

**Program Directory for
z990 Cryptographic Support
for z/OS, z/OS.e and OS/390**

Program Numbers 5694-A01, 5655-G52 and 5647-A01

FMID HCR770A

for Use with
z/OS V1R2/R3/R4/R5
z/OS.e V1R3/R4/R5
OS/390 V2R10

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Note!

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

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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 contact the IBM Customer Support Center or use S/390 SoftwareXcel to obtain the current "PSP Bucket".

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1.0 Introduction

This Program Directory is intended for the system programmer responsible for program installation and maintenance. It contains information concerning the material and procedures associated with the installation of z990 Cryptographic Support for z/OS, z/OS.e and OS/390 for z/OS V1R2/R3/R4/R5, z/OS.e V1R3/R4/R5, and OS/390 V2R10. This publication refers to z990 Cryptographic Support for z/OS, z/OS.e and OS/390 for z/OS V1R2/R3/R4/R5, z/OS.e V1R3/R4/R5, and OS/390 V2R10 as z990 Cryptographic Support. You should read all of this program directory before installing the program and then keep it for future reference.

z990 Cryptographic Support for z/OS, z/OS.e and OS/390 is a web deliverable and a complete FMID replacement.

Note: Additional references to z/OS throughout the rest of this document also apply to z/OS.e unless otherwise indicated.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 3 identifies the basic and optional program materials and documentation for z990 Cryptographic Support.
- 3.0, “Program Support” on page 5 describes the IBM support available for z990 Cryptographic Support.
- 4.0, “Program and Service Level Information” on page 7 lists the APARs (program level) and PTFs (service level) incorporated into z990 Cryptographic Support.
- 5.0, “Installation Requirements and Considerations” on page 9 identifies the resources and considerations for installing and using z990 Cryptographic Support.
- 6.0, “Installation Instructions” on page 15 provides detailed installation instructions for z990 Cryptographic Support. It also describes the procedures for activating the functions of z990 Cryptographic Support, or refers to appropriate publications.

Before installing z990 Cryptographic Support, read 3.2, “Preventive Service Planning” on page 5. This section tells you how to find any updates to the information and procedures in this program directory.

1.1 z990 Cryptographic Support Description

z990 Cryptographic Support contains 1 sub-element from Cryptographic Services (ICSF) of z/OS that works with hardware cryptographic features and the Security Server (RACF) to provide secure, high-speed cryptographic services. z990 Cryptographic Support provides the programming interfaces by which applications request the cryptographic functions.

The cryptographic features available to your applications depends on the server or processor hardware.

To download the z990 Cryptographic Support web deliverable, see <http://www.ibm.com/eserver/zseries/zos/downloads/>.

1.2 z990 Cryptographic Support FMID

z990 Cryptographic Support consists of the following FMID:

HCR770A (ICSF)

This z990 Cryptographic Support web deliverable has been fully system tested with z/OS V1R2/R3/R4/R5 and OS/390 V2R10.

2.0 Program Materials

An IBM program is identified by a program number and a feature number. The program numbers for z990 Cryptographic Support are 5694-A01, 5655-G52 and 5647-A01. There is no feature number for z990 Cryptographic Support as it is being delivered via the web download site.

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

The program announcement material describes the features supported by z990 Cryptographic Support. 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 via Web Delivery. The code for this deliverable can be downloaded from URL - <http://www.ibm.com/servers/eserver/zseries/zos/downloads/>. The deliverable contains all the programs and data needed for installation. It is installed using SMP/E, and is in SMP/E RELFILE format. See 6.0, "Installation Instructions" on page 15 for more information about how to install the program.

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for z990 Cryptographic Support.

2.3 Program Publications

The following sections identify the basic and optional publications for z990 Cryptographic Support.

2.3.1 Basic Program Publications

Figure 1 identifies the basic unlicensed program publications for z990 Cryptographic Support. The publications can be found at URL - <http://www.ibm.com/servers/eserver/zseries/zos/bkserv> in the V1R4 level bookshelf.

Publication Title	Form Number
<i>ICSF Overview</i>	SA22-7519
<i>ICSF System Programmer's Guide</i>	SA22-7520

Figure 1 (Page 2 of 2). Basic Material: Unlicensed Publications

Publication Title	Form Number
<i>ICSF Administrator's Guide</i>	SA22-7521
<i>ICSF Application Programmer's Guide</i>	SA22-7522
<i>ICSF Messages</i>	SA22-7523

2.3.2 Optional Program Publications

No optional publications are provided for z990 Cryptographic Support.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for z990 Cryptographic Support.

2.5 Publications Useful During Installation

The publications listed in Figure 2 may be useful during the installation of z990 Cryptographic Support. To order copies, contact your IBM representative or visit the IBM Publications Center on the world wide web at:

<http://www.elink.ibm.link.ibm.com/applications/public /applications/publications/cgibin/pbi.cgi>

Figure 2. Publications Useful During Installation

Publication Title	Form Number
<i>IBM SMP/E for z/OS and OS/390 User's Guide</i>	SA22-7773
<i>IBM SMP/E for z/OS and OS/390 Commands</i>	SA22-7771
<i>IBM SMP/E for z/OS and OS/390 Reference</i>	SA22-7772
<i>IBM SMP/E for z/OS and OS/390 Messages, Codes, and Diagnosis</i>	GA22-7770

3.0 Program Support

This section describes the IBM support available for z990 Cryptographic Support.

