Program Directory for
IBM CICS Interdependency Analyzer
for z/OS

V6.3.0

Program Number 5655-YB1

FMIDs H274630, J27463E, J27463K

for use with
z/OS

Document Date: October 2025

GI13-5669-01

Note

Before using this information and the product it supports, be sure to read the general information under 7.0, “Notices” on page 27.

© **Copyright International Business Machines Corporation 2001, 2025.**
© **HCL Technologies, 2018, 2025**
Note to U.S. Government Users — Documentation related to restricted rights — Use, duplication or disclosure is subject to restrictions set forth in GSA ADP Schedule Contract with IBM Corp.

Contents

© Copyright IBM Corp. 2001, 2025

Figures

1.0 Introduction

This program directory is intended for system programmers who are responsible for program installation and maintenance. It contains information about the material and procedures associated with the installation of CICS Interdependency Analyzer for z/OS. This publication refers to CICS Interdependency Analyzer for z/OS as CICS IA.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 4 identifies the basic program materials and documentation for CICS IA.
- 3.0, “Program Support” on page 6 describes the IBM support available for CICS IA.
- 4.0, “Program and Service Level Information” on page 7 lists the APARs (program level) and PTFs (service level) that have been incorporated into CICS IA.
- 5.0, “Installation Requirements and Considerations” on page 9 identifies the resources and considerations that are required for installing and using CICS IA.
- 6.0, “Installation Instructions” on page 18 provides detailed installation instructions for CICS IA. It also describes the procedures for activating the functions of CICS IA, or refers to appropriate publications.

Before installing CICS IA, read the *CBPDO Memo To Users* and the *CBPDO Memo To Users Extension* that are supplied with this program in softcopy format and this program directory; after which, keep the documents for your reference. Section 3.2, “Preventive Service Planning” on page 6 tells you how to find any updates to the information and procedures in this program directory.

CICS IA is supplied in a Custom-Built Product Delivery Offering (CBPDO, 5751-CS3). The program directory that is provided in softcopy format on the CBPDO is identical to the hardcopy format if one was included with your order. All service and HOLDDATA for CICS IA are included on the CBPDO.

Do not use this program directory if you install CICS IA with a z/OSMF Portable Software Instance (z/OSMF Portable Software Instance (ServerPac)). When you use one of those offerings, use the jobs and documentation supplied with the offering. The offering will point you to specific sections of this program directory as needed.

1.1 CICS IA Description

CICS Interdependency Analyzer for z/OS continues to support a wide range of capabilities and fully supports new CICS Transaction Server V6.3. Building on previous releases, CICS Interdependency Analyzer for z/OS contains updates to reflect those commands for which CICS Transaction Server V6.3 has updated the threadsafe status allowing more applications to run without requiring a switch to QR TCB mode.

- **Show the command EXEC CICS START with ATTACH parameter**

© Copyright IBM Corp. 2001, 2025

Change the Command flow function as "START ATTACH" and function ID as "FE39" for command EXEC CICS START with ATTACH parameter.

- **Show the command EXEC CICS START with BREXIT parameter**

  Change the Command flow function as "START BREXIT" and function ID as "FE3A" for command EXEC CICS START with BREXIT parameter.

- **Include the PTTRANSID and PTTASKID fields in command flow report**

  New fields PTTRANSID and PTTASKID are included in command flow report which will make the command flow data collection more efficient. Below are the field descriptions:

  PTTASKID(data-area): Returns the 4-byte packed decimal identifier from previous or parent transaction data. If the specified task was initiated by another task in the same CICS region, PTTASKID contains the identifier of the task in the local CICS region, or packed decimal zero if it was not initiated in this way.

  PTTRANSID(data-area): Returns the 4-character name of a transaction from previous or parent transaction data. If the specified task was initiated by another task in the same CICS region, PTTRANSID contains the transaction name of the task in the same CICS region, or spaces if it was not initiated in this way.

- **ADD HEADER TO COMMAND FLOW CSV FILES**

  In the command flow feature we can generate csv files for command flow data collected in CIU_CMDFLOW_DATA and CIU_CMDFLOW_INDEX DB2 tables. However, the generated csv files don't have header information of the fields. By adding header details to the csv file, it will help to map what each value is referring to. In the batch job CIUUDB4 a new "Header" parameter is introduced which defaults to 0 meaning no header will be populated in the generated csv files and when set as 1 it will generate the csv files with header as well.

1.1.1 New or changed commands in CICS IA 6.3 collector.

CICS IA 6.3 includes the support for the following CICS Transaction Server for z/OS commands. The commands are listed in alphabetical order. For more information, see the CICS Transaction Server for z/OS Documentation.

- DEFINE - TIMER
- INVOKE - SERVICE
- INQUIRE - OTEL and TRANSACTION
- SET - OTEL and TRANSACTION
- WEB - OPEN

1.2 CICS IA FMIDs

CICS IA consists of the following FMIDs:

H274630
J27463E
J27463K

2.0 Program Materials

An IBM program is identified by a program number. The program number for CICS IA is 5655-YB1.

Basic Machine-Readable Materials are materials that are supplied under the base license and are required for the use of the product.

The program announcement material describes the features supported by CICS IA. Ask your IBM representative for this information if you have not already received a copy.

