:
keyword VALUE: value error text**

Explanation:

The value in the keyword is invalid. 'error text' indicates the problem detected with the value. Processing terminates.

User response:

Correct the value specified in the keyword.

GCL05586I VALIDATING KEYWORD: *keyword*

Explanation:

Parsing is checking the indicated keyword indicated in the command.

User response:

None. This message is informational.

**GCL05601I hh:mm:ss VOLUME STATUS
STARTED - PROGRAM REV=*rrr*
| hh:mm:ss VOLUME STATUS
COMPLETED; RETURN CODE=*nnn***

Explanation:

Volume status processing message.

User response:

None. This message is informational.

**GCL05607W ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=*nnnn***

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL05608E UNABLE TO LOAD PROGRAM:
*program name***

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL05630I VOLUME PAIRS STATUS *source*
*volser/target volser status***

Explanation:

The status of each source/target volume serial pair is displayed.

User response:

None. This message is informational.

GCL05641W TIME LIMIT EXCEEDED

Explanation:

The WAIT time for the command has been reached. Some volume pairs may still be in a copy relationship.

User response:

None required. If desired, rerun the COPYCHECK command with a higher WAIT time specified.

GCL05643I ANTRQST LEVEL=*nn*

Explanation:

The level returned by ANTRQST REQUEST=LEVEL

User response:

None. This message is informational.

**GCL05644E ANTRQST LEVEL NOT SUPPORTED;
LEVEL=*nn***

Explanation:

For FlashCopy support, the level must be greater than four (4). For SnapShot support, the level must be greater than one (1). For PPRC support, the level must be one (1). The level returned by ANTRQST is not supported. Processing terminates.

User response:

Check with your system programmer for upgrading the system.

GCL05645E *system task* NOT ACTIVE

Explanation:

An ANTRQST request failed because a 'system task' is not active. Processing terminates.

User response:

Start the indicated system task.

**GCL05646E ANTRQST DID NOT RETURN ANY
INFORMATION; RESTART *system*
task SYSTEM TASK**

Explanation:

The ANTRQST REQUEST=FCQUERY did not receive information for a device, or, REQUEST=PQUERY did not receive information for a device. Processing terminates.

User response:

Restart the indicated system task.

**GCL05647E ANTRQST ERROR; request type
RETURN CODE=*nnnn* X'*hhhh*'
REASON CODE=*nnnn* X'*hhhh*'
LOC=*lllll***

Explanation:

An ANTRQST request failed. 'request type' indicates if the macro was incorrect, or, if the Data Mover failed the request. The return code and reason code are displayed in decimal and hexadecimal format. 'lllll' is an internal indicator of where the problem occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL05650E UNRECOGNIZED STATUS FROM
FCQUERY | UNRECOGNIZED
STATUS FROM PQUERY**

Explanation:

The device status returned by the indicated query was not recognized. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL05651I **VOLSER PAIR** *source volser/target volser* **COPY STILL IN PROGRESS, nnn% COMPLETED | VOLSER PAIR** *source volser/target volser* **COPY STILL IN PROGRESS, FCNOCOPY**

Explanation:

FCQUERY indicates the volumes are still in a copy relationship. If the background copy was initiated, nnn% will indicate the percent of the copy that is completed. If FCNOCOPY was used, no background copy was initiated and the second form of the message will be issued.

User response:

None. This message is informational.

GCL05652I **VOLSER PAIR** *source volser/target volser* **FCWITHDRAW ISSUED | VOLSER PAIR** *source volser/target volser* **PDELPAIR ISSUED**

Explanation:

FCWITHDRAW or PDELPAIR has been issued for the volumes.

User response:

None. This message is informational.

GCL05701I **hh:mm:ss EMC VOLUME STATUS STARTED - PROGRAM REV=rrr | hh:mm:ss EMC VOLUME STATUS COMPLETED; RETURN CODE=nnn**

Explanation:

EMC volume status processing message.

User response:

No action is required.

GCL05707W **ERROR CALLING GCL01HEX; FUNCTION: function R15=nnnn**

Explanation:

An error occurred using IMS Cloning Tool01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL05708E **UNABLE TO LOAD PROGRAM: program name**

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL05730I **VOLUME PAIRS STATUS** *source volser/target volser status*

Explanation:

The status of each source/target volume serial pair is displayed.

User response:

No action is required.

GCL05738E **VOLP ENTRY NOT FOUND FOR VOLSER=volser**

Explanation:

An internal processing error has occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL05739I **EMCSNAPI COMPLETED; RETURN CODE=nnn**

Explanation:

A call to the EMCSNAPI module has completed with a return code of nnn.

User response:

No action is required.

GCL05740E **INTERNAL ERROR** *reason*

Explanation:

An internal error has occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL05741W **TIME LIMIT EXCEEDED**

Explanation:

The WAIT time for the command has been reached. Some volume pairs may still be in a snap relationship.

User response:

No action is required. If desired, rerun the COPYCHECK command with a higher WAIT time specified.

GCL05742W **STOP SNAP PENDING; SNAPS ARE STILL ACTIVE**

Explanation:

A STOPSNAP was requested and 10 minutes after the STOP SNAP commands have been issued there are still some volume pairs in a snap relationship.

User response:

Determine why the snap relationships have not stopped.

GCL05743I *module-name VERSION version*

Explanation:

This message reports the version information retrieved from the indicated module.

User response:

No action is required.

GCL05745E *EMCSCF NOT ACTIVE; LOC=llll*

Explanation:

An EMC request failed because the system task, EMCSCF, is not active. Processing terminates.

User response:

Start the system task, EMCSCF.

**GCL05746E *module-name ERROR; request
type R15=nnnn X'hhhh' LOC=llll
VOLSER=volser***

Explanation:

The call to the indicated module for the indicated request type failed. The return code is displayed in decimal and hexadecimal format. 'llll' is an internal indicator of where the problem occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL05747E *module-name ERROR; request
type RETURN CODE=nnnn X'hhhh'
REASON CODE=nnnn X'hhhh'
LOC=llll VOLSER=volser***

Explanation:

The call to the indicated module for the indicated request type failed. The return code and reason code are displayed in decimal and hexadecimal format. 'llll' is an internal indicator of where the problem occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL05748E *type VOLUME volser ATTRIBUTES
HAVE CHANGED; attributes***

Explanation:

The indicated volume has physically moved since COPY. 'type' indicates if this is a SOURCE or TARGET volume. COPYCHECK is unable to process the moved volume. Processing terminates.

User response:

Do not use COPYCHECK after SOURCE or TARGET volumes have been moved from where they were at the time of COPY.

**GCL05749E *type VOLUME volser IS NOT
ONLINE attributes***

Explanation:

The indicated volume is not online. 'type' indicates if this is a SOURCE or TARGET volume. COPYCHECK is unable to process the volume. Processing terminates.

User response:

Do not use COPYCHECK if SOURCE or TARGET volumes are offline.

**GCL05751I *VOLSER PAIR source volser/target
volser SNAP STILL IN PROGRESS,
nnn% COMPLETED - type***

Explanation:

The volumes are still in a snap relationship. 'nnn%' indicates the percent of the copy that is completed. 'type' indicates if this is a DIFFERENTIAL snap or a snap with no background copy.

User response:

No action is required.

**GCL05752I *VOLSER PAIR source volser/target
volser STOP SNAP ISSUED***

Explanation:

STOP SNAP has been issued for the volumes.

User response:

No action is required.

**GCL05756I *CURRENT SNAP RELATIONSHIPS
FOR type VOLSER: volser volser
relationship information***

Explanation:

The current snap relationships for the volser are listed. 'type' indicates if the volser is a SOURCE or TARGET volume.

User response:

No action is required.

**GCL05760E *UCBLOOK ERROR; RETURN
CODE=nn REASON CODE=nn***

Explanation:

An error occurred using the UCBLOOK macro. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL06001I *hh:mm:ss BACKINFO REFORMAT
STARTED - PROGRAM REV=rrr |
hh:mm:ss BACKINFO REFORMAT
COMPLETED; RETURN CODE=nnn***

Explanation:

BACKINFO-REFORMAT processing message.

User response:

None. This message is informational.

GCL06004E **DDNAME MISSING: *ddname* |
OPEN FAILED FOR DDNAME:
*ddname***

Explanation:

'ddname' was specified for IMS Cloning Tool to use. Processing terminates.

User response:

Either correct the ddname specified, or, add the appropriate ddname to the job's JCL.

GCL06006E **ERROR CALLING GCL01VV1 *tttttt*
FUNCTION: *function* R15=*nnnn*
R0=*nnnnnnnn* LOC=*llll***

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *llll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of IMS Cloning Tool.

GCL06007W **ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=*nnnn***

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL06008E **UNABLE TO LOAD PROGRAM:
*program name***

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL06019E **THE *keyword* DOES NOT HAVE A
LRECL OF 80, DDNAME: *ddname***

Explanation:

The data set allocated to the ddname does not have a LRECL of 80. The LRECL of this data set must be 80. Processing terminates.

User response:

Change the data set allocated to the ddname to have a LRECL of 80.

GCL06020E **UNKNOWN RECORD TYPE FOUND
IN BACKINFO *record***

Explanation:

An unknown record type was found in the backinfo data set. Processing terminates.

User response:

Check that a correct backinfo data set is being used. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL06021E **DUPLICATE *type* VOLSER FOUND
IN BACKINFO; VOLSER: *vvvvvv***

Explanation:

The indicated volsr was found multiple times in the backinfo data set. Processing terminates.

User response:

Check that a correct backinfo data set is being used. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL06022E **DUPLICATE CATALOG DSN FOUND
IN BACKINFO; DSN: *dataset***

Explanation:

The indicated catalog DSN was found multiple times in the backinfo data set. Processing terminates.

User response:

Check that a correct backinfo data set is being used. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL06023E **NO VOLMAP RECORDS FOUND IN
BACKINFO**

Explanation:

No VOLMAP type records were found in the backinfo data set. Processing terminates.

User response:

Check that a correct backinfo data set is being used. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL06024E **NO VOLMAP RECORDS FOUND IN
BACKINFO**

Explanation:

No VOLMAP type records were found in the backinfo data set. Processing terminates.

User response:

Check that a correct backinfo data set is being used. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL06025E **NO VOLMAP RECORDS FOUND IN
BACKINFO**

Explanation:

No VOLMAP type records were found in the backinfo data set. Processing terminates.

User response:

Check that a correct backinfo data set is being used. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL06026E NO VOLMAP RECORDS FOUND IN BACKINFO

Explanation:

No VOLMAP type records were found in the backinfo data set. Processing terminates.

User response:

Check that a correct backinfo data set is being used. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL06027E SPECIFIED BACKUP VOLSER: vvvvvv IS ONLINE ON DEVN: dddd WHICH IS NOT ITS SPECIFIED DEVN: dddd

Explanation:

The indicated backup volume volser is online but it is on a different device number than specified in the backinfo data set. Processing terminates.

User response:

Check that a correct backinfo data set is being used. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL06028E UNABLE TO GENERATE BACKUP VOLSER FOR SOURCE VOLSER: vvvvvv; NO MATCHING VOLSER RENAME MASK FOUND

Explanation:

A backup volume volser needs to be generated but there is no entry in the VOLSER-RENAME-MASKS keyword that matches the volser of its corresponding source volume. Processing terminates.

User response:

Add an entry to the VOLSER-RENAME-MASKS keyword that matches the indicated source volser.

GCL06029E SPECIFIED BACKUP DEVN: dddd IS NOT DEFINED TO Z/OS

Explanation:

The device number specified for a backup volume in the backinfo data set is not defined to z/OS. Processing terminates.

User response:

Check that the device number specified is correct and the job is running on a z/OS system where the device is defined.

GCL06030E BACKUP VOLSER NOT SPECIFIED FOR SOURCE VOLSER: vvvvvv

Explanation:

A unique volser was not specified for a backup volume in the backinfo data set and the CLIP-IF-OFFLINE(Y) keyword was not used. Processing terminates.

User response:

Determine if the CLIP-IF-OFFLINE(Y) keyword should be used or correct the backinfo data set to have a unique volser for the backup volume.

GCL06031E DUPLICATE BACKUP VOLSER: vvvvvv FOUND FOR SOURCE VOLSER: vvvvvv AND SOURCE VOLSER: vvvvvv

Explanation:

The backinfo data set has two VOLMAP records for different source volumes that have the same backup volser specified. Processing terminates.

User response:

Check that a correct backinfo data set is being used. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL06032E SOURCE VOLSER: vvvvvv IS ALSO USED AS A BACKUP VOLSER FOR SOURCE VOLSER: vvvvvv

Explanation:

The backinfo data set has a source volser that is also used as a backup volser for a different source volume. Processing terminates.

User response:

Check that a correct backinfo data set is being used. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL06033E VOLSER: vvvvvv FOR UCAT: usercatalog \DOES NOT MATCH ANY SOURCE VOLSER

Explanation:

The backinfo data set has a UCAT record for the indicated user catalog but the volser specified for it is not a source volser in a VOLMAP record. Processing terminates.

User response:

Check that a correct backinfo data set is being used. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL06034E USERCATALOGS ENTRY: usercatalog DOES NOT MATCH ANY UCAT ENTRY FOUND IN BACKINFO

Explanation:

The indicated user catalog was specified in the USERCATALOGS keyword but the backinfo data set does not have a UCAT entry for that user catalog. Processing terminates.

User response:

Check that a correct backinfo data set is being used and the user catalog has been specified correctly in the USERCATALOGS keyword.

GCL06035I NO BACKUP VOLUMES NEED TO BE CLIPPED

Explanation:

All the backup volumes are already online with their expected volsers.

User response:

None. This message is informational.

GCL06036E NO BACKUP VOLSER SPECIFIED IN BACKINFO FOR SOURCE VOLSER: vvvvvv BUT ITS SPECIFIED DEVN: dddd IS ONLINE WITH VOLSER: vvvvvv

Explanation:

The VOLMAP record in the backinfo data set for source volser has no backup volume volser. This condition means that the backup volume is expected to be offline but the backup volume device was found to be online with the indicated volser. Processing terminates.

User response:

Check that a correct backinfo data set is being used. If this is a rerun of a prior failed CLIP-IF-OFFLINE(Y) run specify the RESUME keyword.

GCL06037I BACKUP VOLUME ON DEVN: dddd APPEARS TO HAVE ALREADY BEEN CLIPPED TO VOLSER: vvvvvv

Explanation:

The CLIP-IF-OFFLINE(Y) and RESUME keywords have been specified and the indicated backup volume appears to have already been clipped to the indicated volser.

User response:

None. This message is informational.

GCL06038I BACKUP VOLUME ON DEVN: dddd WILL BE CLIPPED TO {GENERATED | SPECIFIED} VOLSER: vvvvvv | BACKUP VOLUME ON DEVN: dddd IS ALREADY ONLINE WITH SPECIFIED VOLSER: vvvvvv

Explanation:

The backup volume on the indicated device will be clipped to the indicated generated or specified volser. OR The backup volume on the indicated device is already with the specified volser.

User response:

None. This message is informational.

GCL06040E GCL00900 UNEXPECTED RESULTS; error text

Explanation:

An unexpected condition occurred calling program GCL00900. 'error text' has a description of the problem. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL06041E INTERNAL ERROR; LOC=lllll

Explanation:

An internal error has occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL06042I VOLUME PAIRS BEING USED: list of pairs

Explanation:

The listed pairs were found in the backinfo data set.

User response:

None. This message is informational.

GCL06050E ERROR IN PARAMETERS FOR keyword

Explanation:

The parameters for the indicated keyword were incorrect. Processing terminates.

User response:

Check the keyword parameters. Mutually exclusive keywords may have been used.

GCL06051E REQUIRED KEYWORD MISSING: keyword

Explanation:

A keyword required for processing has been omitted. Processing terminates.

User response:

Specify the required keyword.

GCL06052E THE SAME DDNAME HAS BEEN SPECIFIED FOR MULTIPLE KEYWORDS: ddname

Explanation:

The indicated ddname has been specified in multiple keywords. The specified ddnames must all be different. Processing terminates.

User response:

Specify the required keyword.

GCL06053E KEYWORD: keyword MAXIMUM LENGTH: nnn EXCEEDED

Explanation:

The operand entered for a keyword exceeded the maximum length allowed for the operand. *nnn* is the

maximum allowed length for the keyword. Processing terminates.

User response:

Specify different ddnames in the keywords.

**GCL06054E KEYWORD HAS MORE THAN 1
OPERAND; ONLY 1 ALLOWED:
keyword**

Explanation:

Multiple operands were detected for a keyword; only one operand is permitted. Processing terminates.

User response:

Correct the keyword to use one operand.

**GCL06056E NOTHING SPECIFIED FOR
KEYWORD: keyword**

Explanation:

A keyword was entered without an appropriate operand. Processing terminates.

User response:

Specify an appropriate operand for the keyword.

**GCL06057E DUPLICATE FOUND; KEYWORD:
keyword ENTRY: entry**

Explanation:

The indicated 'entry' for the keyword was previously specified. Processing terminates.

User response:

Remove the duplicate entry.

**GCL06058E INVALID VALUE IN KEYWORD:
keyword VALUE: value error text**

Explanation:

The value in the keyword is invalid. 'error text' indicates the problem detected with the value. Processing terminates.

User response:

Correct the value specified in the keyword.

**GCL06060E UCBLOOK ERROR; RETURN
CODE=nn REASON CODE=nn
LOC=llll**

Explanation:

An error occurred during UCBLOOK processing. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL06064E INVALID VOLSER: volser IN
KEYWORD: keyword**

Explanation:

The volume serial number specified is invalid. Processing terminates.

User response:

Correct the volser specification.

**GCL06068E UNMATCHED ENTRIES IN
KEYWORD: keyword**

Explanation:

For USERCATALOGS, there must be a source BCS followed by a target BCS. An uneven number of BCS's was specified. For VOLSER-RENAME-MASKS, there must be a source mask followed by a backup mask. An uneven number of masks was specified. Processing terminates.

User response:

Correct the keyword specification.

**GCL06081I DSNs FOR KEYWORD: keyword list
of dsn**

Explanation:

Parsing found the listed dsn for the keyword.

User response:

None. This message is informational.

**GCL06082I VOLSER RENAME MASK PAIRS
FOR KEYWORD: keyword list of
mask pairs**

Explanation:

Parsing found the listed mask pairs for the keyword.

User response:

None. This message is informational.

**GCL06083W VOLSER-RENAME-MASKS
SPECIFIED BUT WILL NOT BE
USED DUE TO CLIP-IF-OFFLINE(N)**

Explanation:

The VOLSER-RENAME-MASKS keyword has been specified but CLIP-IF-OFFLINE(N) has also been specified or defaulted to. The volser rename masks will not be used.

User response:

None, or remove the VOLSER-RENAME-MASKS keyword, or use CLIP-IF-OFFLINE(Y).

GCL06086I VALIDATING KEYWORD: keyword

Explanation:

Parsing is checking the indicated keyword in the command.

User response:

None. This message is informational.

**GCL10001I hh:mm:ss RENAME PROCESS
STARTED - PROGRAM REV=rrr
| hh:mm:ss RENAME PROCESS
COMPLETED; RETURN CODE=nnn**

Explanation:

RENAME command processing message.

User response:

None. This message is informational.

**GCL10003I DDNAME=ddname ALLOCATED
FOR DSN=datasetname**

Explanation:

'ddname' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

**GCL10004E DDNAME MISSING: ddname |
OPEN FAILED FOR DDNAME:
ddname**

Explanation:

'ddname' was specified for IMS Cloning Tool to use. Processing terminates.

User response:

Either correct the ddname specified, or, add the appropriate ddname to the job's JCL.

**GCL10005E ALLOCATION FAILED FOR DSN:
datasetname | ALLOCATION
FAILED FOR DDNAME: ddname**

Explanation:

Dynamic allocation for a data set or ddname failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL10005W DEALLOCATION FAILED FOR
DDNAME: ddname**

Explanation:

Dynamic deallocation for a ddname failed. The associated z/OS messages are displayed. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL10006E ERROR CALLING GCL01VV1 tttttt
FUNCTION: function R15=nnnn
R0=nnnnnnnn LOC=llll**

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *lllll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of IMS Cloning Tool.

**GCL10007W ERROR CALLING GCL01HEX;
FUNCTION: function R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL10008E UNABLE TO LOAD PROGRAM:
program name**

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL10009E ERROR ACCESSING JOURNAL
FILE; LOC=lllll**

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL10010E DUPLICATE JOURNAL ENTRY;
LOC=lllll**

Explanation:

A duplicate record was detected. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL10011E JOURNAL CONTROL RECORD
NOT FOUND | JOURNAL
CONTROL RECORD IS WRONG
VERSION | JOURNAL USER
CATALOG RECORD(S) NOT FOUND
| JOURNAL VOLUME PAIR
RECORD(S) NOT FOUND |
JOURNAL EXCLUDE RENAME
MASK RECORD(S) NOT FOUND**

Explanation:

An expected record was not found in the IMS Cloning Tool journal file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL10013E RECORD COUNT IS ZERO; LOC=/////
| COUNT MISMATCH; RECORDS
READ=rrrr CONTROL RECORD
COUNT=cccc

Explanation:

There was a problem with the journal records needed to initiate the command. For the first format, the journal control record indicates no entries were added. For the second format, the number of records read from the journal, rrrr, is not the same as the number indicated in the journal control record, cccc Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL10015E THE COPY PROCESS DID NOT
COMPLETE SUCCESSFULLY

Explanation:

The journal indicates that the COPY command did not complete successfully. Processing terminates.

User response:

Check that the COPY command has completed successfully before initiating the RENAME command.

GCL10016I COPY WAS A SIMULATION;
RENAME CHANGED TO
SIMULATION

Explanation:

The journal indicates that the COPY command was a simulation. Processing continues, but, the RENAME will be run as a simulation.

User response:

None required.

GCL10017E THE DDNAME IS EMPTY OR HAS
BEEN DUMMIED, DDNAME: *ddn*

Explanation:

No records were read from the ddname specified for a keyword. Processing terminates.

User response:

Check that the DD has not been specified as 'DD DUMMY' or 'DD DSN=NULLFILE'. Check that the DSN specified in the ddn has been created successfully.

GCL10019E THE EXCLUDE-SRCNAME-MASKS-
DDN DOES NOT HAVE A LRECL OF
80, DDNAME: *ddn*

Explanation:

The data set allocated to the ddname does not have a LRECL of 80. The LRECL of this data set must be 80. Processing terminates.

User response:

Change the data set allocated to the ddname to have a LRECL of 80.

GCL10020E SOURCE CATALOG BACKUP HAS
NOT BEEN DONE

Explanation:

The source catalogs have not been backed up. Processing terminates.

User response:

Run UCATOPTIONS BACKUP to backup the source catalogs.

GCL10040E ERROR ATTACHING DRIVER,
PGM=*program name* |
UNEXPECTED CONDITION, TASK
NOT POSTED

Explanation:

ERROR ATTACHING DRIVER, PGM=*program name*: The indicated program name was not found. Processing terminates. *or*

Explanation:

UNEXPECTED CONDITION, TASK NOT POSTED: The program returned from a 'WAIT', but, had not been posted. Processing terminates.

User response:

ERROR ATTACHING DRIVER, PGM=*program name*: Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

User response:

UNEXPECTED CONDITION, TASK NOT POSTED: Contact IBM Software Support with the listing that contains this message.

GCL10041E GCL00900 UNEXPECTED
RESULTS; *error text*

Explanation:

An unexpected condition occurred calling program GCL00900. 'error text' has a description of the problem. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL10042E RERUN NOT SPECIFIED AND
PREVIOUS RUN WAS NOT A
SIMULATION

Explanation:

A RENAME was attempted without the RERUN parameter, but the journal indicates that a non-simulation RENAME has already been attempted.

User response:

If 'SAFE' mode was used for the first RENAME, specify 'RERUN' for the RENAME command.

GCL10043E **VOLBKUP DSNNAME MISMATCH:**
CURRENT DSN=*current dsn*
in command PREVIOUS
DSN=*previous dsn used*

Explanation:

A RENAME with RERUN is pointing to a different data set for the volume backup file.

User response:

Correct the data set name for the volume backup file in the JCL.

GCL10044E **RERUN WAS SPECIFIED AND**
PREVIOUS RUN WAS NOT SAFE

Explanation:

A RENAME RERUN was attempted, but the journal indicates that a previous RENAME did not include the SAFE parameter.

User response:

The COPY command will need to be run before initiating the RENAME command without the RERUN parameter.

GCL10048I **OPTIONS IN EFFECT FOR THIS**
EXECUTION: *merged options*

Explanation:

Informational message indicating how RENAME will handle the options. The displayed options are derived from the INI and any overriding specifications in the command input.

User response:

None. This message is informational.

GCL10050E **ERROR IN PARAMETERS FOR**
keyword

Explanation:

The parameters for the indicated keyword were incorrect. Processing terminates.

User response:

Check the keyword parameters. Mutually exclusive keywords may have been used.

GCL10051E **REQUIRED KEYWORD MISSING:**
keyword

Explanation:

A keyword required for processing has been omitted. Processing terminates.

User response:

Specify the required keyword.

GCL10052E **REQUIRED INI SECTION/TOKEN**
MISSING: SECTION=*section*
TOKEN=*token* | **REQUIRED**
INI VALUE MISSING FOR
SECTION=*section* **TOKEN=***token*

| INVALID INI VALUE FOR
SECTION=*section* **TOKEN=***token*

Explanation:

An error occurred validating the GCLINI parmlib member options. Processing terminates.

User response:

Correct the GCLINI member in the IMS Cloning Tool PARMLIB data set.

GCL10053E **KEYWORD:** *keyword* **MAXIMUM**
LENGTH: *nnn* **EXCEEDED**

Explanation:

The operand entered for a keyword exceeded the maximum length allowed for the operand. *nnn* is the maximum allowed length for the keyword. Processing terminates.

User response:

Correct the length of the keyword's operand.

GCL10054E **KEYWORD HAS MORE THAN 1**
OPERAND; ONLY 1 ALLOWED:
keyword

Explanation:

Multiple operands were detected for a keyword; only one operand is permitted. Processing terminates.

User response:

Correct the keyword to use one operand.

GCL10056E **NOTHING SPECIFIED FOR**
KEYWORD: *keyword*

Explanation:

A keyword was entered without an appropriate operand. Processing terminates.

User response:

Specify an appropriate operand for the keyword.

GCL10057E **DUPLICATE FOUND; KEYWORD:**
***keyword* ENTRY:** *entry*

Explanation:

The indicated 'entry' for the keyword was previously specified. Processing terminates.

User response:

Remove the duplicate entry.

GCL10058E **INVALID VALUE IN KEYWORD:**
***keyword* VALUE:** *value error text*

Explanation:

The value in the keyword is invalid. 'error text' indicates the problem detected with the value. Processing terminates.

User response:

Correct the value specified in the keyword.

GCL10061E **GCL01SMF ERROR; RETURN
CODE=nnnn LOC: llllll INVALID
smstypeCLAS NAME: class entry**

Explanation:

An error occurred using GCL01SMF to verify the SMS class specified. *llllll* is the internal location where the error occurred. *smstype* indicates DATA, MGMT, or, STOR. Processing terminates.

User response:

Correct the indicated SMS class entry.

GCL10068E **UNPAIRED ENTRIES IN
KEYWORD: keyword**

Explanation:

The keyword requires pairs of entries. An odd number of entries was found. Processing terminates.

User response:

Correct the keyword specification.

GCL10069E **SMF IS NOT RECORDING THE
SPECIFIED RECORD TYPE: nnn**

Explanation:

The SMF audit log has been requested but SMF is not recording the specified record type. Processing terminates.

User response:

Correct the keyword specification to use a record type that SMF is recording or have SMF record the specified record type.

GCL10085I **DSNS FOR KEYWORD: keyword
PROCESSING SEQUENCE list of
dsns number**

Explanation:

Parsing found the listed dsns for the keyword. The processing sequence number shows the order that the dsns were entered and will be the order used during processing.

User response:

None. This message is informational.

GCL10086I **VALIDATING KEYWORD: keyword**

Explanation:

Parsing is checking the indicated keyword indicated in the command.

User response:

None. This message is informational.

GCL11001I **hh:mm:ss VOLUME UPDATES
STARTED - PROGRAM REV=rrr
(** SIMULATION **) | hh:mm:ss
VOLUME UPDATES COMPLETED;
RETURN CODE=nnn**

Explanation:

VOLUME UPDATES processing message.

User response:

None. This message is informational.

GCL11030I **VOLUME CONVERSION STARTED
FOR source volume/target
volume | VOLUME CONVERSION
COMPLETED FOR source volume/
target volume; RETURN CODE=nn
DATA SETS=nnnnnn | VOLUME
CONVERSION FAILED FOR source
volume/target volume; RETURN
CODE=nn DATA SETS=nnnnnn**

Explanation:

Volume processing information message. DATA SETS=nnnnnn indicates the number of format 1 dscb's renamed on the target volume.

User response:

None, unless the message includes the word FAILED or the RETURN CODE= is greater than four (4). If so, check the sysout for that target volume for the error messages.

GCL11004E **OPEN FAILED FOR
DDNAME=ddname**

Explanation:

'ddname' was allocated for IMS Cloning Tool to use, but the open for the file failed. Processing terminates.

User response:

If unable to determine the reason the open failed, contact IBM Software Support with the listing that contains this message.

GCL11006E **ERROR CALLING GCL01VV1 tttttt
FUNCTION: function R15=nnnn
R0=nnnnnnnn LOC=lllll**

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *lllll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

GCL11007W **ERROR CALLING GCL01HEX;
FUNCTION: function R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL11009E **ERROR ACCESSING JOURNAL
FILE; LOC=lllll**

Explanation:

A VSAM error occurred accessing the journal file.
Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL11011E JOURNAL VOLUME PAIR RECORD
NOT FOUND FOR *source volume*/
*target volume***

Explanation:

An expected record was not found in the IMS Cloning Tool journal file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11024E VOLUME BACKUP FAILED FOR
volser. SEE SYSOUT DRSTATS FOR
MORE INFORMATION**

Explanation:

An error occurred during SAFE mode attempting to backup a volume. Processing terminates.

User response:

Check the DRSTATS for the error that occurred. If unable to correct the problem, contact IBM Software Support with the listing that contains this message.

**GCL11031I VOLUME CONVERSION TOTAL
DATA SETS: *nnnnnnnn***

Explanation:

Volume processing information message. The number is the total number of format 1 dsch's renamed on all target volumes.

User response:

None. This message is informational.

**GCL11032I VOLUME BACKUP STARTED FOR
target volume | VOLUME BACKUP
COMPLETED FOR *target volume***

Explanation:

Volume processing information message. During 'SAFE' mode, the target volume's VTOC, VTOCIX, and VVDS are backed up before any changes occur.

User response:

None. This message is informational.

**GCL11033W VOLUME CONVERSION BYPASSED
FOR *source volume*/*target volume*
DUE TO PRIOR ERRORS**

Explanation:

Volume processing has not been done for the target volume due to errors that happened while processing another volume. The other volumes with errors can

be determined from the prior messages: GCL11030I
VOLUME CONVERSION FAILED FOR *srcvol*/*tgtvol*

User response:

Correct the cause for the errors that happened to the other volumes and do a RENAME RERUN if possible. If RENAME RERUN is not possible the COPY will have to be redone.

**GCL11034I TOTAL BYTES WRITTEN TO
VOLBKUP DDNAME=*ddname*;
*nnnnnnnn***

Explanation:

Volume processing information message. This shows the number of bytes that were written to the VOLBKUP file.

User response:

None. This message is informational.

**GCL11035I TARGET VOLUME *volser* IS AN
EXTENDED ADDRESS VOLUME;
ICKDSF WILL BE USED TO
REBUILD THE VTOCIX**

Explanation:

The identified volume is an Extended Address Volume and VTOCIX_REBUILDER = MSC has been specified in the INI. For Extended Address Volumes ICKDSF will always be used to rebuild the VTOCIX.

User response:

None. This message is informational.

**GCL11040E UNEXPECTED CONDITION; *error*
*text***

Explanation:

An unexpected condition occurred while dispatching a volume task or while waiting for the completion of a volume task. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11041E TARGET VOLUME *target volume* IS
NOT IN A PROPER STATE FOR
RENAME**

Explanation:

The target volume is not in a proper state for RENAME processing. The volume may have been modified between COPY and RENAME which is not allowed. Processing terminates.

User response:

The COPY will need to be run again to put the target volume into the proper state for RENAME processing.

**GCL11042W UNEXPECTED CONDITION; *error*
*text***

Explanation:

An unexpected condition occurred while dispatching a service task. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11060E ERROR DURING *function* FOR
VOLSER=*volume* - RETURN
CODE=*nnnn* REASON CODE=*nnnn***

Explanation:

An error occurred using IOSCAPU, UCBLOOK, or UCBPIN. Processing terminates.

User response:

A return code 4 from UCBLOOK may indicate the volser is offline. If unable to determine the cause of the error, contact IBM Software Support with the listing that contains this message.

**GCL11089I NOT ALL DATASETS HAVE BEEN
RENAMED ON THE VOLUMES**

Explanation:

An error occurred during volume rename processing that caused some data sets to not be renamed on a volume. Message GCL11030I will indicate which volume pair had an error.

User response:

Correct the cause of the error and rerun RENAME if possible.

**GCL11101I hh:mm:ss VOLUME UPDATE
STARTED - PROGRAM REV=*rrr*
(** SIMULATION **) | hh:mm:ss
VOLUME UPDATE COMPLETED;
RETURN CODE=*nnn* F1DSCB
COUNT=*nnnnnnnn***

Explanation:

Individual VOLUME UPDATE processing message.

User response:

None. This message is informational.

**GCL11102I RENAMING VTOC ENTRIES ON
VOLUME: *target volume* (**
SIMULATION **) | RENAMING
VTOCIX ENTRIES ON VOLUME:
target volume (** SIMULATION **)**

Explanation:

Individual VOLUME UPDATE processing messages.

User response:

None. This message is informational.

**GCL11104E OPEN FAILED FOR
DDNAME=*ddname***

Explanation:

'ddname' was allocated for IMS Cloning Tool to use, but the open for the file failed. Processing terminates.

User response:

If unable to determine the reason the open failed, contact IBM Software Support with the listing that contains this message.

**GCL11105E ALLOCATION FAILED FOR
DDNAME: *ddname***

Explanation:

Dynamic allocation for a ddname failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL11105W DEALLOCATION FAILED FOR
DDNAME: *ddname***

Explanation:

Dynamic deallocation for a ddname failed. The associated z/OS messages are displayed. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL11106E ERROR CALLING GCL01VV1 *tttttt*
FUNCTION: *function* R15=*nnnn*
R0=*nnnnnnnn* LOC=*lllll***

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *lllll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

**GCL11107W ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=*nnnn***

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11109E ERROR ACCESSING JOURNAL
FILE; LOC=*lllll***

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL11110W **VOLSER IN FORMAT 1 NOT IN
VOLSER PAIRS: *volser* found DSN:
*datasetname***

Explanation:

The volume serial found in the format 1 dscb for the indicated data set is not in the volume pairs. Processing continues.

User response:

This probably is a condition copied from the source volumes. If desired, correct the format 1 dscb on the source volume for the data set. (An incorrect volume serial in the format 1 dscb will not prevent accessing the data set.)

GCL11112W **DATA SET MATCHES NO RENAME
MASK: *datasetname* (MATCHES
EXCLUDE MASK)**

Explanation:

The indicated data set did not match any source rename mask. If the message includes (MATCHES EXCLUDE MASK) the data set matched an entry in the EXCLUDE-SRCNAME-MASKS keyword. Processing continues. Processing continues.

User response:

None required.

GCL11114E **UNEXPECTED VALUE FOUND IN
VVDS**

Explanation:

During rename of the SYS1.VVDS data set, something unexpected was found in the self-defining entry. The entry is printed. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL11115E **VOLUME VOLSER NOT EQUAL TO
NEW VOLSER: *volser* in label**

Explanation:

During volume processing, the volume serial in the label does not match the target volume. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL11117E **RENAME WOULD CAUSE A
DUPLICATE DSN IN VTOC: *source*
dsn NEWNAME: *target dsn***

Explanation:

The target dsn would result in a duplicate name in the VTOC. Processing terminates.

User response:

Correct the RENAME-MASKS to prevent the creation of duplicate data set names.

GCL11120E **UNPOPULATED SECTION; VIR
ENTRIES AVAILABLE**

Explanation:

An internal error occurred during VTOCIX processing.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL11121E **EXPECTED VIXM ENTRY NOT
FOUND**

Explanation:

An internal error occurred during VTOCIX processing.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL11122E **EXPECTED VIB ENTRY NOT FOUND**

Explanation:

An internal error occurred during VTOCIX processing.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL11123E **UNKNOWN RECORD TYPE FOUND
IN VTOCIX**

Explanation:

An internal error occurred during VTOCIX processing.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL11124E **UNABLE TO VALIDATE DCE FOR
VOLUME: *target volume***

Explanation:

The DCE fields for the target volume have not been set. Accessing the VTOC did not cause the DCE fields to be corrected.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL11130E **RETURN CODE 8 SET FOR NOT
RENAMED DATA SET(S) | RETURN
CODE 8 SET FOR TEMPORARY
DATA SET(S)**

Explanation:

A return code of 8 was requested for the indicated condition. Processing terminates.

User response:

None required, unless a return code of 0 or 4 is desired for the condition. If a return code other than

8 is wanted, either change the GCLINI member in PARMLIB, or, override the return code in the RENAME command.

GCL11131I RENAMED DATA SETS:**Explanation:**

A RENAME SIMULATE was requested. The data set names that are listed will be renamed on the target volume.

User response:

None. This message is informational.

**GCL11133E EXCP FAILED: *function* | SYNAD
TEXT: error text from SYNADAF****Explanation:**

An EXCP request failed. SYNADAF was invoked to help diagnose the problem. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11143E UNABLE TO RENAME DSN=*source
datasetname* | USING
MASK=*target mask*****Explanation:**

The new name of a data set will exceed 44 characters. Processing terminates.

User response:

Correct the RENAME-MASKS specification.

**GCL11157E *type* VOLSER: *volser* IS EXTENDED
ADDRESS VOLUME****Explanation:**

The indicated volser is an Extended Address Volume (EAV). Extended Address Volumes are not currently supported by GCL. Processing terminates.

User response:

Exclude the volume from processing.

**GCL11160E ERROR DURING *function* FOR
VOLSER=*volume* - RETURN
CODE=*nnnn* REASON CODE=*nnnn*****Explanation:**

An error occurred using IOSCAPU, UCBLOOK, or UCBPIN. Processing terminates.

User response:

A return code 4 from UCBLOOK may indicate the volser is offline. If unable to determine the cause of the error, contact IBM Software Support with the listing that contains this message.

**GCL11161E ERROR CALLING SMFWTM;
R15=*nnnn*****Explanation:**

An error occurred using the SMFWTM macro. Processing terminates.

User response:

If unable to determine the cause of the error, contact IBM Software Support with the listing that contains this message.

**GCL11201I *hh:mm:ss* VOLUME UPDATE
COMPLETED; RETURN CODE=*nnn*
F1DSCB COUNT=*nnnnnnnn*
F8DSCB COUNT=*nnnnnnnn*****Explanation:**

Individual VOLUME UPDATE processing message.

User response:

None

**GCL11202I RENAMING VTOC ENTRIES ON
VOLUME: *target volume* (**
SIMULATION **)****Explanation:**

Individual VOLUME UPDATE processing message.

User response:

None. This message is informational.

**GCL11203I DDNAME=*ddname* ALLOCATED
FOR DSN=*datasetname*****Explanation:**

'ddname' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

**GCL11204E OPEN FAILED FOR
DDNAME=*ddname*****Explanation:**

'ddname' was allocated for IMS Cloning Tool to use, but the open for the file failed. Processing terminates.

User response:

If unable to determine the reason the open failed, contact IBM Software Support with the listing that contains this message.

**GCL11205E ALLOCATION FAILED FOR DSN:
datasetname | ALLOCATION
FAILED FOR DDNAME: *ddname*****Explanation:**

Dynamic allocation for a data set or ddname failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL11205W ALLOCATION FAILED FOR DSN:
datasetname | ALLOCATION
FAILED FOR DDNAME: ddname**

Explanation:

Dynamic deallocation for a ddname failed. The associated z/OS messages are displayed. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL11206E ERROR CALLING GCL01VV1 tttttt
FUNCTION: function R15=nnnn
R0=nnnnnnnn LOC=llll**

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *llll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

**GCL11207W ERROR CALLING GCL01HEX;
FUNCTION: function R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11209E ERROR ACCESSING JOURNAL
FILE; LOC=llll**

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL11210W VOLSER IN FORMAT 1 NOT IN
VOLSER PAIRS: volser found DSN:
datasetname**

Explanation:

The volume serial found in the format 1 dscb for the indicated data set is not in the volume pairs. Processing continues.

User response:

This probably is a condition copied from the source volumes. If desired, correct the format 1 dscb on the source volume for the data set. (An incorrect volume

serial in the format 1 dscb will not prevent accessing the data set.)

**GCL11212W DATA SET MATCHES NO RENAME
MASK: datasetname (MATCHES
EXCLUDE MASK)**

Explanation:

The indicated data set did not match any source rename mask. If the message includes (MATCHES EXCLUDE MASK) the data set matched an entry in the EXCLUDE-SRCNAME-MASKS keyword. Processing continues.

User response:

None required.

**GCL11214E UNEXPECTED VALUE FOUND IN
VVDS**

Explanation:

During rename of the SYS1.VVDS data set, something unexpected was found in the self-defining entry. The entry is printed. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11215E UNEXPECTED VALUE FOUND IN
VVDS**

Explanation:

During volume processing, the volume serial in the label does not match the target volume. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11217E RENAME WOULD CAUSE A
DUPLICATE DSN IN VTOC: source
dsn NEWNAME: target dsn**

Explanation:

The target dsn would result in a duplicate name in the VTOC. Processing terminates.

User response:

Correct the RENAME-MASKS to prevent the creation of duplicate data set names.

**GCL11230E RETURN CODE 8 SET FOR NOT
RENAMED DATA SET(S) | RETURN
CODE 8 SET FOR TEMPORARY
DATA SET(S)**

Explanation:

A return code of 8 was requested for the indicated condition. Processing terminates.

User response:

None required, unless a return code of 0 or 4 is desired for the condition. If a return code other than

8 is wanted, either change the GCLINI member in PARMLIB, or, override the return code in the RENAME command.

GCL11231I RENAMED DATA SETS:

Explanation:

A RENAME SIMULATE was requested. The data set names that are listed will be renamed on the target volume.

User response:

None. This message is informational.

**GCL11233E EXCP FAILED: *function* | SYNAD
TEXT: *error text from SYNADAF***

Explanation:

An EXCP request failed. SYNADAF was invoked to help diagnose the problem. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11235W ICKDSF COMMAND FAILED FOR
TARGET VOLSER: *target volser***

Explanation:

The ICKDSF command failed. The messages from ICKDSF will be printed.

User response:

If unable to determine the reason for the ICKDSF failure, contact IBM Software Support with the listing that contains this message.

**GCL11243E UNABLE TO RENAME DSN=*source
datasetname* | USING
MASK=*target mask***

Explanation:

The new name of a data set will exceed 44 characters. Processing terminates.

User response:

Correct the RENAME-MASKS specification.

**GCL11257E *type* VOLSER: *volser* IS EXTENDED
ADDRESS VOLUME**

Explanation:

The indicated volser is an Extended Address Volume (EAV). Extended Address Volumes are not currently supported by GCL. Processing terminates.

User response:

Exclude the volume from processing.

**GCL11260E ERROR DURING *function* FOR
VOLSER=*volume* - RETURN
CODE=*nnnn* REASON CODE=*nnnn***

Explanation:

An error occurred using IOSCAPU, UCBLOOK, or UCBPIN. Processing terminates.

User response:

A return code 4 from UCBLOOK may indicate the volser is offline. If unable to determine the cause of the error, contact IBM Software Support with the listing that contains this message.

**GCL11261E ERROR CALLING SMFWTM;
R15=*nnnn***

Explanation:

An error occurred using the SMFWTM macro. Processing terminates.

User response:

If unable to determine the cause of the error, contact IBM Software Support with the listing that contains this message.

**GCL11303I DDNAME=*ddname* ALLOCATED
FOR DSN=*datasetname***

Explanation:

'ddname' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

**GCL11305E ALLOCATION FAILED FOR DSN:
*datasetname***

Explanation:

Dynamic allocation for a data set failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL11305W DEALLOCATION FAILED FOR
DDNAME: *ddname***

Explanation:

Dynamic deallocation for a ddname failed. The associated z/OS messages are displayed. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL11306E ERROR CALLING GCL01VV1 *tttttt*
FUNCTION: *function* R15=*nnnn*
R0=*nnnnnnnn* LOC=*lllll***

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *lllll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

**GCL11307W ERROR CALLING GCL01HEX;
FUNCTION: *function R15=nnnn***

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11309E ERROR ACCESSING JOURNAL
FILE; LOC=/////**

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL11312W DATA SET MATCHES NO RENAME
MASK: *datasetname* (MATCHES
EXCLUDE MASK)**

Explanation:

The indicated data set did not match any source rename mask. If the message includes (MATCHES EXCLUDE MASK) the data set matched an entry in the EXCLUDE-SRCNAME-MASKS keyword. Processing continues.

User response:

None required.

**GCL11330E RETURN CODE 8 SET FOR NOT
RENAMED DATA SET(S) | RETURN
CODE 8 SET FOR MISSING USER
CATALOG(S)**

Explanation:

A return code of 8 was requested for the indicated condition. Processing terminates.

User response:

None required, unless a return code of 0 or 4 is desired for the condition. If a return code other than 8 is wanted, either change the GCLINI member in PARMLIB, or, override the return code in the RENAME command.

**GCL11335I SMS *smstype*CLAS COPIED FROM
SOURCE FOR VVDS ENTRY -
*dsname***

Explanation:

No default value was given for the smstype (DATA, MGMT, or, STOR). The indicated SMS class for the entry was copied from the source data set.

User response:

None required, unless a specific class is desired.

**GCL11340W RENAMES NOT COMPLETE FOR
VVDS ENTRY - COMPONENT
NAME=*dsname***

Explanation:

A VVDS entry could not be completely renamed. Processing continues. The entry will be handled as a 'not renamed' data set.

User response:

None required.

**GCL11341W RENAMES NOT DONE FOR
VVDS ENTRY - COMPONENT
NAME=*dsname***

Explanation:

A VVDS entry could not be renamed. Processing continues. The entry will be handled as a 'not renamed' data set.

User response:

None required.

**GCL11342W USER CATALOG NOT IN
CATALOG LIST - COMPONENT
NAME=*dsname* | BCS=*user catalog***

Explanation:

A VVDS entry had a BCS backpointer which was not in the list of source user catalogs. Processing continues. The data set will be handled as a 'missing ucat' data set.

User response:

None required.

**GCL11343W UNABLE TO RENAME DSN=*source
datasetname* | USING
MASK=*target mask***

Explanation:

The new name of a data set will exceed 44 characters. Processing continues.

User response:

None required.

**GCL11344E VVDS ENTRY NOT FOUND FOR
*dsname***

Explanation:

An expected VVDS entry was not found for the dsname. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11345E ERROR ACCESSING VVDS,
LOC=/////**

Explanation:

An error occurred processing the VVDS on the volume. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11347E DSI CELL NOT FOUND IN VVDS
RECORD FOR *dsname***

Explanation:

An expected VVDS cell was not found for the *dsname*. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11348E ERROR CALLING GCL00902;
R15=nnnn NEW DSN=*target*
*dsname***

Explanation:

An error occurred CALLING GCL00902 to obtain ACS information for the target data set name. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11349E VVDS WITH DSN=*dataset* NOT
FOUND ON VOLUME=*volser***

Explanation:

The VVDS with name of data set was not found on volume *volser*. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11350E ERROR CALLING GCL01VE2;
FUNCTION: *function* R15=nnnn
R0=xxxx | VVDS DSN=*dataset*
VOL=*volser* RBA=xxxx**

Explanation:

An error occurred using GCL01VE2 to read a VVDS. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11351I RENAMED CATALOG IS NOT
USABLE: *dsname***

Explanation:

A catalog on a target volume was included in a RENAME-MASKS entry. The cloned catalog is not usable.

User response:

None. This message is informational.

**GCL11352E UPDATED VVDS ENTRY EXCEEDS
MAXIMUM ALLOWABLE LENGTH**

Explanation:

An updated VVDS entry was found to be larger than the maximum allowable size. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11353I DUMP OF VVDS ENTRY: | DUMP OF
ORIGINAL VVDS ENTRY: | DUMP
OF UPDATED VVDS ENTRY:**

Explanation:

A dump of the VVDS entry follows.

User response:

None. This message is informational.

**GCL11401I hh:mm:ss VOLUME CLEANUP
STARTED - PROGRAM REV=*rrr*
(** SIMULATION **) hh:mm:ss
VOLUME CLEANUP COMPLETED;
RETURN CODE=*nnn***

Explanation:

VOLUME CLEANUP processing message.

User response:

None. This message is informational.

**GCL11405E ALLOCATION FAILED FOR
VOLUME: *volume serial* |
DEALLOCATION FAILED FOR
DDNAME: *ddname***

Explanation:

Dynamic allocation for a volume failed, or, dynamic deallocation for a *ddname* failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL11406E ERROR CALLING GCL01VV1 *ttttttt*
FUNCTION: *function* R15=nnnn
R0=nnnnnnnn LOC=*lllll***

Explanation:

A problem occurred using a dataspace. *ttttttt* is the name of the internal table. *lllll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

GCL11407W **ERROR CALLING GCL01HEX;**
FUNCTION: *function* R15=nnnn

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL11411E **JOURNAL FILE IS EMPTY**

Explanation:

An attempt was made to read the journal file. The file is empty. Processing terminates.

User response:

Verify that the journal file has been correctly specified.

GCL11430W **DELETE FAILED. RETURN**
CODE=nnnn REASON
CODE=nnnn VOLSER=*targetvolser*
DSN=*sourcedatasetname*

Explanation:

An attempt was made to delete a data set from a target volume. The request to SSI failed. Processing continues.

User response:

The target volumes are usable. There are either unrenamed data sets or temporary data sets that were not deleted.

GCL11435I **PROCESSING**
VOLSER=*targetvolser*

Explanation:

Volume cleanup informational message.

User response:

None. This message is informational.

GCL11436I **DELETE WILL BE ISSUED FOR**
DSN=*sourcedatasetname*

Explanation:

During a RENAME SIMULATE run, informational message issued for data sets which will be deleted from the target volumes during the actual RENAME run.

User response:

None. This message is informational.

GCL11501I **hh:mm:ss VOLUME RESTORES**
STARTED - PROGRAM REV=rrr
| hh:mm:ss VOLUME RESTORES
COMPLETED; RETURN CODE=nnn

Explanation:

VOLUME RESTORES processing message.

User response:

None. This message is informational.

GCL11503I **DDNAME=*ddname* ALLOCATED**
FOR DSN=*datasetname*

Explanation:

'*ddname*' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

GCL11504E **OPEN FAILED FOR**
DDNAME=*ddname*

Explanation:

'*ddname*' was allocated for IMS Cloning Tool to use, but, the open for the file failed. Processing terminates.

User response:

If unable to determine the reason the open failed, contact IBM Software Support with the listing that contains this message.

GCL11505E **ALLOCATION FAILED FOR DSN:**
datasetname

Explanation:

Dynamic allocation for a data set failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

GCL11505W **ALLOCATION FAILED FOR DSN:**
datasetname

Explanation:

Dynamic deallocation for a *ddname* failed. The associated z/OS messages are displayed. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

GCL11506E **ERROR CALLING GCL01VV1 *ttttttt***
FUNCTION: *function* R15=nnnn
R0=nnnnnnnn LOC=*lllll*

Explanation:

A problem occurred using a dataspace. *ttttttt* is the name of the internal table. *lllll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of IMS Cloning Tool.

GCL11507W **ERROR CALLING GCL01HEX;**
FUNCTION: *function* R15=nnnn

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11523E ERROR OPENING DDNAME
DRSTATS**

Explanation:

An error occurred opening sysout file DRSTATS. Processing terminates.

User response:

Check that the appropriate DD statement is in the JCL. If unable to determine the cause of the error, contact IBM Software Support with the listing that contains this message.

**GCL11524E VOLUME RESTORE FAILED FOR
volser. SEE SYSOUT DRSTATS FOR
MORE INFORMATION**

Explanation:

An error occurred during RERUN mode attempting to restore a volume. Processing terminates.

User response:

Check the DRSTATS for the error that occurred. If unable to correct the problem, contact IBM Software Support with the listing that contains this message.

**GCL11531W REVERTING TO USE VOLBKUP
DIRECTLY**

Explanation:

An error occurred using a subset of the VOLBKUP file. The VOLBKUP file will be used rather than a subset for volume metadata restores. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11532E VOLUMES IN VOLBKUP NOT IN
EXPECTED SEQUENCE**

Explanation:

An error occurred using the VOLBKUP file. The volume data in the VOLBKUP file was not in the expected sequence. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11560E ERROR DURING *function* FOR
VOLSER=*volume* - RETURN
CODE=*nnnn* REASON CODE=*nnnn***

Explanation:

An error occurred using IOSCAPU, UCBLOOK, or UCBPIN. Processing terminates.

User response:

A return code 4 from UCBLOOK may indicate the volser is offline. If unable to determine the cause of the error, contact IBM Software Support with the listing that contains this message.

**GCL11601I hh:mm:ss CHECK TARGETS
STARTED - PROGRAM REV=*rrr*
| hh:mm:ss CHECK TARGETS
COMPLETED; RETURN CODE=*nnn***

Explanation:

CHECK TARGETS processing message.

User response:

None. This message is informational.

**GCL11607W ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=*nnnn***

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11609E ERROR ACCESSING JOURNAL
FILE; LOC=*lllll***

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL11611E JOURNAL VOLUME PAIR
RECORD(S) NOT FOUND**

Explanation:

An expected record was not found in the IMS Cloning Tool journal file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11660E UCBSCAN ERROR; RETURN
CODE=*nn* REASON CODE=*nn*
| UCBINFO ERROR; RETURN
CODE=*nn* REASON CODE=*nn***

Explanation:

An error occurred using UCBSCAN or UCBINFO. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL11676E DEVICE TYPE AND MODEL NOT
FOUND FOR *volser***

Explanation:

IOSCDS for the volser did not return information about the target volume.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL11679E TARGET VOLSER *volser* WAS NOT FOUND ONLINE

Explanation:

The indicated target volume serial was not found online on the system running RENAME. Processing terminates.

User response:

Check that all the target volumes are online to the system which will be running RENAME.

GCL11681E VOLUME *volser* DEVICE NUMBER *nnnn* HAS NO *chpid* PATHS AVAILABLE

Explanation:

The indicated device has no paths available for IMS Cloning Tool to use to access the volume. Processing terminates.

User response:

Ensure that at least one *chpid* is online for each target device specified.

GCL11701I hh:mm:ss CATALOG VCLOSE STARTED - PROGRAM REV=*rrr* (SIMULATION **) | hh:mm:ss CATALOG VCLOSE COMPLETED; RETURN CODE=*nnn***

Explanation:

CATALOG VCLOSE processing message.

User response:

None. This message is informational.

GCL11703I DDNAME=*ddname* ALLOCATED FOR DSN=*datasetname*

Explanation:

'*ddname*' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

GCL11704E OPEN FAILED FOR DDNAME=*ddname*

Explanation:

'*ddname*' was allocated for IMS Cloning Tool to use, but the open for the file failed. Processing terminates.

User response:

If unable to determine the reason the open failed, contact IBM Software Support with the listing that contains this message.

GCL11705W ALLOCATION FAILED FOR DDNAME: *ddname* | DEALLOCATION FAILED FOR DDNAME: *ddname*

Explanation:

Dynamic allocation for a data set failed, or, dynamic deallocation for a *ddname* failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing continues without using CATALOG VCLOSE services. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

GCL11707W ERROR CALLING GCL01HEX; FUNCTION= *function* R15=*nnnn*

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL11720I CONSOLE *name* ACQUIRED FOR CATALOG VCLOSE COMMANDS

Explanation:

A console session has been acquired so that RENAME can issue MODIFY CATALOG,VCLOSE commands.

User response:

None. This message is informational.

GCL11721I CONSOLE *name* FREED

Explanation:

The operator console has been freed.

User response:

None. This message is informational.

GCL11722W UNABLE TO ACQUIRE A CONSOLE

Explanation:

RENAME has failed to acquire a console for performing operator commands. Processing continues without using a console to perform operator commands.

User response:

None.

GCL11723I CONSOLE *name* ALREADY IN USE, WILL TRY ANOTHER

Explanation:

The displayed name is already in use, probably from another copy of RENAME. RENAME will increment the number portion of the name and try again.

User response:

None. This message is informational.

GCL11724W MCS ALERT RECEIVED; text**Explanation:**

An alert has been received for the console. Text describes the type of alert. Processing continues.

User response:

None.

GCL11727I NON RESPONSE MDBS RECEIVED: nnn**Explanation:**

Informational message that displays the number of received messages that were not a response to the command issued.

User response:

None. This message is informational.

GCL11731W MCSOPER ERROR; FUNCTION= function RC=nnnn RSN=nnnn | MCSOPMSG ERROR; FUNCTION= function RC=nnnn RSN=nnnn**Explanation:**

An error occurred using MCSOPER or MCSOPMSG. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL11740I COMMAND: text**Explanation:**

Display operator command being issued.

User response:

None. This message is informational.

GCL11741W WAIT TIME EXCEEDED FOR COMMAND RESPONSE**Explanation:**

A response to the operator command was not received in a timely manner. Processing continues.

User response:

Determine if the catalog address space (CAS) is not responding to modify commands or is unable to process them in a timely manner. If unable to determine the cause, contact IBM Software Support with the listing that contains this message.

GCL12500I PGM GCL00125 INVOKED TO PERFORM ???????? FUNCTION ON VOL=volser UNIT=addr - PROGRAM REV=rrr**Explanation:**

Program GCL00125 is acknowledging a request to DUMP or RESTORE the VTOC and VVDS of the indicated volume.

User response:

None. This message is informational.

GCL12501E GCL00125 PARAMETER ERROR. parameter description**Explanation:**

GCL00125 has detected invalid parameters from the calling routine. This is an internal error.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL12504E DSPSERV CREATE ERROR RC=xx,RSN=yy, REQUESTING nnnnn 4K DATASPACE BLOCKS.**Explanation:**

Dataspace Creation failed with the above Return and Reason codes.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL12505E ALESERV ADD ERROR R15=xx CREATING DATASPACE ALET**Explanation:**

An error occurred while attempting to add an entry into the DU-AL for a private dataspace that has been created.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL12506I PGM GCL00125 ???????? PROCESSING COMPLETED RC=xx timestamp**Explanation:**

Program GCL00125 processing is terminating with the above return-code.

User response:

If RC=00, None. If the Return-Code is any non-zero value, then contact IBM Software Support with the listing that contains this message. There will be previous messages indicating the error causing the bad return code.

GCL12507E ERROR CALLING GCL01VV1 tttttt FUNCTION: function R15=nnnn R0=nnnnnnnn LOC=llll**Explanation:**

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *lllll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

**GCL12508W ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL12510E GCL00125 ABENDED S-xxx |
GCL00125 ABENDED U-xxxx**

Explanation:

Program GCL00125 has suffered an abend and is taking appropriate recovery and cleanup actions. The requested function appearing in the GCL12500I message has failed.

User response:

Contact IBM Software Support with the listing that contains this message and the SYSUDUMP output. Also, make note of the MVS operating system release, and the type of hardware that was being accessed.

**GCL12520E I/O ERROR READING VOLUME
LABEL ON DEVICE /xxxx**

Explanation:

Program GCL00125 was unable to read the volume label at the indicated device address.

User response:

Determine if the device at the indicated address can be varied OFFLINE and ONLINE. The volume may be uninitialized. If the volume can be successfully mounted, then contact IBM Software Support with the listing that contains this message. Also, make note of the MVS operating system release, and the type of hardware that was being accessed.

**GCL12521E VALIDATION ON DEVICE /xxxx
FAILED. DETECTED VOL=yyyyyy**

Explanation:

Program GCL00125 read the volume label at the indicated device address and found a volume serial number that was different than what was expected.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL12531E SYSVTOC SHR RESERVE
REQUIRED. | SYSZVVDS SHR
RESERVE REQUIRED. | ** BACKUP
IS FUZZY ****

Explanation:

While preparing to DUMP the VTOC and/or VVDS of the volume indicated by the GCL12500I message, adequate RESERVE resources were not held. This is an internal error.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL12533E DATASPACE SIZE IS
INSUFFICIENT.**

Explanation:

While preparing to DUMP the VTOC and/or VVDS of the volume indicated by the GCL12500I message, program GCL00125 was unable to allocate a private dataspace of a sufficient size.

User response:

Contact IBM Software Support with the listing that contains this message. Also, make note of the MVS operating system release.

**GCL12535I nnnnnnnn RECORDS WRITTEN
BACKUP FILE**

Explanation:

Informational.

User response:

None. This message is informational.

**GCL12540E SYSVTOC EXCL RESERVE
REQUIRED. | SYSZVVDS EXCL
RESERVE REQUIRED. | ** VOLUME
RESTORE NOT ATTEMPTED ****

Explanation:

While preparing to RESTORE the VTOC and/or VVDS of the volume indicated by the GCL12500I message, adequate RESERVE resources were not held. This is an internal error.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL12541I volser VOLUME RESTORE
SUCCESSFUL.**

Explanation:

Informational.

User response:

None. This message is informational.

**GCL12542E ** VOLSER VOLUME RESTORE
FAILED ** ** WARNING: VOLUME
VOLSER MAY BE UNUSABLE ****

Explanation:

RESTORE the VTOC and/or VVDS of the indicated volume was unsuccessful. If integrity of the volume is at risk, the second warning message is also issued.

User response:

Contact IBM Software Support with the listing that contains this message. There will be previous messages indicating the error causing the failure detection. Also, make note of the MVS operating system release, and the type of hardware that was being accessed.

**GCL12544E *nnnnnnnn RECORDS EXAMINED |
BACKUP DATA FOR VOL=yyyyyy
NOT FOUND***

Explanation:

While preparing to RESTORE the VTOC and/or VVDS of the indicated volume, GCL00125 could not locate the dump records in the sequential backup data set.

User response:

Contact IBM Software Support with the listing that contains this message. If possible, save the backup data set indicated by this message in case it is requested by IBM Software Support.

**GCL12545E *RECORD ID nnnnnnn OUT
OF SEQUENCE. | INCOMPLETE
BACKUP DATA FOR VOL=vvvvvv
| EOF ENCOUNTERED AFTER
RECORD ID nnnnnnn |
INVALID BACKUP VERSION: nnn
EXPECTED: nnn***

Explanation:

While preparing to RESTORE the VTOC and/or VVDS of the indicated volume, GCL00125 has determined that the logical contents of the sequential backup data set are invalid. "Invalid Backup Version" can happen if the version or maintenance level has changed for module GCL00125 between the prior RENAME SAFE and this RENAME RERUN.

User response:

Contact IBM Software Support with the listing that contains this message. If possible, save the backup data set indicated by this message in case it is requested by IBM Software Support.

**GCL12546I *VOL=vvvvvv DATASPACE LOAD
COMPLETE: timestamp***

Explanation:

Informational.

User response:

None. This message is informational.

**GCL12547E *ERROR ALLOCATING ????? BYTES
FOR RECORD ????? OF ????
| DATASPACE SIZE ????-K IS
INSUFFICIENT. | ????-K USED UP
TO THIS POINT.***

Explanation:

While preparing to RESTORE the VTOC and/or VVDS of the indicated volume, GCL00125 exceeded a predetermined dataspace size.

User response:

Contact IBM Software Support with the listing that contains this message. If possible, save the backup data set indicated by this message in case it is requested by IBM Software Support.

**GCL12548E *INVALID DUMP RECORD.
ID ????????***

Explanation:

While preparing to RESTORE the VTOC and/or VVDS of the indicated volume, GCL00125 has determined that the logical contents of the sequential backup data set are invalid.

User response:

Contact IBM Software Support with the listing that contains this message. If possible, save the backup data set indicated by this message in case it is requested by IBM Software Support.

**GCL12549E *BUFFER CAPACITY EXCEEDED.
TYPE=????***

Explanation:

RESTORE processing has failed due to incorrect buffer size calculations. This is an internal error.

User response:

Contact IBM Software Support with the listing that contains this message. Also, make note of the MVS operating system release, and the type of hardware that was being accessed.

GCL12550E * EXCP I/O ERROR PROCESSING
THE ??????? ** | TRACK(CCHH)
ADDRESS: cchh | SYNAD: <SYNAD
error text>***

Explanation:

An uncorrectable error has occurred to the device being DUMPed or RESTOREd while GCL00125 was performing I/O using the EXCP access method.

User response:

Contact IBM Software Support with the listing that contains this message. Also, make note of the MVS operating system release, and the type of hardware that was being accessed.

**GCL12554E *STORAGE SUBSYSTEM FOR
DEVICE ???? DOES NOT SUPPORT
ECKD CCWs.***

Explanation:

GCL00125 has detected an old technology DASD Control Unit that does not support hardware features that are minimally required by the IMS Cloning Tool product. Such control units are typically used for

supporting devices that pre-date 3380's. All control units for 3390's support ECKD transfer protocol.

User response:

None. IMS Cloning Tool cannot be used for this device.

GCL12555E INVALID TRACK FORMAT

Explanation:

GCL00125 has detected a track on the DASD volume that does not have the expected format.

User response:

Verify that the DASD volume is in a valid copy relationship. This error might be caused by a volume copied outside of IMS Cloning Tool where the volume was not actually copied and the last copy of the volume was done with the FCNOCOPY option.

GCL12560I Variable text

Explanation:

Informational Statistics.

User response:

None. This message is informational.

GCL12561I Variable text

Explanation:

Informational statistics regarding DUMP processing.

User response:

None. This message is informational.

GCL12561W NOTE: REQUESTED VVDS DATASET NOT IN USE.

Explanation:

Informational warning regarding DUMP processing. The caller of GCL00125 specified a non-standard data set name for the VVDS, which was not found on the volume. The correct data set name for the VVDS was found, and will be assumed as valid for DUMP processing.

User response:

None. DUMP processing continues.

GCL12562I variable text

Explanation:

Informational statistics regarding RESTORE processing.

User response:

None. This message is informational.

GCL12562E VTOC LOCATION HAS CHANGED SINCE THE BACKUP WAS TAKEN | VOLUME DUMP FOR ?????? IS UNSTABLE.

Explanation:

While attempting to RESTORE the VTOC and VVDS, program GCL00125 detected that the location of the

VTOC does not match the CCHHR address at the time of the DUMP.

User response:

If the DUMP backup data set is current, then contact IBM Software Support with the listing that contains this message.

GCL12578I variable text

Explanation:

Informational diagnostics.

User response:

None. This message is informational.

GCL12599I variable text

Explanation:

Informational messages typically used for performance feedback purposes.

User response:

None. This message is informational.

GCL13001I hh:mm:ss SORTS STARTED - PROGRAM REV=rrr | hh:mm:ss SORTS COMPLETED; RETURN CODE=nnn

Explanation:

BCS backup sorts processing message.

User response:

None. This message is informational.

GCL13003I DDNAME=ddname ALLOCATED FOR DSN=datasetname

Explanation:

'ddname' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

GCL13004E DDNAME MISSING: ddname | OPEN FAILED FOR DDNAME=ddname

Explanation:

'ddname' was allocated for IMS Cloning Tool to use, but the open for the file failed. Processing terminates.

User response:

If unable to determine the reason the open failed, contact IBM Software Support with the listing that contains this message.

GCL13005E ALLOCATION FAILED FOR DSN: datasetname

Explanation:

Dynamic allocation for a data set failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL13005W DEALLOCATION FAILED FOR
DDNAME: *ddname***

Explanation:

Dynamic deallocation for a *ddname* failed. The associated z/OS messages are displayed. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL13006E ERROR CALLING GCL01VV1 *tttttt*
FUNCTION: *function* R15=*nnnn*
R0=*nnnnnnnn* LOC=*llll***

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *llll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

**GCL13007W ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=*nnnn***

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL13009E ERROR ACCESSING JOURNAL
FILE; LOC=*llll***

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL13011E JOURNAL USER CATALOG
RECORD(S) NOT FOUND**

Explanation:

An expected record was not found in the IMS Cloning Tool journal file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL13012E UNABLE TO ESTABLISH ESTAEX;
R15=*nnnn* LOC=*llll***

Explanation:

A subroutine was not able to establish an *estaex* environment. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL13030I SORT FOR SOURCE BCS RECORDS
SUCCESSFUL; BCS=*bcs* *dsname***

Explanation:

The sort of the indicated BCS's records was successful.

User response:

None. This message is informational.

**GCL13031E SORT FOR SOURCE BCS RECORDS
FAILED; R15=*nnnn*; BCS=*bcs*
*dsname***

Explanation:

The sort of the indicated BCS's records failed. Processing terminates.

User response:

Correct the problem that caused SORT to fail. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL13041W NO BCS ENTRIES MATCH RENAME
CRITERIA FOR SOURCE BCS=BCS
*dsname***

Explanation:

No BCS record keys matched the source *dsname*(s)/mask(s) specified. Processing continues.

User response:

Verify that the correct USERCATALOGS were specified in the COPY command and that the correct source names were specified in the RENAME-MASKS.

**GCL13042W DUPLICATE KEYS IN BACKUP;
LATEST CREATION DATE KEPT
| DUPLICATE KEYS IN BACKUP;
LATEST CREATION DATE KEPT
| DUPLICATE KEYS IN BACKUP;
FIRST RECORD KEPT**

Explanation:

DUPLICATE KEYS IN BACKUP; RECORDS ARE THE SAME: A record with a duplicate key was detected in the BCS BACKUP file. The record with the most recent creation date was retained and the record with the earlier creation date was dropped. Both records are printed. Processing continues.

User response:

None. If "DUPLICATE KEYS IN BACKUP; FIRST RECORD KEPT", examine the printed records. The dropped record may have the desired data.

**GCL13043E BCS BACKUPS DID NOT
COMPLETE; CHECK COPY STEP**

Explanation:

The journal indicates that the BCS backups did not complete. Processing terminates.

User response:

Check that the COPY command has completed successfully before initiating the RENAME command.

**GCL13044E UNEXPECTED EOF ON BCS
BACKUP FILE; BCS=bcs dsname**

Explanation:

A logical 'end of data' condition is expected; a physical end of file was detected.

User response:

Check that the COPY command has completed successfully before initiating the RENAME command.

**GCL13045E NO BCS ENTRIES MATCH RENAME
CRITERIA FOR ANY SOURCE BCS**

Explanation:

No BCS record keys matched the source dsname(s)/mask(s) specified. Processing terminates.

User response:

Verify that the correct USERCATALOGS were specified in the COPY command and that the correct source names were specified in the RENAME-MASKS.

GCL13099E ABEND DURING BCS SORT

Explanation:

An abend occurred for a BCS SORT. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL13501I hh:mm:ss BCS CLEANUP STARTED
- PROGRAM REV=rrr (**
SIMULATION **) | hh:mm:ss BCS
CLEANUP COMPLETED; RETURN
CODE=nnn**

Explanation:

BCS CLEANUP processing message.

User response:

None. This message is informational.

**GCL13503I DDNAME=ddname ALLOCATED
FOR DSN=datasetname**

Explanation:

'ddname' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

**GCL13504E OPEN FAILED FOR
DDNAME=BCSRECS**

Explanation:

BCSRECS did not open successfully. Processing terminates.

User response:

Check that //BCSRECS points to the correct data set. If unable to determine the reason for the failure, contact IBM Software Support with the listing that contains this message.

**GCL13505E ALLOCATION FAILED FOR DSN:
datasetname**

Explanation:

Dynamic allocation for a data set failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL13505W DEALLOCATION FAILED FOR
DDNAME: ddname**

Explanation:

Dynamic deallocation for a ddname failed. The associated z/OS messages are displayed. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL13507W ERROR CALLING GCL01HEX;
FUNCTION: function R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL13509E ERROR ACCESSING JOURNAL
FILE; LOC=/////**

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL13511E JOURNAL CONTROL RECORD NOT FOUND

Explanation:

An expected record was not found in the IMS Cloning Tool journal file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL13520W KEY OF ZEROS FOUND; ENTRY BYPASSED

Explanation:

An entry was found in BCSRECS with a key of zeros. The entry is bypassed. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL13521E KEY OF ZEROS RETURNED

Explanation:

The BCS entry with a key of zeros (binary) was returned; it was not requested. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL13522I RECORDS DELETED FROM BCS(S), COUNT=nnn

Explanation:

The indicated number of BCS records have been removed from the target BCS(s).

User response:

None. This message is informational.

GCL13523I ENTRIES DELETED BY SVC26, COUNT=nnn

Explanation:

The indicated number of BCS entries have been removed from the target BCS(s) using SVC26.

User response:

None. This message is informational.

GCL13545E ERROR ACCESSING BCS=bcs dsname; LOC=llll

Explanation:

A VSAM error occurred accessing the indicated BCS. Processing terminates.

User response:

See associated GCL error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL13549E DELETE FAILED; R15=nnn
REASON CODE=rrr MODULE=mm
DSN=dsname**

Explanation:

The SVC26 delete for a data set failed.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL13560I WAITING FOR EXCLUSIVE CONTROL OF BCS bcs name

Explanation:

The BCS is currently in use by another job. The wait will continue until the BCS is no longer in use by another job or the wait time limit is exceeded. Processing continues.

User response:

None. This message is informational.

**GCL13561E UNABLE TO ALLOCATE BCS:
bcs name; WAIT TIME LIMIT
EXCEEDED**

Explanation:

The wait for exclusive control of the BCS has exceeded the wait time limit. Processing terminates.

User response:

Change the scheduling of the jobs so the IMS Cloning Tool job does not run when another job has the BCS allocated. Or increase the wait time limit so the IMS Cloning Tool job can wait longer for the other job to terminate. The wait time limit is set by the GCLINI parameter CONCURRENT_EXECUTIONS_WAIT_TIME.

GCL13599E ABEND DURING IMS Cloning Tool PROCESSING

Explanation:

An abend occurred during BCS cleanup. Processing terminates.

User response:

Determine the reason for the abend and correct if possible. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL14001I hh:mm:ss BCS UPDATES STARTED
- PROGRAM REV=rrr (**
SIMULATION **) | hh:mm:ss BCS
UPDATES COMPLETED; RETURN
CODE=nnn**

Explanation:

BCS update processing message.

User response:

None. This message is informational.

GCL14006E **ERROR CALLING GCL01VV1 tttttt**
FUNCTION: function R15=nnnn
R0=nnnnnnnn LOC=llll

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *llll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

GCL14007W **ERROR CALLING GCL01HEX;**
FUNCTION: function R15=nnnn

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL14008E **UNABLE TO LOAD PROGRAM:**
***program name* | UNABLE TO LINK**
TO PROGRAM: *program name*

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL14009E **ERROR ACCESSING JOURNAL**
FILE; LOC=llll

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL14011E **JOURNAL CONTROL RECORD NOT**
FOUND

Explanation:

An expected record was not found in the IMS Cloning Tool journal file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL14030I **BCS UPDATE COMPLETED;**
RETURN CODE=nn SYSOUT
DD=sysout ddname FOR TARGET
BCS=bcs dsname | BCS UPDATE

FAILED ; RETURN CODE=nn
SYSOUT DD=sysout ddname FOR
TARGET BCS=bcs dsname

Explanation:

The BCS update for the indicated target BCS has ended.

User response:

None if the RETURN CODE is zero. If the RETURN CODE is not zero, check the indicated sysout file for warning or error messages related to the BCS update.

GCL14033W **BCS UPDATE BYPASSED FOR**
TARGET BCS=bcs dsname ; error
text SOURCE BCS=bcs dsname

Explanation:

The BCS update for the indicated target/source BCS has not been done. The error text indicates the reason.

User response:

None.

GCL14040E **UNEXPECTED CONDITION; error**
text

Explanation:

An unexpected condition occurred while dispatching a BCS update task or while waiting for the completion of a BCS update task. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL14041E **SORT FOR BCS RECORDS DID**
NOT COMPLETE SUCCESSFULLY;
BCS=bcs dsname

Explanation:

The sort of the records for the indicated BCS was not successful. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL14089I **NOT ALL DATASETS HAVE BEEN**
CATALOGED

Explanation:

An error occurred during BCS rename processing that caused some data sets to not be cataloged in a target catalog. Message GCL14030I will indicate which catalog had an error.

User response:

Correct the cause of the error and rerun RENAME if possible.

GCL14101I **hh:mm:ss BCS UPDATE STARTED**
- PROGRAM REV=rrr (**
SIMULATION **) | hh:mm:ss BCS

**UPDATE COMPLETED; RETURN
CODE=n RECORD COUNT=nnn**

Explanation:

BCS UPDATE task processing message.

User response:

None. This message is informational.

**GCL14103I DDNAME=ddname ALLOCATED
FOR DSN=datasetname**

Explanation:

'ddname' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

**GCL14104E OPEN FAILED FOR
DDNAME=ddname**

Explanation:

'ddname' was allocated for IMS Cloning Tool to use, but the open for the file failed. Processing terminates.

User response:

If unable to determine the reason the open failed, contact IBM Software Support with the listing that contains this message.

**GCL14105E ALLOCATION FAILED FOR DSN:
datasetname | ALLOCATION
FAILED FOR DDNAME: ddname**

Explanation:

Dynamic allocation for a data set or ddname failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL14105W DEALLOCATION FAILED FOR
DDNAME: ddname**

Explanation:

Dynamic deallocation for a ddname failed. The associated z/OS messages are displayed. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL14106E ERROR CALLING GCL01VV1 tttttt
FUNCTION: function R15=nnnn
R0=nnnnnnnn LOC=llll**

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *llll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

**GCL14107W ERROR CALLING GCL01HEX;
FUNCTION: function R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL14109E ERROR ACCESSING JOURNAL
FILE; LOC=llll**

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL14110E DUPLICATE JOURNAL ENTRY;
LOC=llll**

Explanation:

A duplicate record was detected. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL14111E JOURNAL USER CATALOG
RECORD(S) NOT FOUND**

Explanation:

An expected record was not found in the IMS Cloning Tool journal file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL14112E UNABLE TO ESTABLISH ESTAEX;
R15=nnnn**

Explanation:

The program was not able to establish an estaex environment. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL14122I IDCAMS WILL BE USED FOR THIS
BCS**

Explanation:

Informational message. BCS extension records will cause program GCL00150 to invoke IDCAMS.

User response:

None. This message is informational.

**GCL14123I EXPIRATION DATE IGNORED FOR
GDG ENTRY; GDG BASE NAME=*gdg
base name***

Explanation:

Informational message. The expiration date of the GDG base has been ignored.

User response:

None. This message is informational.

**GCL14135I SMS smstypeCLAS COPIED FROM
SOURCE FOR BCS ENTRY - *dsname***

Explanation:

No default value was given for the smstype (DATA, MGMT, or, STOR). The indicated SMS class for the entry was copied from the source data set.

User response:

None required, unless a specific class is desired.

**GCL14140E UNEXPECTED CONDITION; *error
text***

Explanation:

An unexpected condition occurred. 'error text' has a description of the problem. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL14141I BCS ENTRY NOT ON SOURCE
VOLUME SERIALS; BCS KEY=*bcs
key name***

Explanation:

A BCS entry matched the rename masks, but, the entry is not cataloged on the source volume serials.

User response:

None. This message is informational.

**GCL14142E BCS ENTRY PARTIALLY ON
SOURCE VOLUME SERIALS; BCS
KEY DSN=*bcs key name* | GDG HAS
GDS ENTRIES THAT ARE NOT ON
SOURCE VOLUME SERIALS; GDG
BASE NAME=*gdg base name***

Explanation:

The indicated BCS entry is only partially on the source volume serials. Processing terminates.

User response:

Ensure that data sets (VSAM spheres, GDSs associated with a base GDG) are wholly contained on the source volume serials.

**GCL14142W GDG HAS MIGRATED GDS
ENTRIES; GDG BASE NAME=*gdg
base name* | GDG HAS TAPE GDS
ENTRIES; GDG BASE NAME=*gdg
base name***

Explanation:

The indicated BCS entry is only partially on the source volume serials. Processing continues, but the target GDSs which are migrated or on tape will not be accessible.

User response:

Ensure that data sets (VSAM spheres, GDSs associated with a base GDG) are wholly contained on the source volume serials.

**GCL14143E UNABLE TO RENAME DSN=*source
datasetname* USING MASK=*target
rename mask***

Explanation:

The new name of a data set will exceed 44 characters, or the new name of a GDG base will exceed 35 characters. Processing terminates.

User response:

Correct the RENAME-MASKS specification.

**GCL14144E NO SOURCE DSN/MASK MATCH
FOUND FOR DSN=*datasetname*
ENTRY IS PART OF BCS KEY=*bcs
key name***

Explanation:

A BCS entry did not fully match the specified rename masks. Processing terminates.

User response:

Ensure the RENAME-MASKS specification includes all spheres of VSAM components and all aliases for non-VSAM entries.

**GCL14145E ERROR ACCESSING BCS=*bcs
dsname*; LOC=*lllll***

Explanation:

A VSAM error occurred accessing the indicated BCS. Processing terminates.

User response:

See associated GCL error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL14146W BCS ENTRY SKIPPED; RECORD
TYPE NOT SUPPORTED**

Explanation:

Probably, a 'U' type BCS entry was detected. The entry is printed. IMS Cloning Tool does not support renaming user catalogs on the target volume serials.

User response:

None required.

**GCL14147E DUPLICATE BCS ENTRY | AN
ENTRY FOR *name* ALREADY
EXISTS IN THE TARGET BCS**

Explanation:

A duplicate record was detected when adding an entry to the target user catalog. The entry already exists in the target user catalog. The existing entry could be there from a prior run of GCL where BCSCLEAN was not used to remove the entry, or the RENAME-MASKS being used caused duplicate data set names to be created, or the existing entry could belong to a data set that was created prior to the IMS Cloning Tool run and is not on a target volume. The duplicate catalog entry is printed. Processing terminates.

User response:

Ensure the RENAME-MASKS are not causing duplicate data set names to be created. If the RENAME-MASKS are not causing duplicate data set names, determine why the entry already exists in the target user catalog. To replace existing entries in the target user catalog use the RECATALOG(Y) keyword in the RENAME command.

**GCL14148E ERROR CALLING GCL00902;
R15=nnnn NEW DSN=new**

Explanation:

An error occurred invoking the ACS routines for the indicated new data set name. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL14149E FAILED TO POSITION IN BCSRECS

Explanation:

An error occurred attempting to position to the correct entry to update in the BCSRECS file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL14150W GDG IS EMPTY; GDG BASE
NAME=*gdg base name* | ALL
GDGS ARE MIGRATED; GDG BASE
NAME=*gdg base name***

Explanation:

An empty GDG was encountered and GDG-EMPTY(RETAIN,RC(4)) was specified or all GDGs are migrated and GDG-ALL-MIGRATED(RETAIN,RC(4)) was specified.

User response:

None required.

**GCL14151E UNEXPECTED END OF FILE
ENCOUNTERED ON BCSRECS**

Explanation:

An error occurred attempting to read the entry to update in the BCSRECS file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL14160I WAITING FOR EXCLUSIVE
CONTROL OF BCS *bcn name***

Explanation:

The BCS is currently in use by another job. The wait will continue until the BCS is no longer in use by another job or the wait time limit is exceeded. Processing continues.

User response:

None. This message is informational.

**GCL14161E UNABLE TO ALLOCATE BCS:
bcn name; WAIT TIME LIMIT
EXCEEDED**

Explanation:

The wait for exclusive control of the BCS has exceeded the wait time limit. Processing terminates.

User response:

Change the scheduling of the jobs so the GCL job does not run when another job has the BCS allocated. Or increase the wait time limit so the GCL job can wait longer for the other job to terminate. The wait time limit is set by the GCLINI parameter CONCURRENT_EXECUTIONS_WAIT_TIME.

GCL14199E ABEND DURING BCS UPDATE

Explanation:

An abend occurred for a BCS update task. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL14201I hh:mm:ss BCSRECS FORMAT
STARTED - PROGRAM REV=*rrr*
| hh:mm:ss BCSRECS FORMAT
COMPLETED; RETURN CODE=*nnn***

Explanation:

BCSRECS file processing message.

User response:

None. This message is informational.

**GCL14204E OPEN FAILED FOR
DDNAME=BCSRECS**

Explanation:

BCSRECS did not open successfully. Processing terminates.

User response:

Check that //BCSRECS points to the correct data set. If unable to determine the reason for the failure, contact IBM Software Support with the listing that contains this message.

**GCL14240E ERROR WRITING TO BCSRECS;
R15=nnnn**

Explanation:

An error occurred formatting the BCSRECS file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL15001I hh:mm:ss IDCAMS PROCESS
STARTED - PROGRAM REV=rrr
(** SIMULATION **) | hh:mm:ss
IDCAMS PROCESS COMPLETED;
RETURN CODE=nnn ENTRIES
RECATALOGED=nnn**

Explanation:

BCS IDCAMS processing message.

User response:

None. This message is informational.

**GCL15003I DDNAME=ddname ALLOCATED
FOR DSN=datasetname**

Explanation:

'ddname' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

**GCL15005E ALLOCATION FAILED FOR DSN:
datasetname**

Explanation:

Dynamic allocation for a data set failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL15005W DEALLOCATION FAILED FOR
DDNAME: ddname**

Explanation:

Dynamic deallocation for a ddname failed. The associated z/OS messages are displayed. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL15007W ERROR CALLING GCL01HEX;
FUNCTION: function R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL15009E ERROR ACCESSING JOURNAL
FILE; LOC=/////**

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL15011E JOURNAL CONTROL RECORD NOT
FOUND | JOURNAL IDC RECORD(S)
NOT FOUND**

Explanation:

An expected record was not found in the IMS Cloning Tool journal file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL15030E RETURN CODE 8 SET FOR
ORPHANCATENTRY**

Explanation:

A return code of 8 was requested for the indicated condition. Processing terminates.

User response:

None required, unless a return code of 0 or 4 is desired for the condition. If a return code other than 8 is wanted, either change the GCLINI member in PARMLIB, or, override the return code in the RENAME command.

GCL15031E AMSOPEN FAILED; R15=nnnn

Explanation:

An attempt was made to issue an IDCAMS command. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL15032I NON-ZERO RETURNED BY
IDCAMS; RC=nnnn**

Explanation:

An IDCAMS command failed with return code *nnnn*. The IDCAMS messages are displayed. Processing will continue if ORPHANCATENTRY return code is less than or equal to 4. Processing will terminate if ORPHANCATENTRY return code is greater than 4.

User response:

None. This message is informational.

**GCL15035E DEVICE TYPE NOT RECOGNIZED;
DEVICE=X'ddddddd'; SOURCE
DSN=source datasetname**

Explanation:

The device type could not be converted to one for use by IDCAMS RECATALOG. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL15040E UNEXPECTED CONDITION; error
text**

Explanation:

An unexpected condition occurred. 'error text' has a description of the problem. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL15041E MORE THAN *nnn* IDCAMS
MESSAGES**

Explanation:

More than *nnn* messages were returned for an IDCAMS command. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL15045E ERROR ACCESSING VVDS=*vvds*
dsname; LOC=*lllll***

Explanation:

A VSAM error occurred accessing the indicated VVDS. Processing terminates.

User response:

See associated GCLERRnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL15046W ENTRY NOT FOUND IN VVDS;
DSN=*dsname***

Explanation:

A VSAM component was not found in the VVDS. The entry cannot be recataloged. Processing will continue if ORPHANCATENTRY return code is less than or equal to 4. Processing will terminate if ORPHANCATENTRY return code is greater than 4.

User response:

None.

**GCL15047W ENTRY COULD NOT BE
RECATALOGED; DSN=*dsname***

Explanation:

A data set was not found on the target volume serials and cannot be recataloged. Processing will continue if ORPHANCATENTRY return code is less than or equal to 4. Processing will terminate if ORPHANCATENTRY return code is greater than 4.

User response:

None.

**GCL15048W ENTRY SKIPPED DUE TO CLUSTER
FAILURE; TYPE=*type* DSN=*dsname***

Explanation:

A type AIX or PATH entry could not be recataloged because the associated base cluster could not be recataloged.

User response:

None.

**GCL15049E DELETE FAILED; R15=*nnn*
REASON CODE=*rrr* MODULE=*mm*
DSN=*dsname***

Explanation:

The SVC26 delete for a data set failed.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL15101I hh:mm:ss UPDATE IAM
ASSOCIATIONS PROCESS
STARTED - PROGRAM
REV=*rrr* | hh:mm:ss UPDATE
IAM ASSOCIATIONS PROCESS
COMPLETED; RETURN CODE=*nnnn*
ENTRIES UPDATED=*nnnn***

Explanation:

Update IAM associations processing message.

User response:

None. This message is informational.

**GCL15103I DDNAME=IAMPRINT ALLOCATED
FOR DSN=**TEMPORARY
IAMPRINT DSN**

Explanation:

IAMPRINT DD has been dynamically allocated.

User response:

None. This message is informational.

**GCL15134E UNEXPECTED DATA FOUND IN
IAMPRINT | CLUSTER OR AIX
ASSOCIATION NOT FOUND FOR
AIX | UNABLE TO DETERMINE**

**FILE TYPE | CLUSTER, AIX, OR
PATH ASSOCIATION NOT FOUND
FOR PATH**

Explanation:

An expected IAM association was not found in the IAMPRINT file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL30008E UNABLE TO LOAD PROGRAM:
program name

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL30001I hh:mm:ss IMS INIT/TERM
 STARTED - PROGRAM REV=rrr
 | hh:mm:ss IMS INIT/TERM
 COMPLETED; RETURN CODE=nnnn**

Explanation:

IMS environment setup started/ended message.

User response:

None. This message is informational.

**GCL30009E SERVICE MODULE: *module name*
 type CALL FAILED, RC=nnnn**

Explanation:

The IMS environment setup/termination routine encountered an error with a service module. Processing terminates.

User response:

Check for previous messages to see if there is a problem that can be corrected. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL30010E N/T call FOR *token name* FAILED,
 RC=nnnn**

Explanation:

An attempt to CREATE/DELETE/RETRIEVE a name token entry failed. Processing terminates.

User response:

Check for previous messages to see if there is a problem that can be corrected. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL30012E UNABLE TO ESTABLISH ESTAEX;
 R15=nnnn**

Explanation:

The program was not able to establish an estaex environment. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL30501I hh:mm:ss IMSSETLOG STARTED
 - PROGRAM REV=rrr | hh:mm:ss
 IMSSETLOG COMPLETED; RETURN
 CODE=nnnn**

Explanation:

IMSSETLOG command processing message.

User response:

None. This message is informational.

**GCL30505E requesttype FAILED FOR DDNAME:
 ddname**

Explanation:

A problem occurred when attempting a dynamic allocation request for the specified DD. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL30505W requesttype FAILED FOR DDNAME:
 ddname**

Explanation:

A problem occurred when attempting a dynamic allocation request for the specified DD. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL30507W ERROR CALLING GCL01HEX;
 FUNCTION: *function* R15=nnnn**

Explanation:

An error occurred using 01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL30541I COMMAND NOT EXECUTED DUE
 TO SIMULATION MODE**

Explanation:

Informational message indicating that an actual command was not issued because the SIMULATE keyword was specified.

User response:

Verify that a simulation was intentional.

**GCL30543E DBRC-API function call failed, RC=
 return code RSN= reason code**

Explanation:

An attempt to invoke the DBRC-API failed.

User response:

The DBRC-API return codes and reason codes are listed in the *IMS System Programming API User Guide*. Review the return and reason code for the DBRC-API function that failed and attempt to correct the error. If the problem cannot be resolved, contact IBM Software Support with the listing that contains this message.

GCL30548I OPTIONS IN EFFECT FOR THIS EXECUTION: *merged options*

Explanation:

Informational message indicating how IMSSETLOG will handle the options. The displayed options are derived from the INI and any overriding specifications in the command input.

User response:

None. This message is informational.

GCL30550E ERROR IN PARAMETERS FOR *keyword*

Explanation:

The parameters for the indicated keyword were incorrect. Processing terminates.

User response:

Check the keyword parameters. Mutually exclusive keywords may have been used.

GCL30551E REQUIRED KEYWORD MISSING: *keyword*

Explanation:

A keyword required for processing has been omitted. Processing terminates.

User response:

Specify the required keyword.

GCL30560E DDNAME MISSING: *ddname*

Explanation:

A required DD was not specified in the JCL. Processing terminates.

User response:

Add the required DD to the JCL.

GCL30587E SUSPEND/RESUME REQUEST FOR *ssid* FAILED, RC=*return code*

Explanation:

A request to either suspend or resume activity for an IMS system failed. The IMSSETLOG command terminates with RC=8.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL30588I *ssid* SUSPENDED/RESUMED BY *jobname*

Explanation:

Informational message indicating that an active IMS system or job was either suspended or resumed by the specified job.

User response:

None. This message is informational.

GCL30589E SUSPEND REQUEST HAS TIMED OUT

Explanation:

An attempt to suspend activity for the active IMS systems and batch jobs did not complete in the allowable time.

User response:

Check the status of the IMS systems that IMS Cloning Tool was attempting to suspend to make sure that they are still processing work. It may be that an IMS system is idle and if so, a '/SWI OLDS' command can be issued while the IMSSETLOG SUSPEND command is processing to allow the IMS system to be suspended.

GCL30590E NEW IMS SYSTEM *ssid* STARTED DURING SUSPEND PROCESSING

Explanation:

A new IMS system or batch job was started during the processing of suspending activity for IMS systems using a set of RECONs. The SUSPEND process is terminated and the IMSSETLOG command terminates with RC=8.

User response:

Retry the IMSSETLOG SUSPEND command in a time when new systems or batch jobs will not be initiated.

GCL30591E UNABLE TO COMMUNICATE WITH ACTIVE RSENAME *rseaname*

Explanation:

A IMSSETLOG request to SUSPEND IMS activity detected an active IMS online environment with the RSENAME of '*rseaname*' that is not able to communicate with. The IMSSETLOG command terminates with RC=8.

User response:

Verify that IMS Cloning Tool has been enabled in the control region for the RSENAME specified.

GCL30599E ERROR CALLING *name* FUNCTION: *function* R15=*nnnn* R0=*nnnn*

Explanation:

An error occurred using *name* for requested function. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL31001I **hh:mm:ss IMSSTOP STARTED -
PROGRAM REV=rrr | hh:mm:ss
IMSSTOP COMPLETED; RETURN
CODE=nnnn**

Explanation:

IMSSTOP command processing message.

User response:

None. This message is informational.

GCL31007W **ERROR CALLING GCL01HEX;
FUNCTION: function R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL31008E **UNABLE TO LOAD PROGRAM:
program name**

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL31021E **ERROR ISSUING IMS COMMAND,
RC=nnnn RSN=nnnn**

Explanation:

An unexpected error was encountered when attempting to issue an IMS command. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL31022E **IMS SUBSYSTEM ssid NOT
ACTIVE/INITIALIZED**

Explanation:

An IMSSTOP command was processed but the target IMS subsystem is not active on the z/OS image or has not completed initialization and restart.

User response:

Verify that the job was executed on the same z/OS image where the IMS subsystem is active and completed restart.

GCL31023I **CONNECTED TO IMS SUBSYSTEM:
ssid RELEASE v.r**

Explanation:

Informational message indicating that the target IMS subsystem was located and the release of the IMS subsystem.

User response:

None. This message is informational.

GCL31024W **command NOT ISSUED BECAUSE
IMS IS NOT ACTIVE**

Explanation:

Warning message indicating that the command was bypassed because the IMS subsystem specified was not active on the z/OS system.

User response:

If you want the command to be issued, even when IMS is not active, you can specify IMS-ALREADY-STOPPED(RC(0)).

GCL31034E **USERID IS NOT AUTHORIZED TO
ISSUE THE IMS COMMAND**

Explanation:

A request to issue a reply to an outstanding WTOR or issue an operator command failed because of insufficient authority.

User response:

Verify that the user who submitted the job has the proper authority.

GCL31035E **COMMAND FAILED, RC=nnnn**

Explanation:

An unexpected error was encountered from an attempt to issue an IMS command. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL31036E **ssid DID NOT TERMINATE WITHIN
THE WAIT TIME LIMIT**

Explanation:

After issuing an IMS CHECKPOINT command, the IMS subsystem did not terminate with the specified WAIT limit.

User response:

View the IMS log to see why IMS did not terminate. Possibly alter the WAIT time limit specified to allow for the time for IMS to shutdown.

GCL31037I **task jobname HAS TERMINATED**

Explanation:

Informational message indicating that the target address space has ended.

User response:

None. This message is informational.

GCL31038I **WAITING FOR xxxx TO TERMINATE**

Explanation:

Informational message indicating that the job is now waiting for the address space to terminate.

User response:

None. This message is informational.

GCL31039W *parameter* **PARAMETER IS OVERRIDDEN**

Explanation:

The value specified for the parameter is being overridden by GCL. Processing continues with the new value.

User response:

Check the parameters value specified.

GCL31040I **IMS COMMAND: *command***

Explanation:

Informational message indicating that the job will issue the IMS command.

User response:

None. This message is informational.

GCL31041I **COMMAND NOT EXECUTED DUE TO SIMULATION MODE**

Explanation:

Informational message indicating that an actual command was not issued because the SIMULATE keyword was specified.

User response:

Verify that a simulation was desired.

GCL31048I **OPTIONS IN EFFECT FOR THIS EXECUTION: *merged options***

Explanation:

Informational message indicating how COPY will handle the options. The displayed options are derived from the INI and any overriding specifications in the command input.

User response:

None. This message is informational.

GCL31050E **ERROR IN PARAMETERS FOR *keyword***

Explanation:

The parameters for the indicated keyword were incorrect. Processing terminates.

User response:

Check the keyword parameters. Mutually exclusive keywords may have been used.

GCL31051E **REQUIRED KEYWORD MISSING: *keyword***

Explanation:

A keyword required for processing has been omitted. Processing terminates.

User response:

Specify the required keyword.

GCL31052E **REQUIRED INI SECTION/TOKEN MISSING: SECTION=*section* TOKEN=*token* | REQUIRED INI VALUE MISSING FOR SECTION=*section* TOKEN=*token* | INVALID INI VALUE FOR SECTION=*section* TOKEN=*token***

Explanation:

An error occurred validating the GCLINI parmlib member options. Processing terminates.

User response:

Correct the GCLINI member in the IMS Cloning Tool PARMLIB data set.

GCL31053E **KEYWORD: *keyword* MAXIMUM LENGTH: *nnn* EXCEEDED | TOKEN: *token* MAXIMUM LENGTH: *nnn* EXCEEDED**

Explanation:

The operand entered for a keyword or INI token exceeded the maximum length allowed. *nnn* is the maximum allowed length. Processing terminates.

User response:

Correct the length of the keyword's operand or the token's value.

GCL31054E **KEYWORD HAS MORE THAN 1 OPERAND; ONLY 1 ALLOWED: *keyword***

Explanation:

Multiple operands were detected for a keyword; only one operand is permitted. Processing terminates.

User response:

Correct the keyword to use one operand.

GCL31055E **STORAGE GROUPS NOT SUPPORTED WITH DATA-MOVER PROGRAM NONE**

Explanation:

The DATA-MOVER program was specified as 'NONE'. Storage group names/masks were specified for the source and/or target volume serials. Processing terminates.

User response:

Correct the DATA-MOVER program specified, or, use keywords FROM-VOLSER/TO-VOLSER for the volume serials.

GCL31056E **NOTHING SPECIFIED FOR KEYWORD: *keyword***

Explanation:

A keyword was entered without an appropriate operand. Processing terminates.

User response:

Specify an appropriate operand for the keyword.

GCL31057E DUPLICATE FOUND; KEYWORD:
keyword ENTRY: entry

Explanation:

The indicated 'entry' for the keyword was previously specified. Processing terminates.

User response:

Remove the duplicate entry.

GCL31058E INVALID VALUE IN KEYWORD:
keyword VALUE: value error text

Explanation:

The value in the keyword is invalid. 'error text' indicates the problem detected with the value. Processing terminates.

User response:

Correct the value specified in the keyword.

GCL31070I STOPPING IMS SUBSYSTEM: ssid

Explanation:

Informational message indicating that the job will issue the command to shutdown the IMS subsystem.

User response:

None. This message is informational.

GCL31071I STOPPING IRLM irlmjobname

Explanation:

Informational message indicating that the job will issue the command to shutdown the IRLM address space.

User response:

None. This message is informational.

GCL31072I task jobname IS NOT ACTIVE

Explanation:

Informational message indicating that a keyword was specified to shutdown an address space but the address space is not active on this z/OS image.

User response:

None. This message is informational.

GCL31073I STOPPING CSL: csllibname

Explanation:

Informational message indicating that the job will issue the command to shutdown the CSL address spaces.

User response:

None. This message is informational.

GCL31074I MVS COMMAND: command

Explanation:

Informational message indicating that the job will issue the command in order to stop a requested address space.

User response:

None. This message is informational.

GCL31501I hh:mm:ss IMSSTART STARTED -
PROGRAM REV=rrr | hh:mm:ss
IMSSTART COMPLETED; RETURN
CODE=nnnn

Explanation:

IMSSTART command processing message.

User response:

None. This message is informational.

GCL31507W ERROR CALLING GCL01HEX;
FUNCTION: function R15=nnnn

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL31508E UNABLE TO LOAD PROGRAM:
program name

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL31521E ERROR ISSUING IMS COMMAND,
RC=nnnn RSN=nnnn

Explanation:

An unexpected error was encountered when attempting to issue an IMS command. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL31522W IMS SUBSYSTEM ssid IS ACTIVE

Explanation:

An IMSSTART command was processed but the target IMS subsystem is already active. The command will terminate with the IMS-ALREADY-STARTED return code.