2.1 Basic Machine-Readable Material

The distribution medium for this program is physical media or downloadable files. This program is in SMP/E RELFILE format and is installed by using SMP/E. See 6.0, “Installation Instructions” on page 18 for more information about how to install the program.

You can find information about the physical media for the basic machine-readable materials for CICS IA in the *CBPDO Memo To Users Extension*.

2.2 Program Publications

The following sections identify the basic publications for CICS IA.

Figure 1 identifies the basic unlicensed publications for CICS IA. Those that are in softcopy format can be obtained from the IBM Publications Center website at https://www.ibm.com/docs/en/ciafz

Figure 1. Basic Material: Unlicensed Publications

Publication Title	Direct Link
License information DVD for CICS Interdependency Analyzer for z/OS.	See link above
CICS Interdependency Analyzer for z/OS: Program Directory.	See link above
CICS Interdependency Analyzer for z/OS: User's Guide and Reference.	See link above

Note: These basic unlicensed publications can be found at **IBM Products documentation** https://www.ibm.com/docs/en/products and by direct link listed in the table.

2.3 Program Source Materials

Customers with access to View Program Listings (VPL), such as through S/390 SoftwareXcel, can use the VPL facility for online viewing of available program listings. Customers without access to VPL can contact their IBM representative for available program listings.

© Copyright IBM Corp. 2001, 2025

2.4 Publications Useful During Installation

You might want to use the publications listed in Figure 2 on page 5 during the installation of CICS IA which can be found at **IBM Products documentation** https://www.ibm.com/docs/en/products .

Figure 2. Publications Useful During Installation
Publication
IBM SMP/E for z/OS User's Guide
IBM SMP/E for z/OS Reference
IBM SMP/E for z/OS Commands
IBM SMP/E for z/OS Messages, Codes, and Diagnosis

3.0 Program Support

This section describes the IBM support available for CICS IA.

3.1 Program Services

Contact your IBM representative for specific information about available program services.

3.2 Preventive Service Planning

Before you install CICS IA, make sure that you review the PSP bucket information for IBM Z products document https://www.ibm.com/support/pages/node/7127792. It contains the latest information concerning the installation of IBM products, including the latest service recommendations and cross-product dependencies. This information was previously available in traditional PSP buckets, which are no longer published for IBM Z products.

For support, access the Software Support Website at https://www.ibm.com/mysupport/

3.3 Statement of Support Procedures

Report any problems which you feel might be an error in the product materials to your IBM Support Center. You may be asked to gather and submit additional diagnostics to assist the IBM Support Center in their analysis.

Figure 3 identifies the component IDs (COMPID) for CICS IA.

Figure 3. Component IDs

FMID	COMPID	Component Name	Release
H274630	5655YB100	CICS IA Base Function	630
J27463E	5655YB100	CICS IA English Function	63E
J27463K	5655YB100	CICS IA Japanese Function	63K

© Copyright IBM Corp. 2001, 2025

4.0 Program and Service Level Information

This section identifies the program and relevant service levels of CICS IA. The program level refers to the APAR fixes that have been incorporated into the program. The service level refers to the PTFs that have been incorporated into the program.

4.1 Program Level Information

The following APAR fixes against previous releases of CICS IA have been incorporated into this release. They are listed by FMID.

- FMID H274630

PH06832	PH30381	PH51679
PH08000	PH36994	PH57351
PH09645	PH32733	PH61635
PH10243	PH26363	PH61637
PH14562	PH39725	PH61639
PH16638	PH40962	PH62073
PH06695	PH44069	PH64698
PH21850	PH32437	PH67218
PH21851		

- FMID J27463E

PH08000	PH21851	PH61639
PH10243	PH44069	PH67218
PH16638	PH61635	

- FMID J27463K

PH08000	PH21851	PH61639
PH10243	PH44069	PH67218
PH16638	PH61635	

© Copyright IBM Corp. 2001, 2025

4.2 Service Level Information

PTFs containing APAR fixes against this release of CICS IA have been incorporated into this product package. For a list of included PTFs, examine the ++VER statement in the product's SMPMCS.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating CICS IA. The following terminology is used:

- *Driving system*: the system on which SMP/E is executed to install the program.

  The program might have specific operating system or product level requirements for using processes, such as binder or assembly utilities during the installation.

- *Target system*: the system on which the program is configured and run.

  The program might have specific product level requirements, such as needing access to the library of another product for link-edits. These requirements, either mandatory or optional, might directly affect the element during the installation or in its basic or enhanced operation.

In many cases, you can use a system as both a driving system and a target system. However, you can make a separate IPL-able clone of the running system to use as a target system. The clone must include copies of all system libraries that SMP/E updates, copies of the SMP/E CSI data sets that describe the system libraries, and your PARMLIB and PROCLIB.

Use separate driving and target systems in the following situations:

- When you install a new level of a product that is already installed, the new level of the product will replace the old one. By installing the new level onto a separate target system, you can test the new level and keep the old one in production at the same time.
- When you install a product that shares libraries or load modules with other products, the installation can disrupt the other products. By installing the product onto a separate target system, you can assess these impacts without disrupting your production system.