User response:

Verify that the job was executed on the correct z/OS image and whether the IMS subsystem should have been inactive.

GCL31523I **CONNECTED TO IMS SUBSYSTEM:**
ssid RELEASE v.r

Explanation:

Informational message indicating that the target IMS subsystem was located and the release of the IMS subsystem.

User response:

None. This message is informational.

GCL31534E **USERID IS NOT AUTHORIZED TO**
ISSUE THE IMS COMMAND

Explanation:

A request to issue a reply to an outstanding WTOR or issue an operator command failed because of insufficient authority.

User response:

Verify that the user who submitted the job has the proper authority.

GCL31535E **COMMAND FAILED, RC=nnnn**

Explanation:

An unexpected error was encountered from an attempt to issue an IMS command. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL31536E **ssid DID NOT START WITHIN THE**
WAIT TIME LIMIT

Explanation:

After issuing a command to start an IMS subsystem, the IMS subsystem was unable to complete initialization and restart within the specified WAIT time limit.

User response:

View the IMS log to see why IMS did not initialize. Possibly alter the WAIT time limit specified to allow for the time for IMS to initialize or restart.

GCL31537I **task jobname HAS STARTED**

Explanation:

Informational message indicating that the target address space is started.

User response:

None. This message is informational.

GCL31538I **WAITING FOR xxxx TO START**

Explanation:

Informational message indicating that the job is now waiting for the address space to initialize.

User response:

None. This message is informational.

GCL31540I **IMS COMMAND: command**

Explanation:

Informational message indicating that the job will issue the IMS command.

User response:

None. This message is informational.

GCL31541I **COMMAND NOT EXECUTED DUE**
TO SIMULATION MODE

Explanation:

Informational message indicating that an actual command was not issued because the SIMULATE keyword was specified.

User response:

Verify that a simulation was desired.

GCL31542I **AUTO RESTART IN EFFECT FOR**
THIS IMS

Explanation:

Informational message indicating the IMS has the AUTO RESTART in effect, so the job will not issue the restart command.

User response:

IMS will determine the restart command based on last shutdown.

GCL31548I **OPTIONS IN EFFECT FOR THIS**
EXECUTION: merged options

Explanation:

Informational message indicating how COPY will handle the options. The displayed options are derived from the INI and any overriding specifications in the command input.

User response:

None. This message is informational.

GCL31550E **ERROR IN PARAMETERS FOR**
keyword

Explanation:

The parameters for the indicated keyword were incorrect. Processing terminates.

User response:

Check the keyword parameters. Mutually exclusive keywords may have been used.

GCL31551E **REQUIRED KEYWORD MISSING:**
keyword

Explanation:

A keyword required for processing has been omitted. Processing terminates.

User response:

Specify the required keyword.

GCL31552E **REQUIRED INI SECTION/TOKEN MISSING: SECTION=section TOKEN=token | REQUIRED INI VALUE MISSING FOR SECTION=section TOKEN=token | INVALID INI VALUE FOR SECTION=section TOKEN=token**

Explanation:

An error occurred validating the GCLINI parmlib member options. Processing terminates.

User response:

Correct the GCLINI member in the IMS Cloning Tool PARMLIB data set.

GCL31553E **KEYWORD: keyword MAXIMUM LENGTH: nnn EXCEEDED | TOKEN: token MAXIMUM LENGTH: nnn EXCEEDED**

Explanation:

The operand entered for a keyword or INI token exceeded the maximum length allowed. nnn is the maximum allowed length. Processing terminates.

User response:

Correct the length of the keyword's operand or the token's value.

GCL31551E **KEYWORD HAS MORE THAN 1 OPERAND; ONLY 1 ALLOWED: keyword**

Explanation:

Multiple operands were detected for a keyword; only one operand is permitted. Processing terminates.

User response:

Correct the keyword to use one operand.

GCL31556E **NOTHING SPECIFIED FOR KEYWORD: keyword**

Explanation:

A keyword was entered without an appropriate operand. Processing terminates.

User response:

Specify an appropriate operand for the keyword.

GCL31557E **DUPLICATE FOUND; KEYWORD: keyword ENTRY: entry**

Explanation:

The indicated 'entry' for the keyword was previously specified. Processing terminates.

User response:

Remove the duplicate entry.

GCL31558E **INVALID VALUE IN KEYWORD: keyword VALUE: value error text**

Explanation:

The value in the keyword is invalid. 'error text' indicates the problem detected with the value. Processing terminates.

User response:

Correct the value specified in the keyword.

GCL31570I **STARTING IMS SUBSYSTEM: ssid**

Explanation:

Informational message indicating that the job will issue the command to start the IMS subsystem.

User response:

None. This message is informational.

GCL31571I **STARTING IRLM irlmjobname**

Explanation:

Informational message indicating that the job will issue the command to start the IRLM address space.

User response:

None. This message is informational.

GCL31572I **task jobname IS ALREADY ACTIVE**

Explanation:

Informational message indicating that a keyword was specified to start an address space but the address space is already active on this z/OS image.

User response:

None. This message is informational.

GCL31573I **STARTING CSL: csljobname**

Explanation:

Informational message indicating that the job will issue the command to start the CSL address spaces.

User response:

None. This message is informational.

GCL31574I **MVS COMMAND: command**

Explanation:

Informational message indicating that the job will issue the command in order to start a requested address space.

User response:

None. This message is informational.

GCL32001I **hh:mm:ss IMSUPDATE STARTED - PROGRAM REV=rrr | hh:mm:ss IMSUPDATE COMPLETED; RETURN CODE=nnnn**

Explanation:

IMSUPDATE command processing message.

User response:

None. This message is informational.

GCL32003I **DDNAME ddname ALLOCATED FOR DSN=dsname**

Explanation:

Informational message showing that a data set was dynamically allocated to the specified ddname for processing.

User response:

None. This message is informational.

**GCL32004E ALLOCATION FAILED FOR
DSNAME: *dsname***

Explanation:

A problem occurred when attempting to allocate a data set. Processing terminates.

User response:

Review the job log for other messages indicating why the allocation failed.

**GCL32005E *requesttype* FAILED FOR DDNAME:
*ddname***

Explanation:

A problem occurred when attempting a dynamic allocation request for the specified DD. If the message is a warning, processing continues, else processing will terminate.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32005W *requesttype* FAILED FOR DDNAME:
*ddname***

Explanation:

A problem occurred when attempting a dynamic allocation request for the specified DD. If the message is a warning, processing continues, else processing will terminate.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32006E ERROR CALLING GCL01VV1 *tttttt*
FUNCTION: *function* R15=*nnnn*
R0=*nnnnnnnnn* LOC=*lllll***

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *lllll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

**GCL32007W ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=*nnnn***

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32008E UNABLE TO LOAD PROGRAM:
*program name***

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL32009E ERROR ACCESSING JOURNAL
FILE; LOC=*lllll***

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL32010E DUPLICATE JOURNAL ENTRY;
LOC=*lllll***

Explanation:

A duplicate record was detected. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32011E JOURNAL *rectype* RECORD NOT
FOUND**

Explanation:

The specified journal record was not found. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32012E JOURNAL *rectype* RECORD IS
WRONG VERSION**

Explanation:

The specified journal record was not in the expected format. The journal record is printed. Processing terminates.

User response:

Verify that different releases of IMS Cloning Tool have not been run using the same journal data set. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL32013E UNKNOWN RECORD TYPE READ
FROM: *ttttttt*; LOC=*lllll***

Explanation:

An unexpected record was found in the dataspace. The record is printed. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32014E RECORD COUNT IS ZERO; LOC=////
| COUNT MISMATCH; RECORDS
READ=rrrr CONTROL RECORD
COUNT=cccc LOC=////**

Explanation:

There was a problem with the journal records needed to initiate the IMS update. For the first format, the journal control record indicates no entries were added. For the second format, the number of records read from the journal, rrrr, is not the same as the number indicated in the journal control record, cccc. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32015E THE COPY PROCESS DID NOT
COMPLETE SUCCESSFULLY**

Explanation:

The journal indicates that the COPY command did not complete successfully. Processing terminates.

User response:

None.

**GCL32031E PRIOR COPY WAS A SIMULATION
| PRIOR RENAME WAS A
SIMULATION | PRIOR RENAME
WAS NOT RUN**

Explanation:

The journal indicates that the COPY command or the RENAME command was a simulation, or the RENAME command has not been run. Processing terminates.

User response:

Run IMSUPDATE after both the COPY and RENAME have successfully run in non-simulation.

**GCL32048I OPTIONS IN EFFECT FOR THIS
EXECUTION: merged options**

Explanation:

Informational message indicating how COPY will handle the options. The displayed options are derived from the INI and any overriding specifications in the command input.

User response:

None. This message is informational.

**GCL32050E ERROR IN PARAMETERS FOR
keyword**

Explanation:

The parameters for the indicated keyword were incorrect. Processing terminates.

User response:

Check the keyword parameters. Mutually exclusive keywords may have been used.

**GCL32051E REQUIRED KEYWORD MISSING:
keyword**

Explanation:

A keyword required for processing has been omitted. Processing terminates.

User response:

Specify the required keyword.

**GCL32052E REQUIRED INI SECTION/TOKEN
MISSING: SECTION=section
TOKEN=token | REQUIRED
INI VALUE MISSING FOR
SECTION=section TOKEN=token
| INVALID INI VALUE FOR
SECTION=section TOKEN=token**

Explanation:

An error occurred validating the GCLINI parmlib member options. Processing terminates.

User response:

Correct the GCLINI member in the IMS Cloning Tool PARMLIB data set.

**GCL32053E KEYWORD: keyword MAXIMUM
LENGTH: nnn EXCEEDED | TOKEN:
token MAXIMUM LENGTH: nnn
EXCEEDED**

Explanation:

The operand entered for a keyword or INI token exceeded the maximum length allowed. nnn is the maximum allowed length. Processing terminates.

User response:

Correct the length of the keyword's operand or the token's value.

**GCL32054E KEYWORD HAS MORE THAN 1
OPERAND; ONLY 1 ALLOWED:
keyword**

Explanation:

Multiple operands were detected for a keyword; only one operand is permitted. Processing terminates.

User response:

Correct the keyword to use one operand.

**GCL32056E NOTHING SPECIFIED FOR
KEYWORD: keyword**

Explanation:

A keyword was entered without an appropriate operand. Processing terminates.

User response:

Specify an appropriate operand for the keyword.

GCL32057E DUPLICATE FOUND; KEYWORD:
keyword ENTRY: entry

Explanation:

The indicated 'entry' for the keyword was previously specified. Processing terminates.

User response:

Remove the duplicate entry.

GCL32058E INVALID VALUE IN KEYWORD:
keyword VALUE: value error text

Explanation:

The value in the keyword is invalid. 'error text' indicates the problem detected with the value. Processing terminates.

User response:

Correct the value specified in the keyword.

GCL32059E DDNAME OR DSN FOR ddtype NOT SPECIFIED

Explanation:

Neither the DDN or DATASET parameter was specified for a required DD. Processing terminates.

User response:

Enter either a DDN or DATASET keyword for the ddtype.

GCL32060E DDNAME MISSING: ddname

Explanation:

A required DD was not specified in the JCL. Processing terminates.

User response:

Add the required DD to the JCL.

**GCL32061E call FAILED FOR DD=ddname,
RC=nnnn**

Explanation:

An error occurred when attempting to access a data set. Processing terminates.

User response:

Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL32062E UNABLE TO LOCATE dbdname IN ACBLIB

Explanation:

An error was encountered when attempting to locate a member from an ACBLIB data set. Processing terminates.

User response:

Verify the correct ACBLIB data set(s) was specified in the job. Review the system log for any error messages.

If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL32063E UNABLE TO LOCATE member
MEMBER IN MODBLKS**

Explanation:

An error was encountered when attempting to locate a member from a MODBLKS data set. Processing terminates.

User response:

Verify the correct MODBLKS data set(s) was specified in the job. Verify the correct IMS-SUFFIX was specified. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL32064E DDNAME: ddname ALREADY ALLOCATED

Explanation:

The 'ddname' was entered as a parameter for a keyword but the ddname is already allocated to another data set. Processing terminates.

User response:

Make sure the ddname specified is not specified for another keyword or a reserved DDname.

**GCL32069E UNPAIRED ENTRY IN KEYWORD:
keyword**

Explanation:

There is not an even number, or paired, entries for the specified keyword. Processing terminates.

User response:

Correct the keyword specification.

**GCL32074E NAME USED AS BOTH SOURCE
AND TARGET: name IN KEYWORD:
keyword**

Explanation:

A target entry was also specified as a source in the indicated keyword. Processing terminates.

User response:

Correct the keyword specification.

**GCL32075E NAME USED AS TARGET MULTIPLE
TIMES: name IN KEYWORD:
keyword**

Explanation:

A target entry was specified for multiple sources in the indicated keyword. Processing terminates.

User response:

Correct the keyword specification.

GCL32084I DATA SET NAMES FOR ddname:

Explanation:

The names indicated for the keyword have been accepted for processing.

User response:

None. This message is informational.

GCL32085I PAIRS FOR KEYWORD: 'keyword'

Explanation:

The names indicated for the keyword have been accepted for processing.

User response:

None. This message is informational.

**GCL32086E IMS SDFSRESL MUST BE IN
STEPLIB FOR REMOVE-MEMBER
PRECESSING**

Explanation:

IMS Cloning Tool needs to invoke some DBRC services in order to perform the processing for the REMOVE-MEMBER keyword but it was unable to LOAD the necessary modules.

User response:

Update the JCL so that the IMS.SDFSRESL data set is included in the STEPLIB/JOBLIB/LINKLIST concatenation.

GCL32098E INTERNAL ERROR: error text

Explanation:

An unknown error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32099E ERROR CALLING name FUNCTION:
function R15=nnnn R0=nnnn**

Explanation:

An error occurred using name for requested function. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32101I hh:mm:ss MDA UPDATE STARTED
- PROGRAM REV=rrr | hh:mm:ss
MDA UPDATE COMPLETED;
RETURN CODE=nnnn**

Explanation:

MDA UPDATE processing message.

User response:

None. This message is informational.

**GCL32104E ALLOCATION FAILED FOR
DSNAME: dsname**

Explanation:

A problem occurred when attempting to allocate a data set. Processing terminates.

User response:

Review the job log for other messages indicating why the allocation failed.

**GCL32105E requesttype FAILED FOR DDNAME:
ddname**

Explanation:

A problem occurred when attempting a dynamic allocation request for the specified DD. If the message is a warning, processing continues, else processing will terminate.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32105W requesttype FAILED FOR DDNAME:
ddname**

Explanation:

A problem occurred when attempting a dynamic allocation request for the specified DD. If the message is a warning, processing continues, else processing will terminate.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32106E ERROR CALLING GCL01VV1 tttttt
FUNCTION: function R15=nnnn
R0=nnnnnnnn LOC=llll**

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *lllll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

**GCL32107W ERROR CALLING GCL01HEX;
FUNCTION: function R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32109E ERROR ACCESSING JOURNAL
FILE; LOC=llll**

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL32110E DUPLICATE JOURNAL ENTRY;
LOC=/////**

Explanation:

A duplicate record was detected. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32111E JOURNAL *rectype* RECORD NOT
FOUND**

Explanation:

The specified journal record was not found. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32112E JOURNAL *rectype* RECORD IS
WRONG VERSION**

Explanation:

The specified journal record was not in the expected format. The journal record is printed. Processing terminates.

User response:

Verify that different releases of IMS Cloning Tool have not been run using the same journal data set. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL32113E UNKNOWN RECORD TYPE READ
FROM: *ttttttt*; LOC=/////**

Explanation:

An unexpected record was found in the dataspace. The record is printed. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32114W DATA SET MATCHES NO RENAME
MASK: *datasetname***

Explanation:

The indicated data set did not match any source rename mask. Processing continues.

User response:

None required.

**GCL32135I *hh:mm:ss* MDA UPDATING
BYPASSED DUE TO SIMULATION**

Explanation:

Informational message indicating the MDA data sets will not be updated due to the presence of the SIMULATION keyword.

User response:

None. This message is informational.

**GCL32139I *hh:mm:ss* PROCESSING MDA
DATASET *dsname***

Explanation:

Informational message indicating the MDA data set to be updated.

User response:

None. This message is informational.

**GCL32143E UNABLE TO RENAME DSN=*source*
datasetname | USING
MASK=*target mask***

Explanation:

The new name of a data set will exceed 44 characters. Processing terminates.

User response:

Correct the RENAME-MASKS specification.

**GCL32201I *hh:mm:ss* RECON UPDATE
STARTED - PROGRAM REV=*rrr*
| *hh:mm:ss* RECON UPDATE
COMPLETED; RETURN CODE=*nnnn***

Explanation:

RECON UPDATE processing message.

User response:

None. This message is informational.

**GCL32204E ALLOCATION FAILED FOR
DSNAME: *dsname***

Explanation:

A problem occurred when attempting to allocate a data set. Processing terminates.

User response:

Review the job log for other messages indicating why the allocation failed.

**GCL32205E *requesttype* FAILED FOR DDNAME:
*ddname***

Explanation:

A problem occurred when attempting a dynamic allocation request for the specified DD. If the message is a warning, processing continues, else processing will terminate.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32205W *requesttype* FAILED FOR DDNAME:
*ddname***

Explanation:

A problem occurred when attempting a dynamic allocation request for the specified DD. If the message is a warning, processing continues, else processing will terminate.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32206E ERROR CALLING GCL01VV1 tttttt
FUNCTION: function R15=nnnn
R0=nnnnnnnn LOC=llll**

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *llll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

**GCL32207W ERROR CALLING GCL01HEX;
FUNCTION: function R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32209E ERROR ACCESSING JOURNAL
FILE; LOC=llll**

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL32210E DUPLICATE JOURNAL ENTRY;
LOC=llll**

Explanation:

A duplicate record was detected. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32211E JOURNAL rectype RECORD NOT
FOUND**

Explanation:

The specified journal record was not found. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32212E JOURNAL rectype RECORD IS
WRONG VERSION**

Explanation:

The specified journal record was not in the expected format. The journal record is printed. Processing terminates.

User response:

Verify that different releases of IMS Cloning Tool have not been run using the same journal data set. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL32213E UNKNOWN RECORD TYPE READ
FROM: tttttt; LOC=llll**

Explanation:

An unexpected record was found in the dataspace. The record is printed. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32214W DATA SET MATCHES NO RENAME
MASK: datasetname**

Explanation:

The indicated data set did not match any source rename mask. Processing continues.

User response:

None required.

GCL32220W hh:mm:ss dsname IS EMPTY

Explanation:

Informational message indicating the RECON data set is empty. There are no records in the data set to update. Processing continues.

User response:

Verify that this is for the spare RECON data set.

**GCL32235I hh:mm:ss RECON UPDATING
BYPASSED DUE TO SIMULATION**

Explanation:

Informational message indicating the RECON data sets will not be updated due to the presence of the SIMULATION keyword.

User response:

None. This message is informational.

**GCL32239I hh:mm:ss PROCESSING RECON
DATASET dsname**

Explanation:

Informational message indicating the RECON data set to be updated.

User response:

None. This message is informational.

GCL32240I *hh:mm:ss rectype RECORD action*

Explanation:

Informational message indicating showing the RECON record type and the action that would have occurred if not for SIMULATION.

User response:

None. This message is informational.

GCL32243E **UNABLE TO RENAME DSN=*source datasetname* | USING MASK=*target mask***

Explanation:

The new name of a data set will exceed 44 characters. Processing terminates.

User response:

Correct the RENAME-MASKS specification.

GCL32244E **ERROR DETERMINING TARGET VOLUME SERIAL LENGTH; SOURCE: *volser* | ERROR DETERMINING TARGET SSID LENGTH; SOURCE: *ssid***

Explanation:

A record in the RECON data set was found to contain an SSID matching a volume specified in the COPY command, but IMS Cloning Tool could not determine the length of the paired volume serial. If the problem is for SSID, the pairs are specified in the IMSUPDATE command.

User response:

Check the VOLPAIRS specified in the COPY command or the SSIDs specified in the IMSUPDATE command. If the problem cannot be resolved, contact IBM Software Support with the listing that contains the COPY and IMSUPDATE commands.

GCL32245W *rectype RECORD SSID:ssid NOT INCLUDED IN SSID PAIRS*

Explanation:

A record in the RECON data set was found to contain an SSID not specified in the SSID keyword. The updating of the record is bypassed.

User response:

None required.

GCL32246E **UNABLE TO UPDATE *rectype* RECORD, DUPLICATE FOUND**

Explanation:

When updating records in a RECON data set, one of the updates would result in a duplicate record in the RECON. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL32247W **TARGET IMS CONDITIONED FOR IMSPLEX=*imsplex***

Explanation:

The RECON data set has an IMSPLEX name defined. The IMSPLEX name in the target RECON has been updated with the new implex name.

User response:

Verify that the implex specified for the target IMS environment is correct. The implex name must match the IMSPLEX used for the CSL address spaces for the target IMS environment.

GCL32248W **SCI ADDRESS SPACE FOR IMSPLEX=*imsplex* MUST BE STARTED BEFORE RUNNING DBRC JOBS**

Explanation:

The IMSPLEX name in the target IMS RECONS has been conditioned. Before running any DBRC jobs the SCI address space for the IMSPLEX specified must be started.

User response:

The SCI address space should be started. If the IMSUPDATE step was run for an online IMS system and a DBRC step needs to be run after the IMSUPDATE to close the last online log, the SCI address space will need to be started for the DBRC step to be executed successfully.

GCL32299E **ERROR CALLING *name* FUNCTION: *function* R15=*nnnn* R0=*nnnn***

Explanation:

An error occurred using name for requested function. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL32301I *hh:mm:ss JCLPDS UPDATE STARTED - PROGRAM REV=*rrr* | hh:mm:ss JCLPDS UPDATE COMPLETED; RETURN CODE=*nnnn**

Explanation:

JCLPDS UPDATE processing message.

User response:

None. This message is informational.

GCL32304E **ALLOCATION FAILED FOR DSNAME: *dsname***

Explanation:

A problem occurred when attempting to allocate a data set. Processing terminates.

User response:

Review the job log for other messages indicating why the allocation failed.

GCL32305E *requesttype* **FAILED FOR DDNAME:**
 ddname

Explanation:

A problem occurred when attempting a dynamic allocation request for the specified DD. If the message is a warning, processing continues, else processing will terminate.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL32305W *requesttype* **FAILED FOR DDNAME:**
 ddname

Explanation:

A problem occurred when attempting a dynamic allocation request for the specified DD. If the message is a warning, processing continues, else processing will terminate.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL32306E **ERROR CALLING GCL01VV1 tttttt**
 FUNCTION: function R15=nnnn
 R0=nnnnnnnn LOC=llll

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *llll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

GCL32307W **ERROR CALLING GCL01HEX;**
 FUNCTION: function R15=nnnn

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL32309E **ERROR ACCESSING JOURNAL**
 FILE; LOC=llll

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL32310E **DUPLICATE JOURNAL ENTRY;**
 LOC=llll

Explanation:

A duplicate record was detected. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL32311E **JOURNAL *rectype* RECORD NOT**
 FOUND

Explanation:

The specified journal record was not found. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL32312E **JOURNAL *rectype* RECORD IS**
 WRONG VERSION

Explanation:

The specified journal record was not in the expected format. The journal record is printed. Processing terminates.

User response:

Verify that different releases of IMS Cloning Tool have not been run using the same journal data set. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL32313E **UNKNOWN RECORD TYPE READ**
 FROM: tttttt; LOC=llll

Explanation:

An unexpected record was found in the dataspace. The record is printed. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL32314I **JCLPDS record DSN: data set**
 name does not match rename
 masks

Explanation:

The data set name found in a JCLPDS member did not match a RENAME-MASK specified on the RENAME command. The data set name will not be changed in the target JCLPDS member.

User response:

Verify that the source data set name is valid for the target IMS.

**GCL32314W DATA SET MATCHES NO RENAME
MASK: *datasetname***

Explanation:

The indicated data set did not match any source rename mask. Processing continues.

User response:

None required.

**GCL32335I *hh:mm:ss* JCLPDS UPDATING
BYPASSED DUE TO SIMULATION
member UPDATING BYPASSED
DUE TO SIMULATION**

Explanation:

Informational message indicating the JCLPDS data sets will not be updated due to the presence of the SIMULATION keyword. There will also be one message for each member that would have updated.

User response:

None. This message is informational.

**GCL32339I *hh:mm:ss* PROCESSING JCLPDS
DATASET *dsname***

Explanation:

Informational message indicating the JCLPDS data set to be updated.

User response:

None. This message is informational.

**GCL32343E UNABLE TO RENAME DSN=*source*
datasetname | USING
MASK=*target mask***

Explanation:

The new name of a data set will exceed 44 characters. Processing terminates.

User response:

Correct the RENAME-MASKS specification.

**GCL32344E ERROR DETERMINING TARGET
VOLUME SERIAL LENGTH;
SOURCE: *volser* | ERROR
DETERMINING TARGET SSID
LENGTH; SOURCE: *ssid***

Explanation:

A record in the JCLPDS data set was found to contain an SSID matching a volume specified in the COPY command, but IMS Cloning Tool could not determine the length of the paired volume serial. If the problem is for SSID, the pairs are specified in the IMSUPDATE command.

User response:

Check the VOLPAIRS specified in the COPY command or the SSIDs specified in the IMSUPDATE command. If the problem cannot be resolved, contact IBM Software

Support with the listing that contains the COPY and IMSUPDATE commands.

**GCL32401I *hh:mm:ss* RDDS UPDATE STARTED
- PROGRAM REV=*rrr* | *hh:mm:ss*
RDDS UPDATE COMPLETED;
RETURN CODE=*nnnn***

Explanation:

RDDS UPDATE processing message.

User response:

None. This message is informational.

**GCL32404E ALLOCATION FAILED FOR
DSNAME: *dsname***

Explanation:

A problem occurred when attempting to allocate a data set. Processing terminates.

User response:

Review the job log for other messages indicating why the allocation failed.

**GCL32406E ERROR CALLING GCL01VV1 *tttttt*
FUNCTION: *function* R15=*nnnn*
R0=*nnnnnnnn* LOC=*lllll***

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *lllll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

**GCL32407W ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=*nnnn***

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32409E ERROR ACCESSING RDDS FILE;
LOC=*lllll***

Explanation:

An error occurred accessing the RDDS file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL32410E DUPLICATE JOURNAL ENTRY;
LOC=*lllll***

Explanation:

A duplicate record was detected. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL32411E JOURNAL *rectype* RECORD NOT FOUND

Explanation:

The specified journal record was not found. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL32412E JOURNAL *rectype* RECORD IS WRONG VERSION

Explanation:

The specified journal record was not in the expected format. The journal record is printed. Processing terminates.

User response:

Verify that different releases of IMS Cloning Tool have not been run using the same journal data set. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL32413E UNKNOWN RECORD TYPE READ FROM: *ttttttt*; LOC=*lllll*

Explanation:

An unexpected record was found in the dataspace. The record is printed. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL32420W hh:mm:ss *dsname* IS EMPTY

Explanation:

Informational message indicating the RDDS data set is empty. There are no records in the data set to update. Processing continues.

User response:

Verify that this is for a spare or unused RDDS data set.

GCL32421E INVALID CONTROL RECORD READ FROM *rdds_dataset_name*

Explanation:

Error message indicating the control record read from the RDDS data set was not in the expected format continues.

User response:

Verify that the data set name specified for the RDDS is and that the source data set is usable by the source IMS subsystem. If so, contact IBM Software Support with the listing that contains this message.

GCL32435I hh:mm:ss RDDS UPDATING BYPASSED DUE TO SIMULATION

Explanation:

Informational message indicating the RDDS data sets will not be updated due to the presence of the SIMULATION keyword.

User response:

None. This message is informational.

GCL32439I hh:mm:ss PROCESSING RDDS DATA SET *dsname*

Explanation:

Informational message indicating the RDDS data set to be updated.

User response:

None. This message is informational.

GCL32440I hh:mm:ss *rectype* RECORD *action*

Explanation:

Informational message indicating showing the RDDS record type and the action that would have occurred if not for SIMULATION.

User response:

None. This message is informational.

GCL32444E ERROR DETERMINING TARGET SSID LENGTH; SOURCE: *ssid*

Explanation:

A record in the RDDS data set was found to contain an SSID matching a volume specified in the COPY command, but IMS Cloning Tool could not determine the length of the paired volume serial. If the problem is for SSID, the pairs are specified in the IMSUPDATE command.

User response:

Check the VOLPAIRS specified in the COPY command or the SSIDs specified in the IMSUPDATE command. If the problem cannot be resolved, contact IBM Software Support with the listing that contains the COPY and IMSUPDATE commands.

GCL32445W *rectype* RECORD SSID:*ssid* NOT INCLUDED IN SSID PAIRS

Explanation:

The control record in the RDDS data set was found to control an SSID not specified in the SSID keyword. The updating of the record is bypassed.

User response:

None required.

**GCL32501I hh:mm:ss RESLIB UPDATE STARTED - PROGRAM REV=*rrr*
| hh:mm:ss RESLIB UPDATE COMPLETED; RETURN CODE=*nnnn***

Explanation:
RESLIB UPDATE processing message.

User response:
None. This message is informational.

**GCL32504E ALLOCATION FAILED FOR
DSNAME: *dsname***

Explanation:
A problem occurred when attempting to allocate a data set. Processing terminates.

User response:
Review the job log for other messages indicating why the allocation failed.

**GCL32505E *requesttype* FAILED FOR DDNAME:
*ddname***

Explanation:
A problem occurred when attempting a dynamic allocation request for the specified DD. If the message is a warning, processing continues, else processing will terminate.

User response:
Contact IBM Software Support with the listing that contains this message.

**GCL32505W *requesttype* FAILED FOR DDNAME:
*ddname***

Explanation:
A problem occurred when attempting a dynamic allocation request for the specified DD. If the message is a warning, processing continues, else processing will terminate.

User response:
Contact IBM Software Support with the listing that contains this message.

**GCL32506E ERROR CALLING GCL01VV1 *tttttt*
FUNCTION: *function* R15=*nnnn*
R0=*nnnnnnnnn* LOC=*lllll***

Explanation:
A problem occurred using a dataspace. *tttttt* is the name of the internal table. *lllll* is the location where the error occurred. Processing terminates.

User response:
Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

**GCL32507W ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=*nnnn***

Explanation:
An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32508E ALLOCATION FAILED FOR
MEMBER:*membername* in
DSN:*dsname***

Explanation:
A problem occurred when attempting to allocate a member of a PDS. Processing terminates.

User response:
Review the job log for other messages indicating why the allocation failed.

**GCL32509E ERROR ACCESSING RESLIB FILE;
LOC=*lllll***

Explanation:
An error occurred accessing the RESLIB file. Processing terminates.

User response:
Check for any additional error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL32510E DUPLICATE JOURNAL ENTRY;
LOC=*lllll***

Explanation:
A duplicate record was detected. Processing terminates.

User response:
Contact IBM Software Support with the listing that contains this message.

**GCL32511E JOURNAL *rectype* RECORD NOT
FOUND**

Explanation:
The specified journal record was not found. Processing terminates.

User response:
Contact IBM Software Support with the listing that contains this message.

**GCL32512E JOURNAL *rectype* RECORD IS
WRONG VERSION**

Explanation:
The specified journal record was not in the expected format. The journal record is printed. Processing terminates.

User response:
Verify that different releases of IMS Cloning Tool have not been run using the same journal data set. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL32513E UNKNOWN RECORD TYPE READ
FROM: *ttttttt*; LOC=*lllll***

Explanation:

An unexpected record was found in the dataspace. The record is printed. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL32520W hh:mm:ss *dsname* IS EMPTY

Explanation:

Informational message indicating the RESLIB data set is empty. There are no records in the data set to update. Processing continues.

User response:

Verify that this is for a spare or unused RESLIB data set.

**GCL32521E INVALID CONTROL RECORD READ
FROM RESLIB_ *dataset_name***

Explanation:

Error message indicating the control record read from the RESLIB data set was not in the expected format continues.

User response:

Verify that the data set name specified for the RESLIB is and that the source data set is usable by the source IMS subsystem. If so, contact IBM Software Support with the listing that contains this message.

**GCL32535I hh:mm:ss RESLIB UPDATING
BYPASSED DUE TO SIMULATION**

Explanation:

Informational message indicating the RESLIB data sets will not be updated due to the presence of the SIMULATION keyword.

User response:

None. This message is informational.

**GCL32539I hh:mm:ss PROCESSING RESLIB
DATA SET *dsname***

Explanation:

Informational message indicating the RESLIB data set to be updated.

User response:

None. This message is informational.

GCL32540I hh:mm:ss *rectype* RECORD *action*

Explanation:

Informational message indicating showing the RESLIB record type and the action that would have occurred if not for SIMULATION.

User response:

None. This message is informational.

**GCL32544E ERROR DETERMINING TARGET
SSID LENGTH; SOURCE: *ssid***

Explanation:

A record in the RESLIB data set was found to contain an SSID matching a volume specified in the COPY command, but IMS Cloning Tool could not determine the length of the paired volume serial. If the problem is for SSID, the pairs are specified in the IMSUPDATE command.

User response:

Check the VOLPAIRS specified in the COPY command or the SSIDs specified in the IMSUPDATE command. If the problem cannot be resolved, contact IBM Software Support with the listing that contains the COPY and IMSUPDATE commands.

**GCL32545W *rectype* RECORD SSID:*ssid* NOT
INCLUDED IN SSID PAIRS**

Explanation:

The control record in the RESLIB data set was found to control an SSID not specified in the SSID keyword. The updating of the record is bypassed.

User response:

None required.

**GCL32562E UNABLE TO LOCATE *member* IN
*datasetname***

Explanation:

An error was encountered when attempting to locate a member from a RESLIB data set. Processing terminates.

User response:

Verify the correct RESLIB data set(s) was specified in the job. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL32578E UNKNOWN MODULE *member*
LOADED FROM *datasetname***

Explanation:

A module loaded from a RESLIB data set was not in the expected format. Processing terminates.

User response:

Verify the correct RESLIB data set(s) was specified in the job. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL32601I hh:mm:ss REMOVE MEMBER
STARTED - PROGRAM REV=*rrr*
| hh:mm:ss REMOVE MEMBER
COMPLETED; RETURN CODE=*nnnn***

Explanation:

REMOVE MEMBER processing message.

User response:

None. This message is informational.

**GCL32604E ALLOCATION FAILED FOR
DSNAME: *dsname***

Explanation:

A problem occurred when attempting to allocate a data set. Processing terminates.

User response:

Review the job log for other messages indicating why the allocation failed.

**GCL32606E ERROR CALLING GCL01VV1 *tttttt*
FUNCTION: *function* R15=*nnnn*
R0=*nnnnnnnnn* LOC=*lllll***

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *lllll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

**GCL32607W ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=*nnnn***

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32609E ERROR ACCESSING JOURNAL
FILE; LOC=*lllll***

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL32610E DUPLICATE JOURNAL ENTRY;
LOC=*lllll***

Explanation:

A duplicate record was detected. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32611E JOURNAL *rectype* RECORD NOT
FOUND**

Explanation:

The specified journal record was not found. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32612E JOURNAL *rectype* RECORD IS
WRONG VERSION**

Explanation:

The specified journal record was not in the expected format. The journal record is printed. Processing terminates.

User response:

Verify that different releases of IMS Cloning Tool have not been run using the same journal data set. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL32682E MISSING DSN FOR DD: *ddname*

Explanation:

A parameter was not specified for the corresponding DDname. Processing terminates.

User response:

Correct the keyword or DD statement so that a data set name is specified for the DD.

**GCL32683E UNABLE TO GET DBRC *rectype*
INFORMATION FOR SSID: *ssid***

Explanation:

An error occurred trying to retrieve information from DBRC for the associated IMS ssid. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message plus a listing of the RECON for the specified IMS subsystem.

**GCL32701I hh:mm:ss RDS UPDATE STARTED -
PROGRAM REV=*rrr* | hh:mm:ss RDS
UPDATE COMPLETED; RETURN
CODE=*nnnn***

Explanation:

RDS UPDATE processing message.

User response:

None. This message is informational.

**GCL32704E ALLOCATION FAILED FOR
DSNAME: *dsname***

Explanation:

A problem occurred when attempting to allocate a data set. Processing terminates.

User response:

Review the job log for other messages indicating why the allocation failed.

**GCL32705E *requesttype* FAILED FOR DDNAME:
*ddname***

Explanation:

A problem occurred when attempting a dynamic allocation request for the specified DD. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32705W *requesttype* FAILED FOR DDNAME:
ddname**

Explanation:

A problem occurred when attempting a dynamic allocation request for the specified DD. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32706E ERROR CALLING GCL01VV1 tttttt
FUNCTION: *function* R15=nnnn
R0=nnnnnnnn LOC=llll**

Explanation:

A problem occurred using a dataspace. tttttt is the name of the internal table. llll is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the parmlib member that controls execution of IMS Cloning Tool.

**GCL32707W ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32709E ERROR ACCESSING RDS FILE;
LOC=llll**

Explanation:

An error occurred accessing the RDS file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL32710E DUPLICATE JOURNAL ENTRY;
LOC=llll**

Explanation:

A duplicate record was detected. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32711E JOURNAL *rectype* RECORD NOT
FOUND**

Explanation:

The specified journal record was not found. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32712E JOURNAL *rectype* RECORD IS
WRONG VERSION**

Explanation:

The specified journal record was not in the expected format. The journal record is printed. Processing terminates.

User response:

Verify that different releases of IMS Cloning Tool have not been run using the same journal data set. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL32713E UNKNOWN RECORD TYPE READ
FROM: tttttt; LOC=llll**

Explanation:

An unexpected record was found in the dataspace. The record is printed. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL32720W hh:mm:ss dsname IS EMPTY

Explanation:

Informational message indicating the RDS data set is empty. There are no records in the data set to update. Processing continues.

User response:

Verify that this is for a spare or unused RDS data set.

**GCL32721E INVALID CONTROL RECORD READ
FROM RDS_dataset_name**

Explanation:

Error message indicating the control record read from the RDS data set was not in the expected format. Processing continues.

User response:

Verify that the data set name specified for the RDS is and that the source data set is usable by the source IMS subsystem. If so, contact IBM Software Support with the listing that contains this message.

**GCL32735I hh:mm:ss RDS UPDATING
BYPASSED DUE TO SIMULATION**

Explanation:

Informational message indicating the RDS data sets will not be updated due to the presence of the SIMULATION keyword.

User response:

None. This message is informational.

GCL32739I **hh:mm:ss PROCESSING RDS DATA SET *dsname***

Explanation:

Informational message indicating the RDS data set to be updated.

User response:

None. This message is informational.

GCL32740I **hh:mm:ss *rectype* RECORD *action***

Explanation:

Informational message indicating showing the RDS record type and the action that would have occurred if not for SIMULATION.

User response:

None. This message is informational.

GCL32744E **ERROR DETERMINING TARGET SSID LENGTH; SOURCE: *ssid***

Explanation:

A record in the RDS data set was found to contain an SSID matching a volume specified in the COPY command, but IMS Cloning Tool could not determine the length of the paired volume serial. If the problem is for SSID, the pairs are specified in the IMSUPDATE command.

User response:

Check the VOLPAIRS specified in the COPY command or the SSIDs specified in the IMSUPDATE command. If the problem cannot be resolved, contact IBM Software Support with the listing that contains the COPY and IMSUPDATE commands.

GCL32745W ***rectype* RECORD SSID:*ssid* NOT INCLUDED IN SSID PAIRS**

Explanation:

The control record in the RDS data set was found to control an SSID not specified in the SSID keyword. The updating of the record is bypassed.

User response:

None.

GCL32801I **hh:mm:ss REPOSITORY UPDATE STARTED - PROGRAM REV=*rrr* |
hh:mm:ss REPOSITORY UPDATE COMPLETED; RETURN CODE=*nnnn***

Explanation:

REPOSITORY UPDATE processing message.

User response:

None. This message is informational.

GCL32804E **ALLOCATION FAILED FOR DSNAME: *dsname***

Explanation:

A problem occurred when attempting to allocate a data set. Processing terminates.

User response:

Review the job log for other messages indicating why the allocation failed.

GCL32805E ***requesttype* FAILED FOR DDNAME: *ddname***

Explanation:

A problem occurred when attempting a dynamic allocation request for the specified DD. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL32805W ***requesttype* FAILED FOR DDNAME: *ddname***

Explanation:

A problem occurred when attempting a dynamic allocation request for the specified DD. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL32806E **ERROR CALLING GCL01VV1 *tttttt* FUNCTION: *function* R15=*nnnn* R0=*nnnnnnnn* LOC=*lllll***

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *lllll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCL INI parmlib member that controls execution of IMS Cloning Tool.

GCL32807W **ERROR CALLING GCL01HEX; FUNCTION: *function* R15=*nnnn***

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL32809E **ERROR ACCESSING JOURNAL FILE; LOC=*lllll***

Explanation:

A VSAM error occurred accessing the journal file.
Processing terminates.

User response:

Review the associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL32810E DUPLICATE JOURNAL ENTRY;
LOC=/////**

Explanation:

A duplicate record was detected. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains these messages.

**GCL32811E JOURNAL *rectype* RECORD NOT
FOUND**

Explanation:

The specified journal record was not found. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32812E JOURNAL *rectype* RECORD IS
WRONG VERSION**

Explanation:

The specified journal record was not in the expected format. The journal record is printed. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32813E UNKNOWN RECORD TYPE READ
FROM: ttttttt; LOC=/////**

Explanation:

An unexpected record was found in the dataspace. The record is printed. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32814W DATA SET MATCHES NO RENAME
MASK: *datasetname***

Explanation:

The indicated data set did not match any source rename mask. Processing continues.

User response:

None required.

**GCL32835I *hh:mm:ss* REPOSITORY UPDATING
BYPASSED DUE TO SIMULATION**

Explanation:

Informational message indicating that the REPOSITORY data sets will not be updated due to the presence of the SIMULATION keyword.

User response:

None required.

**GCL32839I *hh:mm:ss* PROCESSING
REPOSITORY DATASET *dsname***

Explanation:

Informational message indicating the REPOSITORY data set to be updated.

User response:

None required.

GCL32840I *hh:mm:ss rectype* RECORD *action*

Explanation:

Informational message indicating showing the repository record and the action that would have occurred if not for SIMULATION.

User response:

None required.

**GCL32843E UNABLE TO RENAME DSN=*source
datasetname* | USING
MASK=*target mask***

Explanation:

The new name of a data set will exceed 44 characters. Processing terminates.

User response:

Correct the RENAME-MASKS specification.

**GCL32899E ERROR CALLING *name* FUNCTION:
function R15=nnnn R0=nnnn**

Explanation:

An error occurred using name for requested function. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL32901I *hh:mm:ss* LOG CLOSE
PROCESSING STARTED -
PROGRAM REV=*rrr* | *hh:mm:ss*
LOG CLOSE PROCESSING
COMPLETED; RETURN CODE=*nnnn***

Explanation

LOG CLOSE processing message. If the source IMS was online during COPY processing, then this informational message indicates the start or completion of the following processing:

```
CHANGE.SUBSYS SSID(target ssid) ABNORMAL  
GENJCL.CLOSE SSID(target ssid)
```

User response:

None. This message is informational.

GCL32903E DDNAME MISSING: *ddname*

Explanation

A required DD was not specified in the JCL. Processing terminates.

User response

Add the required DD to the JCL.

**GCL32904E ALLOCATION FAILED FOR
DSNAME: *dsname***

Explanation

A problem occurred when attempting to allocate a data set. Processing terminates.

User response

Review the job log for other messages indicating why the allocation failed.

**GCL32905E CONCATENATE FAILED FOR
DDNAME: *ddname***

Explanation

A problem occurred when attempting to concatenate an allocation. Processing terminates.

User response

Review the job log for other messages indicating why the concatenation failed.

GCL32982E MISSING DSN FOR DD: *ddname*

Explanation

A parameter was not specified for the corresponding DDname. Processing terminates.

User response

Correct the keyword or DD statement so that a data set name is specified for the DD.

**GCL32B01I *hh:mm:ss* APF AUTHORIZING
STARTED - PROGRAM REV=*rrr*
| *hh:mm:ss* APF AUTHORIZING
COMPLETED; RETURN CODE=*nnnn***

Explanation

The process of APF Authorizing user supplied target load libraries has started or completed. A zero return code does not necessarily mean a data set has been authorized. Check the Job Log to ascertain the outcome of APF authorization requests.

User response

None. This message is informational.

**GCL32B05E SVC99 INFORMATION RETRIEVAL
FAILED**

Explanation

An SVC99 Dynamic Information Retrieval to return SMS MGMTCLASS has failed.

User response

Determine the reason for the failure and rerun.

**GCL32B06I APF AUTHORIZATION REQUESTED
AS SMS | VOLUME=*volser***

Explanation

Indicates whether the APF authorization was done as SMS managed or volume restricted. This message is preceded by message GCL32B39I.

User response

None. This message is informational.

**GCL32B39I PROCESSING APF DATASET
*apf_dsn***

Explanation

Lists the name of the dataset that is being APF authorized. This message is followed by message GCL32B06I.

User response

None. This message is informational.

**GCL33001I *hh:mm:ss* IMSDBSTOP STARTED
- PROGRAM REV=*rrr* | *hh:mm:ss*
IMSDBSTOP COMPLETED; RETURN
CODE=*nnnn***

Explanation:

IMSDBSTOP command processing message.

User response:

None. This message is informational.

**GCL33005W DEALLOCATE FAILED FOR
DDNAME: *ddname***

Explanation:

A problem occurred when attempting to deallocate a DD. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL33006E ERROR CALLING GCL01VV1 *ttttttt*
FUNCTION: *function R15=nnnn*
R0=nnnnnnnn LOC=*lllll***

Explanation:

A problem occurred using a dataspace. *ttttttt* is the name of the internal table. *lllll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

**GCL33007W ERROR CALLING GCL01HEX;
FUNCTION: *function R15=nnnn***

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL33008E UNABLE TO LOAD PROGRAM:
*program name***

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL33021E ERROR ISSUING IMS COMMAND,
RC=*nnnn* RSN=*nnnn***

Explanation:

An unexpected error was encountered when attempting to issue an IMS command. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL33022E IMS SUBSYSTEM *ssid* NOT
ACTIVE/DEFINED**

Explanation:

An IMSDBSTOP command was specified but the target IMS subsystem is not active or defined on the z/OS image.

User response:

Verify that the job was executed on the same z/OS image where the IMS subsystem is active.

**GCL33023I CONNECTED TO IMS SUBSYSTEM:
ssid RELEASE *v.r***

Explanation:

Informational message indicating that the target IMS subsystem was located and the release of the IMS subsystem.

User response:

None. This message is informational.

**GCL33034E USERID IS NOT AUTHORIZED TO
ISSUE THE IMS COMMAND**

Explanation:

A request to issue a reply to an outstanding WTOR or issue an operator command failed because of insufficient authority.

User response:

Verify that the user who submitted the job has the proper authority.

GCL33035E COMMAND FAILED, RC=*nnnn*

Explanation:

An unexpected error was encountered from an attempt to issue an IMS command. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL33036E NOT ALL DATABASES HAVE BEEN
STOPPED WITHIN WAIT TIME
LIMIT**

Explanation:

After issuing an IMS DBR command, the database was not stopped within the specified WAIT limit.

User response:

View the IMS log to see why the database was not stopped. Possibly, alter the WAIT time limit specified to allow for the time for the database to be stopped.

GCL33037I *dbdname* IS STOPPED

Explanation:

Informational message indicating that the database is stopped.

User response:

None. This message is informational.

**GCL33038I WAITING FOR DATABASES TO BE
STOPPED**

Explanation:

Informational message indicating that the job is now waiting for the databases to be stopped.

User response:

None

GCL33039I ALL DATABASES HAVE BEEN STOPPED

Explanation:

Informational message indicating that all databases specified on the DBD keyword have been stopped.

User response:

None

GCL33040I IMS COMMAND: *command*

Explanation:

Informational message indicating that the job will issue the IMS command.

User response:

None

GCL33042I COMMAND NOT EXECUTED DUE TO SCI NOT ACTIVE

Explanation:

Informational message indicating the command was not issued because it requires the services of the SCI address space and it was not active. If neither SCI nor IMS are active, then the job may still complete successfully.

User response:

Start the SCI address space in order to ensure that the database is stopped.

GCL33048I OPTIONS IN EFFECT FOR THIS EXECUTION: *merged options*

Explanation:

Informational message indicating how COPY will handle the options. The displayed options are derived from the INI and any overriding specifications in the command input.

User response:

None. This message is informational.

GCL33050E ERROR IN PARAMETERS FOR *keyword*

Explanation:

The parameters for the indicated keyword were incorrect. Processing terminates.

User response:

Check the keyword parameters. Mutually exclusive keywords may have been used.

GCL33051E REQUIRED KEYWORD MISSING: *keyword*

Explanation:

A keyword required for processing has been omitted. Processing terminates.

User response:

Specify the required keyword.

GCL33052E REQUIRED INI SECTION/TOKEN MISSING: SECTION=*section* TOKEN=*token* | REQUIRED INI VALUE MISSING FOR SECTION=*section* TOKEN=*token* | INVALID INI VALUE FOR SECTION=*section* TOKEN=*token*

Explanation:

An error occurred validating the GCLINI parmlib member options. Processing terminates.

User response:

Correct the GCLINI member in the IMS Cloning Tool PARMLIB data set.

GCL33053E KEYWORD: *keyword* MAXIMUM LENGTH: *nnn* EXCEEDED | TOKEN: *token* MAXIMUM LENGTH: *nnn* EXCEEDED

Explanation:

The operand entered for a keyword or INI token exceeded the maximum length allowed. *nnn* is the maximum allowed length. Processing terminates.

User response:

Correct the length of the keyword's operand or the token's value.

GCL33054E KEYWORD HAS MORE THAN 1 OPERAND; ONLY 1 ALLOWED: *keyword*

Explanation:

Multiple operands were detected for a keyword; only one operand is permitted. Processing terminates.

User response:

Correct the keyword to use one operand.

GCL33056E NOTHING SPECIFIED FOR KEYWORD: *keyword*

Explanation:

A keyword was entered without an appropriate operand. Processing terminates.

User response:

Specify an appropriate operand for the keyword.

GCL33057E DUPLICATE FOUND; KEYWORD: *keyword* ENTRY: *entry*

Explanation:

The indicated 'entry' for the keyword was previously specified. Processing terminates.

User response:

Remove the duplicate entry.

**GCL33058E INVALID VALUE IN KEYWORD:
keyword VALUE: value error text**

Explanation:

The value in the keyword is invalid. 'error text' indicates the problem detected with the value. Processing terminates.

User response:

Correct the value specified in the keyword.

GCL33060E DDNAME MISSING: ddname

Explanation:

A required DD was not specified in the JCL. Processing terminates.