5.1 Driving System Requirements

This section describes the environment of the driving system required to install CICS IA.

5.1.1 Machine Requirements

The driving system can run in any hardware environment that supports the required software.

5.1.2 Programming Requirements

© Copyright IBM Corp. 2001, 2025

Figure 4. Driving System Software Requirements

Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
5650-ZOS	z/OS	02.05.00 or above	N/A	No
5655-ZOS	z/OS	03.01.00	N/A	No

Note: SMP/E is a requirement for Installation and is an element of z/OS.

Note: Installation might require migration to new z/OS releases to be service supported. See https://www.ibm.com/support/lifecycle/

5.2 Target System Requirements

This section describes the environment of the target system required to install and use CICS IA.

CICS IA installs in the CICS (C150) SREL.

5.2.1 Machine Requirements

The target system can run in any hardware environment that supports the required software.

5.2.2 Programming Requirements

5.2.2.1 Installation Requisites

Installation requisites identify products that are required and *must* be present on the system or products that are not required but *should* be present on the system for the successful installation of this product.

Mandatory installation requisites identify products that are required on the system for the successful installation of this product. These products are specified as PREs or REQs.

Figure 5 (Page 1 of 2). Target System Mandatory Installation Requisites

Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
Any **one** of the following:				
5650-ZOS	z/OS	V2.5 and above	N/A	No

Figure 5 (Page 2 of 2). Target System Mandatory Installation Requisites				
Program Number	**Product Name**	**Minimum VRM**	**Minimum Service Level will satisfy these APARs**	**Included in the shipped product?**
5655-ZOS	z/OS	V3.1 and above	N/A	No
Any **one** of the following:				
5655-Y04	CICS TS	V5.5 or higher	N/A	No
5655-YA1	CICS TS	V6.1 or higher	N/A	No

Note: Installation might require migration to new releases to obtain support. See https://www.ibm.com/support/lifecycle/

Note: The CICS IA Collector can run on versions of CICS TS that are no longer in service. These include

- CICS Transaction Server for z/OS V4.2
- CICS Transaction Server for z/OS V5.1, V5.2, V5.3 or V5.4

5.2.2.2 Operational Requisites

Operational requisites are products that are required and *must* be present on the system or products that are not required but *should* be present on the system for this product to operate all or part of its functions.

Mandatory operational requisites identify products that are required for this product to operate its basic functions.

Figure 6 (Page 1 of 2). Target System Mandatory Operational Requisites	
Program Number	**Product Name and Minimum VRM/Service Level**
Any **one** of the following:	
5650-DB2	DB2 for z/OS, V12.1 or later
5698-DB2	DB2 for z/OS, V13.1 or later
Any **one** of the following:	
5770-AF4	Utilities: DB2 Utilities Suite for z/OS, V12.1 or later
5698-DUT	Utilities: DB2 Utilities Suite for z/OS, V13.1 or later
	Utilities: An equivalent vendor DB2 Utilities package
Any **one** of the following:	
5650-ZOS	DFSORT Z/OS 2.5 or later

Figure 6 (Page 2 of 2). Target System Mandatory Operational Requisites	
Program Number	**Product Name and Minimum VRM/Service Level**
5655-ZOS	DFSORT Z/OS 3.1 or later
	An equivalent vendor SORT utility
Any **one** of the following:	
5655-Y04	CICS TS, V5.5 or later
5655-YA1	CICS TS, V6.1 or later

Note: Installation might require migration to new releases to obtain support. See https://www.ibm.com/support/lifecycle/

Conditional operational requisites identify products that are *not* required for this product to operate its basic functions but are required at run time for this product to operate specific functions. These products are specified as IF REQs.

CICS IA has no conditional operational requisites.

5.2.2.3 Toleration/Coexistence Requisites

Toleration/coexistence requisites identify products that must be present on sharing systems. These systems can be other systems in a multisystem environment (not necessarily sysplex), a shared DASD environment (such as test and production), or systems that reuse the same DASD environment at different time intervals.

CICS IA has no toleration/coexistence requisites.

5.2.2.4 Incompatibility (Negative) Requisites

Negative requisites identify products that must *not* be installed on the same system as this product.

CICS IA has no negative requisites.

5.2.3 DASD Storage Requirements

CICS IA libraries can reside on all supported DASD types.

Figure 7 lists the total space that is required for each type of library.

Figure 7. Total DASD Space Required by CICS IA

Library Type	Total Space Required in 3390 Trks	Description
Target	975 Tracks	
Distribution	900 Tracks	
File System(s)	600 Tracks	

Notes:

1. For non-RECFM U data sets, IBM recommends using system-determined block sizes for efficient DASD utilization. For RECFM U data sets, IBM recommends using a block size of 32760, which is most efficient from the performance and DASD utilization perspective.
2. Abbreviations used for data set types are shown as follows.

   U Unique data set, allocated by this product and used by only this product. This table provides all the required information to determine the correct storage for this data set. You do not need to refer to other tables or program directories for the data set size.

   S Shared data set, allocated by this product and used by this product and other products. To determine the correct storage needed for this data set, add the storage size given in this table to those given in other tables (perhaps in other program directories). If the data set already exists, it must have enough free space to accommodate the storage size given in this table.