User response:

Add the required DD to the JCL.

**GCL33061E call FAILED FOR DD=ddname,
RC=nnnn**

Explanation:

An error occurred when attempting to access a data set. Processing terminates.

User response:

Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL33062E UNABLE TO LOCATE dbdname IN
ACBLIB**

Explanation:

An error was encountered when attempting to locate a member from an ACBLIB data set. Processing terminates.

User response:

Verify the correct ACBLIB data set(s) was specified in the job. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL33065E module name IS NOT A DBD

Explanation:

A module was found in an ACBLIB data set that matched a DBD name but the module is not a DMB. Processing terminates.

User response:

Verify the correct ACBLIB data set(s) was specified in the job. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL33066E UNABLE TO READ ACBLIB
MEMBER: dbdname**

Explanation:

An error was encountered when attempting to read a member from an ACBLIB data set. Processing terminates.

User response:

Verify the correct ACBLIB data set(s) was specified in the job. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL33067E UNABLE TO FIND DATA SET NAME
FOR DBD: dbdname DDNAME:
ddname**

Explanation:

An error was encountered when attempting to read a member from an MDA data set. Processing terminates.

User response:

Verify the correct MDA data set(s) was specified in the job. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL33069E DBD dbdname: dbtype IS AN
UNSUPPORTED DB TYPE**

Explanation:

The DB type specified for the DBD is not a supported database type for IMS Cloning Tool. Processing terminates.

User response:

The dbdname specified cannot be stopped using IMS Cloning Tool. Verify the correct dbdname was specified.

GCL33070I STOPPING DBD: dbdname

Explanation:

Informational message indicating that the job will issue the command to stop the database in the target IMS subsystem.

User response:

None. This message is informational.

**GCL33501I hh:mm:ss IMSDBSTART STARTED
- PROGRAM REV=rrr | hh:mm:ss
IMSDBSTART COMPLETED;
RETURN CODE=nnnn**

Explanation:

IMSDBSTART command processing message.

User response:

None. This message is informational.

**GCL33505W DEALLOCATE FAILED FOR
DDNAME: ddname**

Explanation:

A problem occurred when attempting to deallocate a DD. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL33506E ERROR CALLING GCL01VV1 *tttttt*
FUNCTION: *function* R15=nnnn
R0=nnnnnnnn LOC=llll

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *llll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

GCL33507W ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=nnnn

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL33508E UNABLE TO LOAD PROGRAM:
program name

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL33521E ERROR ISSUING IMS COMMAND,
RC=nnnn RSN=nnnn

Explanation:

An unexpected error was encountered when attempting to issue an IMS command. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL33522E IMS SUBSYSTEM *ssid* NOT
ACTIVE/DEFINED

Explanation:

An IMSDBSTART command was specified but the target IMS subsystem is not active or defined on the z/OS image.

User response:

Verify that the job was executed on the same z/OS image where the IMS subsystem is active.

GCL33523I CONNECTED TO IMS SUBSYSTEM:
***ssid* RELEASE v.r**

Explanation:

Informational message indicating that the target IMS subsystem was located and the release of the IMS subsystem.

User response:

None. This message is informational.

GCL33534E USERID IS NOT AUTHORIZED TO
ISSUE THE IMS COMMAND

Explanation:

A request to issue a reply to an outstanding WTOR or issue an operator command failed because of insufficient authority.

User response:

Verify that the user who submitted the job has the proper authority.

GCL33535E COMMAND FAILED, RC=nnnn

Explanation:

An unexpected error was encountered from an attempt to issue an IMS command. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL33540I IMS COMMAND: *command*

Explanation:

Informational message indicating that the job will issue the IMS command.

User response:

None. This message is informational.

GCL33541I COMMAND NOT EXECUTED DUE
TO SIMULATION MODE

Explanation:

Informational message indicating that an actual command was not issued because the SIMULATE keyword was specified.

User response:

Verify that a simulation was desired.

GCL33548I OPTIONS IN EFFECT FOR THIS
EXECUTION: *merged options*

Explanation:

Informational message indicating how COPY will handle the options. The displayed options are derived from the INI and any overriding specifications in the command input.

User response:

None. This message is informational.

GCL33550E ERROR IN PARAMETERS FOR
keyword

Explanation:

The parameters for the indicated keyword were incorrect. Processing terminates.

User response:

Check the keyword parameters. Mutually exclusive keywords may have been used.

**GCL33551E REQUIRED KEYWORD MISSING:
keyword**

Explanation:

A keyword required for processing has been omitted. Processing terminates.

User response:

A keyword required for processing has been omitted. Processing terminates. Specify the required keyword.

**GCL33552E REQUIRED INI SECTION/TOKEN
MISSING: SECTION=section
TOKEN=token | REQUIRED
INI VALUE MISSING FOR
SECTION=section TOKEN=token
| INVALID INI VALUE FOR
SECTION=section TOKEN=token**

Explanation:

An error occurred validating the GCLINI parmlib member options. Processing terminates.

User response:

Correct the GCLINI member in the IMS Cloning Tool PARMLIB data set.

**GCL33553E KEYWORD: keyword MAXIMUM
LENGTH: nnn EXCEEDED | TOKEN:
token MAXIMUM LENGTH: nnn
EXCEEDED**

Explanation:

The operand entered for a keyword or INI token exceeded the maximum length allowed. nnn is the maximum allowed length. Processing terminates.

User response:

Correct the length of the keyword's operand or the token's value.

**GCL33554E KEYWORD HAS MORE THAN 1
OPERAND; ONLY 1 ALLOWED:
keyword**

Explanation:

Multiple operands were detected for a keyword; only one operand is permitted. Processing terminates.

User response:

Correct the keyword to use one operand.

**GCL33556E NOTHING SPECIFIED FOR
KEYWORD: keyword**

Explanation:

A keyword was entered without an appropriate operand. Processing terminates.

User response:

Specify an appropriate operand for the keyword.

**GCL33557E DUPLICATE FOUND; KEYWORD:
keyword ENTRY: entry**

Explanation:

The indicated 'entry' for the keyword was previously specified. Processing terminates.

User response:

Remove the duplicate entry.

**GCL33558E INVALID VALUE IN KEYWORD:
keyword VALUE: value error text**

Explanation:

The value in the keyword is invalid. 'error text' indicates the problem detected with the value. Processing terminates.

User response:

Correct the value specified in the keyword.

GCL33560E DDNAME MISSING: ddname

Explanation:

A required DD was not specified in the JCL. Processing terminates.

User response:

Add the required DD to the JCL.

**GCL33561E call FAILED FOR DD=ddname,
RC=nnnn**

Explanation:

An error occurred when attempting to access a data set. Processing terminates.

User response:

Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL33562E UNABLE TO LOCATE dbdname IN
ACBLIB**

Explanation:

An error was encountered when attempting to locate a member from an ACBLIB data set. Processing terminates.

User response:

Verify the correct ACBLIB data set(s) was specified in the job. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL33565E module name IS NOT A DBD

Explanation:

A module was found in an ACBLIB data set that matched a DBD name but the module is not a DMB. Processing terminates.

User response:

Verify the correct ACBLIB data sets was specified in the job. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL33566E UNABLE TO READ ACBLIB
MEMBER: *dbdname***

Explanation:

An error was encountered when attempting to read a member from an ACBLIB data set. Processing terminates.

User response:

Verify the correct ACBLIB data set(s) was specified in the job. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL33567E UNABLE TO FIND DATA SET NAME
FOR DBD: *dbdname* DDNAME:
*ddname***

Explanation:

An error was encountered when attempting to read a member from an MDA data set. Processing terminates.

User response:

Verify the correct MDA data set(s) was specified in the job. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL33569E DBD *dbdname*: *dbtype* IS AN
UNSUPPORTED DB TYPE**

Explanation:

The DB type specified for the DBD is not a supported database type for IMS Cloning Tool. Processing terminates.

User response:

The *dbdname* specified cannot be started using IMS Cloning Tool. Verify the correct *dbdname* was specified.

GCL33570I STARTING DBD: *dbdname*

Explanation:

Informational message indicating that the job will issue the command to start the database in the IMS subsystem.

User response:

None. This message is informational.

**GCL34001I hh:mm:ss IMSDBREFRESH
STARTED - PROGRAM REV=*rrr*
| hh:mm:ss IMSDBREFRESH
COMPLETED; RETURN CODE=*nnnn***

Explanation:

IMSDBREFRESH command processing message.

User response:

None. This message is informational.

**GCL34003I DDNAME *ddname* ALLOCATED FOR
DSN=*datasetname***

Explanation:

'*ddname*' has been dynamically allocated for the specified data set.

User response:

None. This message is informational.

**GCL34004E ALLOCATION FAILED FOR DSN:
*datasetname***

Explanation:

Dynamic allocation for a data set failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL34005W DEALLOCATE FAILED FOR
DDNAME: *ddname***

Explanation:

A problem occurred when attempting to deallocate a DD. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL34006E ERROR CALLING GCL01VV1 *tttttt*
FUNCTION: *function* R15=*nnnn*
R0=*nnnnnnnn* LOC=*lllll***

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *lllll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

**GCL34007W ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=*nnnn***

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL34008E UNABLE TO LOAD PROGRAM:
*program name***

Explanation:

The indicated program name was not found.
Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL34009E ERROR ACCESSING ddname FILE;
 LOC=////**

Explanation:

An error occurred accessing the specified file.
Processing terminates.

User response:

View joblog for other messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL34030E DSN IS NOT PDS

Explanation:

The specified data set is not a PDS.

User response:

Specify the correct data set name that is a PDS data set.

**GCL34041E GCL00900 UNEXPECTED
 RESULTS; error text**

Explanation:

An unexpected condition occurred while calling program GCL00900. 'error text' has a description of the problem. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL34041W SIMULATE MODE HAS BEEN
 STOPPED. 'reason text'**

Explanation:

SIMULATE mode has been stopped because the target database does not exist. To use the SIMULATE mode, all the DBDs must be registered to the target IMS.

User response:

Rerun the IMSDBREFRESH command without the SIMULATE keyword, or remove the unregistered database from the DBD keyword and rerun the job.

**GCL34041I COMMAND NOT EXECUTED DUE
 TO SIMULATION MODE**

Explanation:

Informational message indicating that an actual command was not issued because the SIMULATE keyword was specified.

User response:

Verify that a simulation was desired.

**GCL34042I NULLSTORCLAS CANNOT BE
 SPECIFIED WHEN STORCLAS IS
 ALSO SPECIFIED. NULLSTORCLAS
 IS SET TO N**

Explanation:

The STORCLAS and NULLSTORCLAS keywords are mutually exclusive. Processing continues by using storage class of the STORCLAS keyword.

User response:

Correct the input and resubmit the job.

**GCL34048I OPTIONS IN EFFECT FOR THIS
 EXECUTION: merged options**

Explanation:

Informational message indicating how COPY will handle the options. The displayed options are derived from the INI and any overriding specifications in the command input.

User response:

None. This message is informational.

GCL34049I EXPANDING DB MASK: dbmask

Explanation:

A wildcard was used in a value for the DBD keyword. IMS Cloning Tool will select the DB names found in the ACB library that match the dbmask

User response:

None. This message is informational.

**GCL34050E ERROR IN PARAMETERS FOR
 keyword**

Explanation:

The parameters for the indicated keyword were incorrect. Processing terminates.

User response:

Check the keyword parameters. Mutually exclusive keywords may have been used.

**GCL34051E REQUIRED KEYWORD MISSING:
 keyword**

Explanation:

A keyword required for processing has been omitted. Processing terminates.

User response:

Specify the required keyword.

**GCL34052E REQUIRED INI SECTION/TOKEN
 MISSING: SECTION=section
 TOKEN=token | REQUIRED
 INI VALUE MISSING FOR
 SECTION=section TOKEN=token
 | INVALID INI VALUE FOR
 SECTION=section TOKEN=token**

Explanation:

An error occurred validating the GCLINI parmlib member options. Processing terminates.

User response:

Correct the GCLINI member in the IMS Cloning Tool PARMLIB data set.

GCL34053E **KEYWORD: *keyword* MAXIMUM LENGTH: *nnn* EXCEEDED | TOKEN: *token* MAXIMUM LENGTH: *nnn* EXCEEDED**

Explanation:

The operand entered for a keyword or INI token exceeded the maximum length allowed. *nnn* is the maximum allowed length. Processing terminates.

User response:

Correct the length of the keyword's operand or the token's value.

GCL34054E **KEYWORD HAS MORE OPERANDS THAN ALLOWED: *keyword***

Explanation:

More operands than maximum operands allowed were detected for a keyword. Processing terminates.

User response:

Correct the keyword to use one operand.

GCL34056E **NOTHING SPECIFIED FOR KEYWORD: *keyword***

Explanation:

A keyword was entered without an appropriate operand. Processing terminates.

User response:

Specify an appropriate operand for the keyword.

GCL34057E **DUPLICATE FOUND; KEYWORD: *keyword* ENTRY: *entry***

Explanation:

The indicated '*entry*' for the keyword was previously specified. Processing terminates.

User response:

Remove the duplicate entry.

GCL34058E **INVALID VALUE IN KEYWORD: *keyword* VALUE: *value error text***

Explanation:

The value in the keyword is invalid. '*error text*' indicates the problem detected with the value. Processing terminates.

User response:

Correct the value specified in the keyword.

GCL34059E **NO VALID DBDS TO PROCESS**

Explanation:

After performing a compatibility check on the source and target DBDs, there are no valid DBDs specified on the DBD keyword to process. Processing terminates.

User response:

Review and correct previous messages indicating the incompatibilities between the DBDs specified.

GCL34060E **DDNAME MISSING: *ddname***

Explanation:

'*ddname*' was specified for IMS Cloning Tool to use. Processing terminates.

User response:

Correct the keyword specification.

GCL34061E ***call FAILED FOR DD=ddname, RC=nnnn***

Explanation:

An error occurred when attempting to access a data set. Processing terminates.

User response:

Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL34062E **UNABLE TO LOCATE *dbdname* IN ACBLIB**

Explanation:

An error was encountered when attempting to locate a member from an ACBLIB data set. Processing terminates.

User response:

Verify the correct ACBLIB data set(s) was specified in the job. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL34065E ***module name IS NOT A DBD***

Explanation:

A module was found in an ACBLIB data set that matched a DBD name but the module is not a DMB. Processing terminates.

User response:

Verify the correct ACBLIB data set(s) was specified in the job. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL34066E **UNABLE TO READ ACBLIB MEMBER: *dbdname***

Explanation:

An error was encountered when attempting to read a member from an ACBLIB data set. Processing terminates.

User response:

Verify the correct ACBLIB data set(s) was specified in the job. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL34068E UNABLE TO GET DBD
 INFORMATION FOR DBD: *dbdname***

Explanation:

An error was encountered when attempting to obtain DB info for the specified dbdname. Processing terminates.

User response:

Verify the correct ACB, MDA, & RECON data set(s) were specified in the job. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL34069E DBD *dbdname*: *dbtype* IS AN
 UNSUPPORTED DB TYPE'**

Explanation:

The DB type specified for the DBD is not a supported database type for IMS Cloning Tool. Processing terminates.

User response:

The dbdname specified cannot be refreshed using IMS Cloning Tool. Verify the correct dbdname was specified.

GCL34070E DDNAME MISSING: *ddname*

Explanation:

'*ddname*' was specified for IMS Cloning Tool to use. Processing terminates.

User response:

Either correct the ddname specified, or, add the appropriate ddname to the job's JCL.

**GCL34071E UNEQUAL ENTRIES IN PAIRED
 KEYWORDS: *keyword1* AND
 *keyword2***

Explanation:

There is not the same number of entries for the specified paired keywords. Processing terminates.

User response:

Correct the keyword specifications.

**GCL34073E NON-RECOVERABLE DATABASE
 dbname CANNOT BE REFRESHED
 WITH LOG-APPLY(Y)**

Explanation:

An IMSDBREFRESH job with FUZZY-COPY(Y) and LOG-APPLY(Y) detected a nonrecoverable database. The job cannot process nonrecoverable databases unless the ALLOW-NONRECOV keyword is specified for the IMSDBREFRESH command.

User response:

If the nonrecoverable database needs to be refreshed, specify the ALLOW-NONRECOV(CONTINUE) keyword for the IMSDBREFRESH command; otherwise, specify ALLOW-NONRECOV(SKIP). Then, rerun the job.

**GCL34074W NON-RECOVERABLE DATABASE
 dbname CANNOT BE REFRESHED
 WITH LOG-APPLY(Y)**

Explanation:

An IMSDBREFRESH job with FUZZY-COPY(Y) and LOG-APPLY(Y) detected a nonrecoverable database. If ALLOW-NONRECOV(SKIP) is specified, the nonrecoverable database will be bypassed, and processing continues with other databases. If ALLOW-NONRECOV(CONTINUE) is specified, the nonrecoverable database will be refreshed without any updates applied to it.

User response:

None. This message is informational.

**GCL34074E NAME USED AS BOTH SOURCE
 AND TARGET: *name* IN KEYWORD:
 *keyword***

Explanation:

An entry was specified as both a source and target in the indicated keywords. Processing terminates.

User response:

Correct the keyword specifications

**GCL34075E IMSDBREFRESH: THE FOLLOWING
 DATA SETS WERE NOT
 PROCESSED**

Explanation:

This message is followed by a summary report that shows the database data sets that were not processed. Compatibility check of the source and target DBDs failed for the database data sets that are listed in the report.

User response:

See the message listed under the Status column of the report, and check the reason of the error.

**GCL34076E IMSDBREFRESH: THE FOLLOWING
 DATA SETS WERE NOT COPIED
 SUCCESSFULLY**

Explanation

This message is followed by a report that summarizes the status of each database data set whose associated database is in error.

This message is displayed in one of the following situations:

- The copy processing failed for the database data sets that are listed in the report.

- Invocation of the DFSMSdss **COPY** command or EMC SNAPi was skipped for the database data sets that are listed in the report.

In the report, the Status column shows the status of each data set, as follows:

COPIED

This database data set was successfully copied, but one or more related data sets were not copied successfully.

NOT COPIED

The copy process was skipped for this database data set.

COPY FAILED

The copy process failed for this database data set.

User response:

Check the ADRDSSU or EMC SNAPi messages for the cause of the 'COPY FAILED' status that is displayed under the Status column of the report. After 'COPY FAILED' is resolved and the job is rerun, the 'NOT COPIED' status should be resolved.

GCL34077I IMSDBREFRESH: THE FOLLOWING DATA SETS WERE COPIED SUCCESSFULLY

Explanation:

The database data sets that are listed in the report that follows this message were copied successfully.

User response:

None. This message is informational.

GCL34078I IMSDBREFRESH: THE FOLLOWING DATA SETS WERE PROCESSED WITH DATA MASKING

Explanation

This message is followed by a summary report that shows the database data sets where data masking is applied. In the report, the Status column shows the status of each data set, as follows:

UNLOADED

This database data set was successfully unloaded.

FAILED

The unload process failed for this database data set.

SKIPPED

The unload process was skipped for this database data set.

P-dbdname

The primary database name of this index data set.
This index data set must be rebuilt.

User response:

Check the error messages for the cause if the 'FAILED' or 'SKIPPED' status is displayed under the Status column of the report, and rerun the job.

GCL34079E NON-RECOVERABLE INDEX dbname CANNOT BE REFRESHED WITH LOG-APPLY(Y) WITHOUT PRIMARY DB

Explanation:

An IMSDBREFRESH job with FUZZY-COPY(Y) and LOG-APPLY(Y) detected a nonrecoverable index, but the associated primary database was not found.

User response:

If the primary database is a recoverable database, add it to the job because it also needs to be refreshed, and rerun the job. If the primary database is a nonrecoverable database, add it to the job, specify the ALLOW-NONRECOV(CONTINUE) keyword, and then rerun the job.

GCL34080E LOGICALLY RELATED DBD dbdname FOR dbdname NOT SPECIFIED

Explanation:

A dbdname in the DBD or TGT-DBD keyword was specified that is logically related. The logically related dbdname was not specified in the DBD or TGT-DBD keyword. The DBD is not copied.

User response:

When copying a DB it is recommended that all logically related DBs be copied at the same time. Correct the DBD or TGT-DBD keyword so that all logically related DBs are specified. If not all logically related DBs need to be copied, then LOGICALLY-RELATED(N) may be specified.

GCL34081E LOG-APPLY(Y) NOT ALLOWED WITH INDEXES(N)

Explanation:

The LOG-APPLY(Y) keyword is not allowed with the INDEXES(N) keyword.

User response:

If you want to set the LOG-APPLY keyword to Y, specify the INDEXES(Y) keyword.

GCL34082E UNLOAD-FROM(SOURCE) NOT ALLOWED WITH FUZZY-COPY(Y)

Explanation:

The UNLOAD-FROM(SOURCE) keyword is not allowed with the FUZZY-COPY(Y) keyword.

User response:

If you want to perform data masking with FUZZY-COPY(Y), specify the UNLOAD-FROM(TEMP) keyword.

**GCL34083W GCLDBSTS DD MISSING, UNABLE
TO SAVE DB STATUS FOR
POSTCOPY****Explanation:**

A list of databases that stopped in the PRECOPY step cannot be saved.

User response:

If you want to restart, in the POSTCOPY step, the database that stopped in the PRECOPY step, specify the GCLDBSTS DD to the PRECOPY step.

**GCL34084W GCLDBSTS DD MISSING; UNABLE
TO DETERMINE DB STATUS FROM
PRECOPY****Explanation:**

The database that stopped during the PRECOPY process cannot be determined.

User response:

If you want to restart the database in the POSTCOPY process, specify the GCLDBSTS DD generated in the PRECOPY step to the POSTCOPY keyword.

GCL34084I DATA SET NAMES FOR keyword:**Explanation:**

The names indicated for the keyword have been accepted for processing.

User response:

No response required.

GCL34085E DSN NOT CATALOGED**Explanation:**

The previous DSN is not cataloged

User response:

Specify a cataloged DSN.

**GCL34085I DSNs FOR KEYWORD: *keyword*
PROCESSING SEQUENCE *list of*
*dsns number*****Explanation:**

Parsing found the listed dsns for the keyword. The processing sequence number shows the order that the dsns were entered and will be the order used during processing.

User response:

No response required.

**GCL34086E IMS SDFSRESL MUST BE IN
STEPLIB FOR IMSDBREFRESH****Explanation:**

IMS Cloning Tool needs to invoke some DBRC services in order to perform the processing for updating the target database but it was unable to LOAD the necessary modules.

User response:

Update the JCL so that the IMS.SDFSRESL data set is included in the STEPLIB/JOBLIB/LINKLIST concatenation.

**GCL34087E EMCSNAPI MUST BE IN STEPLIB
FOR DATA-MOVER(PGM(EMCAPI))****Explanation:**

The EMC SNAP module was not found.

User response:

Update the JCL so that the EMC SNAP modules are included in the STEPLIB/JOBLIB/LINKLIST concatenation.

**GCL34088E COPY-IF-DIFFERENT-HALDB(Y)
NOT ALLOWED WITH *xxxxxx*****Explanation**

The COPY-IF-DIFFERENT-HALDB(Y) keyword is not allowed with the following keywords:

- TGT-DBD
- FUZZY-COPY(Y) and UNLOAD-FROM(SOURCE)
- INDEXES(N) or INDEXES(P)
- LOGICALLY-RELATED(N)

User response:

If the target HALDB needs to be refreshed, specify the INDEXES(Y) and LOGICALLY-RELATED(Y) keywords.

GCL34089E SWAREQ FAILED, RC=*nnnn***Explanation:**

An SWAREQ has failed for SVA of JCT. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL34099E ERROR CALLING \$DDINFO
FUNCTION: *function* R15=*nn*
R0=*nnnnnnnnn*****Explanation:**

An SWAREQ has failed for the indicated function. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL34101I hh:mm:ss DB COMPATIBILITY
STARTED - PROGRAM REV=*rrr*
| hh:mm:ss DB COMPATIBILITY
COMPLETED; RETURN CODE=*nnnn*****Explanation:**

DB COMPATIBILITY processing message.

User response:

None. This message is informational.

GCL34179E **SOURCE *dbdname* AND TARGET *dbdname* ARE INCOMPATIBLE: *reason***

Explanation:

For the reason listed, IMS Cloning Tool determined that the source *dbdname* could not be copied to the target *dbdname*. The DBD is not copied.

User response:

Verify that the source and target *dbdnames* are correct. Verify that the attributes described in the 'reason' match for the DBDs in the source and target systems.

GCL34181E **SOURCE *dbdname* CAN NOT BE COPIED: *reason***

Explanation:

For the reason listed, IMS Cloning Tool determined that the source *dbdname* could not be copied to the target *dbdname*. The DBD is not copied.

User response:

Correct the condition listed for the reason IMS Cloning Tool could not copy the database.

GCL34183W **REORG#: *nnnn* IN SOURCE HALDB *dbname* PARTITION *partname* IS SMALLER THAN REROG#: *mmmm* IN TARGET RECON**

Explanation:

The REORG# in the target partition data set will become smaller than the REORG# in the target RECON if copying the source HALDB. The refreshing of the target HALDB stops.

User response:

Specify the GCLIIUIN DD statement to continue the refreshing process.

GCL34201I **hh:mm:ss STOPPING *location* DBS STARTED - PROGRAM REV=*rrr* | hh:mm:ss STOPPING DBS COMPLETED; RETURN CODE=*nnnn***

Explanation:

The stopping databases processing message.

User response:

None. This message is informational.

GCL34221E **ERROR ISSUING IMS COMMAND, RC=*nnnn* RSN=*nnnn***

Explanation:

An unexpected error was encountered when attempting to issue an IMS command. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL34222E **IMS SUBSYSTEM *ssid* NOT ACTIVE/DEFINED**

Explanation:

An IMSDBSTOP command was specified but the target IMS subsystem is not active or defined on the z/OS image.

User response:

Verify that the job was executed on the same z/OS image where the IMS subsystem is active.

GCL34223I **CONNECTED TO IMS SUBSYSTEM: *ssid* RELEASE v.r**

Explanation:

Informational message indicating that the target IMS subsystem was located and the release of the IMS subsystem.

User response:

None. This message is informational.

GCL34224I **SCI IMSPLEX: *imsplex name* IS NOT ACTIVE**

Explanation:

IMS Cloning Tool was unable to connect to the SCI for the *imsplex name*. The IMS Cloning Tool job will be unable to issue any IMS commands

User response:

If the IMSDBREFRESH command cannot issue commands to stop the databases it may not be able to refresh the databases if IMS has the databases allocated. Verify the correct IMSPLEX value was specified and that the correct SCI address space is started on the system the IMS Cloning Tool is being run on.

GCL34234E **USERID IS NOT AUTHORIZED TO ISSUE THE IMS COMMAND**

Explanation:

A request to issue a reply to an outstanding WTOR or issue an operator command failed because of insufficient authority.

User response:

Verify that the user who submitted the job has the proper authority.

GCL34235E **COMMAND FAILED, RC=*nnnn***

Explanation:

An unexpected error was encountered from an attempt to issue an IMS command. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL34236E NOT ALL DATABASES HAVE BEEN STOPPED WITHIN WAIT TIME LIMIT

Explanation:

After issuing an IMS DBR command, the database was not stopped within the specified WAIT limit.

User response:

View the IMS log to see why the database was not stopped. Possibly, alter the WAIT time limit specified to allow for the time for the database to be stopped.

GCL34237I dbdname IS STOPPED

Explanation:

Informational message indicating that the database is stopped.

User response:

None. This message is informational.

GCL34238I WAITING FOR DATABASES TO BE STOPPED

Explanation:

Informational message indicating that the job is now waiting for the databases to be stopped.

User response:

None. This message is informational.

GCL34239I ALL DATABASES HAVE BEEN STOPPED

Explanation:

Informational message indicating that all databases specified on the DBD keyword have been stopped.

User response:

None. This message is informational.

GCL34240I COMMAND NOT EXECUTED DUE TO SIMULATION MODE

Explanation:

Informational message indicating that an actual command was not issued because the SIMULATE keyword was specified.

User response:

Verify that a simulation was desired.

GCL34241I COMMAND NOT EXECUTED DUE TO SIMULATION MODE

Explanation:

Informational message indicating that an actual command was not issued because the SIMULATE keyword was specified.

User response:

Verify that a simulation was desired.

GCL34270I STOPPING DBD: dbdname

Explanation:

Informational message indicating that the job will issue the command to stop the database in the target IMS subsystem.

User response:

None. This message is informational.

GCL34301I hh:mm:ss STARTING location DBS STARTED - PROGRAM REV=rrr | hh:mm:ss STARTING DBS COMPLETED; RETURN CODE=nnnn

Explanation:

The starting databases processing message.

User response:

None. This message is informational.

GCL34321E ERROR ISSUING IMS COMMAND, RC=nnnn RSN=nnnn

Explanation:

An unexpected error was encountered when attempting to issue an IMS command. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL34322E IMS SUBSYSTEM ssid NOT ACTIVE/DEFINED

Explanation:

An IMSDBSTART command was specified but the target IMS subsystem is not active or defined on the z/OS image.

User response:

Verify that the job was executed on the same z/OS image where the IMS subsystem is active.

GCL34323I CONNECTED TO IMS SUBSYSTEM: ssid RELEASE v.r

Explanation:

Informational message indicating that the target IMS subsystem was located and the release of the IMS subsystem.

User response:

None. This message is informational.

GCL34324I SCI IMSPLEX: implex name IS NOT ACTIVE

Explanation:

IMS Cloning Tool was unable to connect to the SCI for the implex name. The IMS Cloning Tool job will be unable to issue any IMS commands

User response:

The IMSDBREFRESH command cannot issue commands to start the databases. Verify the correct IMSPLEX value was specified and that the correct

SCI address space is started on the system the IMS Cloning Tool is being run on.

**GCL34334E USERID IS NOT AUTHORIZED TO
ISSUE THE IMS COMMAND**

Explanation:

A request to issue a reply to an outstanding WTOR or issue an operator command failed because of insufficient authority.

User response:

Verify that the user who submitted the job has the proper authority.

GCL34335E COMMAND FAILED, RC=nnnn

Explanation:

An unexpected error was encountered from an attempt to issue an IMS command. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL34340I IMS COMMAND: *command*

Explanation:

Informational message indicating that the job will issue the IMS command.

User response:

None. This message is informational.

**GCL34341I COMMAND NOT EXECUTED DUE
TO SIMULATION MODE**

Explanation:

Informational message indicating that an actual command was not issued because the SIMULATE keyword was specified.

User response:

Verify that a simulation was desired.

GCL34370I STARTING DBD: *dbdname*

Explanation:

Informational message indicating that the job will issue the command to start the database in the IMS subsystem.

User response:

None. This message is informational.

**GCL34371I SKIPPING START FOR DBD
dbdname DUE TO MASKING**

Explanation:

This message is issued when AUTO-START-TARGET-DB YES is specified but databases were masked with this IMSDBREFRESH. Masked databases or databases related to a masked database are not restarted on the target system because they must first be reloaded and related indexes rebuilt before they are usable.

User response:

If the listed database was masked, then it must be reloaded from the masked file before it can be started. If the listed database is an index, it will need to be rebuilt after the masked database is reloaded.

GCL34372I STARTING MASKED DBD *dbdname*

Explanation:

The AUTO-START-TARGET-DB YES keyword was used, and one or more databases were masked and ULOAD-FROM(SOURCE) specified. After the databases are copied, any databases that are not being masked are restarted before the masked databases are unloaded in order to get them back online as quickly as possible. Message GCL34371I is issued for each masked database at that time. Once the masked databases are unloaded, the databases are started and this message is issued for each one.

User response:

None. This message is informational.

**GCL34401I hh:mm:ss DATA SET COPY
STARTED - PROGRAM REV=rrr
| hh:mm:ss DATA SET COPY
COMPLETED; RETURN CODE=nnnn**

Explanation:

DATA SET COPY processing message.

User response:

None. This message is informational.

**GCL34407W ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL34409E ERROR ACCESSING JOURNAL
FILE; LOC=/////**

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL34411E JOURNAL IMS CONTROL
RECORD(S) NOT FOUND**

Explanation:

An expected record was not found in the IMS Cloning Tool journal file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL34412E JOURNAL IMS CONTROL RECORD IS WRONG VERSION

Explanation:

The specified journal record was not in the expected format. The journal record is printed. Processing terminates.

User response:

Verify that different releases of IMS Cloning Tool have not been run using the same journal data set. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL34504E ALLOCATION FAILED FOR DSNNAME: *dsname*

Explanation:

A problem occurred when attempting to allocate a data set. Processing terminates.

User response:

Review the job log for other messages indicating why the allocation failed.

GCL34505E INFO RETRIEVAL FAILED FOR DDNAME: *ddname*

Explanation:

A problem occurred when attempting to retrieve info for a DD. Processing terminates.

User response:

Review the job log for other messages indicating why the retrieve info dynamic allocation request failed. If unable to correct the problem, contact IBM Software Support with the listing that contains these messages.

GCL34501I hh:mm:ss UPDATE TARGET DBS STARTED - PROGRAM REV=*rrr* | hh:mm:ss UPDATE TARGET DBS COMPLETED; RETURN CODE=*nnnn*

Explanation:

UPDATE TARGET DBS processing message.

User response:

None. This message is informational.

GCL34539W NON-RECOVERABLE INDEX *dbdname* MUST BE REBUILT | NON-RECOVERABLE ILDSes/PIXes FOR *dbdname* MUST BE REBUILT

Explanation:

An IMSDBREFRESH job with LOG-APPLY=Y applied updates to the primary target database. The primary target database had either a non-recoverable secondary index, or ILDS or Primary Index for a HALDB. Log records necessary to apply the associated updates to these data sets are not generated by

IMS, so they may be out of sync after IMS Cloning Tool applied log updates to the associated primary database.

User response:

Prior to accessing the target database the index or the HALDB ILDS and primary indexes must be rebuilt.

GCL34550W REORG#: *nnnn* IN TARGET HALDB *dbdname* PARTITION *partname* IS SMALLER THAN REORG#: *mmmm* IN RECON

Explanation:

The REORG# in the target partition data set is smaller than the REORG# in the target RECON after copying the source HALDB. Also, the target HALDB partition is inconsistent with the indirect data set (ILDS).

User response:

IMS Index Builder must be processed with the IIUIN control statements explained in message GCL34560I before using the target HALDB. If GCL34560I message is not printed, you must resolve the inconsistency before you use the HALDB partition. To resolve the inconsistency, it is recommended that you rebuild the ILDS of the HALDB partition with the HALDB Index/ILDS rebuild utility (DFSPREC0) or a functionally equivalent utility. By using such a utility, you can correct inconsistencies in the partition data set, the RECON data sets, and the ILDS at once.

GCL34560I IIUIN CONTROL STATEMENTS ARE BUILT FOR *dbdname*

Explanation:

IMSDBREFRESH command builds the IIUIN control statements for the primary target database.

User response:

IMS Index Builder must be processed with the IIUIN control statements to rebuild either a non-recoverable secondary index, ILDS or Primary Index explained either in GCL34539W or GCL34550W message before using the target database.

GCL34579E SOURCE *dbdname* AND TARGET *dbdname* ARE INCOMPATIBLE: *reason*

Explanation:

For the reason listed, IMS Cloning Tool determined that the source *dbdname* could not be copied to the target *dbdname*. The DBD is not copied.

User response:

Verify that the source and target *dbdnames* are correct. Verify that the attributes described in the 'reason' match for the DBDs in the source and target systems.

GCL34601I hh:mm:ss CHECKING FOR UPDATE ACCESS STARTED -

**PROGRAM REV=rrrr|hh:mm:ss
CHECKING FOR UPDATE ACCESS
COMPLETED; RETURN CODE=nnnn**

Explanation:

CHECKING FOR UPDATE ACCESS processing message.

User response:

None. This message is informational.

**GCL34663E DB dbdname CURRENTLY
AUTHORIZED FOR UPDATE BY:
ims-ssid**

Explanation:

FUZZY-COPY(Y) and VERIFY-NO-UPDATERS(Y) were specified, and at least one of the source databases is currently authorized by an IMS subsystem or batch job with update capability.

User response:

If the databases need to be guaranteed that no pointer errors will exist when performing a fuzzy copy of the source databases, then the IMSDBREFRESH command must be run when no IMS subsystems or batch jobs have the source databases allocated authorized for update. If the possibility of some pointer errors in the target databases is acceptable then specify VERIFY-NO-UPDATERS(N) and rerun the IMSDBREFRESH job.

**GCL34663W DB dbdname CURRENTLY
AUTHORIZED FOR {UPDATE|
READ} BY: ims-ssid**

Explanation:

IMS Cloning Tool could not stop (DBR) some of the source or target databases. This message will show who currently has the database allocated.

User response:

Rerun the IMSDBREFRESH job when the databases to be refreshed are no longer being accessed.

**GCL34668E UNABLE TO GET DBD
INFORMATION FOR DBD: dbdname**

Explanation:

An error was encountered when attempting to obtain DB info for the specified *dbdname*. Processing terminates.

User response:

Verify the correct ACB, MDA, & RECON data set(s) were specified in the job. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL34669W GQSCAN FAILED FOR DSN: dataset
name**

Explanation:

An error occurred when attempting to obtain information on an allocated data set. The job step will terminate with a return code 4 or higher.

User response:

Review the system log for any additional error messages. If you cannot resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL34670I dataset name CURRENTLY
ALLOCATED BY: JOBNAME
jobname ON system**

Explanation:

IMS Cloning Tool could not access a database data set. This message shows the jobs that currently have that database data set allocated.

User response:

Rerun the IMSDBREFRESH job when the databases that are to be refreshed are not being accessed.

**GCL34701I hh:mm:ss SETTING PROHIBIT
AUTH ON STARTED - PROGRAM
REV=rrrr|hh:mm:ss SETTING
PROHIBIT AUTO ON COMPLETED;
RETURN CODE=nnnn|hh:mm:ss
TURNING PROHIBIT AUTH OFF
STARTED - PROGRAM REV=rrrr|
hh:mm:ss TURNING PROHIBIT
AUTH OFF COMPLETED; RETURN
CODE=nnnn**

Explanation:

SETTING PROHIBIT AUTH ON/TURNING PROHIBIT AUTH OFF processing message.

User response:

None. This message is informational.

**GCL34704E ALLOCATION FAILED FOR DSN:
datasetname**

Explanation:

Dynamic allocation for a data set failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL34705E INFO RETRIEVAL FAILED FOR
DDNAME: ddname**

Explanation:

A problem occurred when attempting to retrieve info for a DD. Processing terminates.

User response:

Review the job log for other messages indicating why the retrieve info dynamic allocation request failed. If

unable to correct the problem, contact IBM Software Support with the listing that contains these messages.

GCL34801I **hh:mm:ss LOG APPLY STARTED**
- PROGRAM REV=rrrr|hh:mm:ss
LOG APPLY COMPLETED; RETURN
CODE=nnnn

Explanation:

LOG APPLY processing message.

User response:

None. This message is informational.

GCL34804E **ALLOCATION FAILED FOR DSN:**
datasetname

Explanation:

Dynamic allocation for a data set failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

GCL34821E **SWI OLDS REQUEST TIMED OUT**
FOR SSID: ssid

Explanation:

The IMS Cloning Tool job with LOG-APPLY(Y) waited for an online log data set to be archived, but the data set was not archived before the specified time limit expired.

User response:

Make sure the IMS job that delayed the archive process is completed, and rerun the job. If timeout occurs frequently, specify a longer wait time in the ARCHIVE-WAIT keyword.

GCL34826I **NO DATABASES WERE**
AUTHORIZED FOR UPDATE

Explanation:

LOG-APPLY(Y) was specified, but the source database from which log updates need to be applied to the target database was not found. Processing continues.

User response:

None. This message is informational.

GCL34837E **LOG APPLY NOT SUPPORTED**
WITH CONCURRENT DLI BATCH
UPDATERS

Explanation:

An IMSDBREFRESH job with LOG-APPLY=Y was executed and IMS Cloning Tool detected that there were DLI batch jobs updating at least one of the source databases. IMS Cloning Tool does not support log apply processing when DLI jobs are updating the source databases.

User response:

Resubmit the job when no DLI batch jobs are updating the source databases.

GCL34883E **UNABLE TO GET**
DBRC PRILOG/SECLOG/PRISLDS/
SECSLDS INFORMATION FOR
SSID: ssid

Explanation:

An error occurred trying to retrieve information from DBRC for the associated IMS *ssid*. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message plus a listing of the RECON for the specified IMS subsystem.

GCL34901I **hh:mm:ss CHECKING TARGET**
DATABASE DEFINITION STARTED
- PROGRAM REV=rrr|hh:mm:ss
CHECKING TARGET DATABASE
DEFINITION COMPLETED;
RETURN CODE=nnn

Explanation:

CHECKING TARGET DATABASE DEFINITION processing message.

User response:

None. This message is informational.

GCL34904E **ALLOCATION FAILED FOR DSN:**
datasetname

Explanation:

Dynamic allocation for a data set failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

GCL34904I **CHECKING DATABASE database**

Explanation:

Checking of database definition is starting for the named database.

User response:

None. This message is informational.

GCL34905I **CREATING RESOURCE FOR**
DATABASE

Explanation:

Database definition of the target database has been created in target resource.

User response:

None. This message is informational.

**GCL34906E UNABLE TO SAVE ACB MEMBER:
database**

Explanation:

Creation of ACB member for database failed. The associated z/OS messages are displayed.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL34908E ALLOCATION FAILED FOR
MEMBER:member IN DSN:dsname**

Explanation:

A problem occurred when attempting to allocate a member of a PDS. The associated z/OS messages are displayed. Processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL34909E ERROR ACCESSING ACBLIB FILE;
LOC=////**

Explanation:

A problem occurred when modifying the specified file. The associated z/OS messages are displayed. Processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

GCL34910E DDNAME MISSING: SYSLIB

Explanation:

IMS Cloning Tool tried to add a new member to the target MDLIB, but the IMS SDFSMA data set was not specified in the SYSLIB DD statement. Processing terminates.

User response:

Specify the IMS SDFSMA library to the SYSLIB DD statement and rerun the job.

**GCL34914W rectype RECORD DSN: dsname
DOES NOT MATCH RENAME
MASKS**

Explanation:

The indicated data set did not match any source rename mask. Processing terminates.

User response:

Correct the RENAME-MASKS specification.

**GCL34921E ERROR ISSUING IMS COMMAND,
RC=nnnn RSN=nnnn**

Explanation:

An unexpected error was encountered when attempting to issue an IMS command. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL34922E IMS SUBSYSTEM ssid NOT
ACTIVE/DEFINED**

Explanation:

An IMSDBSTOP command was specified but the target IMS subsystem is not active or defined on the z/OS image.

User response:

Verify that the job was executed on the same z/OS image where the IMS subsystem is active.

**GCL34924I SCI IMSPLEX: implex name IS
NOT ACTIVE**

Explanation:

IMS Cloning Tool was unable to connect to the SCI for the *implex name*. The IMS Cloning Tool job will be unable to issue any IMS commands.

User response:

If the target database needs to be dynamically defined on target IMS subsystems, verify the correct IMSPLEX value was specified and that the correct SCI address space is started on the system IMS Cloning Tool is being run on.

**GCL34926W UNABLE TO QUERY OR CREATE
DATABASES ON TARGET IMS
SUBSYSTEM**

Explanation:

IMS Cloning Tool was unable to connect to the SCI address space for the IMSPLEX and could not process the QUERY or CREATE command for databases. Processing continues.

User response:

If the target database needs to be dynamically defined on target IMS subsystems, verify the correct IMSPLEX value was specified and that the correct SCI address space is started on the system IMS Cloning Tool is being run on.

**GCL34933E SOURCE resource NAME: rrrrrrr
DOES NOT MATCH RENAME
MASKS**

Explanation:

The indicated resource name did not match any source rename mask. Processing terminates.

User response:

Correct the RENAME-MASKS specification.

**GCL34934E UNABLE TO RENAME source
NAME=name**

Explanation:

An error occurred when trying to rename the source name.

User response:

Refer to the specified mask value and the changed value that follow this message, and correct the RENAME-MASKS specification.

GCL34935I dataset UPDATING BYPASSED DUE TO ** SIMULATION **

Explanation:

Informational message indicating the indicated data set will not be updated due to the presence of the SIMULATION keyword.

User response:

None. This message is informational.

GCL34943E UNABLE TO RENAME DSN=*dsname*

Explanation:

An error occurred when trying to rename the database data set name.

User response:

Refer to the specified mask value and the changed value that follow this message, and correct the RENAME-MASKS specification.

GCL34961E call FAILED FOR DD=*ddname*, RC=*nnnn*

Explanation:

An error occurred when attempting to access a data set. Processing terminates.

User response:

Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL34962E UNABLE TO LOCATE *dbdname* IN ACBLIB

Explanation:

An error was encountered when attempting to locate a member from an ACBLIB data set. Processing terminates.

User response:

Verify the correct ACBLIB data set(s) was specified in the job. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL34962W TARGET IMSPLEX NOT SPECIFIED, NOT ABLE TO DYNAMICALLY ADD TARGET DB DEFINITIONS

Explanation:

You issued an IMSDBREFRESH command with COPY-IF-NO-IMS-TARGET-DB(Y) specified, and an attempt was made to add a database definition to the target

IMS, but the IMSPLEX keyword was missing from the GCLIN DD statement.

User response:

If the database needs to be defined to the target IMS, you must run the IMSDBREFRESH command with the IMSPLEX keyword defined in the GCLIN DD statement.

GCL34963W REGISTER-DBRC(N) SPECIFIED, NEW TARGET DATABASES WILL NOT BE REGISTERED TO DBRC

Explanation:

REGISTER-DBRC(N) is specified, so DBRC command is not issued and the new target databases will not be registered to DBRC. Processing continues.

User response:

Specify REGISTER-DBRC(Y) if you need to register databases to the target RECON.

GCL34966E UNABLE TO READ ACBLIB MEMBER: *dbdname*

Explanation:

An error was encountered when attempting to read a member from an ACBLIB data set. Processing terminates.

User response:

Verify the correct ACBLIB data set(s) was specified in the job. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL34968E UNABLE TO GET DBRC INFORMATION FOR DBD:*dbdname*

Explanation:

An error was encountered when attempting to obtain DB info for the specified *dbdname*. Processing terminates.

User response:

Verify the correct ACB, MDA, & RECON data set(s) were specified in the job. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL34971W THE NUMBER OF PARTITIONS IN TARGET HALDB *xxxxxxx* IS *nnnn*, WHICH IS DIFFERENT FROM SOURCE HALDB

Explanation

The source HALDB and the target HALDB have different numbers of partitions. The target HALDB will be redefined to have the same definitions as the source HALDB.

In the message text, *nnnn* is the number of partitions and *xxxxxxx* is the name of the target HALDB.

User response:

None.

GCL34974W THE PARTITION ID *nn* OF TARGET HALDB *xxxxxxx* PARTITION *yyyyyy* IS DIFFERENT FROM SOURCE PARTITION

Explanation

The source HALDB and the target HALDB have different partition IDs. The target HALDB will be redefined to have the same definitions as the source HALDB.

In the message text, *nn* is the partition ID, *xxxxxxx* is the target HALDB name, and *yyyyyy* is the partition name.

User response:

None.

GCL34975W ONLY *ssssss* HALDB *xxxxxxx* PARTITION *yyyyyy* HAS THE M-V DATA SETS

Explanation

Either the target or the source HALDB partition does not have M-V data sets. The target HALDB will be redefined to have the same definitions as the source HALDB.

In the message text, *ssssss* is either 'source' or 'target', *xxxxxxx* is the HALDB name, and *yyyyyy* is the partition name.

User response:

None.

GCL34999E ERROR CALLING *name* FUNCTION: *function* R15=*nnnn* R0=*nnnn*

Explanation:

An error occurred using *name* for requested *function*. Processing terminates.

User response:

If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL35001I IMSDBCLEAN STARTED - PROGRAM REV=*rrr* | IMSDBCLEAN COMPLETED; RETURN CODE=*nnnn*

Explanation:

IMSDBCLEAN command processing message.

User response:

None. This message is informational.

GCL35005W DEALLOCATION FAILED FOR DDNAME: *ddname*

Explanation:

Dynamic deallocation for a *ddname* failed. The associated z/OS messages are displayed. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

GCL35007W ERROR CALLING GCL01HEX; FUNCTION: *function* R15=*nnnn*

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL35048I OPTIONS IN EFFECT FOR THIS EXECUTION: *merged options*

Explanation:

Informational message indicating how IMSDBCLEAN will handle the options. The displayed options are derived from the INI and any overriding specifications in the command input.

User response:

None. This message is informational.

GCL35050E ERROR IN PARAMETERS FOR *keyword*

Explanation:

The parameters for the indicated keyword were incorrect. Processing terminates.

User response:

Check the keyword parameters. Mutually exclusive keywords may have been used.

GCL35051E REQUIRED KEYWORD MISSING: *keyword*

Explanation:

A keyword required for processing has been omitted. Processing terminates.

User response:

Specify the required keyword.

GCL35053E KEYWORD: *keyword* MAXIMUM LENGTH: *nnn* EXCEEDED

Explanation:

The operand entered for a keyword or INI token exceeded the maximum length allowed. *nnn* is the maximum allowed length. Processing terminates.

User response:

Correct the length of the keyword's operand or the token's value.

GCL35060E DDNAME MISSING: *ddname*

Explanation:

A required DD was not specified in the JCL. Processing terminates.

User response:

Add the required DD to the JCL.

**GCL35101I hh:mm:ss DATA SET CLEANUP
STARTED - PROGRAM REV=rrrr |
hh:mm:ss DATA SET CLEANUP
COMPLETED; RETURN CODE=nnnn**

Explanation:

DATA SET CLEANUP processing message.

User response:

None. This message is informational.

**GCL35107W ERROR CALLING GCL01HEX;
FUNCTION: function R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL35108W DATA SET FOR DATABASE
dbdname NOT DELETED DUE TO
ACTIVE DATA MASKING ENTRY**

Explanation:

Data sets for the indicated database will not be deleted because DATA-MASKING(N) was specified.

User response:

If you want to delete the database resource that data masking by the previous IMSDBREFRESH command failed, specify DATA-MASKING(Y) and rerun the job.

**GCL35109E ERROR ACCESSING JOURNAL
FILE; LOC=lllll**

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL35111W JOURNAL TARGET DATA SET
RECORD(S) NOT FOUND**

Explanation:

No target data set for the IMSDBCLEAN command was found in the JOURNAL file. Processing terminates.

User response:

Check the specified JOURNAL data set if it was used in the previous IMSDBREFRESH command.

**GCL35112E JOURNAL TARGET DATA SET
RECORD IS WRONG VERSION**

Explanation:

The specified journal record was not in the expected format. The journal record is printed. Processing terminates.

User response:

Verify that different releases of IMS Cloning Tool have not been run using the same journal data set. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL35140I JOURNAL RECORD DELETED:

Explanation:

Journal records were not deleted because the job was run in simulate mode. Journal records that were expected to be removed follow the message.

User response:

None. This message is informational.

GCL35160E DDNAME MISSING: ddname

Explanation:

A required DD was not specified in the JCL. Processing terminates.

User response:

Add the required DD to the JCL.

**GCL35501I hh:mm:ss UNLOAD DATABASE
STARTED - PROGRAM REV=rrr |
UNLOAD DATABASE COMPLETED;
RETURN CODE=nnnn**

Explanation:

UNLOAD DATABASE command processing message.

User response:

No action required.

**GCL35502I hh:mm:ss UNLOADING DATABASE
ddname**

Explanation:

The unload process for the specified database has begun.

User response:

No action required.

**GCL35504E ALLOCATION FAILED FOR DSN:
datasetname**

Explanation:

Dynamic allocation for a data set failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL35505W DEALLOCATE FAILED FOR
DDNAME: *ddname***

Explanation:

A problem occurred when attempting to deallocate a DD. Processing continues.

User response:

If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL35506E ERROR CALLING GCL01VV1 *tttttt*
FUNCTION: *function R15=nnnn*
R0=nnnnnnnn LOC=*llll***

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *llll* is the location where the error occurred. Processing terminates.

User response:

If unable to resolve the problem, contact IBM Software Support with the listing that contains this message and the parmlib member that controls execution of IMS Cloning Tool.

**GCL35507W ERROR CALLING GCL01HEX;
FUNCTION: *function R15=nnnn***

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *llll* is the location where the error occurred. Processing terminates.

User response:

If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL35509E ERROR ACCESSING *ddname* FILE;
LOC=*llll***

Explanation:

An error occurred accessing the specified file. Processing terminates.

User response:

View job log for other messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL35510E PRIMARY INDEX DDNAME NOT
BEING PROCESSED**

Explanation:

When an HIDAM or PHIDAM source data base has MASKRULES defined for it, the primary index DBD must also be included in the list of databases to be processed by the IMSDBREFRESH command. The primary index is required in order to be able to unload the source database prior to applying any masking.

User response:

Either remove the MASKRULEs for the HIDAM or PHIDAM database, or include the primary index DBD

in the list of databases to be refreshed by the IMSDBREFRESH command.

**GCL35511E JOURNAL *rectype* RECORD NOT
FOUND**

Explanation:

The specified journal record was not found. Processing terminates.

User response:

If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL35512E JOURNAL *rectype* RECORD IS
WRONG VERSION**

Explanation:

The specified journal record was not in the expected format. The journal record is printed. Processing terminates.

User response:

Verify that different releases of IMS Cloning Tool have not been run using the same journal data set. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL35513I *hh:mm:ss* UNLOAD UTILITY
ENDED, RETURN CODE *nnnn***

Explanation:

The unload utility has completed for the current database. The return code from the utility is shown.

User response:

No response required.

**GCL35535I *hh:mm:ss* UNLOAD UTILITY
BYPASSED DUE TO SIMULATION**

Explanation:

Informational message indicating the unload step will not be performed due to the presence of the SIMULATION keyword.

User response:

No response required.

**GCL36001I *hh:mm:ss* MASKING DEFINITION
PARSER STARTED - PROGRAM
REV=*rrr* | *hh:mm:ss*
MASKING DEFINITION PARSER
COMPLETED; RETURN CODE=*nnnn***

Explanation:

Masking definition parser processing message.

User response:

No response required.

**GCL36008E UNABLE TO LOAD PROGRAM:
*program name***

Explanation:

The indicated program name was not found.
Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL36050E ERROR IN PARAMETERS FOR
keyword**

Explanation:

The parameters for the indicated keyword were incorrect. Processing terminates.

User response:

Check the keyword parameters. Mutually exclusive keywords may have been used.

**GCL36051E REQUIRED KEYWORD MISSING:
keyword**

Explanation:

A keyword required for processing has been omitted. Processing terminates.

User response:

Specify the required keyword.

**GCL36053E KEYWORD: keyword MAXIMUM
LENGTH: nnn EXCEEDED| TOKEN:
token MAXIMUM LENGTH: nnn
EXCEEDED**

Explanation:

The operand entered for a keyword or INI token exceeded the maximum length allowed. nnn is the maximum allowed length. Processing terminates.

User response:

Correct the length of the keyword's operand or the token's value.

**GCL36054E KEYWORD HAS MORE THAN 1
OPERAND; ONLY 1 ALLOWED:
keyword**

Explanation:

Multiple operands were detected for a keyword; only one operand is permitted. Processing terminates.

User response:

Correct the keyword to use one operand.

**GCL36056E NOTHING SPECIFIED FOR
KEYWORD: keyword**

Explanation:

A keyword was entered without an appropriate operand. Processing terminates.

User response:

Specify an appropriate operand for the keyword.

**GCL36057E DUPLICATE FOUND; KEYWORD:
keyword ENTRY: entry**

Explanation:

The indicated entry for the keyword was previously specified. Processing terminates.

User response:

Remove the duplicate entry.

GCL36060E DDNAME MISSING: ddname

Explanation:

A required DD was not specified in the JCL. Processing terminates.

User response:

Add the required DD to the JCL.

**GCL36061E call FAILED FOR DD=ddname,
RC=nnnn**

Explanation:

An error occurred when attempting to access a data set. Processing terminates.

User response:

Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL36070E KEYWORD: keyword IS REQUIRED
WHEN KEYWORD: keyword IS
SPECIFIED**

Explanation:

The two keywords shown must both be specified when either keyword is specified. Processing terminates.

User response:

Either specify the second keyword or remove the first one and resubmit the job.

**GCL36071E KEYWORD: keyword IS NOT
ALLOWED WHEN KEYWORD:
keyword IS SPECIFIED**

Explanation:

The two keywords shown are mutually exclusive and cannot both be specified. Processing terminates.

User response:

Remove one of the keywords and resubmit the job.

**GCL36072E INVALID COMMAND: command IN
GCLMSKDF INPUT**

Explanation:

An invalid command name was found in the MASKDEF definition DD, GCLMSKDF. Processing terminates.

User response:

Change the command to a valid syntax and resubmit the job

**GCL36073E INVALID MASKDEF COMMAND,
SEGMENT: segname NOT FOUND
IN DATABASE: dbdname |
INVALID MASKDEF COMMAND,**

**FIELD: *fldname* NOT FOUND IN
SEGMENT: *segname***

Explanation:

The MASKDEF command specifies an invalid combination for the SEGMENT/DATABASE or the FIELD/SEGMENT. Processing terminates.

User response:

Make sure the combination of SEGMENT/DATABASE or FIELD/ SEGMENT is valid and resubmit the job.

**GCL36074E INVALID MASKDEF COMMAND,
START: *startpos* IS GREATER THAN
SEGMENT: *segname* LENGTH:
length | INVALID MASKDEF
COMMAND, BYTES: *bytes* IS
GREATER THAN SEGMENT:
segname LENGTH: *length* |
INVALID MASKDEF COMMAND,
START+BYTES: *number* IS
GREATER THAN SEGMENT:
segname LENGTH: *length***

Explanation:

Validation of the starting position, length of the field, and the total number of bytes to be masked has failed for the specified segment.

User response:

Make sure that the START and BYTES values specified are valid for the segment in error and resubmit the job.

**GCL36075E MASKDEF COMMANDS FOR
DATABASE: *dbname* SEGMENT:
segname ATTEMPTING TO MASK
THE SAME BYTES**

Explanation:

There are multiple MASKDEF commands for the same database segment which are attempting to mask the same bytes.

User response:

Make sure there is no overlapping of the masked bytes for a database segment and resubmit the job.

**GCL36076E INVALID MASKDEF COMMAND,
BYTES: *number* IS NOT WITHIN
BOUNDS FOR DATATYPE: *datatype***

Explanation:

The number of bytes specified for masking is not appropriate for the datatype specified.

User response:

Check the allowed length or range for the specified datatype and ensure that the number of bytes being masked is appropriate.

**GCL36077E MASKDEF COMMAND FOR
DATABASE: *dbname* SEGMENT:
segname ATTEMPTING TO MASK
LOGICALLY RELATED DATA**

Explanation:

The MASKDEF command for the specified database and segment is not allowed because the segment is involved in a logical relationship. Logically related segments cannot be masked.

User response:

Remove the MASKDEF command in error and resubmit the job.

**GCL36080I MASKDEF COMMAND FOR
DATABASE: *dbname* IGNORED,
DATABASE IS NOT BEING MASKED**

Explanation:

The MASKDEF command for the specified database and segment is not allowed because the segment is involved in a logical relationship. Logically related segments cannot be masked.

User response:

No action is required.

**GCL36081I MASKDEF COMMAND SPECIFIES
A KEY FIELD, INDEXES WILL
NEED TO BE REBUILT**

Explanation:

The MASKDEF command being processed specifies a key field for masking. All indexes associated with the database will need to be rebuilt to ensure they are valid.

User response:

Rebuild indexes associated with the database.

**GCL36082E UNABLE TO MASK DEDB *database*,
HFPMAIN0 NOT LOCATED IN
STEPLIB**

Explanation:

While attempting to unload the specified DEDB '*dbname*' for masking, it was determined that the IMS High Performance Fast Path Utilities program, HFPMAIN0 was not located in the //STEPLIB for the job. IMS Cloning Tool requires the use of this utility in order to unload a DEDB for masking.

User response:

Make sure the //STEPLIB includes the executable load library for the IMS High Performance Fast Path Utilities and resubmit the job.

**GCL36101I HH:MM:SS DATA MASKING
STARTED - PROGRAM REV=*rrrr*
| HH:MM:SS DATA MASKING
COMPLETED; RETURN CODE=*nnnn***

Explanation:

Data masking is processing.

User response:

No action is required.

**GCL36105W DEALLOCATE FAILED FOR
DDNAME: *ddname***

Explanation:

A problem occurred when attempting to deallocate a DD. Processing continues.

User response:

If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL36107W ERROR CALLING GCL01HEX;
FUNCTION: *function R15=nnnn***

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL36108E UNABLE TO LOAD PROGRAM:
*program name***

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL36109E ERROR ACCESSING *ddname* FILE;
LOC=|||||**

Explanation:

An error occurred accessing the specified file. Processing terminates.

User response:

View joblog for other messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL36111E JOURNAL *rectype* RECORD NOT
FOUND**

Explanation:

The specified journal record was not found. Processing terminates.

User response:

If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL36112E JOURNAL *rectype* RECORD IS
WRONG VERSION**

Explanation:

The specified journal record was not in the expected format. The journal record is printed. Processing terminates.

User response:

Verify that different releases of IMS Cloning Tool have not been run using the same journal data set. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL36160E DDNAME MISSING: *ddname*

Explanation:

A required DD was not specified in the JCL. Processing terminates.

User response:

Add the required DD to the JCL.

**GCL36170I DATA MASKING BEGINNING FOR
DATABASE: *dbname***

Explanation:

Data masking is beginning for the named database.

User response:

No action required.

**GCL36171I DATA MASKING SUCCESSFUL FOR
DATABASE: *dbname* NUMBER OF
SEGMENTS: *nnnn* NUMBER OF
RECORDS: *nnnn***

Explanation:

Data masking has successfully completed for the named database. This message reports the number of unique segments encountered in the unload file and the total number of records processed.

User response:

No action required.

**GCL36172E DATA MASKING FAILED FOR
DATABASE: *dbname***

Explanation:

Data masking has failed for the named database.

User response:

Review prior messages to determine the cause of the failure and correct the problem.

**GCL36173E ERROR PROCESSING INPUT
UNLOAD FILE FOR DATABASE:
dbname | ERROR PROCESSING
OUTPUT UNLOAD FILE FOR
DATABASE: *dbname***

Explanation:

There was an error processing the named unload file for the specified database.

User response:

Review prior messages to determine the cause of the failure and correct the problem.

**GCL36180E INVALID RECORD FORMAT FOR
INPUT UNLOAD FILE: *filename*
RECFM=VB IS REQUIRED**

Explanation:

The record format for the named input unload file is incorrect.

User response:

If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL36199E ERROR CALLING *name* FUNCTION:
 function R15=nnnn R0=nnnn**

Explanation:

An error occurred using name for requested function. Processing terminates.

User response:

If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL36201I HH:MM:SS DATA MASKING
 JOURNAL INIT STARTED -
 PROGRAM REV=rrrr | HH:MM:SS
 DATA MASKING JOURNAL INIT
 COMPLETED; RETURN CODE=nnnn
 | HH:MM:SS DATA MASKING
 JOURNAL TERM STARTED -
 PROGRAM REV=rrrr | HH:MM:SS
 DATA MASKING JOURNAL TERM
 COMPLETED; RETURN CODE=nnnn**

Explanation:

Data Masking journal processing message.

User response:

No action required.

**GCL36204E ALLOCATION FAILED FOR
 DSNAME: *dsname***

Explanation:

A problem occurred when attempting to allocate a data set. Processing terminates.

User response:

Review the job log for other messages indicating why the allocation failed.

**GCL36207W ERROR CALLING GCL01HEX;
 FUNCTION: *function* R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL36209E ERROR ACCESSING *ddname* FILE;
 LOC=lllll**

Explanation:

An error occurred accessing the specified file. Processing terminates.

User response:

View joblog for other messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL36210E DUPLICATE JOURNAL ENTRY;
 LOC=lllll**

Explanation:

A duplicate record was detected. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains these messages.

**GCL36211E JOURNAL *rectype* RECORD NOT
 FOUND**

Explanation:

The specified journal record was not found. Processing terminates.

User response:

If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL36212E JOURNAL *rectype* RECORD IS
 WRONG VERSION**

Explanation:

The specified journal record was not in the expected format. The journal record is printed. Processing terminates.

User response:

Verify that different releases of IMS Cloning Tool have not been run using the same journal data set. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL36220I DATA MASKING RESTART/RERUN
 OPTION: *option***

Explanation:

This message specifies the restart or rerun option for performing data masking.

User response:

No action is required.

**GCL36221I JOURNAL ENTRY FOR DATABASE:
 dbname ADDED MASKING: YES /
 NO | JOURNAL ENTRY FOR
 DATABASE: *dbname* UPDATED
 MASKING: YES / NO**

Explanation:

This message indicates that a journal entry for the specified database has been added to the journal or an existing entry was updated. This message also shows whether masking will be performed for this database or not.

User response:

No action is required.

**GCL36222I ALL DATABASE OPERATIONS
SUCCESSFUL, JOURNAL ENTRIES
WILL BE DELETED**

Explanation:

The job has completed and all entries which required data masking were successfully processed. As a result, the journal entries will be deleted so that RESTART will not be done on the next execution.

User response:

No action is required.

**GCL36223E SOME DATABASE OPERATIONS
FAILED, JOURNAL ENTRIES WILL
NOT BE DELETED**

Explanation:

The job has completed one or more databases which required data masked failed. The journal entries will be left so that RESTART processing can be performed on the next execution.

User response:

Review the messages to determine what failed. Correct the problems and rerun the job with DATA-MASKING(Y,RESTART).

GCL36224I JOURNAL NOT ACTIVE

Explanation:

The journal is not allocated to the job but since neither the RESTART nor RERUN data masking options were specified execution will continue. If there are any failures with this job, RESTART processing will not be possible.

User response:

No action is required.

**GCL36225E JOURNAL NOT ACTIVE BUT IS
REQUIRED FOR DATA-MASKING
RESTART OPTION | JOURNAL NOT
ACTIVE BUT IS REQUIRED FOR
DATA-MASKING RERUN OPTION**

Explanation:

The journal is not allocated to the job but since neither the RESTART nor RERUN data masking options were specified execution will continue. If there are any failures with this job, RESTART processing will not be possible.

User response:

Allocate the journal DD to the JCL and resubmit the job.

**GCL36226E DATABASE: *dbname* WAS
SKIPPED DUE TO DATA MASKING
ERROR**

Explanation:

The masking process failed for the specified database.

User response:

Review the related messages to determine what failed. Correct the problems and rerun the job with DATA-MASKING(Y,RESTART).

**GCL36230E JOURNAL ENTRY FOUND FOR
DATABASE: *dbname* RESTART OR
RERUN OPTION IS REQUIRED**

Explanation:

The journal is active and one or more entries were found for a database being refreshed. In order to run the job, the DATA-MASKING(Y,RESTART) or DATA-MASKING(Y,RERUN) is required.

User response:

Either add the required RESTART or RERUN option or remove the journal DD from the JCL and resubmit the job.

**GCL36231E DATA MASKING OPTION
CHANGED FOR DATABASE:
dbname RERUN OPTION MUST
BE USED**

Explanation:

DATA-MASKING(Y,RESTART) is specified, but the indicated *dbname* to be masked has been changed since the previous run. The IMS Cloning Tool job ends with RC-08.

User response:

Specify the same database to be masked as the previous run, and rerun the job. Alternatively, specify DATA-MASKING(Y,RERUN) if you want to change the target database for masking.

**GCL36240I RESTART DATA FOR DATABASE:
dbname PRIOR STATUS: *status***

Explanation

This message indicates that a journal entry was found for the specified database and indicates the prior status. Valid status and their meanings are:

- FAILED: prior execution failed
- NO-MASKING: prior execution did not request masking
- UNLOAD: prior execution created an unload file that can be reused
- SUCCESSFUL: prior execution was successful
- NOT-FOUND: prior execution did not include this database

User response:

No action is required.

**GCL36241I *dbname* WILL BE PROCESSED
| *dbname* WILL BE SKIPPED |
dbname WILL BE PROCESSED
USING PRIOR UNLOAD FILE**

Explanation:

When RESTART is performed, this message indicates what will be done for the specified database.

User response:

No action is required.

**GCL36242E DATABASE: *dbname* UNLOAD FILE
file NOT FOUND**

Explanation:

The journal entry for the specified database indicates that a prior execution created an unload file which can be used by restart. However, the named unload file could not be located. The journal entry will be reset and the database will be reprocessed and a new unload file created.

User response:

No action is required.

**GCL36308E UNABLE TO LOAD PROGRAM:
program name**

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL36310E ERROR RETURNED BY RULE
PROCESSOR, RC=*return_code*,
RSN=*reason_code*, TOKEN=*token***

Explanation:

This is an error return from the LE interface.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL36311E LE INTERFACE
ERROR, LERC=*le_return_code*,
LERS=*le_reason_code*,
LEFDBK=*le_feedback_code*,
CALLTYPE=*call_type***

Explanation:

This is an error return from the LE interface. *call_type* can be one of the following: INIT, STARTSEQ, ENDSEQ, ENDLE.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL36508E UNABLE TO LOAD PROGRAM:
program name**

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL36510E ERROR RETURNED BY RULE
PROCESSOR, RC=*return_code*,
RSN=*reason_code*, TOKEN=*token***

Explanation:

This is an error return from the LE interface.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL36511E LE INTERFACE
ERROR, LERC=*le_return_code*,
LERS=*le_reason_code*,
LEFDBK=*le_feedback_code*,
CALLTYPE=*call_type***

Explanation:

This is an error return from the LE interface. *call_type* can be one of the following: INIT, STARTSEQ, ENDSEQ, ENDLE.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL40001I hh:mm:ss BCSCLEAN STARTED -
PROGRAM REV=*rrr* | hh:mm:ss
BCSCLEAN COMPLETED; RETURN
CODE=*nnn***

Explanation:

BCSCLEAN command processing message.

User response:

None. This message is informational.

**GCL40003I DDNAME=*ddname* ALLOCATED
FOR DSN=*datasetname***

Explanation:

'*ddname*' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

GCL40004E DDNAME MISSING: *ddname*

Explanation:

'*ddname*' was specified for IMS Cloning Tool to use. Processing terminates.

User response:

Either correct the *ddname* specified, or, add the appropriate *ddname* to the job's JCL.

**GCL40005E ALLOCATION FAILED FOR DSN:
*datasetname***

Explanation:

Dynamic allocation for a data set failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

GCL40005W ALLOCATION FAILED FOR DSN:
datasetname

Explanation:

Dynamic deallocation for a ddname failed. The associated z/OS messages are displayed. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

GCL40008E UNABLE TO LOAD PROGRAM:
program name

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL40009E ERROR ACCESSING JOURNAL
FILE; LOC=llll

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL40048I OPTIONS IN EFFECT FOR THIS
EXECUTION: merged options

Explanation:

Informational message indicating how BCSCLEAN will handle the options. The displayed options are derived from the INI and any overriding specifications in the command input.

User response:

None. This message is informational.

GCL40051E REQUIRED KEYWORD MISSING:
keyword

Explanation:

A keyword required for processing has been omitted. Processing terminates.

User response:

Specify the required keyword.

GCL40052E REQUIRED INI SECTION/TOKEN
MISSING: SECTION=section
TOKEN=token | REQUIRED
INI VALUE MISSING FOR
SECTION=section TOKEN=token
| INVALID INI VALUE FOR
SECTION=section TOKEN=token

Explanation:

An error occurred validating the GCLINI parmlib member options. Processing terminates.

User response:

Correct the GCLINI member in the IMS Cloning Tool PARMLIB data set.

GCL40053E KEYWORD: keyword MAXIMUM
LENGTH: nnn EXCEEDED

Explanation:

The operand entered for a keyword exceeded the maximum length allowed for the operand. *nnn* is the maximum allowed length for the keyword. Processing terminates.

User response:

Correct the length of the keyword's operand.

GCL40054E KEYWORD HAS MORE THAN 1
OPERAND; ONLY 1 ALLOWED:
keyword

Explanation:

Multiple operands were detected for a keyword; only one operand is permitted. Processing terminates.

User response:

Correct the keyword to use one operand.

GCL40056E NOTHING SPECIFIED FOR
KEYWORD: keyword

Explanation:

A keyword was entered without an appropriate operand. Processing terminates.

User response:

Specify an appropriate operand for the keyword.

GCL40058E INVALID VALUE IN KEYWORD:
keyword VALUE: value error text

Explanation:

The value in the keyword is invalid. 'error text' indicates the problem detected with the value. Processing terminates.

User response:

Correct the value specified in the keyword.

GCL41001I hh:mm:ss FINDUCATS STARTED
- PROGRAM REV=rrr | hh:mm:ss
FINDUCATS COMPLETED; RETURN
CODE=nnn

Explanation:
FINDUCATS processing message.

User response:
None. This message is informational.

**GCL41006E ERROR CALLING GCL01VV1 tttttt
FUNCTION: function R15=nnnn
R0=nnnnnnnn LOC=llll**

Explanation:
A problem occurred using a dataspace. tttttt is the name of the internal table. llll is the location where the error occurred. Processing terminates.

User response:
Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

**GCL41008E UNABLE TO LOAD PROGRAM:
program name**

Explanation:
The indicated program name was not found. Processing terminates.

User response:
Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL41051E REQUIRED KEYWORD MISSING:
keyword**

Explanation:
A keyword required for processing has been omitted. Processing terminates.

User response:
Specify the required keyword.

**GCL41053E KEYWORD: keyword MAXIMUM
LENGTH: nnn EXCEEDED**

Explanation:
The operand entered for a keyword exceeded the maximum length allowed for the operand. nnn is the maximum allowed length for the keyword. Processing terminates.

User response:
Correct the length of the keyword's operand.

**GCL41054E KEYWORD HAS MORE THAN 1
OPERAND; ONLY 1 ALLOWED:
keyword**

Explanation:
Multiple operands were detected for a keyword; only one operand is permitted. Processing terminates.

User response:
Correct the keyword to use one operand.

**GCL41056E NOTHING SPECIFIED FOR
KEYWORD: keyword**

Explanation:
A keyword was entered without an appropriate operand. Processing terminates.

User response:
Specify an appropriate operand for the keyword.

**GCL41057E DUPLICATE FOUND; KEYWORD:
keyword ENTRY: entry**

Explanation:
The indicated 'entry' for the keyword was previously specified. Processing terminates.

User response:
Remove the duplicate entry.

**GCL41058E INVALID VALUE IN KEYWORD:
keyword VALUE: value error text**

Explanation:
The value in the keyword is invalid. 'error text' indicates the problem detected with the value. Processing terminates.

User response:
Correct the value specified in the keyword.

**GCL41060E NO STORAGE GROUPS RETURNED
BY SSI | NO VOLUME SERIALS
RETURNED BY SSI**

Explanation:
NO STORAGE GROUPS RETURNED BY SSI : The FINDUCATS command was requested to determine volume serial numbers by storage group names. SSI did not return any storage groups to GCL01SMF. Processing terminates.

Explanation:
NO VOLUME SERIALS RETURNED BY SSI: The FINDUCATS command was requested to check the SMS status of volume serials. SSI did not return any volume serials to GCL01SMF. Processing terminates.

User response:
Check that storage groups are defined on the system. If unable to determine the cause of this message, contact IBM Software Support with the listing that contains this message.

**GCL41061E GCL01SMF ERROR; RETURN
CODE=nnnn LOC: llllll entry**

Explanation:
An error occurred using GCL01SMF to obtain SSI information for the 'entry'. llllll is the internal location where the error occurred. Processing terminates.

User response:
Contact IBM Software Support with the listing that contains this message.

GCL41062E NO STORAGE GROUPS RETURNED BY SSI

Explanation:

The FINDUCATS command was requested to determine volume serial numbers by storage group names. SSI did not return any storage groups to GCL01SMF. Processing terminates.

User response:

Check that storage groups are defined on the system. If unable to determine the cause of this message, contact IBM Software Support with the listing that contains this message.

GCL41063W NO VOL/STG MATCH FOUND; KEYWORD: keyword ENTRY: entry

Explanation:

The indicated 'entry' for the keyword was not matched. For VOL, the indicated volser, or, the volser derived from a storage group, was not found. For STG, the indicated storage group was not found. Processing continues.

User response:

None required.

GCL41064E INVALID VOLSER: volser IN KEYWORD: keyword

Explanation:

The volume serial number specified is invalid. Processing terminates.

User response:

Correct the volser specification.

GCL41067W NO VOLUME SERIALS FOR STORAGE GROUP: storage group

Explanation:

SSI did not return any volsers for the storage group to GCL01SMF. Processing continues.

User response:

None.

GCL41075E NO VOLUME SERIALS SELECTED

Explanation:

No volume serials have been found for FINDUCATS to examine. Processing terminates.

User response:

Check if volsers specified in the FROM- keyword have been removed by use of an EXCLUDE-FROM- keyword.

GCL41086I STORAGE GROUPS/MASKS FOR KEYWORD: keyword

Explanation:

Parsing found the listed storage groups/masks for the keyword.

User response:

None. This message is informational.

GCL41087I nnnnn VOLSERS OR MASKS FOR KEYWORD: keyword list of volsers | nnnnn VOLSERS DERIVED FOR KEYWORD: keyword list of volsers | nnnnn VOLSERS RESOLVED FOR KEYWORD: keyword

Explanation:

Parsing found the listed volsers/masks for a keyword, or, derived the listed volsers from a storage group keyword. nnnnn is the number of volume serials. The third format, RESOLVED, indicates the number of volume serials found online for the associated keyword.

User response:

None. This message is informational.

GCL41101I hh:mm:ss VOLUME COLLECTION STARTED - PROGRAM REV=rrr | hh:mm:ss VOLUME COLLECTION COMPLETED; RETURN CODE=nnn

Explanation:

FINDUCATS volume processing message.

User response:

None. This message is informational.

GCL41103I DDNAME=ddname ALLOCATED FOR DSN=datasetname

Explanation:

'ddname' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

GCL41104E OPEN FAILED FOR DDNAME=ddname

Explanation:

'ddname' was allocated for IMS Cloning Tool to use, but the open for the file failed. Processing terminates.

User response:

If unable to determine the reason the open failed, contact IBM Software Support with the listing that contains this message.

GCL41105E ALLOCATION FAILED FOR DSN: datasetname

Explanation:

Dynamic allocation for a data set failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL41105W DEALLOCATION FAILED FOR
DDNAME: *ddname***

Explanation:

Dynamic deallocation for a ddname failed. The associated z/OS messages are displayed. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL41106E ERROR CALLING GCL01VV1 *tttttt*
FUNCTION: *function* R15=*nnnn*
R0=*nnnnnnnn* LOC=*llll***

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *llll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

**GCL41108E UNABLE TO LOAD PROGRAM:
*program name***

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL41130E AMSOPEN FAILED; R15=*nnnn*

Explanation:

An attempt was made to issue an IDCAMS command. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL41131E NON-ZERO RETURNED BY
IDCAMS; RC=*nnnn***

Explanation:

An IDCAMS command failed with return code *nnnn*. The IDCAMS messages are displayed. Processing will terminate for an IDCAMS return code greater than 4.

User response:

Check the volume that caused the DCOLLECT errors. Correct the problems with the volume.

**GCL41135I hh:mm:ss VOLSER *volser*
*processing step***

Explanation:

FINDUCATS volume processing message.

User response:

None. This message is informational.

**GCL41136I REPORT BY VOLUME SERIAL
NUMBERS**

Explanation:

Indicates the start of the FINDUCATS report by volume serial number(s).

User response:

None. This message is informational.

**GCL41137I REPORT OF USER CATALOGS ON
ALL EXAMINED VOLUME SERIALS**

Explanation:

Indicates the start of the FINDUCATS report of catalogs.

User response:

None. This message is informational.

**GCL41141E GCL00900 UNEXPECTED
RESULTS; *error text***

Explanation:

An unexpected condition occurred calling program GCL00900. 'error text' has a description of the problem. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL41142E BAD MLA VALUE FOUND: *mla value*

Explanation:

The MLA value found was invalid for IMS Cloning Tool processing. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL41143E CSI STORAGE AREA WILL EXCEED
1MB**

Explanation:

Program IGGCSI00, Catalog Search Interface, required more storage to locate alias names. The amount of storage will exceed 1,048,575. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL41144E CSI RETURNED NO DATA

Explanation:

This should not occur. Program IGGCSI00, Catalog Search Interface, did not return any data. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL41145W NO DATA SETS PROCESSED FROM VOLUME(S)

Explanation:

No data sets other than SYS1.VTOCIX or SYS1.VVDS entries were found on the specified volumes. Processing continues.

User response:

None required.

GCL42001I hh:mm:ss VOLOPTIO NS STARTED - PROGRAM REV=rrr | hh:mm:ss VOLOPTIO NS COMPLETED; RETURN CODE=nnn

Explanation:

VOLOPTIO NS processing message.

User response:

None. This message is informational.

GCL42003I DDNAME=ddname ALLOCATED FOR DSN=datasetname

Explanation:

'ddname' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

GCL42004E DDNAME MISSING: ddname | OPEN FAILED FOR DDNAME: ddname

Explanation:

'ddname' was specified for IMS Cloning Tool to use. Processing terminates.

User response:

Either correct the ddname specified, or, add the appropriate ddname to the job's JCL.

GCL42005E ALLOCATION FAILED FOR DSN: datasetname

Explanation:

Dynamic allocation for a data set failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

GCL42005W ALLOCATION FAILED FOR DSN: datasetname

Explanation:

Dynamic deallocation for a ddname failed. The associated z/OS messages are displayed. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

GCL42006E ERROR CALLING GCL01VV1 tttttt FUNCTION: function R15=nnnn R0=nnnnnnnn LOC=llll

Explanation:

A problem occurred using a dataspace. tttttt is the name of the internal table. llll is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

GCL42007W ERROR CALLING GCL01HEX; FUNCTION: function R15=nnnn

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL42008E UNABLE TO LOAD PROGRAM: program name

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL42009E ERROR ACCESSING JOURNAL FILE; LOC=llll

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL42010E DUPLICATE JOURNAL ENTRY; LOC=llll

Explanation:

A duplicate record was detected. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL42011E JOURNAL CONTROL RECORD NOT FOUND | JOURNAL UCAT PAIR RECORD(S) NOT FOUND | JOURNAL VOLUME PAIR RECORD(S) NOT FOUND

Explanation:

An expected record was not found in the IMS Cloning Tool journal file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL42012E JOURNAL CONTROL RECORD IS WRONG VERSION | JOURNAL UCAT RECORD IS WRONG VERSION | JOURNAL VOLP RECORD IS WRONG VERSION

Explanation:

The journal record does not match the expected format. The record is printed. Processing terminates.

User response:

Verify that different releases of IMS Cloning Tool have not been run using the same journal data set. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL42013E RECORD COUNT IS ZERO; LOC=lllll | COUNT MISMATCH; RECORDS READ=rrrr CONTROL RECORD COUNT=cccc

Explanation:

There was a problem with the journal records needed to initiate the command. For the first format, the journal control record indicates no entries were added. For the second format, the number of records read from the journal, rrrr, is not the same as the number indicated in the journal control record, cccc. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL42015E THE COPY PROCESS DID NOT COMPLETE SUCCESSFULLY

Explanation:

The journal indicates that the COPY command did not complete successfully. Processing terminates.

User response:

Check that the COPY command has completed successfully before initiating the VOLOPTIONS command.

GCL42017E THE NEWTARGETS-DDN IS EMPTY OR HAS BEEN DUMMIED, DDNAME: ddn

Explanation:

No records were read from the ddname specified for NEWTARGETS-DDN. Processing terminates.

User response:

Check that the DD has not been specified as 'DD DUMMY' or 'DD DSN=NULLFILE'. Check that the DSN specified in the ddn has been created successfully.

GCL42018E THE NEWTARGETS-DDN INPUT HAS EXCEEDED THE CURRENT CAPACITY

Explanation:

The number of entries read from the ddname exceeded the current capacity. Processing terminates.

User response:

The VOLOPTIONS UPDATE may be run multiple times with the input split into smaller parts. In addition, contact IBM Software Support with the listing that contains this message.

GCL42020I CURRENT JOURNAL VOLUME PAIRS: | UPDATED JOURNAL VOLUME PAIRS: (SIMULATION **) list of volume pairs**

Explanation:

The first format indicates the volume pairs at the initiation of the command. The second format indicates the volume pairs after the UPDATE NEWTARGETS have been applied.

User response:

None. This message is informational.

GCL42021I UPDATED USERCATALOGS VOLUME: (SIMULATION **) list of usercatalogs**

Explanation:

Displays the user catalogs and their volsers after the UPDATE NEWTARGETS have been applied.

User response:

None. This message is informational.

GCL42031I VOLUMES FOR NEW TARGETS: source target newtarget

Explanation:

The listed groups of volume serials were obtained from the NEWTARGETS keyword, or from the NEWTARGET-DDN file.

User response:

None. This message is informational.

GCL42040E **UCBLOOK ERROR; RETURN
CODE=*nn* REASON CODE=*nn*
LOC=*lllll***

Explanation:

An error occurred during UCBLOOK processing.
Processing terminates.

User response:

Contact IBM Software Support with the listing that
contains this message.

GCL42051E **REQUIRED KEYWORD MISSING:
*keyword***

Explanation:

A keyword required for processing has been omitted.
Processing terminates.

User response:

Specify the required keyword.

GCL42053E **KEYWORD: *keyword* MAXIMUM
LENGTH: *nnn* EXCEEDED**

Explanation:

The operand entered for a keyword exceeded the
maximum length allowed for the operand. *nnn* is the
maximum allowed length for the keyword. Processing
terminates.

User response:

Correct the length of the keyword's operand.

GCL42054E **KEYWORD HAS MORE THAN 1
OPERAND; ONLY 1 ALLOWED:
*keyword***

Explanation:

Multiple operands were detected for a keyword; only
one operand is permitted. Processing terminates.

User response:

Correct the keyword to use one operand.

GCL42056E **NOTHING SPECIFIED FOR
KEYWORD: *keyword***

Explanation:

A keyword was entered without an appropriate
operand. Processing terminates.

User response:

Specify an appropriate operand for the keyword.

GCL42057E **DUPLICATE FOUND; KEYWORD:
keyword ENTRY: *entry***

Explanation:

The indicated 'entry' for the keyword was previously
specified. Processing terminates.

User response:

Remove the duplicate entry.

GCL42058E **INVALID VALUE IN KEYWORD:
keyword VALUE: *value error text***

Explanation:

The value in the keyword is invalid. 'error text'
indicates the problem detected with the value.
Processing terminates.

User response:

Correct the value specified in the keyword.

GCL42060E **RESUME ONLY VALID WITH CLIP,
OFFLINECLIP, OR UNCLIP**

Explanation:

The RESUME keyword can only be specified if the
CLIP, OFFLINECLIP, or UNCLIP keyword is specified.
Processing terminates.

User response:

Correct the keyword specification.

GCL42063E **INVALID DEVN: *devn* IN
KEYWORD: *keyword***

Explanation:

The volume device number specified is invalid.
Processing terminates.

User response:

Correct the device number specification.

GCL42064E **INVALID VOLSER: *volser* IN
KEYWORD: *keyword***

Explanation:

The volume serial number specified is invalid.
Processing terminates.

User response:

Correct the volspecification.

GCL42066E **VOLSER REFERENCED AS BOTH
SOURCE AND TARGET: *volser***

Explanation:

The indicated new target volume serial is already in
use as a source volume serial. Processing terminates.

User response:

Correct the volume serial specification.

GCL42068E **UNMATCHED ENTRIES IN
KEYWORD: *keyword***

Explanation:

For NEWTARGETS, there must be a source volume
serial, target volume serial, new target volume
serial. Unmatched entries were found. Processing
terminates.

User response:

Correct the keyword specification.

GCL42070E **NO MATCH FOUND IN JOURNAL
FOR SOURCE VOLSER: *volser***

Explanation:

The indicated volser was specified as a source volume serial in the NEWTARGETS keyword. That source volume serial was not found in the journal records. Processing terminates.

User response:

Correct the keyword specification. The VOLOPTIONS LIST command may be used to display the volume pairs in the journal.

**GCL42071E SPECIFIED TARGET DOES NOT
MATCH JOURNAL ENTRY, TARGET:
volser**

Explanation:

The indicated volser was specified as a target volume serial in the NEWTARGETS keyword. That target volume serial was not found paired to the specified source volume serial. Processing terminates.

User response:

Correct the keyword specification. The VOLOPTIONS LIST command may be used to display the volume pairs in the journal.

**GCL42072E SPECIFIED TARGET WILL CAUSE
DUPLICATE TARGET VOLUME
SERIALS, TARGET: volser**

Explanation:

The indicated volser was specified as a target volume serial in the NEWTARGETS keyword. It is either duplicated in the new target volume serials specified, or, will duplicate an existing target volume serial that is not being changed. Processing terminates.

User response:

Correct the keyword specification. The VOLOPTIONS LIST command may be used to display the volume pairs in the journal.

**GCL42073E SPECIFIED TARGET WILL CAUSE
DUPLICATE TARGET VOLUME
DEVNS, TARGET DEVN: devn**

Explanation:

The indicated device number was specified as a target volume device number in the NEWTARGETSDEVN keyword. It is either duplicated in the new target volume device numbers specified, or will duplicate an existing target volume device number that is not being changed. Processing terminates.

User response:

Correct the keyword specification. The VOLOPTIONS LIST command may be used to display the volume pairs in the journal.

**GCL42101I hh:mm:ss VOLOPTIONS CLIP
STARTED - PROGRAM REV=rrr
(** SIMULATION **) | hh:mm:ss**

**VOLOPTIONS CLIP COMPLETED;
RETURN CODE=nnn**

Explanation:

VOLOPTIONS CLIP processing message.

User response:

None. This message is informational.

**GCL42107W ERROR CALLING GCL01HEX;
FUNCTION: function R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL42108E UNABLE TO LOAD PROGRAM:
program name**

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL42109E ERROR ACCESSING JOURNAL
FILE; LOC=/////**

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL42111E JOURNAL VOLUME PAIR
RECORD(S) NOT FOUND**

Explanation:

An expected record was not found in the IMS Cloning Tool journal file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL42136E IEEVARYD VARY OFFLINE FAILED
FOR VOLSER: volser INVALID
PARAMETERS**

Explanation:

The parameters given to IEEVARYD are incorrect. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL42137E **IEEVARYD VARY OFFLINE FAILED
FOR VOLSER: *volser* DEVICE: *nnnn*
RETURN CODE: *nnnnnnnn* REASON
CODE: *nnnnnnnn***

Explanation:

The vary offline for the indicated device failed.
Processing terminates.

User response:

When the problem that caused the vary to fail is corrected, any volumes previously varied offline will need to be varied back online in order to rerun with IMS Cloning Tool VOLOPTIONS CLIP.

GCL42138E **IEEVARYD VARY OFFLINE FAILED
FOR VOLSER: *volser* DEVICE: *nnnn*
R15: *nnnnnnnn***

Explanation:

The vary offline for the indicated device failed.
Processing terminates.

User response:

When the problem that caused the vary to fail is corrected, any volumes previously varied offline will need to be varied back online in order to rerun with IMS Cloning Tool VOLOPTIONS CLIP.

GCL42141I **VOLUME SERIAL: *volser* DEVICE
NUMBER: *nnnn* IS NOW OFFLINE**

Explanation:

The indicated device is now offline to the current image.

User response:

None. This message is informational.

GCL42142I **VOLUME SERIAL: *volser* DEVICE
NUMBER: *nnnn* IS PENDING
OFFLINE**

Explanation:

The indicated device is now pending offline to the current image.

User response:

None. This message is informational.

GCL42143E **SOURCE VOLUME SERIAL:
volser IS OFFLINE AND NO
INFORMATION ABOUT THE
DEVICE IS KNOWN**

Explanation:

The indicated source volume serial is not online and no information about the physical device is known.
Processing terminates.

User response:

Bring the target device with the source volume serial online and rerun VOLOPTIONS CLIP with the RESUME keyword.

GCL42143E **DEVICE NUMBER: *devn* FOR
TARGET VOLUME: *volser* DOES NOT
EXIST**

Explanation:

The indicated device number is not defined to the z/OS system. Processing terminates.

User response:

Correct the device number to use a defined device.

GCL42145E **DEVICE NUMBER: *devn* IS ONLINE
WITH UNEXPECTED VOLUME
SERIAL: *volser***

Explanation:

The indicated device number is online but the volser of the device does not match what is expected.
Processing terminates.

User response:

Either correct the device number to use the correct device or correct the device to have the correct contents.

GCL42146E **DEVICE NUMBER: *devn* IS
ONLINE; VOLUME SERIAL: *volser***

Explanation:

The indicated device is online and OFFLINECLIP was specified. For OFFLINECLIP the target device should be offline. Processing terminates.

User response:

Verify OFFLINECLIP is really desired. If this is a rerun of an OFFLINECLIP the RESUME keyword should be used.

GCL42147I **VOLUME SERIAL: *volser* DEVICE
NUMBER: *devn* NOT TAKEN
OFFLINE DUE TO SIMULATION**

Explanation:

The indicated volume was not taken offline because this run is a simulation.

User response:

None. This message is informational.

GCL42148E **SOURCE VOLUME SERIAL= *vvvvvv*
IS OFFLINE AND IS EXPECTED TO
BE ONLINE**

Explanation:

The indicated volume is offline but is expected to be online. Processing terminates.

User response:

If this is a rerun the RESUME keyword should be used.

GCL42160E **ERROR DURING UCBxxxx FOR
VOLSER=*volume* - RETURN
CODE=*nnnn* REASON CODE=*nnnn***

Explanation:

An error occurred using UCBLOOK or UCBSCAN.
Processing terminates.

User response:

A return code 4 from UCBLOOK may indicate the volser is offline. If unable to determine the cause of the error, contact IBM Software Support with the listing that contains this message.

**GCL42179W TARGET VOLUME SERIAL: *volume*
IS CURRENTLY ONLINE**

Explanation:

CLIP was requested, but, the indicated target volume serial was found online. Processing will continue checking all other targets, but, the run will be terminated.

User response:

Change the target volume serial(s) IMS Cloning Tool will use with the VOLOPTIONS UPDATE command to avoid duplicate volume serials.

**GCL42180E NO TARGET VOLSER SHOULD
BE FOUND ONLINE FOR CLIP
FUNCTION**

Explanation:

CLIP was requested, but, one or more target volumes were found online. Processing terminates.

User response:

See the GCL42179W message(s) for online target volume serials. If this is a rerun the RESUME keyword should be used.

**GCL42201I hh:mm:ss VOLOPTIONS UNCLIP
STARTED - PROGRAM REV=*rrr*
(** SIMULATION **) |
hh:mm:ss VOLOPTIONS UNCLIP
COMPLETED; RETURN CODE=*nnn***

Explanation:

VOLOPTIONS UNCLIP processing message.

User response:

None. This message is informational.

**GCL42203I DDNAME=*ddname* ALLOCATED
FOR DSN=*datasetname***

Explanation:

'ddname' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

**GCL42204E OPEN FAILED FOR DDNAME:
*ddname***

Explanation:

'ddname' was specified for IMS Cloning Tool to use. Processing terminates.

User response:

Either correct the ddname specified, or, add the appropriate ddname to the job's JCL.

**GCL42205E ALLOCATION FAILED FOR DSN:
*datasetname***

Explanation:

Dynamic allocation for a data set failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL42205W DEALLOCATION FAILED FOR
DDNAME: *ddname***

Explanation:

Dynamic deallocation for a ddname failed. The associated z/OS messages are displayed. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL42207W ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=*nnnn***

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL42209E ERROR ACCESSING JOURNAL
FILE; LOC=*lllll***

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL42211E JOURNAL VOLUME PAIR
RECORD(S) NOT FOUND**

Explanation:

An expected record was not found in the IMS Cloning Tool journal file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL42220E INTERNAL ERROR; INVALID
REQUEST TYPE= *type***

Explanation:

An internal error has been encountered. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL42235E ICKDSF COMMAND FAILED FOR
TARGET VOLSER: *volser***

Explanation:

The invocation of ICKDSF to change a device label failed. The messages from ICKDSF are printed.

User response:

If unable to determine the reason for the failure from the associated ICKDSF messages, contact IBM Software Support with the listing that contains these messages.

**GCL42236E IEEVARYD VARY OFFLINE FAILED
FOR VOLSER: *volser* INVALID
PARAMETERS**

Explanation:

The parameters given to IEEVARYD are incorrect. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL42237E IEEVARYD VARY OFFLINE FAILED
FOR VOLSER: *volser* DEVICE: *nnnn*
RETURN CODE: *nnnnnnnn* REASON
CODE: *nnnnnnnn***

Explanation:

The vary offline for the indicated device failed. Processing terminates.

User response:

When the problem that caused the vary to fail is corrected, the VOLOPTIONS UNCLIP can be rerun with the RESUME keyword.

**GCL42238E IEEVARYD VARY OFFLINE FAILED
FOR VOLSER: *volser* DEVICE: *nnnn*
R15: *nnnnnnnn***

Explanation:

The vary offline for the indicated device failed. Processing terminates.

User response:

When the problem that caused the vary to fail is corrected, the VOLOPTIONS UNCLIP can be rerun with the RESUME keyword.

**GCL42240I DEVICE NUMBER: *nnnn*
SUCCESSFULLY CHANGED TO
VOLUME SERIAL: *volser***

Explanation:

The indicated device has been changed to the indicated volume serial.

User response:

None. This message is informational.

**GCL42241I VOLUME SERIAL: *volser* DEVICE
NUMBER: *nnnn* IS NOW OFFLINE
| VOLUME SERIAL: *volser* DEVICE
NUMBER: *nnnn* IS ALREADY
OFFLINE**

Explanation:

The indicated device is now offline or was already offline to the current image.

User response:

None. This message is informational.

**GCL42242I VOLUME SERIAL: *volser* DEVICE
NUMBER: *nnnn* IS PENDING
OFFLINE**

Explanation:

The indicated device is now pending offline to the current image.

User response:

None. This message is informational.

**GCL42243E TARGET VOLUME SERIAL: *volser* IS
OFFLINE AND NO INFORMATION
ABOUT THE DEVICE IS KNOWN**

Explanation:

The indicated target volume serial is not online and no information about the physical device is known. Processing terminates.

User response:

Bring the target device with the target volume serial online and the VOLOPTIONS UNCLIP can be rerun with the RESUME keyword.

**GCL42244E TARGET VOLUME SERIAL= *vvvvvv*
IS OFFLINE AND IS EXPECTED TO
BE ONLINE**

Explanation:

The indicated volume is offline but is expected to be online. Processing terminates.

User response:

If this is a rerun the RESUME keyword should be used.

**GCL42245I DEVICE NUMBER: *devn* ALREADY
CHANGED TO SOURCE VOLUME
SERIAL: *volser***

Explanation:

The indicated device number has already been clipped to the desired volume serial.

User response:

None. This message is informational.

GCL42246I **DEVICE NUMBER: *nnnn* ICKDSF
FAILED; DEVICE MAY HAVE
ALREADY BEEN UNCLIPPED**

Explanation:

The unclip of the indicated device by ICKDSF has failed. This failure is probably caused by the device having already been unclipped.

User response:

See the next IMS Cloning Tool message in the listing to determine the appropriate action.

GCL42247I **VOLUME SERIAL: *volser* DEVICE
NUMBER: *devn* NOT TAKEN
OFFLINE DUE TO SIMLATION**

Explanation:

The indicated volume was not taken offline because this run is a simulation.

User response:

None. This message is informational.

GCL42248I **VOLUME SERIAL: *vvvvvv* DEVICE
NUMBER: *nnnn* NOT CLIPPED TO
| VOLUME SERIAL: *vvvvvv* DUE TO
SIMULATION**

Explanation:

The clip of the indicated device was not done because this run is a simulation.

User response:

None. This message is informational.

GCL42260E **DDNAME=*ddname* ALLOCATED
FOR DSN=*datasetname***

Explanation:

'ddname' has been dynamically allocated for the indicated data set.

User response:

A return code 4 from UCBLLOOK may indicate the volser is offline. If unable to determine the cause of the error, contact IBM Software Support with the listing that contains this message.

GCL43001I **hh:mm:ss UCATOPTIONS
STARTED - PROGRAM REV=*rrr*
| hh:mm:ss UCATOPTIONS
COMPLETED; RETURN CODE=*nnn***

Explanation:

UCATOPTIONS processing message.

User response:

None. This message is informational.

GCL43003I **DDNAME=*ddname* ALLOCATED
FOR DSN=*datasetname***

Explanation:

'ddname' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

GCL43004E **DDNAME MISSING: *ddname* |
OPEN FAILED FOR DDNAME:
*ddname***

Explanation:

'ddname' was specified for IMS Cloning Tool to use. Processing terminates.

User response:

Either correct the ddname specified, or, add the appropriate ddname to the job's JCL.

GCL43005E **ALLOCATION FAILED FOR DSN:
*datasetname***

Explanation:

Dynamic allocation for a data set failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

GCL43005W **DEALLOCATION FAILED FOR
DDNAME: *ddname***

Explanation:

Dynamic deallocation for a ddname failed. The associated z/OS messages are displayed. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

GCL43006E **ERROR CALLING GCL01VV1 *tttttt*
FUNCTION: *function* R15=*nnnn*
R0=*nnnnnnnn* LOC=*lllll***

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *lllll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

GCL43007W **ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=*nnnn***

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL43008E UNABLE TO LOAD PROGRAM:
 *program name***

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL43009E ERROR ACCESSING JOURNAL
 FILE; LOC=////**

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL43010E DUPLICATE JOURNAL ENTRY;
 LOC=////**

Explanation:

A duplicate record was detected. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL43011E JOURNAL CONTROL RECORD NOT
 FOUND | JOURNAL UCAT PAIR
 RECORD(S) NOT FOUND**

Explanation:

An expected record was not found in the IMS Cloning Tool journal file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL43012E JOURNAL CONTROL RECORD IS
 WRONG VERSION | JOURNAL
 UCAT PAIR RECORD IS WRONG
 VERSION**

Explanation:

The journal record does not match the expected format. The record is printed. Processing terminates.