   E Existing shared data set, used by this product and other products. This data set is *not* allocated by this product. To determine the correct storage for this data set, add the storage size given in this table to those given in other tables (perhaps in other program directories). If the data set already exists, it must have enough free space to accommodate the storage size given in this table.

   If you currently have a previous release of this product installed in these libraries, the installation of this release will delete the old release and reclaim the space that was used by the old release and any service that had been installed. You can determine whether these libraries have enough space by deleting the old release with a dummy function, compressing the libraries, and comparing the space requirements with the free space in the libraries.

   For more information about the names and sizes of the required data sets, see 6.1.7, “Allocate SMP/E Target and Distribution Libraries” on page 21.
3. Abbreviations used for the file system path type are as follows.

   N New path, created by this product.
   X Path created by this product, but might already exist from a previous release.
   P Previously existing path, created by another product.
4. All target and distribution libraries listed have the following attributes:

   - The default name of the data set can be changed.
   - The default block size of the data set can be changed.

- The data set can be merged with another data set that has equivalent characteristics.
- The data set can be either a PDS or a PDSE, with some exceptions. If the value in the "ORG" column specifies "PDS", the data set must be a PDS. If the value in "DIR Blks" column specifies "N/A", the data set must be a PDSE.

5. All target libraries listed have the following attributes:

   - These data sets can be SMS-managed, but they are not required to be SMS-managed.
   - These data sets are not required to reside on the IPL volume.
   - The values in the "Member Type" column are not necessarily the actual SMP/E element types that are identified in the SMPMCS.

6. All target libraries that are listed and contain load modules have the following attributes:

   - These data sets can not be in the LPA, with some exceptions. If the data set should be placed in the LPA, see the Special Considerations section below.
   - These data sets can be in the LNKLST. If so, see the Special Considerations section below.
   - These data sets are not required to be APF-authorized, with some exceptions. If the data set must be APF-authorized, see the Special Considerations section below.

The following figures describe the target and distribution libraries and file system paths required to install CICS IA. The storage requirements of CICS IA must be added to the storage required by other programs that have data in the same library or path.

Note: Use the data in these tables to determine which libraries can be merged into common data sets. In addition, since some ALIAS names may not be unique, ensure that no naming conflicts will be introduced before merging libraries.

Figure 8 (Page 1 of 2). Storage Requirements for CICS IA Target Libraries

Library DDNAME	Member Type	Target Volume	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
SCIUINST	SAMP	ANY	U	PDS	FB	80	15	20
SCIUDAT1	SAMP	ANY	U	PDS	FB	80	15	10
SCIUDAT2	SAMP	ANY	U	PDS	FB	110	15	10
SCIUDAT3	SAMP	ANY	U	PDS	FB	2048	300	5
SCIUDBRM	SAMP	ANY	U	PDS	FB	80	15	5
SCIUEXEC	SAMP	ANY	U	PDS	FB	80	15	5
SCIUSAMP	SAMP	ANY	U	PDS	FB	80	75	10
SCIUSQL	SAMP	ANY	U	PDS	FB	80	120	16
SCIUSRCE	SAMP	ANY	U	PDS	FB	80	15	5
SCIULOAD	LMOD	ANY	U	PDS	U	0	180	100

Figure 8 (Page 2 of 2). Storage Requirements for CICS IA Target Libraries

Library DDNAME	Member Type	Target Volume	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
SCIUMLIE	SAMP	ANY	U	PDS	FB	80	15	5
SCIUPLIE	SAMP	ANY	U	PDS	FB	80	30	30
SCIUSAME	SAMP	ANY	U	PDS	FB	80	15	5
SCIUTLIE	SAMP	ANY	U	PDS	FB	80	15	5
SCIULODE	LMOD	ANY	U	PDS	U	0	30	10
SCIUMLIK	SAMP	ANY	U	PDS	FB	80	15	2
SCIUPLIK	SAMP	ANY	U	PDS	FB	80	30	30
SCIUSAMK	SAMP	ANY	U	PDS	FB	80	15	5
SCIUTLIK	SAMP	ANY	U	PDS	FB	80	15	5
SCIULODK	LMOD	ANY	U	PDS	U	0	30	20

Figure 9. CICS IA File System Paths

DDNAME	TYPE	Path Name
SCIUWSDL	N	/usr/lpp/cicsia/@ciurel@/IBM
SCIUWSBN	N	/usr/lpp/cicsia/@ciurel@/IBM

Figure 10 (Page 1 of 2). Storage Requirements for CICS IA Distribution Libraries

Library DDNAME	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
ACIUINST	U	PDS	FB	80	15	20
ACIUMOD	U	PDS	U	0	105	100
ACIUDAT1	U	PDS	FB	80	15	10
ACIUDAT2	U	PDS	FB	110	15	10
ACIUDAT3	U	PDS	FB	2048	300	5
ACIUDBRM	U	PDS	FB	80	15	5
ACIUEXEC	U	PDS	FB	80	15	5

Figure 10 (Page 2 of 2). Storage Requirements for CICS IA Distribution Libraries

Library DDNAME	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
ACIUSAMP	U	PDS	FB	80	75	10
ACIUSQL	U	PDS	FB	80	120	16
ACIUSRCE	U	PDS	FB	80	15	5
ACIUWSDL	U	PDS	V	32000	15	5
ACIUWSBN	U	PDS	V	32000	15	2
ACIUMODE	U	PDS	U	0	15	10
ACIUMLIE	U	PDS	FB	80	15	5
ACIUPLIE	U	PDS	FB	80	30	30
ACIUSAME	U	PDS	FB	80	15	5
ACIUTLIE	U	PDS	FB	80	15	5
ACIUMODK	U	PDS	U	0	15	10
ACIUMLIK	U	PDS	FB	80	15	2
ACIUPLIK	U	PDS	FB	80	30	30
ACIUSAMK	U	PDS	FB	80	15	5
ACIUTLIK	U	PDS	FB	80	15	5

5.3 FMIDs Deleted

Installing CICS IA might result in the deletion of other FMIDs. To see which FMIDs will be deleted, examine the ++VER statement in the SMPMCS of the product.

If you do not want to delete these FMIDs at this time, install CICS IA into separate SMP/E target and distribution zones.

Note: These FMIDs are not automatically deleted from the Global Zone. If you want to delete these FMIDs from the Global Zone, use the SMP/E REJECT NOFMID DELETEFMID command. See the SMP/E Commands book for details.

5.4 Special Considerations

5.4.1 IBM CICS Explorer

IBM CICS Explorer is an integration point for CICS TS, CICS tools, and CICS Transaction Gateway. It provides a common, intuitive, easy-to-use way of managing one or more CICS regions, using an Eclipse-based environment that is aimed at architects, developers, administrators, system programmers and operators.

CICS IA V6.3. customers, using the CICS Explorer with the CICS IA plug-in are able to intuitively query CICS relationship data, manage queries and navigate through complex application relationships from a standard interface. The CICS IA plug-in integrates with other CICS Explorer perspectives, for example, to click on a transaction in a CICS Performance Analyzer (CICS PA) bar chart and immediately see its dependencies, relationships, and affinities.

5.4.1.1 Supported platforms

For CICS Explorer requirements, visit http://www.ibm.com/docs/en/cics-explorer

5.4.1.2 Availability

CICS Explorer is available as a no-charge optional feature of CICS IA V6.3. Further information about the CICS Explorer and how to download it can be found at https://www.ibm.com/support/pages/cics-explorer-downloads

5.4.1.3 Service and Support

Details relating to service and support for the CICS Explorer are available at http://www.ibm.com/support/docview.wss?rs=1083&uid=swg21380083

5.4.2 SMP/E Considerations

IBM recommends that you install CICS IA into a new set of SMP/E zones, including SMPCSI, target, distribution, and zFS data sets, to allow independent maintenance of CICS IA, z/OS, and other subsystems. This Program Directory provides sample jobs and instructions to create such an SMP/E environment.

6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of CICS IA.

Please note the following points:

- If you want to install CICS IA into its own SMP/E environment, consult the SMP/E manuals for instructions on creating and initializing the SMPCSI and the SMP/E control data sets.
- You can use the sample jobs that are provided to perform part or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries that are required for SMP/E execution have been defined in appropriate zones.
- You can use the SMP/E dialogs instead of the sample jobs to accomplish the SMP/E installation steps.

6.1 Installing CICS IA

6.1.1 SMP/E Considerations for Installing CICS IA

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of CICS IA.

All installation steps must be run from a user ID that is defined to UNIX Systems Services, and has the following attributes:

- UID(0) or READ access or higher to the BPX.SUPERUSER facility class.
- READ access or higher to the BPX.FILEATTR.PROGCTL and BPX.FILEATTR.APF and BPX.FILEATTR.SHARELIB facility classes.

6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 11. Using values lower than the recommended values can result in failures in the installation. DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry. See the SMP/E manuals for instructions on updating the global zone.

Figure 11. SMP/E Options Subentry Values

Subentry	Value	Comment
DSSPACE	(55,18,24)	
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

© Copyright IBM Corp. 2001, 2025

6.1.3 SMP/E CALLLIBS Processing

CICS IA uses the CALLLIBS function provided in SMP/E to resolve external references during installation. When CICS IA is installed, ensure that DDDEFs exist for the following libraries:

- SCEELKED
- SDSNLOAD
- SDFHLOAD

Note: CALLLIBS uses the previous DDDEFs only to resolve the link-edit for CICS IA. These data sets are not updated during the installation of CICS IA.

6.1.4 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install CICS IA:

Figure 12. Sample Installation Jobs

Job Name	Job Type	Description	SMPTLIB Data Set
CIUSMPSU	ZONES	Sample job to set up SMP/E zones (see note below)	IBM.H274630.F2
CIUALLOC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.H274630.F2
CIUBPXP0	Mount points	Sample job to create mountpoints for this instance of CICS IA	IBM.H274630.F2
CIUBPXP1	Mount points	Sample job to create mountpoints for this instance of CICS IA	IBM.H274630.F2
CIUIHFS0	zFS	Sample job to create zFS and mountpoint for CICS IA	IBM.H274630.F2
CIUIHFS1	zFS	Sample job to create zFS and mountpoint for this instance of CICS IA	IBM.H274630.F2
CIUISMKD	MKDIR	Sample job to invoke the supplied CIUMKDIR EXEC to allocate zFS paths	IBM.H274630.F2
CIUDDDEF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.H274630.F2
CIURECV	RECEIVE	Sample RECEIVE job	IBM.H274630.F2
CIURECVE	RECEIVE	Sample RECEIVE job for electronic/disk input	IBM.H274630.F2
CIUAPPLY	APPLY	Sample APPLY job	IBM.H274630.F2
CIUACCPT	ACCEPT	Sample ACCEPT job	IBM.H274630.F2

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.6, “Perform SMP/E RECEIVE” on page 21) then copy the jobs from the SMPTLIB data sets to a work data set for editing and submission. See Figure 12 to find the appropriate data set.