User response:

Verify that different releases of IMS Cloning Tool have not been run using the same journal data set. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL43013E RECORD COUNT IS ZERO; LOC=////
 | COUNT MISMATCH; RECORDS
 READ=rrrr CONTROL RECORD
 COUNT=cccc**

Explanation:

There was a problem with the journal records needed to initiate the command. For the first format, the journal control record indicates no entries were added. For the second format, the number of records read from the journal, rrrr, is not the same as the number indicated in the journal control record, cccc. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL43015E THE COPY PROCESS DID NOT
 COMPLETE SUCCESSFULLY**

Explanation:

The journal indicates that the COPY command did not complete successfully. Processing terminates.

User response:

Check that the COPY command has completed successfully before initiating the VOLOPTIONS command.

**GCL43017E THE NEWTARGETS-DDN IS EMPTY
 OR HAS BEEN DUMMIED,
 DDNAME: *ddn***

Explanation:

No records were read from the ddname specified for NEWTARGETS-DDN. Processing terminates.

User response:

Check that the DD has not been specified as 'DD DUMMY' or 'DD DSN=NULLFILE'. Check that the DSN specified in the ddname has been created successfully.

**GCL43018E THE NEWTARGETS-DDN INPUT
 HAS EXCEEDED THE CURRENT
 CAPACITY**

Explanation:

The number of entries read from the ddname exceeded the current capacity. Processing terminates.

User response:

The UCATOPTIONS UPDATE may be run multiple times with the input split into smaller parts. In addition, contact IBM Software Support with the listing that contains this message.

**GCL43020I CURRENT JOURNAL UCAT PAIRS:
 | UPDATED JOURNAL UCAT PAIRS:**

Explanation:

The first format indicates the user catalog pairs at the initiation of the command. The second format

indicates the user catalog pairs after the UPDATE NEWTARGETS have been applied.

User response:

None. This message is informational.

GCL43031I **ENTRIES FROM NEWTARGETS:**
source newtarget | **ENTRIES FROM**
NEWCATWORKS: *current-dsn new-*
dsn

Explanation:

The listed pairs of catalog names were obtained from the NEWTARGETS keyword, or, from the NEWTARGETS-DDN file. Or, the listed pairs of data set names were obtained from the NEWCATWORKS keyword, or, from the NEWCATWORKS-DDN file.

User response:

None. This message is informational.

GCL43040E **SOURCE CATALOG BACKUP HAS**
NOT BEEN DONE

Explanation:

The source catalogs have not been backed up. Processing terminates.

User response:

Run UCATOPTIONS BACKUP to backup the source catalogs.

GCL43041E **SOURCE CATALOG BACKUP HAS**
ALREADY BEEN DONE

Explanation:

The source catalogs have already been backed up. Processing terminates.

User response:

UCATOPTIONS BACKUP does not need to be run.

GCL43048I **OPTIONS IN EFFECT FOR THIS**
EXECUTION: *merged options*

Explanation:

Informational message indicating how UCATOPTIONS will handle the options. The displayed options are derived from the INI and any overriding specifications in the command input.

User response:

None. This message is informational.

GCL43051E **REQUIRED KEYWORD MISSING:**
keyword

Explanation:

A keyword required for processing has been omitted. Processing terminates.

User response:

Specify the required keyword.

GCL43052E **REQUIRED INI SECTION/TOKEN**
MISSING: *SECTION=section*

TOKEN=token | REQUIRED
INI VALUE MISSING FOR
SECTION=section TOKEN=token
| INVALID INI VALUE FOR
SECTION=section TOKEN=token

Explanation:

An error occurred validating the GCLINI parmlib member options. Processing terminates.

User response:

Correct the GCLINI member in the IMS Cloning Tool PARMLIB data set.

GCL43053E **KEYWORD: keyword MAXIMUM**
LENGTH: nnn EXCEEDED

Explanation:

The operand entered for a keyword exceeded the maximum length allowed for the operand. nnn is the maximum allowed length for the keyword. Processing terminates.

User response:

Correct the length of the keyword's operand.

GCL43054E **KEYWORD HAS MORE THAN 1**
OPERAND; ONLY 1 ALLOWED:
keyword

Explanation:

Multiple operands were detected for a keyword; only one operand is permitted. Processing terminates.

User response:

Correct the keyword to use one operand.

GCL43056E **NOTHING SPECIFIED FOR**
KEYWORD: keyword

Explanation:

A keyword was entered without an appropriate operand. Processing terminates.

User response:

Specify an appropriate operand for the keyword.

GCL43057E **DUPLICATE FOUND; KEYWORD:**
keyword ENTRY: entry

Explanation:

The indicated 'entry' for the keyword was previously specified. Processing terminates.

User response:

Remove the duplicate entry.

GCL43058E **INVALID VALUE IN KEYWORD:**
keyword VALUE: value error text

Explanation:

The value in the keyword is invalid. 'error text' indicates the problem detected with the value. Processing terminates.

User response:

Correct the value specified in the keyword.

GCL43064E **INVALID UCAT: *bcs dsname* IN
KEYWORD: *keyword* | INVALID
CATWORK: *dsname* IN KEYWORD:
*keyword***

Explanation:

The indicated *bcs dsname* or *dsname* is invalid.
Processing terminates.

User response:

Correct the invalid *dsname*.

GCL43065E **FORCE CAN ONLY BE SPECIFIED
WITH BACKUP**

Explanation:

The FORCE keyword was specified but the BACKUP keyword was not specified. The FORCE keyword can only be specified with the BACKUP keyword. Processing terminates.

User response:

Correct the keyword specification.

GCL43068E **UNMATCHED ENTRIES IN
KEYWORD: *keyword***

Explanation:

For NEWTARGETS, there must be a source user catalog and a new target user catalog. Unmatched entries were found. Processing terminates.

User response:

Correct the keyword specification.

GCL43073E **NO MATCH FOUND IN JOURNAL
FOR SOURCE UCAT: *bcsdsname* |
NO MATCH FOUND IN JOURNAL
FOR CATWORK DSN: *dsname***

Explanation:

The indicated user catalog was specified as a source in the NEWTARGETS keyword. That source user catalog was not found in the journal records. Or, the indicated *dsname* was specified as a current value in the NEWCATWORKS keyword. That catwork *dsname* was not found in the journal records. Processing terminates.

User response:

Correct the keyword specification. The UCATOPTIONS LIST command may be used to display the ucat pairs in the journal.

GCL43074W **NEWTARGETS IGNORED WITH
"LIST" OPTION | NEWCATWORKS
IGNORED WITH "LIST" OPTION**

Explanation:

NEWTARGETS or NEWCATWORKS was specified with UCATOPTIONS LIST. The NEWTARGETS or NEWCATWORKS keyword is ignored. Processing continues.

User response:

None, unless UPDATE was intended.

GCL44001I **hh:mm:ss ONLINECLIP STARTED
- PROGRAM REV=*rrr* | hh:mm:ss
ONLINECLIP COMPLETED;
RETURN CODE=*nnn***

Explanation:

ONLINECLIP command processing message.

User response:

None. This message is informational.

GCL44003I **DDNAME=*ddname* ALLOCATED
FOR DSN=*datasetname***

Explanation:

'*ddname*' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

GCL44004E **DDNAME MISSING: *ddname***

Explanation:

'*ddname*' was specified for IMS Cloning Tool to use. Processing terminates.

User response:

Either correct the *ddname* specified, or, add the appropriate *ddname* to the job's JCL.

GCL44005E **ALLOCATION FAILED FOR DSN:
*datasetname***

Explanation:

Dynamic allocation for a data set failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

GCL44005W **ALLOCATION FAILED FOR DSN:
*datasetname***

Explanation:

Dynamic deallocation for a *ddname* failed. The associated z/OS messages are displayed. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

GCL44007W **ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=*nnnn***

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL44009E ERROR ACCESSING JOURNAL
FILE; LOC=/////**

Explanation:

A VSAM error occurred accessing the journal file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL44011E JOURNAL CONTROL RECORD NOT
FOUND | JOURNAL CONTROL
RECORD IS WRONG VERSION
| JOURNAL VOLUME PAIR
RECORD(S) NOT FOUND**

Explanation:

An expected journal record was not found or did not match the expected format. If the format is the problem, the record is printed. Processing terminates.

User response:

Verify that different releases of IMS Cloning Tool have not been run using the same journal data set. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

GCL44013E RECORD COUNT IS ZERO; LOC=/////
| COUNT MISMATCH; RECORDS
READ=rrrr CONTROL RECORD
COUNT=cccc

Explanation:

There was a problem with the journal records needed to initiate the command. For the first format, the journal control record indicates no entries were added. For the second format, the number of records read from the journal, rrrr, is not the same as the number indicated in the journal control record, cccc. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL44015E THE COPY PROCESS DID NOT
COMPLETE SUCCESSFULLY**

Explanation:

The journal indicates that the COPY command did not complete successfully. Processing terminates.

User response:

Check that the COPY command has completed successfully before initiating the ONLINECLIP command.

GCL44033E EXCP FAILED FOR DEVICE: nnnn
TARGET VOLSER: volser SYNAD
TEXT: text

Explanation:

An error occurred accessing the volume label for a target device. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL44034W VOLUME SERIAL FOR DEVICE:
nnnn IS volser; VOLUME SERIAL
EXPECTED IS sourcevolser

Explanation:

The internal volume label for the device is 'volser'. The program expected the internal label to match the associated source volume serial. Processing continues.

User response:

If the internal volume serial is already the target volume serial, there should be no problem. However, if the internal serial number is not related to the current IMS Cloning Tool process, check that the volume pairs given to the IMS Cloning Tool COPY command were correct.

GCL44035I VOLUME SERIAL FOR DEVICE:
nnnn CHANGED TO: targetvolser

Explanation:

The internal volume label for the device is 'volser'. The program expected the internal label to match the associated source volume serial. Processing continues.

User response:

None. This message is informational.

**GCL44048I OPTIONS IN EFFECT FOR THIS
EXECUTION: merged options**

Explanation:

Informational message indicating how ONLINECLIP will handle the options. The displayed options are derived from the INI and any overriding specifications in the command input.

User response:

None. This message is informational.

**GCL44050E ERROR IN PARAMETERS FOR
keyword**

Explanation:

The parameters for the indicated keyword were incorrect. Processing terminates.

User response:

Check the keyword parameters. Mutually exclusive keywords may have been used.

**GCL44051E REQUIRED KEYWORD MISSING:
keyword**

Explanation:

A keyword required for processing has been omitted. Processing terminates.

User response:

Specify the required keyword.

**GCL44053E KEYWORD: keyword MAXIMUM
LENGTH: nnn EXCEEDED**

Explanation:

The operand entered for a keyword exceeded the maximum length allowed for the operand. nnn is the maximum allowed length for the keyword. Processing terminates.

User response:

Correct the length of the keyword's operand.

**GCL44054E KEYWORD HAS MORE THAN 1
OPERAND; ONLY 1 ALLOWED:
keyword**

Explanation:

Multiple operands were detected for a keyword; only one operand is permitted. Processing terminates.

User response:

Correct the keyword to use one operand.

**GCL44056E NOTHING SPECIFIED FOR
KEYWORD: keyword**

Explanation:

A keyword was entered without an appropriate operand. Processing terminates.

User response:

Specify an appropriate operand for the keyword.

**GCL44058E INVALID VALUE IN KEYWORD:
keyword VALUE: value error text**

Explanation:

The value in the keyword is invalid. 'error text' indicates the problem detected with the value. Processing terminates.

User response:

Correct the value specified in the keyword.

**GCL44060E ERROR DURING function FOR
VOLSER=volume - RETURN
CODE=nnnn REASON CODE=nnnn**

Explanation:

An error occurred using IOSCAPU or UCBLOOK. Processing terminates.

User response:

A return code 4 from UCBLOOK may indicate the volser is offline. If unable to determine the cause of the error,

contact IBM Software Support with the listing that contains this message.

**GCL44079E TARGET VOLSER: targetvolser WAS
NOT FOUND ONLINE**

Explanation:

The indicated target volume serial was not found online. Processing terminates.

User response:

The target volumes are expected to be online for ONLINECLIP. Correct the problem with the target volume(s).

GCL44086I VALIDATING KEYWORD: keyword

Explanation:

Parsing is checking the indicated keyword indicated in the command.

User response:

None. This message is informational.

**GCL45001I hh:mm:ss VARYOFF STARTED -
PROGRAM REV=rrr | hh:mm:ss
VARYOFF COMPLETED; RETURN
CODE=nnn**

Explanation:

VARYOFF command processing message.

User response:

None. This message is informational.

**GCL45003I DDNAME=ddname ALLOCATED
FOR DSN=datasetname**

Explanation:

'ddname' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

**GCL45004E DDNAME MISSING=ddname
| OPEN FAILED FOR
DDNAME=ddname**

Explanation:

'ddname' was specified for IMS Cloning Tool to use. Processing terminates.

User response:

Either correct the ddname specified, or, add the appropriate ddname to the job's JCL.

**GCL45005E ALLOCATION FAILED FOR
DSN=datasetname**

Explanation:

Dynamic allocation for a data set failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL45005W ALLOCATION FAILED FOR
DSN=datasetname**

Explanation:

Dynamic deallocation for a ddname failed. The associated z/OS messages are displayed. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

**GCL45006E ERROR CALLING GCL01VV1 tttttt
FUNCTION: function R15=nnnn
R0=nnnnnnnn LOC=llll**

Explanation:

A problem occurred using a dataspace. tttttt is the name of the internal table. llll is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

**GCL45007W ERROR CALLING GCL01HEX;
FUNCTION: function R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL45008E UNABLE TO LOAD PROGRAM=
program name**

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL45009E ERROR ACCESSING JOURNAL
FILE; LOC=llll | ERROR
ACCESSING VARY FILE; LOC=llll**

Explanation:

A VSAM error occurred accessing the journal or vary file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL45010E DUPLICATE VARY ENTRY; LOC=llll

Explanation:

A duplicate record was detected. Processing terminates.

User response:

Verify that an empty vary file was used as input to the VARYOFF command. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL45011E JOURNAL CONTROL RECORD NOT
FOUND | JOURNAL VOLP RECORD
NOT FOUND**

Explanation:

An expected record was not found in the IMS Cloning Tool journal file. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL45012E JOURNAL CONTROL RECORD IS
WRONG VERSION | JOURNAL
VOLP RECORD IS WRONG
VERSION**

Explanation:

The journal record does not match the expected format. The record is printed. Processing terminates.

User response:

Verify that different releases of IMS Cloning Tool have not been run using the same journal data set. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL45013E COUNT MISMATCH; RECORDS
READ=rrrr CONTROL RECORD
COUNT=cccc**

Explanation:

There was a problem with the journal records needed to initiate the command. The number of records read from the journal, rrrr, is not the same as the number indicated in the journal control record, cccc. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL45017E THE DDNAME IS EMPTY OR HAS
BEEN DUMMIED, DDNAME: ddn**

Explanation:

No records were read from the ddname specified for a keyword. Processing terminates.

User response:

Check that the DD has not been specified as 'DD DUMMY' or 'DD DSN=NULLFILE'. Check that the DSN specified in the ddname has been created successfully.

GCL45018E THE DDNAME INPUT HAS EXCEEDED THE CURRENT CAPACITY, DDNAME: *ddn*

Explanation:

The number of entries read from the ddname exceeded the current capacity. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL45019E DDNAME: *ddn* DOES NOT HAVE A LRECL OF 80

Explanation:

The data set allocated to the ddname does not have a LRECL of 80. The LRECL of this data set must be 80. Processing terminates.

User response:

Change the data set allocated to the ddname to have a LRECL of 80.

GCL45020I COPY COMMAND: *copy command*

Explanation:

Lists the copy command.

User response:

None. This message is informational.

GCL45031E DEVICE NOT DEFINED; VOLSER: *volser* DEVICE NUMBER: *dddd*

Explanation:

The device number that was specified is not defined to the z/OS system. Processing terminates.

User response:

Change the specified device number to be a defined device defined to the z/OS system.

GCL45032E VOLUME ALREADY OFFLINE; VOLSER: *volser* DEVICE NUMBER: *dddd*

Explanation:

The device number that was specified is already offline to the z/OS system. Processing terminates if VOL-ALREADY-OFFLINE(QUIT) is specified.

User response:

Bring the volume online or use VOL-ALREADY-OFFLINE(CONTINUE) if the volume should already be offline.

GCL45033E WRONG VOLSER FOUND; FOUND VOLSER: *volser* EXPECTED VOLSER: *volser* DEVICE NUMBER: *dddd*

Explanation:

The wrong volser was found on device *dddd*. Processing terminates.

User response:

Correct the volume and device number specifications to match the current volser on the device.

GCL45034E VOLUME NOT ONLINE AND DEVICE NUMBER IS NOT KNOWN; VOLSER: *volser*

Explanation:

The volume is not online and a device number has not been specified for the volume. Processing terminates.

User response:

Either bring the volume online or specify the device number of the volume if possible.

GCL45035E DEVICE NOT DASD; VOLSER: *volser* DEVICE NUMBER: *dddd*

Explanation:

The specified device is not defined to z/OS as a DASD device. Processing terminates.

User response:

Change the device number to be that of a defined DASD device.

GCL45040E GCL00900 UNEXPECTED RESULTS; *error text*

Explanation:

An unexpected condition occurred calling program GCL00900. 'error text' has a description of the problem. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL45041E INVALID VALUE FOUND FOR *item* IN keyword RECORD: *value*

Explanation:

An invalid value has been found for an item in a record in the data set allocated to the ddname for the keyword. The record is printed. Processing terminates.

User response:

Correct the value for the item in the record to have a valid value.

GCL45048I OPTIONS IN EFFECT FOR THIS EXECUTION: *merged options*

Explanation:

Informational message indicating how VARYOFF will handle the options. The displayed options are derived from the INI and any overriding specifications in the command input.

User response:

None. This message is informational.

**GCL45050E ERROR IN PARAMETERS FOR
keyword**

Explanation:

The parameters for the indicated keyword were incorrect. Processing terminates.

User response:

Check the keyword parameters. Mutually exclusive keywords may have been used.

**GCL45051E REQUIRED KEYWORD MISSING:
keyword**

Explanation:

A keyword required for processing has been omitted. Processing terminates.

User response:

Specify the required keyword.

**GCL45053E KEYWORD: keyword MAXIMUM
LENGTH: nnn EXCEEDED**

Explanation:

The operand entered for a keyword exceeded the maximum length allowed for the operand. nnn is the maximum allowed length for the keyword. Processing terminates.

User response:

Correct the length of the keyword's operand.

**GCL45054E KEYWORD HAS MORE THAN 1
OPERAND; ONLY 1 ALLOWED:
keyword**

Explanation:

Multiple operands were detected for a keyword; only one operand is permitted. Processing terminates.

User response:

Correct the keyword to use one operand.

**GCL45055E STORAGE GROUPS NOT
SUPPORTED WITH DATA-MOVER
PROGRAM NONE**

Explanation:

The DATA-MOVER program was specified as 'NONE'. Storage group names/masks were specified for the source and/or target volume serials. Processing terminates.

User response:

Correct the DATA-MOVER program specified, or, use keywords FROM-VOLSER/TO-VOLSER for the volume serials.

**GCL45056E NOTHING SPECIFIED FOR
KEYWORD: keyword**

Explanation:

A keyword was entered without an appropriate operand. Processing terminates.

User response:

Specify an appropriate operand for the keyword.

**GCL45057E DUPLICATE FOUND; KEYWORD:
keyword ENTRY: entry**

Explanation:

The indicated 'entry' for the keyword was previously specified. Processing terminates.

User response:

Remove the duplicate entry.

**GCL45058E INVALID VALUE IN KEYWORD:
keyword VALUE: value error text**

Explanation:

The value in the keyword is invalid. 'error text' indicates the problem detected with the value. Processing terminates.

User response:

Correct the value specified in the keyword.

**GCL45060E function ERROR; RETURN
CODE=nnnn REASON CODE=nnnn**

Explanation:

An error occurred using the UCBLOOK or UCBSCAN macro. Processing terminates.

User response:

A return code 4 from UCBLOOK may indicate the volser is offline. If unable to determine the cause of the error, contact IBM Software Support with the listing that contains this message.

**GCL45061E GCL01SMF ERROR; RETURN
CODE=nnnn LOC: llllll entry**

Explanation:

An error occurred using GCL01SMF to obtain SSI information for the 'entry'. llllll is the internal location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL45062E NO STORAGE GROUPS RETURNED
BY SSI**

Explanation:

The VARYOFF command was requested to determine volume serial numbers by storage group names. SSI did not return any storage groups to GCL01SMF. Processing terminates.

User response:

Check that storage groups are defined on the system. If unable to determine the cause of this message, contact IBM Software Support with the listing that contains this message.

**GCL45063E EXPLICIT STORAGE GROUP NOT
FOUND; ENTRY: entry**

Explanation:

The indicated storage group name is not defined as a storage group. Processing terminates.

User response:

Correct to specify defined storage group name.

GCL45063W NO STORAGE GROUP MATCH FOUND; ENTRY: *entry* | NO VOLUME MATCH FOUND; ENTRY: *entry*

Explanation:

The indicated 'entry' for the keyword was not matched. For STORAGE GROUP, no matches were found for the mask. For VOLUME, the indicated volser, or, the volser derived from a storage group, was not found. Processing continues.

User response:

None required.

GCL45067W NO VOLUME SERIALS FOR STORAGE GROUP: *storage group*

Explanation:

SSI did not return any volsers for the storage group to GCL01SMF. Processing continues.

User response:

None.

GCL45070E THE COPY COMMAND HAS UNBALANCED PARENTHESES

Explanation:

The copy command has unbalanced parentheses. Processing terminates.

User response:

Correct the copy command to have balanced parentheses.

GCL45071E THE COPY COMMAND HAS A KEYWORD THAT IS TOO LONG: *keyword*

Explanation:

The copy command has a keyword specified that is longer than a keyword is expected to be. Processing terminates.

User response:

Correct the copy command keyword to be valid.

GCL45072E THE COPY COMMAND IS NOT A COPY COMMAND

Explanation:

The copy command does not appear to be a copy command. Processing terminates.

User response:

Correct the copy command.

GCL45073I PROCESSING COPY COMMAND

Explanation:

The copy command is being read and parsed.

User response:

None. This message is informational.

GCL45074E COPY COMMAND HAS MUTUALLY EXCLUSIVE KEYWORDS: *keyword1 keyword2*

Explanation:

The copy command has keywords specified that are mutually exclusive. Processing terminates.

User response:

Correct the copy command to not have mutually exclusive keywords specified.

GCL45075E UNMATCHED ENTRIES IN COPY COMMAND KEYWORD: *keyword*

Explanation:

For VOLPAIRS, there must be a source volume serial, target volume serial. An uneven number of entries was specified. For VOLPAIRSDEVN, there must be a source volume serial, target volume serial, target device number. Unmatched entries were found. Processing terminates.

User response:

Correct the keyword specification.

GCL45076E NO VOLUMES SERIALS SELECTED

Explanation:

No volumes were selected for processing. Processing terminates.

User response:

Correct the copy command so volumes will be selected for processing.

GCL45077I VOLUMES SELECTED FOR VARY OFFLINE PROCESSING: *volser dddd*

Explanation:

Lists the volser and device number of the volumes selected for processing.

User response:

None. This message is informational.

GCL45078E VOLUME PAIRS ONLY ACCEPTED WITH DATA-MOVER PROGRAM NONE.

Explanation:

Keyword VOLPAIRS, VOLPAIRS-DDN, VOLPAIRSDEVN, VOLPAIRSDEVN-DDN, VOLPAIRSDEVN-NOCLIP, or VOLPAIRSDEVN-NOCLIP-DDN was used, but, the DATA-MOVER program is not 'NONE'. Processing terminates.

User response:

Correct the keyword specifications.

GCL45086I VALIDATING KEYWORD: *keyword*

Explanation:

Parsing is checking the indicated keyword indicated in the command.

User response:

None. This message is informational.

**GCL45101I hh:mm:ss VARY VOLUMES
STARTED - PROGRAM REV=*rrr*
| hh:mm:ss VARY VOLUMES
COMPLETED; RETURN CODE=*nnn***

Explanation:

VARYON command processing message.

User response:

None. This message is informational.

**GCL45106E ERROR CALLING GCL01VV1 *tttttt*
FUNCTION: *function* R15=*nnnn*
R0=*nnnnnnnnn* LOC=*lllll***

Explanation:

A problem occurred using a dataspace. *tttttt* is the name of the internal table. *lllll* is the location where the error occurred. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message and the GCLINI parmlib member that controls execution of GCL.

**GCL45107W ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=*nnnn***

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL45120I CONSOLE *name* ACQUIRED FOR
SYSPLEX VARY COMMANDS**

Explanation:

A console session has been acquired so that sysplex vary commands can be issued.

User response:

None. This message is informational.

GCL45121I CONSOLE *name* FREED

Explanation:

The operator console has been freed.

User response:

None. This message is informational.

GCL45122W UNABLE TO ACQUIRE A CONSOLE

Explanation:

IMS Cloning Tool has failed to acquire a console for performing operator commands. Processing continues without using a console to perform operator commands.

User response:

None.

**GCL45123I CONSOLE *name* ALREADY IN USE,
WILL TRY ANOTHER**

Explanation:

The displayed name is already in use, probably from another copy of GCL. IMS Cloning Tool will increment the number portion of the name and try again.

User response:

None. This message is informational.

GCL45124W MCS ALERT RECEIVED; *text*

Explanation:

An alert has been received for the console. Text describes the type of alert. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL45125I COMMAND: *text*

Explanation:

Display operator command being issued.

User response:

None. This message is informational.

**GCL45126W WAIT TIME EXCEEDED FOR
COMMAND RESPONSE**

Explanation:

A response to the operator command was not received in a timely manner. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL45127I NON RESPONSE MDBS RECEIVED:
*nnn***

Explanation:

Informational message that displays the number of received messages that were not a response to the command issued.

User response:

None. This message is informational.

**GCL45131W MCSOPER ERROR; FUNCTION=
function RC=*nnnn* RSN=*nnnn* |
MCSOPMSG ERROR; FUNCTION=
function RC=*nnnn* RSN=*nnnn***

Explanation:

An error occurred using the MCSOPER or MCSOPMSG macro. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL45142I **VOLUME SERIAL: *volser* DEVICE NUMBER: *dddd* IS PENDING OFFLINE**

Explanation:

The indicated device is now pending offline to the current system.

User response:

None. This message is informational.

GCL45144E **DEVICE NUMBER: *dddd* FOR TARGET VOLUME: *volser* DOES NOT EXIST**

Explanation:

The indicated device number is not defined to the z/OS system. Processing terminates.

User response:

Correct the device number to use a defined device.

GCL45145E **DEVICE NUMBER: *dddd* IS ONLINE WITH UNEXPECTED VOLUME SERIAL: *volser***

Explanation:

The indicated device number is online but the *volser* of the device does match what is expected. Processing terminates.

User response:

Either correct the device number to use the correct device or correct the device to have the correct contents.

GCL45136E **IEEVARYD VARY OFFLINE FAILED FOR VOLSER: *volser* DEVICE: *dddd*; INVALID PARAMETERS | IEEVARYD VARY ONLINE FAILED FOR VOLSER: *volser* DEVICE: *dddd*; INVALID PARAMETERS**

Explanation:

The parameters given to IEEVARYD are incorrect. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL45137E **IEEVARYD VARY OFFLINE FAILED FOR VOLSER: *volser* DEVICE: *dddd* RETURN CODE: *nnnnnnnn* REASON CODE: *nnnnnnnn* | IEEVARYD VARY ONLINE FAILED FOR VOLSER: *volser* DEVICE: *dddd* RETURN CODE: *nnnnnnnn* REASON CODE: *nnnnnnnn***

Explanation:

The vary for the indicated device failed. Processing terminates.

User response:

Correct the problem causing the vary to fail. If unable to correct the problem, contact IBM Software Support with the listing that contains this message.

GCL45138E **IEEVARYD VARY OFFLINE FAILED FOR VOLSER: *volser* DEVICE: *dddd* R15: *nnnnnnnn* | IEEVARYD VARY ONLINE FAILED FOR VOLSER: *volser* DEVICE: *dddd* R15: *nnnnnnnn***

Explanation:

The vary for the indicated device failed. Processing terminates.

User response:

Correct the problem causing the vary to fail. If unable to correct the problem, contact IBM Software Support with the listing that contains this message.

GCL45140I **NO VOLUMES NEEDED LOCAL VARY OFFLINE | NO VOLUMES NEEDED LOCAL VARY ONLINE**

Explanation:

No volumes needed to be varied on the local system.

User response:

None. This message is informational.

GCL45141I **VOLUME SERIAL: *volser* DEVICE NUMBER: *dddd* IS NOW OFFLINE | VOLUME SERIAL: *volser* DEVICE NUMBER: *dddd* IS NOW ONLINE**

Explanation:

The indicated device is now offline or online to the current system.

User response:

None. This message is informational.

GCL45146W **DEVICE NUMBER: *dddd* FOR VOLUME: *volser* IS STILL OFFLINE**

Explanation:

The vary online got a good return code but the device is still offline. Processing continues.

User response:

Determine why the volume went offline after it was varied online. If unable to determine the cause, contact IBM Software Support with the listing that contains this message and the system log from the time this happened.

GCL45147I **VOLUME SERIAL: *volser* DEVICE NUMBER: *dddd* WILL BE VARIED OFFLINE | VOLUME SERIAL: *volser* DEVICE NUMBER: *dddd* WILL BE VARIED ONLINE**

Explanation:

Display the vary that will be done.

User response:

None. This message is informational.

**GCL45160E ERROR DURING UCBLOOK
FOR DEVICE NUMBER dddd
VOLUME SERIAL: volser RETURN
CODE=nnnn REASON CODE=nnnn**

Explanation:

An error occurred using the UCBLOOK macro.
Processing terminates.

User response:

A return code 4 from UCBLOOK may indicate the volser is offline. If unable to determine the cause of the error, contact IBM Software Support with the listing that contains this message.

**GCL46001I hh:mm:ss VARYON STARTED -
PROGRAM REV=rrr | hh:mm:ss
VARYON COMPLETED; RETURN
CODE=nnn**

Explanation:

VARYON command processing message.

User response:

None. This message is informational.

**GCL46003I DDNAME=ddname ALLOCATED
FOR DSN=datasetname**

Explanation:

'ddname' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

GCL46004E DDNAME MISSING=ddname

Explanation:

'ddname' was specified for IMS Cloning Tool to use.
Processing terminates.

User response:

Either correct the ddname specified, or, add the appropriate ddname to the job's JCL.

**GCL46007W ERROR CALLING GCL01HEX;
FUNCTION: function R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record.
Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL46008E UNABLE TO LOAD PROGRAM:
program name**

Explanation:

The indicated program name was not found.
Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL46009E ERROR ACCESSING JOURNAL
FILE; LOC=///// | ERROR
ACCESSING VARY FILE; LOC=/////**

Explanation:

A VSAM error occurred accessing the journal or vary file. Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCL46011E JOURNAL CONTROL RECORD NOT
FOUND | JOURNAL VOLP RECORD
NOT FOUND | VARY CONTROL
RECORD NOT FOUND | VARY VOL
RECORD NOT FOUND**

Explanation:

An expected record was not found in the IMS Cloning Tool journal file or the IMS Cloning Tool vary file.
Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL46012E JOURNAL CONTROL RECORD IS
WRONG VERSION | JOURNAL
VOLP RECORD IS WRONG
VERSION | VARY CONTROL
RECORD IS WRONG VERSION |
VARY VOL RECORD IS WRONG
VERSION**

Explanation:

The journal or vary record does not match the expected format. The record is printed. Processing terminates.

User response:

Verify that different releases of IMS Cloning Tool have not been run using the same journal or vary data set. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCL46013E COUNT MISMATCH; RECORDS
READ=rrrr CONTROL RECORD
COUNT=cccc**

Explanation:

There was a problem with the journal or vary records needed to initiate the command. The number of records read from the journal or vary, rrrr, is not the

same as the number indicated in the journal or vary control record, cccc. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL46031E DEVICE NOT DEFINED; VOLSER:
volser DEVICE NUMBER: dddd

Explanation:

The device number that was specified is not defined to the z/OS system. Processing terminates.

User response:

Change the specified device number to be a defined device defined to the z/OS system.

GCL46032E VOLUME ALREADY ONLINE;
VOLSER: volser DEVICE NUMBER:
dddd

Explanation:

The device number that was specified is already online to the z/OS system. Processing terminates if VOL-ALREADY-ONLINE(QUIT) is specified.

User response:

Bring the volume offline or use VOL-ALREADY-ONLINE(CONTINUE) if the volume should already be online.

GCL46033E WRONG VOLSER FOUND; FOUND
VOLSER: volser EXPECTED
VOLSER: volser DEVICE NUMBER:
dddd

Explanation:

The wrong volser was found on device devn. Processing terminates.

User response:

Correct the volume and device number specifications to match the current volser on the device.

GCL46034E DEVICE NUMBER IS NOT KNOWN;
VOLSER: volser

Explanation:

The volume is not online and a device number has not been specified for the volume. The device number is needed to vary the volume online. Processing terminates.

User response:

Either bring the volume online or specify the device number of the volume if possible.

GCL46048I OPTIONS IN EFFECT FOR THIS
EXECUTION: merged options

Explanation:

Informational message indicating how VARYON will handle the options. The displayed options are derived

from the INI and any overriding specifications in the command input.

User response:

None. This message is informational.

GCL46050E ERROR IN PARAMETERS FOR
keyword

Explanation:

The parameters for the indicated keyword were incorrect. Processing terminates.

User response:

Check the keyword parameters. Mutually exclusive keywords may have been used.

GCL46051E REQUIRED KEYWORD MISSING:
keyword

Explanation:

A keyword required for processing has been omitted. Processing terminates.

User response:

Specify the required keyword.

GCL46053E KEYWORD: keyword MAXIMUM
LENGTH: nnn EXCEEDED

Explanation:

The operand entered for a keyword exceeded the maximum length allowed for the operand. nnn is the maximum allowed length for the keyword. Processing terminates.

User response:

Correct the length of the keyword's operand.

GCL46054E KEYWORD HAS MORE THAN 1
OPERAND; ONLY 1 ALLOWED:
keyword

Explanation:

Multiple operands were detected for a keyword; only one operand is permitted. Processing terminates.

User response:

Correct the keyword to use one operand.

GCL46056E NOTHING SPECIFIED FOR
KEYWORD: keyword

Explanation:

A keyword was entered without an appropriate operand. Processing terminates.

User response:

Specify an appropriate operand for the keyword.

GCL46058E INVALID VALUE IN KEYWORD:
keyword VALUE: value error text

Explanation:

The value in the keyword is invalid. 'error text' indicates the problem detected with the value. Processing terminates.

User response:

Correct the value specified in the keyword.

GCL46060E **function ERROR; RETURN
CODE=nnnn REASON CODE=nnnn**

Explanation:

An error occurred using the UCBLLOOK macro.
Processing terminates.

User response:

A return code 4 from UCBLLOOK may indicate the volser is offline. If unable to determine the cause of the error, contact IBM Software Support with the listing that contains this message.

GCL46077I **VOLUMES SELECTED FOR VARY
ONLINE PROCESSING: volser dddd**

Explanation:

Lists the volser and device number of the volumes selected for processing.

User response:

None. This message is informational.

GCL46086I **VALIDATING KEYWORD: keyword**

Explanation:

Parsing is checking the indicated keyword indicated in the command.

User response:

None. This message is informational.

GCL48001I **hh:mm:ss JRNLUPGRADE
STARTED - PROGRAM REV=rrr
| hh:mm:ss JRNLUPGRADE
COMPLETED; RETURN CODE=nnn**

Explanation:

JRNLUPGRADE command processing message.

User response:

None. This message is informational.

GCL48003I **DDNAME=ddname ALLOCATED
FOR DSN=datasetname**

Explanation:

'ddname' has been dynamically allocated for the indicated data set.

User response:

None. This message is informational.

GCL48004E **DDNAME MISSING=ddname**

Explanation:

'ddname' was specified for IMS Cloning Tool to use.
Processing terminates.

User response:

Either correct the ddname specified, or, add the appropriate ddname to the job's JCL.

GCL48005E **ALLOCATION FAILED FOR DSN:
datasetname**

Explanation:

Dynamic allocation for a data set failed. The associated z/OS messages are displayed. If an allocation failure occurs, processing terminates.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

GCL48005W **DEALLOCATION FAILED FOR DDN:
ddname**

Explanation:

Dynamic deallocation for a ddname failed. The associated z/OS messages are displayed. If a deallocation failure occurs, processing continues.

User response:

If unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support with the listing that contains these messages.

GCL48007W **ERROR CALLING GCL01HEX;
FUNCTION: function R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record.
Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

GCL48009E **ERROR ACCESSING JOURNAL
FILE; DDN=ddname LOC=lllll**

Explanation:

A VSAM error occurred accessing a journal file.
Processing terminates.

User response:

See associated GCLVSEnnE error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL48010E **DUPLICATE JOURNAL ENTRY;
DDN=ddname LOC=lllll**

Explanation:

A duplicate record was detected in the NEW journal file. Processing terminates.

User response:

Verify the referenced NEW journal file was empty when the JRNLUPGRADE command started processing. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL48020E **UNKNOWN JOURNAL RECORD
TYPE: type**

Explanation:

The OLD journal contains an unknown record type. The record is printed. Processing terminates.

User response:

Verify the current version of the JRNLUPEGRADE command is being used. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL48021E UNKNOWN JOURNAL RECORD VERSION

Explanation:

The OLD journal contains an unknown version of a record. The record is printed. Processing terminates.

User response:

Verify the current version of the JRNLUPEGRADE command is being used. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCL48031I nnn TOTAL RECORDS READ

Explanation:

Shows the total number of records read from the OLD journal.

User response:

None. This message is informational.

GCL48032I nnn TOTAL RECORDS WRITTEN

Explanation:

Shows the total number of records written to the NEW journal.

User response:

None. This message is informational.

GCL48033I nnn type RECORDS UPGRADED

Explanation:

Shows the total number of records of the displayed type that have been upgraded to the current level.

User response:

None. This message is informational.

GCL48034I nnn type RECORDS ALREADY AT CURRENT LEVEL

Explanation:

Shows the total number of records of the displayed type that did not need to be upgraded because they were already at the current level.

User response:

None. This message is informational.

GCL48051E REQUIRED KEYWORD MISSING: keyword

Explanation:

A keyword required for processing has been omitted. Processing terminates.

User response:

Specify the required keyword.

GCL48053E KEYWORD: keyword MAXIMUM LENGTH: nnn EXCEEDED

Explanation:

The operand entered for a keyword exceeded the maximum length allowed for the operand. nnn is the maximum allowed length for the keyword. Processing terminates.

User response:

Correct the length of the keyword's operand.

GCL48054E KEYWORD HAS MORE THAN 1 OPERAND; ONLY 1 ALLOWED: keyword

Explanation:

Multiple operands were detected for a keyword; only one operand is permitted. Processing terminates.

User response:

Correct the keyword to use one operand.

GCL48056E NOTHING SPECIFIED FOR KEYWORD: keyword

Explanation:

A keyword was entered without an appropriate operand. Processing terminates.

User response:

Specify an appropriate operand for the keyword.

GCL48058E INVALID VALUE IN KEYWORD: keyword VALUE: value error text

Explanation:

The value in the keyword is invalid. 'error text' indicates the problem detected with the value. Processing terminates.

User response:

Correct the value specified in the keyword.

GCL90101E RENAME MASK IS INVALID: new name mask

Explanation:

New name mask is invalid.

User response:

Correct the error in the RENAME-MASKS keyword.

GCL90102E NEW NAME GREATER THAN 44 BYTES: new datasetname

Explanation:

New name masks resulted in new data set name that was greater than 44 characters.

User response:

Correct the error in the RENAME-MASKS keyword.

GCL90103E NEW NAME IS INVALID: *new datasetname*

Explanation:

New name masks resulted in new data set name that was invalid.

User response:

Correct the error in the RENAME-MASKS keyword.

**GCL90201W SMS CLASSES NOT RETURNED
BY ACS ROUTINES:
RC=yyyyyyyy REASON=zzzzzzzz
DSN=datasetname**

Explanation:

Attempt to derive the new SMS classes for a data set failed.

User response:

Check job log and GCLPRINT for any additional messages. If unable to determine the reason for failure, contact IBM Software Support with the listing that contains this message.

**GCL90207W ERROR CALLING GCL01HEX;
FUNCTION: *function* R15=nnnn**

Explanation:

An error occurred using GCL01HEX to print a record. Processing continues.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCL90410E UNEXPECTED RETURN CODE
FROM RACROUTE**

Explanation:

A RACROUTE macro call got an unexpected return code. Processing terminates.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLACB02E LOAD LIBRARY *request* FAILED,
DD=*ddname*, RC=nnnn**

Explanation:

A request to OPEN or CLOSE a library failed. Processing terminates.

User response:

Review the job log for other messages indicating why the OPEN or CLOSE failed. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCLACB03E DESERV *request* FAILED,
DD=*ddname*, RC=*return code***

Explanation:

The request to read the PDS or PDSE directory for the specified *ddname* failed,

User response:

Review the joblog for other messages indicating why the DESERV failed. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCLACH22E UNABLE TO COMMUNICATE WITH
IMS SSID = *ssid***

Explanation:

Connection with target IMS *ssid* failed when trying to apply updates to the target database.

User response:

Make sure that the target IMS has been started correctly, specify an appropriate operand for the IMSPLEX keyword in the GCLIN DD statement, and rerun the job. If you cannot resolve the problem, contact IBM Software Support with the listing that contains this message.

GCLDBU32I *nnn* OPEN UORs FOR DB *dbdname*

Explanation:

Informational message indicating the current number of in-flight units of recovery for the database. The messages will be issued if MONITOR is in effect for LOG-APPLY processing.

User response:

None. This message is informational.

**GCLDCU04E ALLOCATION FAILED FOR
DSNAME: *dsname***

Explanation:

A problem occurred when attempting to allocate a data set. Processing terminates.

User response:

Review the job log for other messages indicating why the allocation failed.

**GCLDCU05E *requesttype* FAILED FOR DDNAME:
*ddname***

Explanation:

A problem occurred when attempting a dynamic allocation request for the specified DD. If the message is a warning, processing continues, else processing will terminate.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLDCU05W *requesttype* FAILED FOR DDNAME:
*ddname***

Explanation:

A problem occurred when attempting a dynamic allocation request for the specified DD. If the message

is a warning, processing continues, else processing will terminate.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLDCU06E DBRC FAILED, RC=xxxx

Explanation:

The DBRC utility returned a non-zero return code. Processing terminates.

User response:

Review the SYSPRINT output to determine the reason for the DBRC failure. If the SYSPRINT output is not available, the job can be rerun with a SYSPRINT DD specified in the JCL. If the problem cannot be corrected by the user, contact IBM Software Support with the listing that contains this message.

GCLDCU09E ERROR ACCESSING *ddname* FILE; LOC=/////

Explanation:

An error occurred accessing the specified file. Processing terminates.

User response:

View joblog for other messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCLDNF62E UNABLE TO LOCATE *dbdname* IN ACBLIB

Explanation:

An error was encountered when attempting to locate a member from an ACBLIB data set. Processing terminates.

User response:

Verify the correct ACBLIB data set(s) was specified in the job. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCLDNF63E UNABLE TO LOCATE *member* MEMBER IN ACBLIB

Explanation:

An error was encountered when attempting to locate a member from the ACBLIB data set. Processing terminates.

User response:

Verify the correct ACBLIB data set(s) was specified in the job and that the proper DBD name was specified. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCLDNF66E UNABLE TO READ ACBLIB MEMBER: *dbdname*

Explanation:

An error was encountered when attempting to read a member from an ACBLIB data set. Processing terminates.

User response:

Verify the correct ACBLIB data set(s) was specified in the job. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCLDNF67E UNABLE TO FIND DATA SET NAME FOR DBD: *dbdname* DDNAME: *ddname*

Explanation:

An error was encountered when attempting to read a member from an MDA data set. Processing terminates.

User response:

Verify the correct MDA data set(s) was specified in the job. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCLDNF68E UNABLE TO GET DBRC INFORMATION FOR DBD: *dbdname*

Explanation:

An error was encountered when attempting to obtain DB info for the specified *dbdname*. Processing terminates.

User response:

Verify the correct ACB, MDA, & RECON data set(s) were specified in the job. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCLDNF76E UNABLE TO GET DBRC INFORMATION FOR DBD: *dbdname* AREA: *areaname* | UNABLE TO GET DBRC INFORMATION FOR DBD: *dbdname* PART: *partname*

Explanation:

An error was encountered when attempting to obtain DBRC info for the specified area or partition. Processing terminates.

User response:

Verify the correct ACB & RECON data set(s) were specified in the job and that the area is defined. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCLDNF77E UNABLE TO GET DBRC PARTITION INFORMATION FOR DBD: *dbdname*

Explanation:

An error was encountered when attempting to obtain DBRC partition info for the specified dbdname. Processing terminates.

User response:

Verify the correct ACB & RECON data set(s) were specified in the job and that the area is defined. Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCLDSS01W DFSMSdss COPY COMPLETED;
RETURN CODE=nnnn**

Explanation:

An invocation of DFSMSdss COPY function completed with a non-zero return code.

User response:

Review the SYSPRINT output for additional messages from DFSMSdss indicating the cause of the return code.

**GCLDSS04E ALLOCATION FAILED FOR
DSNAME: dsname**

Explanation:

A problem occurred when attempting to allocate a data set. Processing terminates.

User response:

Review the job log for other messages indicating why the allocation failed.

**GCLDSS05E requesttype FAILED FOR DDNAME:
ddname**

Explanation:

A problem occurred when attempting a dynamic allocation request for the specified DD. Processing will terminate.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLDSS05W requesttype FAILED FOR DDNAME:
ddname**

Explanation:

A problem occurred when attempting a dynamic allocation request for the specified DD. Processing will continue.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLDSS06E DS COPY FAILED, RC=xxxx

Explanation:

The DFSMSdss utility returned a non-zero return code. Processing terminates.

User response:

Review the SYSPRINT output to determine the reason for the DFSMSdss failure. If the SYSPRINT output is not available, the job can be rerun with a DSSPRINT DD specified in the JCL. If the problem cannot be corrected by the user, contact IBM Software Support with the listing that contains this message.

**GCLDSS09E ERROR ACCESSING ddname FILE;
LOC=/////**

Explanation:

An error occurred accessing the specified file. Processing terminates.

User response:

View joblog for other messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCLDSS47E DFSMSDSS APAR OA49854 NOT
APPLIED**

Explanation

FUZZY-COPY(Y) has been specified and APAR OA49854 has not been applied. Because the APAR is not applied, the source data sets will be enqueued during the copy process which may impact other jobs trying to access the data set while it is being copied.

User response

Apply APAR OA49854 to DFSMSdss.

**GCLDYN01I SYNTAX ERROR IN VALUE
OF XXXXXX -n |: ILLEGAL
CHARACTER IN INPUT TEXT
|: GCL01PSN NOT AVAILABLE
|: IEFDB476 NOT AVAILABLE
|: UNKNOWN REQUEST TYPE
|: FUNCTION COMPLETE. RC=0
|: DSN FAILED RACF TEST |:
NOT ENOUGH TEXT UNITS - |:
CRITICAL KEYWORD MISSING:
xxxxx | SVC 99 (F) FAILURE. R15:
xx ERROR: xxxx INFO: xxxx**

Explanation:

Indicates GCL01DYN failed during a dynamic allocation function.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLEIT07E ALLOCATION FAILED FOR
MEMBER: membername IN
DSN:dsname**

Explanation:

A problem occurred when attempting to allocate a member of a PDS. Processing terminates.

User response:

Review the job log for other messages indicating why the allocation failed.

GCLERR08E OPEN FAILED FOR DSN: *dsname*

Explanation:

A problem occurred when attempting to OPEN a member of a PDS. Processing terminates.

User response:

Review the job log for other messages indicating why the allocation failed.

**GCLERR00I OBJECT ACCESS FAILURE,
DDNAME: *ddn***

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

**GCLERR01I VVDS ACCESS FAILURE, DDNAME:
*ddn***

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

GCLERR02I DSN: *usercat name*

Explanation:

User Catalog cannot be accessed.

User response:

Follow the Programmer Response for message IEC161I found in JESYSMSGs or eliminate the usercat from the selection list.

GCLERR03I NO DD ALLOCATION FOUND

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM

Software Support with the listing that contains these messages.

**GCLERR04I FAILING module FUNCTION:
##, *description***

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

**GCLERR05I PREVIOUS module FUNCTION:
##, *description***

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

GCLERR06I PROGRAM CSECT: *csect*

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

GCLERR08I statement ERROR ID: *listingID#*

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

GCLERR09I statement ASM LISTING LINE #: *line#*

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

GCLERR10I R15 = ##, description

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

**GCLERR12I module ASM LISTING LINE #: line
DESCRIPT**

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

GCLERR14I PROCESSOR R15: r15

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

**GCLERR15I THIS IS THE DECIMAL VALUE
OF THE FAILURE REASON CODE.
USUALLY THIS IS FOLLOWED
BY MESSAGE GCLERR20I
CONTAINING TEXT EXPLANATION
OF THE REASON CODE. IF
A TEXT EXPLANATION IS
NOT AVAILABLE, GCLERR18I IS**

**ISSUED, "NO DESCRIPTION FOR
REASON CODE".**

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

If message GCLERR18I follows GCLERR15I and the error is determined by OPEN, CLOSE or VSAM (as indicated by message GCLERR19I), additional information about the reason code can be obtained by consulting the "VSAM macro return and reason codes" section in the *z/OS DFSMS Macro Instructions for Data Sets* manual. There are sub-sections for "OPEN", "CLOSE" and "Record Management" respectively.

GCLERR16I SVC99 ERROR CODE:

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

GCLERR17I SVC99 INFORMATION CODE

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

**GCLERR18I NO DESCRIPTION FOR REASON
CODE**

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

GCLERR19I ERROR DETERMINED BY

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

GCLERR20I *description*

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

GCLERR21I **** IMPLICIT OPEN**

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

GCLERR22I **** IMPLICIT CLOSE**

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

GCLERR23I **** IMPLICIT REPOSITION**

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM

Software Support with the listing that contains these messages.

GCLERR24I **OPEN CLASSIFICATION:**

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

GCLERR25I **CALLING PARM LRECL:**

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

GCLERR26I **CALLING PARM KEYLEN:**

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

GCLERR27I **LRECL:**

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

GCLERR28I **CI RBA REQUESTED:**

Explanation:

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

GCLERR29I VVR/NVR KEY REQUESTED:**Explanation:**

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

GCLERR30I RECORD TYPE REQUESTED:**Explanation:**

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

GCLERR31I VVR KEYRANGE QUALIFIER REQUESTED:**Explanation:**

These messages are issued when the Catalog Fast Reader, Catalog Keyed Updater, or VVDS Handler encounter an error.