You can also copy the sample installation jobs from the product files by submitting the following job. Before you submit the job, add a job card and change the lowercase parameters to uppercase values to meet the requirements of your site.

```
//STEP1    EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=*
//IN       DD DSN=IBM.fmid.Fy,UNIT=SYSALLDA,DISP=SHR,
//         VOL=SER=filevol
//OUT      DD DSNAME=jcl-library-name,
//         DISP=(NEW,CATLG,DELETE),
//         VOL=SER=dasdvol,UNIT=SYSALLDA,
//         SPACE=(TRK,(primary,secondary,dir))
//SYSUT3   DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN    DD *
    COPY INDD=IN,OUTDD=OUT
/*
```

See the following information to update the statements in the previous sample:

IN:
: **filevol** is the volume serial of the DASD device where the downloaded files reside.

OUT:
: **jcl-library-name** is the name of the output data set where the sample jobs are stored.
dasdvol is the volume serial of the DASD device where the output data set resides.

6.1.5 Prepare the installation environment

If you are installing into an existing global zone, check that:

- The PEMAX option entry is set to 9999, or left to default.
- The DSSPACE options entry specifies at least 800 directory blocks.

If you are installing into a new global zone, edit and submit sample job CIUSMPSU to create a new SMP/E global, target and distribution zones for CICS IA. Ensure that the job card is valid for your system. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: CIUSMPSU has a number of steps, all of which should complete with a return code of 0.

If any of the return codes is not 0, inspect the job output to determine what caused the problem and correct it, then rerun the job from the step that failed.

6.1.6 Perform SMP/E RECEIVE

If you have obtained CICS IA as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the CICS IA FMIDs, service, and HOLDDATA that are included on the CBPDO package. For more information, see the documentation that is included in the CBPDO.

You can also choose to edit and submit sample job CIURECV or CIURECVE to perform the SMP/E RECEIVE for CICS IA. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.

6.1.7 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job CIUALLOC to allocate the SMP/E target and distribution libraries for CICS IA. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.

6.1.8 CIUIHFS0 - Create new zFS, directories and mount (Optional)

The **CIUIHFS0** Job creates a directory (`/usr/lpp/cicsia`) that is used as a parent directory for the zFS mounts required for each CICS IA release. This directory and mount only need to be created once for all CICS IA releases, and if the directory currently exists the job should not be run. The follow up job **CIUIHFS1** creates a release specific zFS mounted in this directory for this release of CICS IA.

This job

- Creates the `cicsia` directory at `/usr/lpp`
- Mounts the zFS at directory `/usr/lpp/cicsia`
- Changes the permission settings for the `/usr/lpp/cicsia` directory to:
  - Owner=RWX
  - Group=RWX
  - Other=R-X

  (InYoctal-form: 775)

  Where:
  - R equates to Read
  - W equates to Write
  - X equates to Execute
  - - equates to no permission

Notes:

1. **CIUIHFS0 only needs to be run once.**
2. RACF ALTER ACCESS to the zFS data sets must be granted before running this **CIUIHFS0**.
3. The `/usr/lpp/cicsia` directory contains only directories, each being a mount point.
4. PGMNAME. requires the MOUNT issued by **CIUIHFS0** to access files stored in the zFS, but the MOUNT command is lost when you re-IPL MVS.

   Note: SCIUINST member CIUBPXP0 contains a MOUNT command for `/usr/lpp/cicsia` Copy this command into a BPXPRMxx member of the SYS1.PARMLIB data set to ensure the mount is restored when MVS is IPLed. All steps of **CIUIHFS0** must end with return code zero for the job to be successful.

6.1.9 CIUIHFS1 - create a release specific zFS mount

The **CIUIHFS1** job creates a release specific zFS mounted `/usr/lpp/cicsia` for this release of CICS IA. It

- Unmounts the zFS at directory `/usr/lpp/cicsia/`*`ciurel`* to allow the job to be rerun, and if necessary forces return code zero.
- Deletes from `/usr/lpp/cicsia` the directory defined by the *ciurel* parameter. This is to allow the job to rerun, and if necessary forces return code zero.
- Deletes the zFS specified in the @hfs1dsn@ variable to allow the job to rerun, and if necessary forces return code zero.
- Creates the zFS specified by the @hfs1dsn@ variable
- Creates the *ciurel* directory at `/usr/lpp/cicsia`, where *ciurel* is the name of the directory specified on the *ciurel* parameter.
- Mounts the zFS at directory `/usr/lpp/cicsia/`*`ciurel`* to allow the job to be rerun, and if necessary forces return code zero.
- Deletes from `/usr/lpp/cicsia` the directory defined by the *ciurel* parameter. This is to allow the job to rerun, and if necessary forces return code zero.
- Deletes the zFS specified in the @hfs1dsn@ variable to allow the job to rerun, and if necessary forces return code zero.
- Creates the zFS specified by the @hfs1dsn@ variable
- Creates the *ciurel* directory at `/usr/lpp/cicsia`, where *ciurel* is the name of the directory specified on the *ciurel* parameter.
- Mounts the zFS at directory `/usr/lpp/cicsia/`*`ciurel`*
- Changes the permission settings for the *ciurel* directory to 775.