User response:

Depends on other messages. Generally, these messages are designed to be self explanatory, and are used by staff for extended debugging. Contact IBM Software Support with the listing that contains these messages.

**GCLESD30I Target DB DSN: *data set name*
CALLS|CLOSED****Explanation:**

Informational message indicating the data set that the subsequent statistical messages apply to. 'calls' is indicated if the statistical messages are from LOG-APPLY monitoring, and indicates the statistics are for the preceding interval only. 'closed' is indicated if the log apply processing has completed, and indicates that the statistics are for the entire log apply processing time.

User response:

None. This message is informational.

**GCLESD31I *nnnn* ADDS, *nnnn* READS, *nnnn*
UPDATES, *nnnn* DELETES****Explanation:**

Informational message indicating the number of adds, reads, updates or deletes that were done to the data set specified in the preceding message.

User response:

None. This message is informational.

**GCLFLG06E *xcfrequest* FAILED, RC=*return code*
RSN=*reason code*****Explanation:**

A problem occurred when attempting an XCF service. Processing terminates.

User response:

Review the return and reason code for the XCF service that failed in the *MVS Programming Sysplex Service Reference Guide*. If the return and reason code do not indicate an environmental error, contact IBM Software Support with the listing that contains this message.

**GCLFLG14I SUSPEND REQUEST RECEIVED
FROM *jobname*****Explanation:**

Informational message indicating that the IMS subsystem or DLI batch job received a request to suspend update activity. The request came from the jobname indicated.

User response:

None. This message is informational.

**GCLFLG10I LOGEXIT INITIALIZATION
COMPLETED****Explanation:**

Informational message indicating that IMS Cloning Tool has been enabled in the IMS system of batch job.

User response:

None. This message is informational.

GCLFLG11E LOGEXIT FAILED, REASON=*reason***Explanation:**

IMS Cloning Tool was unable to establish itself in the IMS system or batch job.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLFLG15I *ssid* SUSPENDED BY *jobname***Explanation:**

Informational message indicating that an active IMS system or job has suspended activity as requested to by the specified job.

User response:

None. This message is informational.

GCLFLG16I ssid RESUMED

Explanation:

Informational message indicating that an active IMS system has resumed activity.

User response:

None. This message is informational.

**GCLFLG97I JOINED|LEFT XCF GROUP
groupname AS MEMBER
membername**

Explanation:

Informational message indicating that the job or STC successfully joined or left the XCF group.

User response:

None. This message is informational.

**GCLICD96E csl request FAILED, RC=nnnn,
RSN=nnnn**

Explanation:

A CSL request to the IMS SCI failed.

User response:

Verify that the SCI address space is active. Review the joblog for other messages indicating why the CSL request failed. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCLINP00I GCL01INP STARTING
(REV=nn,PMR=xxxxxx,FIXDATE=xx
xxxxx'**

Explanation:

Message shows current version of the module.

User response:

None. This message is informational.

**GCLINP01E ERROR PARSING PARMLIB INI#
MEMBER ON LINE n | ERROR
PARSING PARMLIB INI MEMBER
ON LINE n**

Explanation:

An error was found in when parsing an INI member.

User response:

Look for subsequent messages repair the PARMLIB(xxxINI) or PARMLIB(xxxINI#) member as indicated.

**GCLINP02E UNMATCHED */ | CONTINUED
STATEMENT AT END OF FILE**

Explanation:

An end-comment (*/) was found for which there was no begin-comment (/*).

User response:

Remove the end-comment or insert a begin-comment in the appropriate location.

GCLINP05E TOKEN NAME LONGER THAN 72

Explanation:

A Token name longer than 72 bytes was found on the specified line.

User response:

Reduce the length of the token to 72 or less.

GCLINP06E EXPECTED = after token name

Explanation:

An equal sign (=) was not found after the Token name.

User response:

Insert an equal sign (=) between the Token and its value.

GCLINP07E EXPECTED = after token name

Explanation:

An equal sign (=) was not found after the Token name.

User response:

Insert an equal sign (=) between the Token and its value.

**GCLINP08E FOUND NON-NOTES TOKEN
BEFORE 1ST SECTION NAME**

Explanation:

A Token was found before any Section was specified. Only the "Notes" Token is allowed before a section name. Reminder, Notes is provided for the customer and no product code can access the Notes value.

User response:

Ensure that the first non-comment line and non-Notes token is a Section name

**GCLINP09E DUPLICATE SECTION/TOKEN
FOUND |SECTION |TOKEN**

Explanation:

A token cannot be defined twice for the same section.

User response:

Remove the redundant token and retry.

**GCLINP10E FILE FUNCTION FAIL, RC =
nnnnnnnnn**

Explanation:

An unrecoverable error occurred during processing.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLINP11E OPEN FAILURE, DD DDNAME | DD
INI OPEN FAILURE | DD SYSPRINT
OPEN FAILURE | DD UPDATE OPEN
FAILURE | DD TRACEDD OPEN
FAILURE**

Explanation:

An unrecoverable error occurred during processing.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLINP12E EXPECTED PARM VALUE OR RECORD, FOUND *function*

Explanation:

An unrecoverable error occurred during processing.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLINP14E ERROR PARSING MSCINI

Explanation:

MSCINI. INIMERGE failed to parse the MSCINI input because it could not find the INIMERGE_SECTION values.

User response:

Use the INI# member distributed by IBM Software Support and retry. If you need help with this, contact IBM Software Support with the listing that contains this message.

GCLINP15W COLUMNS 73-80 NOT BLANK ON LINE

Explanation:

INI parser detected characters in columns 73-80. Technical Support has found that many INI errors occur because the person editing the INI doesn't see text in columns 73-80.

User response:

Edit the PARMLIB INI member so that columns 73-80 are blank.

GCLINP21E SYSPLEX NAME MORE THAN 8 CHARACTERS

Explanation:

The sysplex value on an INI section statement is invalid because it is too long.

User response:

Repair the section name and retry.

GCLINP22E SYSTEM NAME MORE THAN 8 CHARACTERS

Explanation:

The system value on an INI section statement is invalid because it is too long.

User response:

Repair the section name and retry.

GCLINP31E SECTION NAME LONGER THAN 72

Explanation:

The section name is limited in size.

User response:

Repair the section name and retry.

GCLINP31E SECTION NAME LONGER THAN 72

Explanation:

The section name is limited in size.

User response:

Repair the section name and retry.

GCLINP32E INVALID SECTION NAME

Explanation:

The section name can have alphanumeric characters in addition to a period, dash, underscore or slash.

User response:

Repair the section name and retry.

GCLINP33E PERIOD(".") FOUND IN INI# SECTION

Explanation:

A period character in the section name is valid in a customer INI for denoting sysplex and system names but is not valid in the distributed INI#.

User response:

Repair the section name and retry.

GCLINP34E QUALIFIED INIMERGE_VALUES IN INI | QUALIFIED PRODUCT_INFO IN INI

Explanation:

These sections cannot be qualified by sysplex and/or system name.

User response:

Repair the section name and retry.

GCLINP35E TWO INIMERGE_VALUES SECTIONS FOUND

Explanation:

The INIMERGE_VALUES may only appear once in the INI.

User response:

Repair the section name and retry.

GCLINP36E QUALIFIED SECTION AFTER GENERIC

Explanation:

A section was found with sysplex and/or system qualifications but it follows the same section without such qualification. This section can never be accessed and is invalid.

User response:

Repair the section name and retry.

GCLINP37E DUPLICATE QUALIFIED SECTION | DUPLICATE UNQUALIFIED SECTION FOUND

Explanation

Two section names match exactly, then are either

1. both unqualified
2. both specify the same Sysplex and system names.

Section names must be unique.

User response:

Repair the section name and retry.

GCLINP38E	TRAILING PERIOD ON SECTION STATEMENT
------------------	---

Explanation

A section statement has one of the following formats:

- :sectionname.sysplexname.systemname
- :sectionname.sysplexname
- :sectionname..systemname

User response:

Repair the section name and retry.

GCLINP39E	INI# COLUMNS 73-80 ARE NOT BLANK, LINE <i>nnnn</i>
------------------	---

Explanation:

Historically, placing text in columns 73-80 makes debugging errors in the INI difficult.

User response:

Repair the section name and retry.

GCLINP39W	INI COLUMNS 73-80 ARE NOT BLANK, LINE <i>nnnn</i>
------------------	--

Explanation:

Historically, placing text in columns 73-80 makes debugging errors in the INI difficult.

User response:

Repair the section name and retry.

GCLINP40E	RIGHT OF INI#'S SECTION NOT BLANK
------------------	--

Explanation:

INI#'s section statement must be all blanks after section name to facilitate customers entering sysplex/system names.

User response:

Repair the section name and retry.

GCLINP41I	NOTHING COPIED
------------------	-----------------------

Explanation:

The customer INI had no special sections to copy

User response:

None. This message is informational.

GCLINP42I	NOTHING DELETE
------------------	-----------------------

Explanation:

No INI parameters were deleted

User response:

None. This message is informational.

GCLINP50I	INPUT: <i>input line</i>
------------------	---------------------------------

Explanation:

A previously noted error occurred on the line shown.

User response:

See prior error message.

GCLINP51E	TOKEN NON-NOTES BEFORE 1ST SECTION
------------------	---

Explanation:

NOTES is the only token allowed before the first section statement.

User response:

Repair the INI and resubmit.

GCLINP52E	TOKEN NOTES FOUND IN INI#
------------------	----------------------------------

Explanation:

NOTES is only allowed in the customer INI.

User response:

Repair the INI and resubmit.

GCLINP53E	ERROR PARSING MSCINI (INI#), SEE JOB LOG ERROR PARSING THE CUSTOMER INI, SEE JOB LOG
------------------	---

Explanation:

INIMERGE used the INI parser to validate the INI but the INI parser was unsuccessful.

User response:

For INI#, contact IBM Software Support with the listing that contains this message.

User response:

For the customer INI, repair the INI based on the messages in the JOB log and resubmit.

GCLINP71E	SECTION IN INI# BUT NOT INI: <i>section-name</i>
------------------	---

Explanation:

When attempting to merge maintenance from a SGCLPARM GCLINI# member, a section was found on GCLINI# that was not in the user-supplied GCLINI member.

User response:

View the GCLINI# member to locate the section that was not found. Edit the GCLINI member adding the missing section. Rerun the merge process.

GCLINP72I	ALL INI# SECTIONS FOUND IN INI
------------------	---------------------------------------

Explanation:

All of the INI# sections were found in the INI.

User response:

None. This message is informational.

GCLINP73E ERROR IN SYSPARM

Explanation

GCL01INV SYSPARM is incorrect. Valid forms are:

```
SYSPARM=      for current SYSPLEX and SYS name
SYSPARM=' '   for current SYSPLEX and SYS name
SYSPARM=', '   for current SYSPLEX and SYS name
SYSPARM='plexname,sysname'
```

User response:

Correct the SYSPARM on your execute statement and resubmit.

**GCLINS01E GCL01VV1 END FAILURE, RC =
 nnnnnnnn**

Explanation:

An unrecoverable error occurred during processing.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLINS02E PASSED SECTION LENGTH
 INVALID length**

Explanation:

An unrecoverable error occurred during processing.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLINS03E PASSED TOKEN LENGTH INVALID
 length**

Explanation:

An unrecoverable error occurred during processing.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLINS04E INIGET 3RD PARM, NO VL BIT

Explanation:

An unrecoverable error occurred during processing.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLINS05E INI TOKEN REC SHORTER THAN
 KEY SECTION/TOKEN section/
 token**

Explanation:

An unrecoverable error occurred during processing.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLINS06E TOKEN VALUE LONGER THAN
 RECEIVING PARM SECTION/
 TOKEN token TOKEN VALUE value**

Explanation:

An unrecoverable error occurred during processing.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLINS07E BAD REG 2 PTR TO VECTOR TABLE

Explanation:

An unrecoverable error occurred during processing.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLINV00I GCL01INV STARTING
 (REV=nn,PMR=xxxxxxx,FIXDATE=x
 xxxxxxxx**

Explanation:

Message shows current version of the module.

User response:

None. This message is informational.

**GCLINV01E ERROR PARSING PARMLIB INI#
 MEMBER ON LINE n | ERROR
 PARSING PARMLIB INI MEMBER
 ON LINE n**

Explanation:

An error was found in when parsing an INI member.

User response:

Look for subsequent messages repair the PARMLIB(xxxINI) or PARMLIB(xxxINI#) member as indicated.

**GCLINV02E UNMATCHED */ |CONTINUED
 STATEMENT AT END OF FILE**

Explanation:

An end-comment (*/) was found for which there was no begin-comment (/*).

User response:

Remove the end-comment or insert a begin-comment in the appropriate location.

GCLINV05E TOKEN NAME LONGER THAN 72

Explanation:

A Token name longer than 72 bytes was found on the specified line.

User response:

Reduce the length of the token to 72 or less.

GCLINV06E EXPECTED = AFTER TOKEN NAME

Explanation:

An equal sign (=) was not found after the Token name.

User response:

Insert an equal sign (=) between the Token and its value.

GCLINV07E EXPECTED = AFTER TOKEN NAME**Explanation:**

An equal sign (=) was not found after the Token name.

User response:

Insert an equal sign (=) between the Token and its value.

GCLINV08E FOUND NON-NOTES TOKEN BEFORE 1ST SECTION NAME**Explanation:**

A Token was found before any Section was specified. Only the "Notes" Token is allowed before a section name. Reminder, Notes is provided for the customer and no product code can access the Notes value.

User response:

Ensure that the first non-comment line and non-Notes token is a Section name

GCLINV09E DUPLICATE SECTION/TOKEN FOUND | SECTION | TOKEN**Explanation:**

A token cannot be defined twice for the same section.

User response:

Remove the redundant token and retry.

GCLINV10E FILE FUNCTION FAIL, RC = nnnnnnnnn**Explanation:**

An unrecoverable error occurred during processing.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLINV11E OPEN FAILURE, DD DDNAME | DD INI OPEN FAILURE | DD SYSPRINT OPEN FAILURE | DD UPDATE OPEN FAILURE | DD TRACEDD OPEN FAILURE**Explanation:**

An unrecoverable error occurred during processing.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLINV12E EXPECTED PARM VALUE OR RECORD, FOUND *function***Explanation:**

An unrecoverable error occurred during processing.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLINV14E ERROR PARSING MSCINI**Explanation:**

MSCINI INIMERGE failed to parse the MSCINI input because it could not find the INIMERGE_SECTION values.

User response:

Use the INI# member distributed by IBM Software Support and retry. If you need help with this, contact IBM Software Support with the listing that contains this message.

GCLINV15W COLUMNS 73-80 NOT BLANK ON LINE**Explanation:**

INI parser detected characters in columns 73-80. Technical Support has found that many INI errors occur because the person editing the INI doesn't see text in columns 73-80.

User response:

Edit the PARMLIB INI member so that columns 73-80 are blank.

GCLINV21E SYSPLEX NAME MORE THAN 8 CHARACTERS**Explanation:**

The sysplex value on an INI section statement is invalid because it is too long.

User response:

Repair the section name and retry.

GCLINV22E SYSTEM NAME MORE THAN 8 CHARACTERS**Explanation:**

The system value on an INI section statement is invalid because it is too long.

User response:

Repair the section name and retry.

GCLINV31E SECTION NAME LONGER THAN 72**Explanation:**

The section name is limited in size.

User response:

Repair the section name and retry.

GCLINV32E INVALID SECTION NAME**Explanation:**

The section name can have alphanumeric characters in addition to a period, dash, underscore or slash.

User response:

Repair the section name and retry.

GCLINV33E PERIOD(".") FOUND IN INI# SECTION**Explanation:**

A period character in the section name is valid in a customer INI for denoting sysplex and system names but is not valid in the distributed INI#.

User response:

Repair the section name and retry.

GCLINV34E	QUALIFIED INIMERGE_VALUES IN INI QUALIFIED PRODUCT_INFO IN INI
------------------	---

Explanation:

These sections cannot be qualified by sysplex and/or system name.

User response:

Repair the section name and retry.

GCLINV35E	TWO INIMERGE_VALUES SECTIONS FOUND
------------------	---

Explanation:

The INIMERGE_VALUES may only appear once in the INI.

User response:

Repair the section name and retry.

GCLINV36E	QUALIFIED SECTION AFTER GENERIC
------------------	--

Explanation:

A section was found with sysplex and/or system qualifications but it follows the same section without such qualification. This section can never be accessed and is invalid.

User response:

Repair the section name and retry.

GCLINV37E	DUPLICATE QUALIFIED SECTION DUPLICATE UNQUALIFIED SECTION FOUND
------------------	--

Explanation

Two section names match exactly, then are either

1. both unqualified
2. both specify the same Sysplex and system names.

Section names must be unique.

User response:

Repair the section name and retry.

GCLINV38E	TRAILING PERIOD ON SECTION STATEMENT
------------------	---

Explanation

A section statement has one of the following formats:

```
:sectionname.sysplexname.systemname
:sectionname.sysplexname
:sectionname..systemname
```

User response:

Repair the section name and retry.

GCLINV39E	INI# COLUMNS 73-80 ARE NOT BLANK, LINE nnnn
------------------	--

Explanation:

Historically, placing text in columns 73-80 makes debugging errors in the INI difficult.

User response:

Repair the section name and retry.

GCLINV39W	INI COLUMNS 73-80 ARE NOT BLANK, LINE nnnn
------------------	---

Explanation:

Historically, placing text in columns 73-80 makes debugging errors in the INI difficult.

User response:

Repair the section name and retry.

GCLINV40E	RIGHT OF INI#'s SECTION NOT BLANK
------------------	--

Explanation:

INI#'s section statement must be all blanks after section name to facilitate customers entering sysplex/ system names.

User response:

Repair the section name and retry.

GCLINV41I	NOTHING COPIED
------------------	-----------------------

Explanation:

The customer INI had no special sections to copy

User response:

None. This message is informational.

GCLINV42I	NOTHING DELETE
------------------	-----------------------

Explanation:

No INI parameters were deleted

User response:

None. This message is informational.

GCLINV50I	INPUT: input line
------------------	--------------------------

Explanation:

A previously noted error occurred on the line shown.

User response:

See prior error message.

GCLINV51E	TOKEN NON-NOTES BEFORE 1ST SECTION
------------------	---

Explanation:

NOTES is the only token allowed before the first section statement.

User response:

Repair the INI and resubmit.

GCLINV52E	TOKEN NOTES FOUND IN INI#
------------------	----------------------------------

Explanation:

NOTES is only allowed in the customer INI.

User response:

Repair the INI and resubmit.

**GCLINV53E ERROR PARSING MSCINI (INI#),
SEE JOB LOG | ERROR PARSING
THE CUSTOMER INI, SEE JOB LOG**

Explanation:

INIMERGE used the INI parser to validate the INI but the INI parser was unsuccessful.

User response:

For INI#, contact IBM Software Support with the listing that contains this message.

User response:

For the customer INI, repair the INI based on the messages in the JOB log and resubmit.

**GCLINV71E SECTION IN INI# BUT NOT INI:
section-name**

Explanation:

When attempting to merge maintenance from a SGCLPARM GCLINI# member, a section was found on GCLINI# that was not in the user-supplied GCLINI member.

User response:

View the GCLINI# member to locate the section that was not found. Edit the GCLINI member adding the missing section. Rerun the merge process.

GCLINV72I All INI# SECTIONS FOUND IN INI

Explanation:

All of the INI# sections were found in the INI.

User response:

None. This message is informational.

GCLINV73E ERROR IN SYSPARM

Explanation

GCL01INV SYSPARM is incorrect. Valid forms are:

```
SYSPARM=      for current SYSplex and SYS name
SYSPARM=' '   for current SYSplex and SYS name
SYSPARM=', '  for current SYSplex and SYS name
SYSPARM='plexname,sysname'
```

User response:

Correct the SYSPARM on your execute statement and resubmit.

**GCLIRL08E UNABLE TO LOAD PROGRAM:
program name**

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCLKSD30I TARGET DB DSN: data set name
CALLS|CLOSED**

Explanation:

Informational message indicating the data set that the subsequent statistical messages apply to. 'calls' is indicated if the statistical messages are from LOG-APPLY monitoring, and indicates the statistics are for the preceding interval only. 'closed' is indicated if the log apply processing has completed, and indicates that the statistics are for the entire log apply processing time.

User response:

None. This message is informational.

**GCLKSD31I nnnn ADDS, nnnn READS, nnnn
UPDATES, nnnn DELETES**

Explanation:

Informational message indicating the number of adds, reads, updates or deletes that were done to the data set specified in the preceding message.

User response:

None. This message is informational.

**GCLLAD02E LOAD LIBRARY REQUEST FAILED,
DD=ddname, RC=nnnn**

Explanation:

A request to OPEN or CLOSE a library failed. Processing terminates.

User response:

Review the job log for other messages indicating why the OPEN or CLOSE failed. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCLMBK08E UNABLE TO LOAD PROGRAM:
program name**

Explanation:

The indicated program name was not found. Processing terminates.

User response:

Check that the job's //STEPLIB library is correct. If unable to resolve the problem, contact IBM Software Support with the listing that contains this message.

**GCLMDA04E ALLOCATION FAILED FOR
DSNAME: dsname**

Explanation:

A problem occurred when attempting to allocate a data set. Processing terminates.

User response:

Review the job log for other messages indicating why the allocation failed.

GCLMDA05E *requesttype FAILED FOR DDNAME: ddname*

Explanation:

A problem occurred when attempting a dynamic allocation request for the specified DD. If the message is a warning, processing continues, else processing will terminate.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLMDA05W *requesttype FAILED FOR DDNAME: ddname*

Explanation:

A problem occurred when attempting a dynamic allocation request for the specified DD. If the message is a warning, processing continues, else processing will terminate.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLMDA06E **ASSEMBLY FAILED, RC=xxxx |
IEBUPDTE FAILED, RC=xxxx |
LINK-EDIT FAILED, RC=xxxx**

Explanation:

A utility returned a non-zero return code. Processing terminates.

User response:

Review the SYSPRINT output to determine the reason for the utility failure. If the SYSPRINT output is not available, the job can be rerun with adding a DD in the JCL to generate the output. If ASSEMBLY failed, add an ASMPRINT DD. If IEBUPDTE failed, add an IEBPRINT DD. If LINK-EDIT failed, add a LNKPRINT DD. If the problem cannot be corrected by the user, contact IBM Software Support with the listing that contains this message.

GCLMDA09E **ERROR ACCESSING ddname FILE;
LOC=lllll**

Explanation:

An error occurred accessing the specified file. Processing terminates.

User response:

View joblog for other messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCLMDA10E *call FAILED FOR DD=ddname,
RC=nnnn*

Explanation:

An error occurred when attempting to access a data set. Processing terminates.

User response:

Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCLMER00I **GCL01MER STARTING
(REV=nn,PMR=xxxxxx,FIXDATE=xx
xxxx')**

Explanation:

Message shows current version of the module.

User response:

None. This message is informational.

GCLMER01E **ERROR PARSING PARMLIB INI#
MEMBER ON LINE n | ERROR
PARSING PARMLIB INI MEMBER
ON LINE n**

Explanation:

An error was found in when parsing an INI member.

User response:

Look for subsequent messages repair the PARMLIB(xxxINI) or PARMLIB(xxxINI#) member as indicated.

GCLMER02E **UNMATCHED */ | CONTINUED
STATEMENT AT END OF FILE**

Explanation:

An end-comment (*/) was found for which there was no begin-comment (/*).

User response:

Remove the end-comment or insert a begin-comment in the appropriate location.

GCLMER05E **TOKEN NAME LONGER THAN 72**

Explanation:

A Token name longer than 72 bytes was found on the specified line.

User response:

Reduce the length of the token to 72 or less.

GCLMER06E **EXPECTED = AFTER TOKEN NAME**

Explanation:

An equal sign (=) was not found after the Token name.

User response:

Insert an equal sign (=) between the Token and its value.

GCLMER07E **EXPECTED = AFTER TOKEN NAME**

Explanation:

An equal sign (=) was not found after the Token name.

User response:

Insert an equal sign (=) between the Token and its value.

**GCLMER08E FOUND NON-NOTES TOKEN
BEFORE 1ST SECTION NAME**

Explanation:

A Token was found before any Section was specified. Only the "Notes" Token is allowed before a section name. Reminder, Notes is provided for the customer and no product code can access the Notes value.

User response:

Ensure that the first non-comment line and non-Notes token is a Section name

**GCLMER09E DUPLICATE SECTION/TOKEN
FOUND | SECTION | TOKEN**

Explanation:

A token cannot be defined twice for the same section.

User response:

Remove the redundant token and retry.

GCLMER10E *file function FAIL, RC = nnnnnnnn*

Explanation:

An unrecoverable error occurred during processing.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLMER11E OPEN FAILURE, DD DDNAME | DD
INI OPEN FAILURE | DD SYSPRINT
OPEN FAILURE | DD UPDATE OPEN
FAILURE | DD TRACEDD OPEN
FAILURE**

Explanation:

An unrecoverable error occurred during processing.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLMER12E EXPECTED PARM VALUE OR
RECORD, FOUND *function***

Explanation:

An unrecoverable error occurred during processing.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLMER14E ERROR PARSING MSCINI

Explanation:

MSCINI INIMERGE failed to parse the MSCINI input because it could not find the INIMERGE_SECTION values.

User response:

Use the INI# member distributed by IBM Software Support and retry. If you need help with this, contact

IBM Software Support with the listing that contains this message.

**GCLMER15W COLUMNS 73-80 NOT BLANK ON
LINE**

Explanation:

INI parser detected characters in columns 73-80. Technical Support has found that many INI errors occur because the person editing the INI doesn't see text in columns 73-80.

User response:

Edit the PARMLIB INI member so that columns 73-80 are blank.

**GCLMER21E SYSPLEX NAME MORE THAN 8
CHARACTERS**

Explanation:

The sysplex value on an INI section statement is invalid because it is too long.

User response:

Repair the section name and retry.

**GCLMER22E SYSTEM NAME MORE THAN 8
CHARACTERS**

Explanation:

The system value on an INI section statement is invalid because it is too long.

User response:

Repair the section name and retry.

GCLMER31E SECTION NAME LONGER THAN 72

Explanation:

The section name is limited in size.

User response:

Repair the section name and retry.

GCLMER32E INVALID SECTION NAME

Explanation:

The section name can have alphanumeric characters in addition to a period, dash, underscore or slash.

User response:

Repair the section name and retry.

**GCLMER33E PERIOD(".") FOUND IN INI#
SECTION**

Explanation:

A period character in the section name is valid in a customer INI for denoting sysplex and system names but is not valid in the distributed INI#.

User response:

Repair the section name and retry.

**GCLMER34E QUALIFIED INIMERGE_VALUES IN
INI | QUALIFIED PRODUCT_INFO
IN INI**

Explanation:

These sections cannot be qualified by sysplex and/or system name.

User response:

Repair the section name and retry.

GCLMER35E TWO INIMERGE_VALUES SECTIONS FOUND

Explanation:

The INIMERGE_VALUES may only appear once in the INI.

User response:

Repair the section name and retry.

GCLMER36E QUALIFIED SECTION AFTER GENERIC

Explanation:

A section was found with sysplex and/or system qualifications but it follows the same section without such qualification. This section can never be accessed and is invalid.

User response:

Repair the section name and retry.

GCLMER37E DUPLICATE QUALIFIED SECTION | DUPLICATE UNQUALIFIED SECTION FOUND

Explanation

Two section names match exactly, then are either

1. both unqualified
2. both specify the same Sysplex and system names.

Section names must be unique.

User response:

Repair the section name and retry.

GCLMER38E TRAILING PERIOD ON SECTION STATEMENT

Explanation

A section statement has one of the following formats

```
:sectionname.sysplexname.systemname
:sectionname.sysplexname
:sectionname..systemname
```

User response:

Repair the section name and retry.

GCLMER39E INI# COLUMNS 73-80 ARE NOT BLANK, LINE nnnn

Explanation:

Historically, placing text in columns 73-80 makes debugging errors in the INI difficult.

User response:

Repair the section name and retry.

GCLMER39W INI# COLUMNS 73-80 ARE NOT BLANK, LINE nnnn

Explanation:

Historically, placing text in columns 73-80 makes debugging errors in the INI difficult.

User response:

Repair the section name and retry.

GCLMER40E RIGHT OF INI#'S SECTION NOT BLANK

Explanation:

INI#'s section statement must be all blanks after section name to facilitate customers entering sysplex/system names.

User response:

Repair the section name and retry.

GCLMER41I NOTHING COPIED

Explanation:

The customer INI had no special sections to copy

User response:

None. This message is informational.

GCLMER42I NOTHING DELETE

Explanation:

No INI parameters were deleted

User response:

None. This message is informational.

GCLMER50I INPUT: input line

Explanation:

A previously noted error occurred on the line shown.

User response:

See prior error message.

GCLMER51E TOKEN NON-NOTES BEFORE 1ST SECTION

Explanation:

NOTES is the only token allowed before the first section statement.

User response:

Repair the INI and resubmit.

GCLMER52E TOKEN NOTES FOUND IN INI#

Explanation:

NOTES is only allowed in the customer INI.

User response:

Repair the INI and resubmit.

GCLMER53E ERROR PARSING MSCINI (INI#), SEE JOB LOG | ERROR PARSING THE CUSTOMER INI, SEE JOB LOG

Explanation:

INIMERGE used the INI parser to validate the INI but the INI parser was unsuccessful.

User response:

For INI#, contact IBM Software Support with the listing that contains this message.

User response:

For the customer INI, repair the INI based on the messages in the JOB log and resubmit.

**GCLMER71E SECTION IN INI# BUT NOT INI:
 section-name**

Explanation:

When attempting to merge maintenance from a SGCLPARM GCLINI# member, a section was found on GCLINI# that was not in the user-supplied GCLINI member.

User response:

View the GCLINI# member to locate the section that was not found. Edit the GCLINI member adding the missing section. Rerun the merge process.

GCLMER72I ALL INI# SECTIONS FOUND IN INI

Explanation:

All of the INI# sections were found in the INI.

User response:

None. This message is informational.

**GCLMER73E STARTING
 (REV=xxx,PTF=xxx,FIXDATE=xxx)**

Explanation:

Indicates GCL01MOD is starting and its version.

User response:

Informational only.

**GCLMOD01I STARTING
 (REV=xxx,PTF=xxx,FIXDATE=xxx)**

Explanation:

Indicates GCL01MOD is starting and its version.

User response:

Informational only.

GCLMOD02I TERMINATING

Explanation:

Indicates GCL01MOD is terminating.

User response:

Informational only.

GCLMOD02E DIFF OPTION REQUIRES SYSUT2

Explanation:

DIFF compares loadlibs SYSUT1 and SYSUT2.

User response:

Correct JCL or execution parameter.

GCLMOD03E UNABLE TO OPEN SYSUT1

Explanation:

SYSUT1 is a required DD statement.

User response:

Correct JCL or execution parameter.

GCLMOD04E A DUPLICATE PMR FOUND module

Explanation:

The same PMR number was used twice in the same module.

User response:

Informational only.

**GCLMOD05E NO PMR DATA AVAILABLE FOR
 'SYSUT1 xxxxxxxx' | NO PMR
 DATA AVAILABLE FOR 'SYSUT2
 xxxxxxxx'**

Explanation:

The load module has an EHDR, not MSCHDR/MSCPMR macros.

User response:

Informational only

**GCLMOD06E NO HEADER DATA AVAILABLE FOR
 'SYSUT1 xxxxxxxx' | NO HEADER
 DATA AVAILABLE FOR 'SYSUT2
 xxxxxxxx'**

Explanation:

The load module does not have MSCHDR/MSCPMR or EHDR macros.

User response:

Informational only

**GCLMOD30E FATAL ERROR IN GCL01VV1
 TABLE(table) FUNC(func) RC(rc)**

Explanation:

An error occurred using a GCL01VV1 table.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLMOD91E ERROR READ_PDSE ERROR -
 TERMINATING**

Explanation:

An error occurred reading a PDSE (not a PDS)

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLMOD92E ERROR READ_PDS ERROR -
 TERMINATING**

Explanation:

An error occurred reading a PDS (not a PDSE)

User response:

Contact IBM Software Support with the listing that contains this message.

GCLOSA30I **TARGET DB DSN: *data set name*
CALLS|CLOSED**

Explanation:

Informational message indicating the data set that the subsequent statistical messages apply to. 'calls' is indicated if the statistical messages are from LOG-APPLY monitoring, and indicates the statistics are for the preceding interval only. 'closed' is indicated if the log apply processing has completed, and indicates that the statistics are for the entire log apply processing time.

User response:

None. This message is informational.

GCLOSA31I ***nnnn* ADDS, *nnnn* READS, *nnnn*
UPDATES, *nnnn* DELETES**

Explanation:

Informational message indicating the number of adds, reads, updates or deletes that were done to the data set specified in the preceding message.

User response:

None. This message is informational.

GCLPP100I ***text***

Explanation:

Message produced when command input is read.

User response:

None. This message is informational.

GCLPP101E **INPUT FILE NOT OPEN**

Explanation:

Message produced when command input is parsed.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLPP102E **INPUT FILE LRECL INVALID**

Explanation:

Message produced when command input is parsed. This error typically occurs if SYSIN DD statement refers to a data set with LRECL other than 80.

User response:

Correct the command input and resubmit.

GCLPP103E **BLANK RECORD INVALID HERE**

Explanation:

Message produced when command input is parsed.

User response:

Correct the command input and resubmit.

GCLPP104E **EXPECTED CONTINUATION NOT
FOUND**

Explanation:

Message produced when command input is parsed.

User response:

Correct the command input and resubmit.

GCLPP105W **INPUT FLUSHED**

Explanation:

Message produced when command input is parsed and a prior error has been detected.

User response:

Review the prior GCLPP1 error messages. Correct the command input and resubmit.

GCLPP106E **UNMATCHED PARENTHESIS**

Explanation:

Message produced when command input is parsed.

User response:

Correct the command input and resubmit.

GCLPP107E **PAREN NESTING ERROR**

Explanation:

Message produced when command input is parsed.

User response:

Correct the command input and resubmit.

GCLPP108E **LINE BUFFER FULL**

Explanation:

Message produced when command input is parsed.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLPP109E **STRING DELIMITERS NOT
BALANCED**

Explanation:

Message produced when command input is parsed. Second quotation character not found.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLPP110E **INPUT RECORD BUFFER LENGTH
INVALID**

Explanation:

Message produced when command input is parsed.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLPSE20I **COMMAND ENDED**

Explanation:

Message produced when command input is parsed and a prior error has been detected.

User response:

Review the prior GCLPSE error messages. Correct the command input and resubmit.

GCLPSE21E KEYWORD NOT FOUND : *text*

Explanation:

Message produced when command input is parsed. The displayed keyword is not valid for this command or parent keyword.

User response:

Review the prior GCLPSE error messages. Correct the command input and resubmit.

GCLPSE22E MODULE NOT FOUND: *module-name*

Explanation:

Message produced when command input is parsed.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLPSE23E OPERAND NOT SUPPORTED FOR: *text*

Explanation:

Message produced when command input is parsed. e displayed keyword is not implemented.

User response:

Correct the command input and resubmit.

GCLPSE24E OPERAND TRUNCATED FOR:

Explanation:

Message produced when command input is parsed. The value specified for the displayed keyword is longer than the keyword accepts.

User response:

Correct the command input and resubmit.

GCLPSE25E EMPTY OR MISSING PARMLIST

Explanation:

Message produced when command input is parsed and a prior error has been detected.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLPSE26W COMMAND ABANDONED

Explanation:

Message produced when command input is parsed and a prior error has been detected.

User response:

Review the prior GCLPSE error messages. Correct the command input and resubmit.

**GCLPSE28E OPERAND REQUIRED FOR
KEYWORD: *keyword***

Explanation:

Message produced when command input is parsed. The displayed keyword requires a value.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLPSE29E CONFLICTING KEYWORDS
SPECIFIED WITH KEYWORD:**

Explanation:

Message produced when command input is parsed. Two mutually exclusive keywords have been specified.

User response:

Correct the command input and resubmit.

**GCLPSE30E MULTIPLE USE OF KEYWORD NOT
ALLOWED**

Explanation:

Message produced when command input is parsed. Two mutually exclusive keywords have been specified.

User response:

Correct the command input and resubmit.

**GCLRIR04E ALLOCATION FAILED FOR
DSNAME: *dsname***

Explanation:

A problem occurred when attempting to allocate a data set. Processing terminates.

User response:

Review the job log for other messages indicating why the allocation failed.

GCLRIR08E OPEN FAILED FOR DSN:*dsname*

Explanation:

A problem occurred when attempting to OPEN a member of a PDS. Processing terminates.

User response:

Review the job log for other messages indicating why the allocation failed.

**GCLRON02E LOAD LIBRARY *request* FAILED,
DD=*ddname*, RC=*nnnn***

Explanation:

A request to OPEN or CLOSE a library failed. Processing terminates.

User response:

Review the job log for other messages indicating why the OPEN or CLOSE failed. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCLRON05E *requesttype FAILED FOR DDNAME:
ddname - reason*

Explanation:

A problem occurred when attempting a dynamic allocation or access request for the specified DD. If the message is a warning, processing continues, else processing will terminate.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLRON10E *call FAILED FOR DD=ddname,
RC=nnnn*

Explanation:

An error occurred when attempting to access a data set. Processing terminates.

User response:

Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCLRON11E *VSAM call ERROR, DD=ddname,
DSN=dsname, RC=nnnn,
RSN=nnnn*

Explanation:

A VSAM request failed for the associated DD. Processing terminates.

User response:

Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCLRX101E *RXNEWTGT ddname READ FAILED,
RC IS nn*

Explanation:

The Rexx program was unable to read a required file.

User response:

Add the appropriate DD statement to the execution JCL.

GCLRX101E *RXNEWTGT ddname READ FAILED,
RC IS nn*

Explanation:

The Rexx program was unable to read a required file.

User response:

Add the appropriate DD statement to the execution JCL.

GCLRX102E *RXNEWTGT COUNTS DO NOT
MATCH: GCLIN = nnn; NUCIN =
nnn*

Explanation:

There is an unequal number of records in the GCLIN file and the NUCIN file.

User response:

Verify that the input files correspond to the correct runs of the IMS Cloning Tool product.

GCLRX103I *RXNEWTGT ddname HEADER IS
header information*

Explanation:

Informational message.

User response:

None. This message is informational.

GCLRX104I *RXNEWTGT ddname INPUT FILE
HAS nnn VOLUME PAIRS*

Explanation:

Informational message.

User response:

None. This message is informational.

GCLRX105E *RXNEWTGT NEWTGT OPEN
FAILED, RC IS nn*

Explanation:

The Rexx program was unable to open a required file.

User response:

Add the appropriate DD statement to the execution JCL.

GCLRX106E *RXNEWTGT NEWTGT WRITE
FAILED, RC IS nn*

Explanation:

The Rexx program was unable to add a record to the file.

User response:

Check that the DCB attributes for the output file are correct. Check that there is sufficient space given to the output file.

GCLRX107E *RXNEWTGT NO MATCH FOUND
FOR GCLIN ENTRY source target*

Explanation:

No match was found for the indicated GCLIN source and target volume serials in the NUCIN input file.

User response:

Verify that the input files correspond to the correct runs of the IMS Cloning Tool product.

GCLRX108E *RXNEWTGT VERSION MISMATCH:
GCLIN: version NUCIN: version*

Explanation:

The version entries in the two files do not match.

User response:

Verify that the input files correspond to the correct runs of the IMS Cloning Tool product.

GCLRX109E *RXNEWTGT VERSION IS
INCORRECT, version*

Explanation:

The version entry in the input files is not supported.

User response:

Verify that the input files correspond to the correct runs of the IMS Cloning Tool product.

**GCLRX110E RXNEWTGT GCLIN PRODUCT IS
INCORRECT, product**

Explanation:

The product entry in the GCLIN input file is incorrect.

User response:

Verify that the GCLIN input file has not been modified and that it was created by a IMS Cloning Tool COPY command that had a USERCATALOGS keyword.

**GCLRX111E RXNEWTGT NUCIN PRODUCT IS
INCORRECT, product**

Explanation:

The product entry in the NUCIN input file is incorrect.

User response:

Verify that the NUCIN input file has not been modified and that it was created by a IMS Cloning Tool COPY command that had the NOUSERCATALOGS keyword.

GCLRX112E RXNEWTGT NO INPUT READ

Explanation:

No records were found in the input files.

User response:

Verify that the input files correspond to the correct runs of the IMS Cloning Tool product and that the DD statements have not been dummied.

**GCLSIN10E call FAILED FOR DD=ddname,
RC=nnnn**

Explanation:

An error occurred when attempting to access a data set. Processing terminates.

User response:

Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCLSIN11E VSAM call ERROR, DD=ddname,
DSN=dsname, RC=nnnn,
RSN=nnnn**

Explanation:

A VSAM request failed for the associated DD. Processing terminates.

User response:

Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCLSOU10E call FAILED FOR DD=ddname,
RC=nnnn**

Explanation:

An error occurred when attempting to access a data set. Processing terminates.

User response:

Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCLSOU11E VSAM call ERROR, DD=ddname,
DSN=dsname, RC=nnnn,
RSN=nnnn**

Explanation:

A VSAM request failed for the associated DD. Processing terminates.

User response:

Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCLSUP10E call FAILED FOR DD=ddname,
RC=nnnn**

Explanation:

An error occurred when attempting to access a data set. Processing terminates.

User response:

Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

**GCLSUP11E VSAM call ERROR, DD=ddname,
DSN=dsname, RC=nnnn,
RSN=nnnn**

Explanation:

A VSAM request failed for the associated DD. Processing terminates.

User response:

Review the system log for any error messages. If unable to resolve the problem, contact IBM Software Support with the listing that contains these messages.

GCLVE201E NO INIT FUNCTION RECEIVED.

Explanation:

This is an internal error.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLVE202E INIT FUNCTION RECEIVED
WITHOUT INTERVENING TERM**

Explanation:

This is an internal error.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLVE203E UNKNOWN FUNCTION: xxxx

Explanation:

This is an internal error.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLVE204E ERROR CALLING GCL01VV1 xxxx
R15=rc R0=rea ID=nn**

Explanation:

This is an internal error.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLVE205E MLA VALUE FOUND GREATER
THAN 4**

Explanation:

This is an internal error.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLVE206E MASK FAILED EVALUATION
CHECK: xxxx**

Explanation:

Mask xxxx is invalid.

User response:

Fix the error and retry the function.

**GCLVE207E CSI FAILED WHEN CALLING FOR
MASTER CATALOG NAME**

Explanation:

This is an internal error.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLVE208E MASK FAILED EVALUATION
CHECK: xxxx - yyyyy**

Explanation:

Mask xxxx is invalid for reason yyyyy

User response:

Fix the error and retry the function.

GCLVE209E UN-ALLOCATION FAILED FOR: cccc

Explanation:

Un-allocation failed for catalog cccc.

User response:

Determine the reason for and fix the problem, Retry the function.

GCLVE210E ALLOCATION FAILED FOR: cccc

Explanation:

Allocation failed for catalog cccc.

User response:

Determine the reason for the allocation failure and retry.

**GCLVE211E UCBLOOK ERROR FOR: vvvv -
RETURN CODE:RC REASON CODE:
rsn**

Explanation:

This is an internal error.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLVE212E VOLUME NOT MOUNTED: vvvv
DSN=nnn DEVTYPE:ttt**

Explanation:

A catalog entry specified that a data set was cataloged to a volume, vvvv, that was not mounted for dsn nnn on device type ttt.

User response:

Mount the volume, uncatalog the data set, or respecify the selection masks. Retry the function.

**GCLVE213E IOSCAPU ERROR FOR: vvvv -
RETURN CODE:RC REASON CODE:
rsn**

Explanation:

This is an internal error.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLVE214E nnnn : VOLSER=vvvv
RC=rrr,REAS=sss,DESC=zzzz**

Explanation

An error occurred when trying to access the VVDS on volume vvvv for data set nnnn.

- rrr = Return code
- sss = Reason code
- zzzz = description when available.

User response:

If unable to determine the cause of the error or to fix it, contact IBM Software Support with the listing that contains this message.

**GCLVE215E UCBPIN ERROR FOR: vvvv -
RETURN CODE:RC REASON CODE:
rsn**

Explanation:

This is an internal error.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLVE216E CVAE ERROR: RETURN CODE:rc
STATUS CODE:sc VOLUME:vvvv
ID=nn PREV FUNC:ffff**

Explanation:

This is an internal error.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLVE217E ERROR OBTAINING VTOC DATA
FROM vvvv : nnnn**

Explanation:

An error occurred when trying to access the VTOC on volume vvvv for data set nnnn.

User response:

If unable to determine the cause of the error or to fix it, contact IBM Software Support with the listing that contains this message.

GCLVE218E HSM MCVT NOT FOUND

Explanation:

An error occurred when trying to access the HSM control blocks. The most probable cause is HSM has not been started.

User response:

If unable to determine the cause of the error or to fix it, contact IBM Software Support with the listing that contains this message.

**GCLVE219E HSM DATA EXTRACT ENDED WITH
ERRORS**

Explanation:

An error occurred when trying to access the HSM control blocks. The most probable cause is HSM has not been started.

User response:

If unable to determine the cause of the error or to fix it, contact IBM Software Support with the listing that contains this message.

**GCLVE220E MIGRATED DATASET NOT FOUND
IN MCDS: nnnn**

Explanation:

The catalog indicated that data set nnnn was migrated, but no entry was found in the HSM MCDS.

User response:

If unable to determine the cause of the error or to fix it, contact IBM Software Support with the listing that contains this message.

**GCLVE221W NO CATALOG ENTRIES FOUND FOR
MASK(S)**

Explanation:

No catalog entries were found for any of the masks passed to GCL01VE2.

User response:

If this result was not expected, try to determine the reason for the problem and retry the function. If help is needed, contact IBM Software Support with the listing that contains this message.

**GCLVE222E ASSOCIATED ENTRY NOT FOUND
IN CATALOG - nnnn**

Explanation:

A non-VSAM alias entry with an association of nnnn. nnnn was not found in the catalog. The most probable cause is an orphaned catalog entry.

User response:

Determine the reason for and fix the problem. Retry the function. If help is needed, contact IBM Software Support with the listing that contains this message.

**GCLVE223E UNEXPECTED CATALOG RECORD
CONSTRUCT - ASSOCIATION CELL
NOT WHERE EXPECTED**

Explanation:

Catalog entry for entry mentioned above is invalid.

User response:

Determine the reason for and fix the problem. Retry the function. If help is needed, contact IBM Software Support with the listing that contains this message.

**GCLVE224E TYPE "J" RECORD WITH NO
MATCHING "B" RECORD: nnnn**

Explanation:

Catalog entry nnnn is an extension record for a catalog record that does not exist.

User response:

Determine the reason for and fix the problem. Retry the function. If help is needed, contact IBM Software Support with the listing that contains this message.

**GCLVE225E ERROR READING SELF
DESCRIBING RECORD FROM
CATALOG: nnnn**

Explanation:

This is an internal error.

User response:

Contact IBM Software Support with the listing that contains this message.

**GCLVE226E RECEIVED A "GET" REQUEST
BEFORE RECEIVING A MASK**

Explanation:

This is an internal error.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLVE227E INPUT CONTROL BLOCK IS NOT COMPATIBLE

Explanation:

This is an internal error.

User response:

Contact IBM Software Support with the listing that contains this message.

GCLVE229E HSM IS NOT ACTIVE - UNABLE TO RETRIEVE 'REQUESTED DATA

Explanation:

HSM must be active for MCDS data to be retrieved.

User response:

Start HSM and retry the function.

GCLVE230I ALLOCATION FAILED FOR: *nnnn* - WILL NOT BE USED FOR SEARCH

Explanation:

Unable to allocate catalog *nnnn*. No entries that may reside in this catalog will be retrieved.

User response:

Informational only. Processing continues.

GCLVE231E VOLUME NOT MOUNTED: *vvvv* DSN=*nnn* DEVTYPE:*ttt*

Explanation:

A catalog entry specified that a data set was cataloged to a volume, *vvvv*, that was not mounted for dsn *nnn* on device type *ttt*.

User response:

Mount the volume, uncatalog the data set, or respecify the selection masks. Retry the function.

GCLVE232E NO MCDS DATASET WITH VALID KEY-RANGE FOUND

Explanation:

An attempt was made to find a dsn in the HSM MCDS but no MCDS found in the HSM address space had a key-range that would accommodate the dsn.

User response:

Processing continues. No mcds data will be included for this data set.

GCLVE233E NO MCDS DSN(S) FOUND IN HSM ADDRESS SPACE

Explanation:

An attempt was made to find a the data set name(s) of the MCDS(s) allocated to HSM. The attempt failed.

User response:

Processing continues. No mcds data will be included for this dataset.

GCLVE234W ERROR CALLING GCL01HSM RC=RC

Explanation:

This is an internal error.

User response:

Processing continues. No MCDS data will be included. If the reason for the failure cannot be determined, contact IBM Software Support with the listing that contains this message.

GCLVE235E *nnnn* : VOLSER=*vvvvvv* - VVDS NOT OPEN

Explanation:

A previous open failed for the VVDS on volume *vvvvvv* failed.

User response:

Processing continues. No VVDS related data is returned for data set *nnnn*.

**GCLVE236W-n INVALID DSN FOUND :
XXXXXXXXXXXXXXXXXXXX**

Explanation:

The catalog contained an invalid data set name. The first GCLVE236W shows the data set name in character format. The next three GCLVE236W show the name in hex.

User response:

Fix the catalog and retry the function.

GCLVE237W OPEN FAILED FOR: *nnnn* - WILL NOT BE USED FOR SEARCH

Explanation:

Unable to open catalog *nnnn*. No entries that may reside in this catalog will be retrieved.

User response:

Informational only. Processing continues.

GCLVE238E CLUSTER NOT FOUND FOR TRUENAME IN CATALOG

Explanation:

An error has been detected in your catalog. A VSAM true name record was found without an associated cluster entry.

User response:

Informational only. Processing continues. Evaluate catalog entries for the identified data set.

**GCLVE239I RETRYING ERROR
OBTAINING ?????? FOR dsn -
ucat**

Explanation:

An error occurred when trying to access the VTOC, VVDS, or MCB information for a data set. This message will occur the catalog is incorrect. This message may

occur if the data set is being migrated so that the catalog is temporarily out of date.

User response

No action required for this message unless subsequent errors:

- GCLVE217E
- GCLCA120E
- GCLCA114E
- GCLCA220E
- GCLCA214E

See action for these messages.

GCLVSE00E	VSAM FAILURE,DDNAME: <i>ddname</i> VSAM DSN: <i>dataset name</i> NO DD ALLOCATION FOUND
------------------	--

Explanation:

A VSAM failure occurred attempting to open, access, or close a VSAM data set used by a product via product's common VSAM I/O routine (GCL01VSI).