All steps of **CIUIHFS1** must end with return code zero for the job to be successful.

CICS IA requires the MOUNT issued by **CIUIHFS1** to access files stored in the zFS, but the MOUNT command is lost when you re-IPL MVS. SCIUINST member CIUBPXP1 contains a MOUNT command for /usr/lpp/cicsia/*ciurel*. Copy this command into a BPXPRMxx member of the SYS1.PARMLIB data set to ensure the mount is restored when MVS is IPLed.

6.1.10 Allocate File System Paths

The target system zFS data set must be mounted on the driving system when running the sample CIUISMKD job since the job will create paths in the file system.

Before running the sample job to create the paths in the file system, you must ensure that OMVS is active on the driving system and that the target system's zFS file system is mounted to the driving system. zFS must be active on the driving system.

If you plan to install CICS IA into a new zFS file system, you must create the mountpoint and mount the new file system to the driving system for CICS IA.

The recommended mountpoint is */usr/lpp/cicsia*.

Edit and submit sample job CIUISMKD to allocate the file system paths for CICS IA. Consult the instructions in the sample job for more information.

If you create a new file system for this product, consider updating the BPXPRMxx PARMLIB member to mount the new file system at IPL time. This action can be helpful if an IPL occurs before the installation is completed.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.

6.1.11 Create DDDEF Entries

Edit and submit sample job CIUDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for CICS IA. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.

6.1.12 Perform SMP/E APPLY

1. Ensure that you have the latest HOLDDATA; then edit and submit sample job CIUAPPLY to perform an SMP/E APPLY CHECK for CICS IA. Consult the instructions in the sample job for more information.

   The latest HOLDDATA is available through several different portals, including https://public.dhe.ibm.com/s390/assigns/ or https://www.ibm.com/support/pages/enhanced-holddata-zos for usage instructions. The latest HOLDDATA may identify HIPER and FIXCAT APARs for the FMIDs you will be installing. An APPLY CHECK will help you determine if any HIPER or FIXCAT APARs are

applicable to the FMIDs you are installing. If there are any applicable HIPER or FIXCAT APARs, the APPLY CHECK will also identify fixing PTFs that will resolve the APARs, if a fixing PTF is available.

You should install the FMIDs regardless of the status of unresolved HIPER or FIXCAT APARs. However, do not deploy the software until the unresolved HIPER and FIXCAT APARs have been analyzed to determine their applicability. That is, before deploying the software either ensure fixing PTFs are applied to resolve all HIPER or FIXCAT APARs, or ensure the problems reported by all HIPER or FIXCAT APARs are not applicable to your environment.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the PRE, ID, REQ, and IFREQ on the APPLY CHECK. The SMP/E root cause analysis identifies the cause only of *errors* and not of *warnings* (SMP/E treats bypassed PRE, ID, REQ, and IFREQ conditions as warnings, instead of errors).

Here are sample APPLY commands:

a. To ensure that all recommended and critical service is installed with the FMIDs, receive the latest HOLDDATA and use the APPLY CHECK command as follows

```
APPLY S(fmid,fmid,...) CHECK
FORFMID(fmid,fmid,...)
SOURCEID(RSU*)
FIXCAT(IBM.ProductInstall-RequiredService)
GROUPEXTEND .
```

   Some HIPER APARs might not have fixing PTFs available yet. You should analyze the symptom flags for the unresolved HIPER APARs to determine if the reported problem is applicable to your environment and if you should bypass the specific ERROR HOLDs in order to continue the installation of the FMIDs.

   This method requires more initial research, but can provide resolution for all HIPERs that have fixing PTFs available and are not in a PE chain. Unresolved PEs or HIPERs might still exist and require the use of BYPASS.

b. To install the FMIDs without regard for unresolved HIPER APARs, you can add the BYPASS(HOLDCLASS(HIPER)) operand to the APPLY CHECK command. This will allow you to install FMIDs even though one or more unresolved HIPER APARs exist. After the FMIDs are installed, use the SMP/E REPORT ERRSYSMODS command to identify unresolved HIPER APARs and any fixing PTFs.

```
APPLY S(fmid,fmid,...) CHECK
FORFMID(fmid,fmid,...)
SOURCEID(RSU*)
FIXCAT(IBM.ProductInstall-RequiredService)
GROUPEXTEND
BYPASS(HOLDCLASS(HIPER)) .
 ..any other parameters documented in the program directory
```

   This method is quicker, but requires subsequent review of the Exception SYSMOD report produced by the REPORT ERRSYSMODS command to investigate any unresolved HIPERs. If you have received the latest HOLDDATA, you can also choose to use the REPORT MISSINGFIX

command and specify Fix Category IBM.PRODUCTINSTALL-REQUIREDSERVICE to investigate missing recommended service.