User response

See additional messages. Although many errors could be caused by internal errors, look for any messages with ** USER CORRECTABLE **. These could include problems such as insufficient region size, unable to allocate extents, etc.

Some errors could be the result of incorrectly defining a data set. Compare values returned for catalog lrecl, key length, and key offset to the specifications for the data set as documented in the appropriate product manual. LRECL and KEYLEN to be compared are those supplied with messages GCLVSE21 and GCLVSE22, not GCLVSE19 and GCLVSE20.

If the error does not appear to be user correctable, include all GCLVSEnn messages in documentation supplied to IBM Software Support. Also supply to IBM Software Support the output from a LISTCAT ENT(...) ALL for the failing data set.

GCLVSE01E	FAILING GCL01VSI FUNCTION: <i>nnn</i> and PREVIOUS GCL01VSI FUNCTION: <i>nnn</i>
------------------	---

Explanation:

Last and previous (if any) VSAM function performed.

User response:

Message provided for debugging. However, other messages could indicate a user correctable situation. Note that this is the last logical request made by a product program. Because of implicit opens and closes, see message GCLVSE13E to determine the exact VSAM function last requested when determining which set of documented return/reason codes apply.

GCLVSE03E	PROGRAM CSECT: <i>csect name</i>
------------------	---

Explanation:

Csect name of failing program.

User response:

Message provided for debugging. However, other messages could indicate a user correctable situation.

GCLVSE04E	VWHEN ERROR ID: <i>id</i>
------------------	----------------------------------

Explanation:

Internally assigned id of last VSAM I/O call.

User response:

Message provided for debugging. However, other messages could indicate a user correctable situation.

GCLVSE05E	VWHEN ASM LISTING LINE #: <i>line number</i>
------------------	---

Explanation:

Source listing line number of last VSAM I/O call.

User response:

Message provided for debugging. However, other messages could indicate a user correctable situation.

GCLVSE06E	MESSAGE ASSOCIATED WITH GCL01VSI REGISTER 15 VALUE
------------------	---

Explanation:

This message is associated with a non-VSAM error - i.e. a non-zero return code from GCL01VSI or a VSAM OPEN, ACCESS, or CLOSE.

User response:

Message provided for debugging. However, other messages could indicate a user correctable situation. If last function is OPEN, and return code is 16: RLS NOT AVAILABLE - NO SMSVSAM SERVER this may be user correctable if the product parmlib INI member specified RLS for the data set and in fact RLS is not supported on the image.

GCLVSE07E	MESSAGE ASSOCIATED WITH VSAM REGISTER 15 VALUE
------------------	---

Explanation:

message associated with VSAM Register 15 value.

User response:

See message GCLVSE10 and GCLVSE11 for VSAM reason code and description. If GCLVSE12 is produced instead of GCLVSE11, see the manual for a description of the reason code.

GCLVSE08E	SVC99 ERROR CODE: <i>code</i>
------------------	--------------------------------------

Explanation:

Error code from SVC99 - dynamic allocation.

User response:

Use this error code in conjunction with the SVC99 information code (GCLVSE09E) to determine the cause of failure.

GCLVSE09E SVC99 INFORMATION CODE: *code*

Explanation:

Information code from SVC99 - dynamic allocation.

User response:

Use this error code in conjunction with the SVC99 error code (GCLVSE08E) to determine the cause of failure.

GCLVSE10E VSAM REASON CODE: *code*

Explanation:

Reason code returned from VSAM open, access, or close.

User response:

Use this error code in conjunction with the description provided by message GCLVSE11E to determine the cause of the failure. See additional comments for GCLVSE11E.

**GCLVSE11E VSAM REASON CODE
DESCRIPTION**

Explanation:

Abbreviated description for selected VSAM reason codes.

User response

The error handling module producing GCLVSEnn messages includes many VSAM reason code descriptions. Note that these messages are abbreviated in comparison to the messages documented. For this reason, users should also refer to the documentation for the reason code displayed with message GCLVSE10.

Because documented reason codes are distinguished by open/close versus access, see message GCLVSE13E for the last access attempted. GCLVSE13E will indicate OP for open, and CL for close. Consider any other value as ACCESS.

Note especially any reason code descriptions with the string ** USER CORRECTABLE as these may be situations correctable without support.

**GCLVSE12E NO DESCRIPTION FOR REASON
CODE**

Explanation:

Description for reason code not included in error handling table.

User response:

Refer to the description of the reason code (GCLVSE10E) for the last function requested (GCLVSE13E) in documentation.

GCLVSE13E VSAM CCODE: *code*

Explanation:

This is a product value indicating the last VSAM request issued.

User response:

This value is necessary if looking up the return and reason codes in documentation. CCODE will be OP for an open and CL for a close. Consider any other value as ACCESS.

GCLVSE14E GCL01VSI IMPLICIT OPEN

Explanation:

Indicator that last program request required that the data set be re-opened.

User response:

Primarily for product debugging.

GCLVSE15E GCL01VSI IMPLICIT CLOSE

Explanation:

Indicator that a close was the result of one task losing control to another.

User response:

Primarily for product debugging.

GCLVSE16E GCL01VSI IMPLICIT REPOSITION

Explanation:

Indicator that the positioning had to be re-established as a result of losing control to another task.

User response:

Primarily for product debugging.

GCLVSE17E OPEN CLASSIFICATION: *value*

Explanation:

Product internal value indicating intended use of the data set.

User response:

Primarily for product debugging.

GCLVSE18E BUFFERING TECHNIQUE: *value*

Explanation:

Product internal value indicating selected buffering technique.

User response:

Primarily for product debugging.

GCLVSE19E GCL01VSI PARM LRECL: *lrecl*

Explanation:

Last lrecl set in GCL01VSI parm field.

User response:

Primarily for product debugging.

**GCLVSE20E GCL01VSI PARM KEYLEN: *key
length***

Explanation:

Last key length set in GCL01VSI parm field.

User response:

Primarily for product debugging.

GCLVSE21E GCL01VSI CATALOG LRECL: *lrecl*

Explanation:

Max LRECL fetched from catalog at open time.

User response:

This should be used to verify that the cluster as defined matches the requirements for the data set as defined in product documentation.

GCLVSE22E GCL01VSI CATALOG KEYLEN: *key length*

Explanation:

Key length fetched from catalog at open time.

User response:

This should be used to verify that the cluster as defined matches the requirements for the data set as defined in product documentation.

GCLVSE23E GCL01VSI CATALOG KEY OFFSET: *key offset*

Explanation:

Key offset fetched from catalog at open time.

User response:

This should be used to verify that the cluster as defined matches the requirements for the data set as defined in product documentation.

GCLVV136E INVALID LRECL: *value*

Explanation:

LRECL must be a positive integer

User response:

Correct the LRECL value.

GCLVV137E DATASPACE DEFINED OVER 2 GIG

Explanation:

Dataspaces are limited to 2 GIG or 2097152 K The corresponding SI027_VALUES in INI are specified in K, so the limit is 2097152.

User response:

Correct the SI027_Values section of the INI

**GCLVV138E ERROR CREATING DATASPACE
RC=xx REASON *yyyyyyyy***

Explanation:

GCL01VV1 attempted to create a dataspace. The error indicates that the parameters were incorrect.

User response:

Correct the SI027_Values section of the INI

**GCLVV139E ERROR EXTENDING DATASPACE
RC=xx REASON *yyyyyyyy***

Explanation:

GCL01VV1 attempted to expand a dataspace. The error indicates that the parameters were incorrect.

User response:

Correct the SI027_Values section of the INI

GCLVV140E BAD TOKEN: INITIAL_SIZE

Explanation:

Value specified is larger than the value allowed (2097152).

User response:

Correct the INITIAL_SIZE value in the INI

GCLVV141E BAD TOKEN: MAXIMUM_SIZE

Explanation:

Value specified is larger than the value allowed (2097152).

User response:

Correct the MAXIMUM_SIZE value in the INI

**GCLVV142E BAD TOKEN:
MAXIMUM_DATASPACE_SIZE**

Explanation:

Value specified is larger than the value allowed (2097152).

User response:

Correct the MAXIMUM_DATASPACE_SIZE value in the INI

**GCLXCF06E *xcfrequest* FAILED, RC=*return code*
RSN=*reason code***

Explanation:

A problem occurred when attempting an XCF service. Processing terminates.

User response:

Review the return and reason code for the XCF service that failed in the *MVS Programming Sysplex Service Reference Guide*. If the return and reason code do not indicate an environmental error, contact IBM Software Support with the listing that contains this message.

**GCLXCF97I JOINED|LEFT XCF GROUP
groupname AS MEMBER
*membername***

Explanation:

Informational message indicating that the job or STC successfully joined or left the XCF group.

User response:

None. This message is informational.

Notices

This information was developed for products and services offered in the U.S.A.

This material may be available from IBM in other languages. However, you may be required to own a copy of the product or product version in that language in order to access it.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing
Legal and Intellectual Property Law
IBM Japan Ltd.
19-21, Nihonbashi-Hakozakicho, Chuo-ku
Tokyo 103-8510, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law: INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Director of Licensing
IBM Corporation
North Castle Drive

Armonk, NY 10504-1785
U.S.A.

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this information and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement, or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs. The sample programs are provided "AS IS", without warranty of any kind. IBM shall not be liable for any damages arising out of your use of the sample programs.

Programming interface information

This publication documents intended Programming Interfaces that allow the customer to write programs to obtain the services of IMS Cloning Tool.

This publication documents information that is NOT intended to be used as Programming Interfaces of IMS Cloning Tool.

This publication primarily documents intended Programming Interfaces that allow the customer to write programs to obtain the services of IMS Cloning Tool.

This publication also documents information that is NOT intended to be used as Programming Interfaces of IMS Cloning Tool. This information is identified where it occurs by an introductory statement to a topic or section.

This publication primarily documents information that is NOT intended to be used as Programming Interfaces of IMS Cloning Tool.

This publication also documents intended Programming Interfaces that allow the customer to write programs to obtain the services of IMS Cloning Tool. This information is identified where it occurs by an introductory statement to a topic or section.

Trademarks

IBM, the IBM logo, and [ibm.com](http://www.ibm.com)® are trademarks or registered marks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the web at "Copyright and trademark information" at: <http://www.ibm.com/legal/copytrade.shtml>.

Other company, product, and service names may be trademarks or service marks of others.

Terms and conditions for product documentation

Permissions for the use of these publications are granted subject to the following terms and conditions:

Applicability: These terms and conditions are in addition to any terms of use for the IBM website.

Personal use: You may reproduce these publications for your personal, noncommercial use provided that all proprietary notices are preserved. You may not distribute, display or make derivative work of these publications, or any portion thereof, without the express consent of IBM.

Commercial use: You may reproduce, distribute and display these publications solely within your enterprise provided that all proprietary notices are preserved. You may not make derivative works of these publications, or reproduce, distribute or display these publications or any portion thereof outside your enterprise, without the express consent of IBM.

Rights: Except as expressly granted in this permission, no other permissions, licenses or rights are granted, either express or implied, to the publications or any information, data, software or other intellectual property contained therein.

IBM reserves the right to withdraw the permissions granted herein whenever, in its discretion, the use of the publications is detrimental to its interest or, as determined by IBM, the above instructions are not being properly followed.

You may not download, export or re-export this information except in full compliance with all applicable laws and regulations, including all United States export laws and regulations.

IBM MAKES NO GUARANTEE ABOUT THE CONTENT OF THESE PUBLICATIONS. THE PUBLICATIONS ARE PROVIDED "AS-IS" AND WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT, AND FITNESS FOR A PARTICULAR PURPOSE.

Privacy policy considerations

IBM Software products, including software as a service solutions, ("Software Offerings") may use cookies or other technologies to collect product usage information, to help improve the end user experience, to tailor interactions with the end user, or for other purposes. In many cases no personally identifiable information is collected by the Software Offerings. Some of our Software Offerings can help enable you to collect personally identifiable information. If this Software Offering uses cookies to collect personally identifiable information, specific information about this offering's use of cookies is set forth below.

This Software Offering does not use cookies or other technologies to collect personally identifiable information.

If the configurations deployed for this Software Offering provide you as customer the ability to collect personally identifiable information from end users via cookies and other technologies, you should seek your own legal advice about any laws applicable to such data collection, including any requirements for notice and consent.

For more information about the use of various technologies, including cookies, for these purposes, see IBM's Privacy Policy at <http://www.ibm.com/privacy> and IBM's Online Privacy Statement at <http://www.ibm.com/privacy/details> the section entitled "Cookies, Web Beacons and Other Technologies" and the "IBM Software Products and Software-as-a-Service Privacy Statement" at <http://www.ibm.com/software/info/product-privacy>.

Index

A

- ACB-NOT-FOUND
 - IMSUPDATE command [186](#)
- ACCESS
 - IMSDBSTART command [233](#)
- Access to target volumes [52](#), [55](#), [58](#)
- accessibility
 - overview [6](#)
- ACF2 [10](#)
- ALLOW-NONRECOV
 - IMSDBREFRESH command [237](#)
- Application access to target volumes
 - Prevent using COPYCHECK [173](#)
- Application in-stream steps
 - Set up for FlashCopy [49](#), [52](#)
 - Set up for SnapShot [49](#), [52](#)
- Application name length restriction [44](#)
- authorization
 - APF [10](#)
 - function authorization requirements [10](#)
 - prevent unauthorized use [15](#)
 - SGCLLOAD [10](#), [15](#), [17](#)
- AUTO-START-SOURCE-DB
 - IMSDBREFRESH command [238](#)
- AUTO-START-TARGET-DB
 - IMSDBREFRESH command [238](#)
- AUTO-STOP-TARGET-DB
 - IMSDBREFRESH command [238](#)

B

- BCSCLEAN
 - Delete 'old cycle' entries from target catalog [61](#), [67](#)
- BCSCLEAN command
 - Delete 'old cycle' entries from target catalog [52](#), [58](#)
 - Make target catalogs available to other applications [44](#)
 - Step JCL [158](#)
- BCSCLEAN command syntax [158](#)
- Benefits [4](#)

C

- Capture catalog data
 - COPY step JCL [172](#)
- Capture catalog data with the COPY step [51](#)
- catalog names
 - About source and target [160](#)
- CATWORK-ATTR
 - COPY command [167](#)
- CATWORK-DSN
 - COPY command [161](#)
- CLIP
 - VOLOPTIONS command [226](#)
- CLIST
 - ISPF [18](#)
- cloning

- cloning (*continued*)
 - subsystem [148](#), [151](#)
 - volumes [145](#)
- Cloning
 - Applications to a new IMS subsystem [47](#)
 - IMS subsystem [42](#)
 - IMS subsystems [58](#)
 - IMS subsystems to allow another IMS subsystem to access the renamed data sets on the target volumes [59](#), [66](#)
 - offline IMS subsystems [58](#)
 - online IMS subsystems [65](#)
- Cloning IMS databases [97](#)
- cloning scenarios [145](#)
- Cloning volumes
 - With EMC TimeFinder/Mirror (overview) [55](#)
- Cloning volumes with EMC TimeFinder/Mirror
 - Overview [55](#)
- Command syntax [158](#)
- Commands
 - BCSCLEAN [158](#)
 - COPY [159](#)
 - COPYCHECK [173](#)
 - FINDUCATS [195](#)
 - IMSDBCLEAN [251](#)
 - IMSDBREFRESH [235](#)
 - IMSDBSTART [232](#)
 - IMSDBSTOP [229](#)
 - IMSSETLOG [175](#)
 - IMSSTART [177](#)
 - IMSSTOP [181](#)
 - IMSUPDATE [184](#)
 - JRNLUPGRADE [196](#)
 - ONLINECLIP [199](#)
 - UCATOPTIONS [214](#)
 - VOLOPTIONS [224](#)
- configuration
 - authorization [15](#)
 - database cloning [22](#)
 - EBCDIC code set [17](#)
 - FINDUCATS verification [22](#)
 - mask characters [17](#)
 - overview [12](#)
 - run GCLIMRG [13](#)
 - steps [12](#)
 - verification [22](#)
- configuring IMS subsystems for ISPF interface [102](#)
- cookie policy [431](#)
- COPY
 - Identify impacted user catalogs for COPY step [53](#), [56](#)
 - Initiate volume copies
 - And catalog data capture [57](#)
 - Initiate volume copies and catalog data capture [51](#), [172](#)
 - Step JCL [172](#)
- COPY command
 - CATWORK-ATTR [167](#)
 - CATWORK-DSN [161](#)

- COPY command (*continued*)
 - DATA-MOVER [168, 172](#)
 - DATA-MOVER(PGM(ADRDSU)) [172](#)
 - EXCLUDE-FROM-VOLSER [170](#)
 - EXCLUDE-TO-VOLSER [170](#)
 - FROM-STORAGEGROUP [164](#)
 - FROM-USER-STORAGEGROUP [164](#)
 - FROM-VOLSER [165](#)
 - JOURNAL-DDN [162](#)
 - JOURNAL-DSN [162](#)
 - Keyword definitions [161](#)
 - NOUSERCATALOGS [164](#)
 - SIMULATE [171](#)
 - Source and target names [160](#)
 - SOURCESONLINE [171](#)
 - Step JCL [172](#)
 - TARGET-VOLS-SHOULD-BE-EMPTY [171](#)
 - TARGETSONLINE [171](#)
 - TARGETSUONLINE [171](#)
 - TO-STORAGEGROUP [165](#)
 - TO-USER-STORAGEGROUP [165](#)
 - TO-VOLSER [166](#)
 - USERCATALOGS [162](#)
 - USERCATALOGS-BACKUPFIRST [164](#)
 - USERCATALOGS-NOBACKUP [163](#)
 - USERSGDEFS-DDN [166](#)
 - USERSGDEFS-OFFSETS [166](#)
 - VOLPAIRS [167](#)
 - VOLPAIRS-DDN [167](#)
 - VOLPAIRSDEVN [167](#)
 - VOLPAIRSDEVN-DDN [167](#)
 - VOLPAIRSDEVN-NOCLIP [167](#)
 - VOLPAIRSDEVN-NOCLIP-DDN [167](#)
- COPY command defaults
 - ISPF interface [101–106, 108–114, 117–126](#)
- COPY-IF-DIFFERENT-HALDB
 - IMSDBREFRESH command [238](#)
- COPYCHECK
 - Use as a trigger to initiate volume relationships [173](#)
 - Use to prevent access to target volumes [173](#)
 - Use to scan status of volume copies [173](#)
 - Use to withdraw previously established volume relationships [173](#)
 - Use when rerunning COPY step [173](#)
- COPYCHECK command
 - JOURNAL-DDN [174](#)
 - JOURNAL-DSN [174](#)
 - Step JCL [175](#)
 - WAIT [174](#)
 - WITHDRAW [174](#)
- COPYCHECK command defaults
 - ISPF interface [101–106, 108–114, 117–126](#)
- COPYCHECK command syntax [174](#)
- Copying volumes with FlashCopy or SnapShot
 - Overview [50](#)
 - Setup [49](#)
- COPYstep
 - Sample control statements [172](#)
- Creating
 - New IMS subsystem (overview) [46](#)
 - New IMS subsystem (setup) [46](#)
- creating a cloning profile
 - ISPF interface [101–106, 108–114, 117–126](#)

- creating cloning jobs
 - ISPF interface [101–106, 108–114, 117–126](#)
- Creating volumes
 - With mirroring tools (overview) [53](#)
- Creating volumes with mirroring tools
 - Overview [53](#)

D

- DASD
 - Conserve space [42](#)
- data masking
 - edit the IMSDBREFRESH job [143](#)
 - Restarting or re-running an IMSDBREFRESH job with data masking [143](#)
 - specifying masking rules [134](#)
 - submit the IMSDBREFRESH job [143](#)
 - summary of steps [127](#)
- data resources [9](#)
- Data set
 - Target ICF catalog aliases [46](#)
- Data set and sphere integrity
 - GDGs [43](#)
 - Multivolume data sets [43](#)
 - VSAM spheres [43](#)
- Data set renaming considerations
 - Application name length restriction [44](#)
 - Naming conventions and rename masks [44](#)
- data sets
 - execution libraries [9](#)
 - naming conventions [9](#)
 - SGCLJCL [9](#)
 - SGCLLOAD [9](#)
 - SGCLPARM [9](#)
- Data sets
 - Integrity violations [43](#)
 - Migrated [43](#)
 - Multivolume [43](#)
 - Not renamed [42](#)
 - Planning target volume [42](#)
 - Renamed [42](#)
- DATA-MASKING [128](#)
- DATA-MOVER
 - COPY command [168, 172](#)
 - IMSDBREFRESH command [241](#)
- DATA-MOVER(PGM(ADRDSU))
 - Discrete VOLSER specification [172](#)
 - Source volumes [172](#)
 - Storage group specification [172](#)
 - Target volumes [172](#)
 - VOLSER mask specification [172](#)
- database cloning
 - configuration overview [22](#)
- database refresh
 - building the database refresh jobs [125](#)
 - editing the source job [124](#)
 - ISPF interface [101–106, 108–114, 117–126](#)
 - submitting the cloning jobs [126](#)
- database refresh step summary
 - ISPF interface [101–106, 108–114, 117–126](#)
- database refresh steps
 - ISPF interface [101–106, 108–114, 117–126](#)
- DB_COPY_OPTIONS Token Errors
 - GCLINI [24](#)

- DBD
 - IMSDBSTART command [233](#)
- DDIN
 - IMSDBREFRESH command [243](#)
- DDOUT
 - IMSDBREFRESH command [244](#)
- Delete previous application cycle entries with BCSCLEAN [158](#)
- Discrete VOLSER specification
 - DATA-MOVER(PGM(ADDRSSU)) [172](#)
- Discrete volumes versus SMS storage group specification [43](#)
- documentation
 - accessing [5](#)
 - sending feedback [5](#)
- documentation changes [2](#)
- DSNAME-ERROR-DBRC- SYMBOLS
 - IMSUPDATE command [187](#)
- DSS
 - SnapShot volume copies [49](#), [52](#)

E

- Error message [255](#)
- ESS DASD
 - ESS subsystem [43](#)
 - Source and target volume pairing [43](#)
 - Track format [43](#)
- ESS DASD source and target volume pairing [43](#)
- Establish continual mirrors [54](#), [56](#)
- EXCLUDE-FROM-VOLSER
 - COPY command [170](#)
 - FINDUCATS command [196](#)
- EXCLUDE-TO-VOLSER
 - COPY command [170](#)

F

- Fast replication tools
 - Volume-level [8](#)
- Features [4](#)
- Filter masks
 - Newname syntax [202](#)
 - Rename considerations [201](#)
- FINDUCATS
 - Identify impacted user catalogs for COPY step [53](#), [56](#)
- FINDUCATS command
 - EXCLUDE-FROM-VOLSER [196](#)
 - EXCLUDEFROMVOLSER [196](#)
 - FROM-VOLSER [195](#)
 - FROMSTORAGEGROUP [195](#)
 - FROMVOLSER [195](#)
 - Step JCL [196](#)
- FlashCopy
 - Set up job steam [49](#)
 - Set up job stream [52](#)
 - Setting up to copy volumes with [49](#)
 - Source and target volume pairing [43](#)
- FROM-STORAGEGROUP
 - COPY command [164](#)
 - FINDUCATS command [195](#)
- FROM-USER-STORAGEGROUP
 - COPY command [164](#)

- FROM-VOLSER
 - COPY command [165](#)
 - FINDUCATS command [195](#)
- FROMSTORAGEGROUP
 - FINDUCATS command [195](#)
- FROMVOLSER
 - FINDUCATS command [195](#)
- FUZZY-COPY
 - IMSDBREFRESH command [244](#)

G

- GCLIIUIN
 - IMSDBREFRESH command [249](#)
- GCLIMRG [13](#)
- GCLINI
 - :COPY_OPTIONS [26](#)
 - :DB_COPY_OPTIONS [29](#)
 - :IMS_CLONING_TOOL_DEFAULTS [34](#)
 - :IMS_OPTIONS [27](#)
 - :INIMERGE_VALUES [25](#)
 - :PRODUCT_INFO [24](#)
 - :RESOURCE_SERIALIZATION [38](#)
 - :SI027_VALUES [25](#)
 - :SI040_VALUES [25](#)
 - DB_COPY_OPTIONS Token Errors [24](#)
 - IMS_CLONING_TOOL_OPTIONS Section [25](#)
 - INI comments [24](#)
 - INI Statement Continuation Rules [24](#)
 - keyword descriptions [24](#)
 - keyword syntax [24](#)
 - section names [23](#)
 - set keywords [14](#)
 - syntax rules [23](#)
 - token names [24](#)
 - token values [24](#)
 - values [23](#)
- GCLMLVL
 - DD statements [11](#)
 - example [11](#)
 - report example [11](#)
- GDGs
 - Base names that match a rename mask [43](#)
 - Source volume list [43](#)
- GLOBAL
 - IMSDBREFRESH command [244](#)
 - IMSDBSTART command [233](#)
 - IMSDBSTOP command [230](#)

H

- hardware requirements [7](#)
- hlq.SGCLJCL [14](#)

I

- IIMSRDS2-DSN
 - IMSUPDATE command [188](#)
- IMS cloning
 - IMS Subsystems
 - To allow another IMS subsystem to access the renamed data sets on the target volumes [59](#), [66](#)
 - Procedures [58](#)

IMS Cloning Tool

- All Other Copy Methodologies [98](#)
- any copy methodology [80](#)
- Cloning IMS databases [97](#)
- Commands [52](#)
- Copy job [77](#), [79](#), [80](#)
- FlashCopy or SnapShot [77](#)
- FlashCopy/SnapShot Setup [97](#)
- IMSSTARTDB [81](#)
- IMSSTOPDB [81](#)
- ISPF interface [101](#)
- JCL
 - IMSDBCLEAN [253](#)
 - IMSDDBREFRESH [250](#)
 - IMSDBSTART [234](#)
 - IMSDBSTOP [231](#)
 - IMSSETLOG [176](#)
 - IMSSTART [181](#)
 - IMSSTOP [184](#)
 - IMSUPDATE [193](#)
 - JRNLUPTGRADE [198](#)
 - ONLINECLIP [200](#)
 - RENAME [213](#)
 - UCATOPTIONS [216](#)
 - VARYOFF [219](#)
 - VARYON [223](#)
 - VOLOPTIONS [227](#)
- JCL COPYCHECK [175](#)
- JCLFINDUCATS [196](#)
- jobs [76](#)
- other copy methodologies [79](#), [80](#)
- overview setup for FlashCopy/SnapShot [82](#)
- overview setup for other copy methodologies [88](#)
- POSTCOPY keyword [80](#)
- set up FlashCopy or SnapShot [81](#)
- set up other methodologies [88](#)
- setup for copy by data set [81](#), [82](#), [88](#)
- setup for other copy methodologies [88](#)
- Start DB Job [81](#)
- Stop DB Job [81](#)
- user initiated copy [80](#)

IMS control file

- ISPF [18](#)

IMS database cloning

- Planning [73](#)

IMS offline cloning

- Procedures [58](#)

IMS online cloning

- Procedures [65](#)

IMS Recovery Expert BACKUP

- when backup volumes are offline [151](#)
- when backup volumes are online [148](#)

IMS subsystem

- Overview of setup for creating [46](#)
- Setup for creating [46](#)

IMS subsystem cloning

- Planning [41](#)
- Source and target volumes [41](#)
- Source volume scope [42](#)
- Target volume data sets [42](#)
- Volume condition [42](#)

IMS subsystems

- Cloning

IMS subsystems (*continued*)

Cloning (*continued*)

- To allow another IMS subsystem to access the renamed data sets on the target volumes [59](#), [66](#)

Cloning offline [58](#)

Cloning online [65](#)

IMS-ACBLIB-DATASETS

- IMSUPDATE command [187](#)

IMS-ACBLIB-DDN

- IMSUPDATE command [187](#)

IMS-ALREADY-RUNNING

- IMSSTART command [179](#)

IMS-ALREADY-STOPPED

- IMSSTOP command [182](#)

IMS-GROUP

- IMSUPDATE command [187](#)

IMS-MACLIB-DATASETS

- IMSUPDATE command [188](#)

IMS-MACLIB-DDN

- IMSUPDATE command [188](#)

IMS-RSENAME

- IMSUPDATE command [188](#)

IMS-SSID

- IMSDDBSTART command [233](#)

- IMSDDBSTOP command [230](#)

- IMSSTART command [178](#)

- IMSSTOP command [182](#)

- IMSUPDATE command [186](#)

IMS-SUFFIX

- IMSUPDATE command [189](#)

IMS.JOBS

- For new IMS subsystem [47](#)

IMS.PROCLIB

- For new IMS subsystem [47](#)

IMSDBCLEAN [251](#)

IMSDBCLEAN command

- SIMULATE [252](#)

- Step JCL [253](#)

IMSDBCLEAN command defaults

- ISPF interface [101–106](#), [108–114](#), [117–126](#)

IMSDDBREFRESH [235](#)

IMSDDBREFRESH command

- ALLOW-NONRECOV [237](#)

- AUTO-START-SOURCE-DB [238](#)

- AUTO-START-TARGET-DB [238](#)

- AUTO-STOP-TARGET-DB [238](#)

- COPY-IF-DIFFERENT-HALDB [238](#)

- DATA-MOVER [241](#)

- DDIN [243](#)

- DDOUT [244](#)

- FUZZY-COPY [244](#)

- GCLIIUIN DD [249](#)

- GLOBAL [244](#)

- INDEXES [244](#)

- NOFEOV [245](#)

- POSTCOPY [246](#)

- POSTCOPY keyword [80](#)

- PRECOPY [79](#), [245](#)

- REPLACE-TARGET-DS [247](#)

- SIMULATE [247](#)

- Step JCL [250](#)

- WAIT [249](#)

IMSDDBREFRESH command defaults

IMSDBREFRESH command defaults *(continued)*
 ISPF interface [101–106, 108–114, 117–126](#)
 IMSDBREFRESH command syntax [235](#)
 IMSDBSTART command
 ACCESS [233](#)
 DBD [233](#)
 GLOBAL [233](#)
 IMS-SSID [233](#)
 INDEXES [233](#)
 Keyword definitions [233](#)
 SIMULATE [234](#)
 Step JCL [234](#)
 IMSDBSTART command defaults
 ISPF interface [101–106, 108–114, 117–126](#)
 IMSDBSTART command syntax [232](#)
 IMSDBSTOP [229](#)
 IMSDBSTOP command
 DBD [230](#)
 GLOBAL [230](#)
 IMS-SSID [230](#)
 INDEXES [230](#)
 Keyword definitions [230](#)
 NOFEOV [230](#)
 SIMULATE [231](#)
 Step JCL [231](#)
 WAIT [231](#)
 IMSDBSTOP command defaults
 ISPF interface [101–106, 108–114, 117–126](#)
 IMSDBSTOP command syntax [229](#)
 IMSSETLOG [175](#)
 IMSSETLOG command
 SIMULATE [176](#)
 Step JCL [176](#)
 IMSSTART [177](#)
 IMSSTART command
 IMS-ALREADY-RUNNING [179](#)
 IMS-SSID [178](#)
 RESTART-CMD [178](#)
 STARTCMD [178](#)
 STARTCQS [179](#)
 STARTCSL [179](#)
 STARTIRLM [179](#)
 Step JCL [181](#)
 WAIT [180](#)
 WAITONLY [181](#)
 IMSSTART command defaults
 ISPF interface [101–106, 108–114, 117–126](#)
 IMSSTARTDB [81](#)
 IMSSTOP [181](#)
 IMSSTOP command
 IMS-ALREADY-STOPPED [182](#)
 IMS-SSID [182](#)
 MODE [182](#)
 SIMULATE [182](#)
 Step JCL [184](#)
 STOPCSL [183](#)
 STOPIRLM [183](#)
 WAIT [184](#)
 WAITONLY [184](#)
 IMSSTOP command defaults
 ISPF interface [101–106, 108–114, 117–126](#)
 IMSSTOPDB [81](#)

IMSUPDATE
 Step JCL [193](#)
 IMSUPDATE command
 ACB-NOT-FOUND [186](#)
 DSNAME-ERROR-DBRC- SYMBOLS [187](#)
 IMS-ACBLIB-DATASETS [187](#)
 IMS-ACBLIB-DDN [187](#)
 IMS-GROUP [187](#)
 IMS-MACLIB-DATASETS [188](#)
 IMS-MACLIB-DDN [188](#)
 IMS-RESLIB-DATASETS [186](#)
 IMS-RESLIB-DDN [186](#)
 IMS-RSENAME [188](#)
 IMS-SSID [186](#)
 IMS-SUFFIX [189](#)
 IMSRDS2-DSN [188](#)
 JCLPDS-DATASETS [189](#)
 JCLPDS-DDN [189](#)
 JCLPDS-NOT-UPDATED [189](#)
 JOURNAL-DDN [186](#)
 JOURNAL-DSN [186](#)
 MDA-DATASETS [189](#)
 MDA-DDN [189](#)
 MDA-NOT-UPDATED [190](#)
 MODBLKS-DSN [190](#)
 MODBLKSA-DSN [190](#)
 MODBLKSB-DSN [190](#)
 MODSTAT-DSN [190](#)
 MODSTAT2-DSN [191](#)
 RDDSDATASETS [191](#)
 RDDSDDN [191](#)
 RDDSDNOT-UPDATED [191](#)
 RECON-DATASETS [191](#)
 RECON-DDN [191](#)
 RECON-NOT-UPDATED [191](#)
 REMOVE-MEMBER [192](#)
 RENAME-ARCHIVE-LOGS [192](#)
 RENAME-CAS [192](#)
 RENAME-ICS [192](#)
 SIMULATE [193](#)
 IMSUPDATE command defaults
 ISPF interface [101–106, 108–114, 117–126](#)
 In-stream steps
 Set up for FlashCopy [49, 52](#)
 Set up for Snapshot [49, 52](#)
 INDEXES
 IMSDBREFRESH command [244](#)
 INI comments
 GCLINI [24](#)
 INI Statement Continuation Rules
 GCLINI [24](#)
 Initiate volume relationships using
 COPYCHECK [173](#)
 Innovation Data Processing FDRPAS [9](#)
 installation
 modify hlq.SGCLJCL [14](#)
 setting GCLINI keywords [14](#)
 ISPF
 CLIST [18](#)
 IMS control file [18](#)
 ISPF interface
 configuring IMS subsystems [102](#)
 configuring user settings [103](#)
 database refresh DD descriptions [113](#)

ISPF interface (*continued*)
database refresh defaults
DDs [112](#)
Main Menu [101](#)
setting subsystem cloning defaults [104](#)
setting user defaults [103](#)
specifying subsystem cloning information [102](#)

J

JCL
BCSCLEAN [158](#)
COPY [172](#)
COPYCHECK step
Sample control statements [175](#)
JCL example [158](#)
JCL FINDUCATS step
Sample control statements [196](#)
JCL IMSDBCLEAN step
Sample control statements [253](#)
JCL IMSDBREFRESH step
Sample control statements [250](#)
JCL IMSDBSTART step
Sample control statements [234](#)
JCL IMSDBSTOP step
Sample control statements [231](#)
JCL JRNLUPGRADE step
Sample control statements [198](#)
JCL ONLINECLIP step
Sample control statements [200](#)
JCL RENAME step
Sample control statements [213](#)
JCL UCATOPTIONS step
Sample control statements [216](#)
JCL VOLOPTIONS step
Sample control statements [227](#)
JCLPDS-DATASETS
IMSUPDATE command [189](#)
JCLPDS-NOT-UPDATED
IMSUPDATE command [189](#)
job stream steps
Set up for FlashCopy [52](#)
Set up for SnapShot [52](#)
Job stream steps
Set up for FlashCopy [49](#)
Set up for FlashCopy or Snapshot [49](#)
Set up for FlashCopy or SnapShot [52](#)
Set up for SnapShot [49](#)
Journal data set
Upgrade [196](#)
JOURNAL file [9](#)
JOURNAL-DDSN
BCSCLEAN [158](#)
COPY [162](#)
COPYCHECK [174](#)
IMSUPDATE [186](#)
JRNLUPGRADE [198](#)
ONLINECLIP [199](#)
VOLOPTIONS [225](#)
JOURNAL-DSN
COPY [162](#)
COPYCHECK [174](#)
IMSUPDATE [186](#)
JRNLUPGRADE [198](#)

JOURNAL-DSN (*continued*)
ONLINECLIP [199](#)
VOLOPTIONS [225](#)
JRNLUPGRADE
Command scenarios [197](#)
JRNLUPGRADE command
JOURNAL-DDN [198](#)
JOURNAL-DSN [198](#)
OLD-JOURNAL-DDN
[198](#)
OLD-JOURNAL-DSN [198](#)
Step JCL [198](#)

K

Keyword definitions
BCSCLEAN command
JOURNAL-DDN [158](#)
JOURNAL-DSN [158](#)
COPY
JOURNAL-DSN [162](#)
COPY command [161](#)
COPYCHECK
JOURNAL-DSN [174](#)
FINDUCATS command [195](#)
IMSDBSTART command [233](#)
IMSDBSTOP command [230](#)
IMSUPDATE
JOURNAL-DSN [186](#)
JRNLUPGRADE
JOURNAL-DSN [198](#)
OLD-JOURNAL-DSN
[198](#)
VOLOPTIONS
JOURNAL-DSN [225](#)
VOLOPTIONS command [225](#)

L

legal notices
cookie policy [431](#)
notices [431](#)
programming interface information [431](#), [432](#)
trademarks [431](#)
links
non-IBM Web sites
[433](#)
LIST
VOLOPTIONS command [226](#)
logger exit [15](#)

M

Main Menu [101](#)
Maintenance
ways to reduce storage management [43](#)
MDA-DATASETS
IMSUPDATE command [189](#)
MDA-NOT-UPDATED
IMSUPDATE command [190](#)
Message
naming conventions [255](#)
Migrated application data sets [43](#)

- MODBLKS-DSN
 - IMSUPDATE command [190](#)
- MODBLKSA-DSN
 - IMSUPDATE command [190](#)
- MODBLKSB-DSN
 - IMSUPDATE command [190](#)
- MODE
 - IMSSTOP command [182](#)
- MODSTAT-DSN
 - IMSUPDATE command [190](#)
- MODSTAT2-DSN
 - IMSUPDATE command [190](#)
- Multivolume data sets [43](#)

N

- Naming conventions and rename masks [44](#)
- New IMS subsystem
 - Applications to be cloned [47](#)
 - IMS.PROCLIB and IMS.JOBS members [47](#)
 - Operating system preparation [49](#)
 - Reviewing source components [47](#)
- NEWTARGETS
 - VOOPTIONS command [226](#)
- NEWTARGETS-DDN
 - VOOPTIONS command [226](#)
- NEWTARGETSDEVN
 - VOOPTIONS command [226](#), [227](#)
- NOFEOV
 - IMSDBREFRESH command [245](#)
 - IMSDBSTOP command [230](#)
- notices [431](#), [432](#)
- NOTRENAMED [42](#)
- NOUSERCATALOGS
 - COPY command [164](#)

O

- Offline volume
 - With DATA-MOVER(PGM(ADRDSU)) [172](#)
- OFFLINECLIP
 - VOOPTIONS command [226](#)
- OLD-JOURNAL-DDN
 - JRNLUPTGRADE [198](#)
- OLD-JOURNAL-DSN
 - JRNLUPTGRADE [198](#)
- On-site mirroring tools [8](#), [9](#)
- ONLINECLIP command
 - JOURNAL-DDN [199](#)
 - JOURNAL-DSN [199](#)
 - Step JCL [200](#)
 - WRONG-VOLSER [200](#)
- Operating system preparation
 - For new IMS subsystem [49](#)
- output
 - EBCDIC code set [17](#)
- overview
 - configuration steps [12](#)
 - database cloning configuration [22](#)
- Overview
 - Cloning volumes with EMC TimeFinder/Mirror [55](#)
 - Copying volumes with FlashCopy or SnapShot

Overview (*continued*)

- Copying volumes with FlashCopy or SnapShot (*continued*)
 - Setup [50](#)
 - Creating an IMS subsystem [46](#)
 - Creating volumes with mirroring tools [53](#)

P

- P.I.T. copy tools [9](#)
- Planning
 - IMS database cloning [73](#)
 - IMS subsystem cloning [41](#)
- Planning for volume copies and renames
 - Data set and sphere integrity [43](#)
 - Data set renaming considerations [44](#)
 - Discrete volumes versus SMS storage group specification [43](#)
 - Migrated application data sets [43](#)
 - Source and target volume pairing
 - Requirements [43](#)
 - Volume relationship conflicts [44](#)
- Point-in-time copy tools [8](#)
- POSTCOPY
 - IMSDBREFRESH command [246](#)
- PRECOPY
 - IMSDBREFRESH command [245](#)
- Prevent access to target volumes
 - Using COPYCHECK [173](#)
- Process
 - Placing steps in application job stream
 - Begin application access to target volumes [55](#), [58](#)
 - COPY step [51](#), [54](#), [57](#)
 - Create a second subsystem to use for accessing the renamed data sets [52](#)
 - Establish continual mirrors [54](#), [56](#)
 - FINDUCATS step [51](#), [53](#), [56](#)
 - Quiesce application activity [51](#), [54](#), [57](#)
 - RENAME step [51](#)
 - Resume access to source volumes [51](#)
 - Split or break mirrors [54](#), [57](#)
- programming interface information [431](#), [432](#)

Q

- Quiesce application activity [51](#), [54](#), [57](#)

R

- RDDS-DATASETS
 - IMSUPDATE command [191](#)
- RDDS-DDN
 - IMSUPDATE command [191](#)
- RDDS-NOT-UPDATED
 - IMSUPDATE command [191](#)
- reader comment form [5](#)
- RECATALOG
 - renaming target catalog [44](#)
- RECON-DATASETS
 - IMSUPDATE command [191](#)
- RECON-DDN
 - IMSUPDATE command [191](#)
- RECON-NOT-UPDATED
 - IMSUPDATE command [191](#)

- REMOVE-MEMBER
 - IMSUPDATE command [192](#)
- RENAME
 - Considerations [201](#)
- RENAME command
 - Step JCL [213](#)
- RENAME command defaults
 - ISPF interface [101–106, 108–114, 117–126](#)
- Rename masks
 - Existing naming conventions [44](#)
 - GDG base names [43](#)
 - Matching cluster names [43](#)
 - Newname syntax [202](#)
 - Oldname syntax [202](#)
- RENAME-ARCHIVE-LOGS
 - IMSUPDATE command [192](#)
- RENAME-CAS
 - IMSUPDATE command [192](#)
- RENAME-ICS
 - IMSUPDATE command [192](#)
- REPLACE-TARGET-DS
 - IMSDBREFRESH command [247](#)
- requirements
 - authorization [10](#)
 - software [7](#)
- Requirements
 - Source and target volume pairing
 - Requirements [43](#)
- requirementshardware [7](#)
- requirementsstorage
 - installation [8](#)
 - memory [8](#)
- resources [9](#)
- RESTART-CMD
 - IMSSTART command [178](#)
- RESUME
 - VOLOPTIONS command [226](#)
- Resume application access to target volumes [52, 55, 58](#)
- Return codes
 - Choosing [46](#)
 - Setting [46](#)
- RVA DASD
 - RVA partition [43](#)
 - Source and target volume pairing [43](#)
 - Track format [43](#)

S

- screen readers and magnifiers [6](#)
- security
 - prevent unauthorized use [15](#)
- Selection of source and target volumes
 - Discrete volumes versus SMS storage group specification [43](#)
 - Migrated application data sets [43](#)
 - Requirements [43](#)
 - Source and target volume pairing [43](#)
- service information [5](#)
- setting database refresh defaults
 - ISPF interface [101–106, 108–114, 117–126](#)
- Setup
 - Copying volumes with FlashCopy or SnapShot [50](#)
 - For creating an IMS subsystem [46](#)
 - To copy volumes with FlashCopy or SnapShot [49](#)

- SGCLJCL [9](#)
- SGCLLOAD [9](#)
- SGCLPARM [9](#)
- SIMULATE
 - COPY command [171](#)
 - IMSDBCLEAN command [252](#)
 - IMSDBREFRESH command [247](#)
 - IMSDBSTART command [234](#)
 - IMSDBSTOP command [231](#)
 - IMSSETLOG command [176](#)
 - IMSSTART command [179](#)
 - IMSSTOP command [182](#)
 - IMSUPDATE command [193](#)
 - VOLOPTIONS command [226](#)
- SMF records [9](#)
- SnapShot
 - Set up job steam [49](#)
 - Set up job stream [52](#)
 - Setting up to copy volumes with [49](#)
 - Source and target volume pairing [43](#)
- Softek Replicator [9](#)
- software requirements [7](#)
- Source and target volume
 - Condition [42](#)
 - Data set integrity [43](#)
 - Sphere integrity [43](#)
- Source and target volume pairing
 - FlashCopy [43](#)
 - Requirements [43](#)
- Source and target volume pairing requirements [43](#)
- Source volume
 - Names [160](#)
 - Scope [42](#)
- Source volumes
 - Offline volumes [172](#)
- SOURCESONLINE
 - COPY command [171](#)
- Split or break mirrors [54, 57](#)
- STARTCMD
 - IMSSTART command [178](#)
- STARTCQS
 - IMSSTART command [179](#)
- STARTCSL
 - IMSSTART command [179](#)
- STARTIRLM
 - IMSSTART command [179](#)
- STOPCSL
 - IMSSTOP command [183](#)
- STOPIRLM
 - IMSSTOP command [183](#)
- Storage group specification
 - DATA-MOVER(PGM(ADRDSSU)) [172](#)
- storage requirements [8](#)
- subsystem cloning
 - building the cloning jobs [122](#)
 - ISPF interface [101–106, 108–114, 117–126](#)
 - selecting source and target subsystems [120](#)
 - specify rename masks [122](#)
 - specify source and target ICF catalogs [121](#)
 - submitting the cloning jobs [123](#)
- subsystem cloning step summary
 - ISPF interface [101–106, 108–114, 117–126](#)
- subsystem cloning steps
 - ISPF interface [101–106, 108–114, 117–126](#)

- summary of changes [2](#)
- support information [5](#)
- supported
 - fast copy software [7](#)
 - IMS versions [7](#)
 - z/OS versions [7](#)
- Supported
 - Fast replication tools [8](#)
 - On-site mirroring tools [8](#), [9](#)
 - P.I.T. copy tools [9](#)
 - Point-in-time copy tools [8](#)
 - Volume copy tools [8](#)
- Supported volume copy products
 - FlashCopy [43](#)
- syntax
 - BCSCLEAN command [158](#)
 - COPY command [159](#)
 - COPY command syntax [159](#)
 - COPYCHECK command [174](#)
 - IMSDBSTART command [232](#)
 - IMSDBSTOP command [229](#)
 - IMSSETLOG command [175](#)
 - IMSSTART command [177](#)
 - VOLOPTIONS command [225](#)
- syntax rules
 - GCLINI [23](#)

T

- Target catalog
 - Delete 'old cycle' entries
 - Using BCSLCEAN [58](#), [61](#)
 - Using BCSLCEAN command [55](#) with BCSLCEAN [67](#)
 - Delete 'old cycle' entries with BCSLCEAN [58](#), [61](#), [67](#)
- Target ICF catalog
 - Aliases [46](#)
 - Considerations [44](#)
 - Source and target location [45](#)
- Target volume
 - Data sets [42](#)
 - Online status [42](#)
- Target volume names [160](#)
- Target volumes
 - Access [52](#), [55](#), [58](#)
 - Offline volumes [172](#)
 - Prevent access using COPYCHECK [173](#)
- TARGET-VOLS-SHOULD-BE-EMPTY
 - COPY command [172](#)
- TARGETSONLINE
 - COPY command [171](#)
- TARGETSUONLINE
 - COPY command [171](#)
- technotes [5](#)
- TO-STORAGEGROUP
 - COPY command [165](#)
- TO-USER-STORAGEGROUP
 - COPY command [165](#)
- TO-VOLSER
 - COPY command [166](#)
- token names
 - GCLINI [24](#)
- token values

- token values (*continued*)
 - GCLINI [24](#)
- trademarks [431](#)

U

- UCATOPTIONS command
 - BACKUP FORCE [215](#)
 - LIST [215](#)
 - Step JCL [216](#)
- User catalogs
 - Identify
 - Using the FINDUCATS step [53](#), [56](#)
- USERCATALOGS
 - COPY command [162](#)
- USERCATALOGS-BACKUPFIRST
 - COPY command [164](#)
- USERCATALOGS-NOBACKUP
 - COPY command [163](#)
- USERSGDEFS-DDN
 - COPY command [166](#)
- USERSGDEFS-OFFSETS
 - COPY command [166](#)

V

- VARYOFF command
 - Step JCL [219](#)
- VARYON command
 - Step JCL [223](#)
- VOLOPTIONS [224](#)
- VOLOPTIONS command
 - CLIP [226](#)
 - JOURNAL-DDN [225](#)
 - JOURNAL-DSN [225](#)
 - Keyword definitions [225](#)
 - LIST [226](#)
 - NEWTARGETS [226](#)
 - NEWTARGETS-DDN [226](#)
 - NEWTARGETSDEVN [226](#), [227](#)
 - OFFLINECLIP [226](#)
 - RESUME [226](#)
 - SIMULATE [226](#)
 - Step JCL [227](#)
- VOLOPTIONS command syntax [225](#)
- VOLPAIRS
 - COPY command [167](#)
- VOLPAIRS-DDN
 - COPY command [167](#)
- VOLPAIRSDEVN
 - COPY command [167](#)
- VOLPAIRSDEVN-DDN
 - COPY command [167](#)
- VOLPAIRSDEVN-NOCLIP
 - COPY command [167](#)
- VOLPAIRSDEVN-NOCLIP-DDN
 - COPY command [167](#)
- VOLSER mask specification
 - DATA-MOVER(PGM(ADRDSSU)) [172](#)
- volume cloning [145](#)
- Volume copies
 - COPY step JCL [172](#)
 - Identify impacted user catalogs [53](#), [56](#)

- Volume copies (*continued*)
 - Using the COPY step [51](#)
- Volume copy tools [8](#)
- Volume names
 - For source and target [160](#)
- Volume relationship conflicts
 - COPYCHECK command [44](#)
- Volume relationships
 - Initiate using COPYCHECK [173](#)
- Volume that is specified by an SMS storage group [43](#)
- Volume-level fast replication [8](#)
- Volumes not found [172](#)
- VSAM spheres
 - Cluster names that match a rename mask [43](#)
 - Source volume list [43](#)

W

- WAIT
 - COPYCHECK [174](#)
 - IMSDBREFRESH command [249](#)
 - IMSDBSTOP command [231](#)
 - IMSSTART command [180](#)
 - IMSSTOP command [184](#)
- WAIT keyword in COPYCHECK step [173](#)
- WAITONLY
 - IMSSTOP command [184](#)
- what's new [2](#)
- WITHDRAW
 - COPYCHECK [174](#)



Product Number: 5655-U91

SC19-3757-04