If you bypass HOLDs during the installation of the FMIDs because fixing PTFs are not yet available, you can be notified when the fixing PTFs are available by using the APAR Status Tracking (AST) function of ServiceLink or the APAR Tracking function of ResourceLink.

2. After you take actions that are indicated by the APPLY CHECK, remove the CHECK operand and run the job again to perform the APPLY.

   Note: The GROUPEXTEND operand indicates that SMP/E applies all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

   Expected Return Codes and Messages from APPLY CHECK: You will receive a return code of 0 if this job runs correctly.

   Expected Return Codes and Messages from APPLY: You will receive a return code of 0 if this job runs correctly.

6.1.13 Perform SMP/E ACCEPT

Edit and submit sample job CIUACCEP to perform an SMP/E ACCEPT CHECK for CICS IA. Consult the instructions in the sample job for more information.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the PRE, ID, REQ, and IFREQ on the ACCEPT CHECK. The SMP/E root cause analysis identifies the cause of *errors* but not *warnings* (SMP/E treats bypassed PRE, ID, REQ, and IFREQ conditions as warnings rather than errors).

Before you use SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. In this way, you can save the entries that are produced from JCLIN in the distribution zone whenever a SYSMOD that contains inline JCLIN is accepted. For more information about the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E Commands book for details.

After you take actions that are indicated by the ACCEPT CHECK, remove the CHECK operand and run the job again to perform the ACCEPT.

Note: The GROUPEXTEND operand indicates that SMP/E accepts all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

Expected Return Codes and Messages from ACCEPT CHECK: You will receive a return code of 0 if this job runs correctly.

If PTFs that contain replacement modules are accepted, SMP/E ACCEPT processing will link-edit or bind the modules into the distribution libraries. During this processing, the Linkage Editor or Binder might issue messages that indicate unresolved external references, which will result in a return code of 4 during the ACCEPT phase. You can ignore these messages, because the distribution libraries are not executable and the unresolved external references do not affect the executable system libraries.

Expected Return Codes and Messages from ACCEPT: You will receive a return code of 0 if this job runs correctly.

6.1.14 Run REPORT CROSSZONE

The SMP/E REPORT CROSSZONE command identifies requisites for products that are installed in separate zones. This command also creates APPLY and ACCEPT commands in the SMPPUNCH data set. You can use the APPLY and ACCEPT commands to install those cross-zone requisites that the SMP/E REPORT CROSSZONE command identifies.

After you install CICS IA, it is recommended that you run REPORT CROSSZONE against the new or updated target and distribution zones. REPORT CROSSZONE requires a global zone with ZONEINDEX entries that describe all the target and distribution libraries to be reported on.

For more information about REPORT CROSSZONE, see the SMP/E manuals.

6.2 Activating CICS IA

6.2.1 File System Execution

If you mount the file system in which you have installed CICS IA in read-only mode during execution, then you do not have to take further actions to activate CICS IA.

6.3 Product Customization

CICS IA is fully operational after the SMP/E installation is completed. Refer to IBM Knowledge Center to set up CICS IA for each CICS region and to tailor the JCL and SQL statements that CICS IA uses.

The information provided on IBM Knowledge Center contains the step-by-step procedures to active the functions of CICS IA.

7.0 Notices

This information was developed for products and services offered in the U.S.A. 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.

APAR numbers are provided in this document to assist in locating PTFs that may be required. Ongoing problem reporting may result in additional APARs being created. Therefore, the APAR lists in this document may not be complete. To obtain current service recommendations and to identify current product service requirements, always refer to the instructions in the **Service Recommendation Summary and Service Recommendations** and **Cross Product Dependencies** sections of the **PSP bucket information for IBM Z products** at https://www.ibm.com/support/pages/node/7127792, to ensure you have all required service.

IBM may have patents or pending patent applications covering subject matter 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 the

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, New York 10504-1785
USA

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

7.1 Trademarks

IBM, the IBM logo, and other IBM trademark listed on the IBM Trademarks List are trademarks or registered trademarks of International Business Machines Corporation, in the United States and/or other countries. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on ibm.com/trademark.

© Copyright IBM Corp. 2001, 2025

The following terms are trademarks of other companies as follows:

HCL Technologies. HCL Technologies

Reader's Comments

Program Directory for CICS Interdependency Analyzer for z/OS, October 2025 We appreciate your input on this publication. Feel free to comment on the clarity, accuracy, and completeness of the information or give us any other feedback that you might have.

Send your comments by emailing us at ibmdocs@us.ibm.com, and include the following information:

```
Your name and address
Your email address
Your telephone or fax number
The publication title and order number
The topic and page number related to your comment
The text of your comment
```

When you send information to IBM, you grant IBM a nonexclusive right to use or distribute the information in any way it believes appropriate without incurring any obligation to you.

IBM or any other organizations will only use the personal information that you supply to contact you about the issues that you submit.

Thank you for your participation.

Printed in Ireland

GI13-5669-01