3.1 Program Services

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

3.2 Preventive Service Planning

Before installing z990 Cryptographic Support, you should review the current Preventive Service Planning (PSP) information.

For access to RETAIN, visit <http://www.ibm.link.ibm.com/> on the Internet.

PSP Buckets are identified by UPGRADEs, which specify product levels, and SUBSETs, which specify the FMIDs for a product level. The UPGRADE and SUBSET values for z990 Cryptographic Support are:

<i>Figure 3. PSP Upgrade and Subset ID</i>		
UPGRADE	SUBSET	Description
ZOSV1R4	ICSF770A	Cryptographic Services ICSF
ZOSV1R5	ICSF770A	Cryptographic Services ICSF

Either of these buckets can be used for information on the web deliverable FMID regardless of the customers' release.

Note: For additional requirements for the z990 server, refer to the hardware PSP bucket 2084DEVICE, subset 2084/ZOS.

3.3 Statement of Support Procedures

Report any difficulties you have using this program to your IBM Support Center. If an APAR is required, the Support Center will provide the address to which any needed documentation can be sent.

Figure 4 identifies the component IDs (COMPID) for z990 Cryptographic Support.

Figure 4. Component IDs

F MID	COMP ID	Component Name	RETAIN Release
HCR770A	568505101	ICSF	70A

4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of z990 Cryptographic Support. The program level refers to the APAR fixes incorporated into the program. The service level refers to the PTFs integrated.

4.1 Program Level Information

The following APAR fixes of ICSF have been incorporated into HCR770A FMID. To obtain the most recent APAR fixes review the current PSP information (refer to 3.2, "Preventive Service Planning" on page 5).

- FMID HCR770A (SMC0334/PUT0307)

OA01765 OA02042 OA02240 OA02739 OA02741 OA02746 OA02792
OA03151 OA03153 OA03155 OA03223 OA03420 OA03436 OA03451
OA03527 OA03931

4.2 Service Level Information

No PTFs against this release of z990 Cryptographic Support have been incorporated into the product.

4.3 Understanding z990 Cryptographic Support Service

You did not receive any service with your deliverable.

In addition to the FMID shipped in this package, there are PTFs which must be installed to provide compatibility for the z990. These PTFs are found in the z990 hardware PSP bucket (upgrade is 2084DEVICE, subset is 2084/ZOS) and ZOSV1R5 or ZOSV1R4 upgrade, subset ICSF770A. Ensure that you have these PTFs available for installation, which may mean that you need to place an order for this service. You may choose to identify these fixes with a specific SMP/E SOURCEID, such as "ICSFFIX".

The following fixes will be provided in the install job examples in this program directory.

- Required PSP fixes (for which you may use SMP/E SOURCEID of "ICSFFIX")

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating z990 Cryptographic Support. The following terminology is used:

- *Driving system*: the system used to install the program.
- *Target system*: the system on which the program is installed.

In many cases, the same system can be used as both a driving system and a target system. However, you may want to set up a clone of your system to use as a target system by making a separate IPL-able copy of the running system. The clone should 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.

Some cases where two systems should be used include the following:

- When installing a new level of a product that is already installed, the new product will delete the old one. By installing onto a separate target system, you can test the new product while still keeping the old one in production.
- When installing a product that shares libraries or load modules with other products, the installation can disrupt the other products. Installing onto a test system or clone will allow you to 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 z990 Cryptographic Support.

5.1.1 Machine Requirements

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

5.1.2 Programming Requirements

Program Number	Product Name and Minimum VRM/Service Level
Any one of the following:	
5647-A01	OS/390 V2R10 with IBM SMP/E V3R1 or higher (5655-G44) or OS/390 V2R10 SMP/E and PTF UR52471 (and UR52473 for Japanese)
5694-A01	z/OS V1R1 with IBM SMP/E V3R1 or higher (5655-G44) or z/OS V1R1 SMP/E and PTF UR52471 (and UR52473 for Japanese)

Figure 5 (Page 2 of 2). Driving System Software Requirements

Program Number	Product Name and Minimum VRM/Service Level
5655-G52	z/OS.e V1R3 or higher

5.2 Target System Requirements

This section describes the environment of the target system required to install and use z990 Cryptographic Support.

5.2.1 Machine Requirements

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

The IBM eServer zSeries z990 Server requires feature 3863, CP Assist for Cryptographic Functions (CPACF) DES/TDES, to be installed to use z990 Cryptographic Support. The z990 server also supports optional feature 0863, the PCI X Cryptographic Coprocessor (PCIXCC). The IBM PCI Cryptographic Accelerator (PCICA) is another optional feature (feature code 0862).

5.2.2 Programming Requirements

See 4.3, “Understanding z990 Cryptographic Support Service” on page 7 for where to find required PTF service, which must be installed with z990 Cryptographic Support.

5.2.2.1 Mandatory Requisites

A mandatory requisite is defined as a product that is required without exception; this product either **will not install** or **will not function** unless this requisite is met. This includes products that are specified as REQs or PREs.

Figure 6. Mandatory Requisites

Program Number	Product Name and Minimum VRM/Service Level
5694-A01	z/OS V1R2, z/OS V1R3, z/OS V1R4 or z/OS V1R5
5655-G52	z/OS.e V1R3, z/OS.e V1R4 or z/OS.e V1R5
5647-A01	OS/390 V2R10

For secure and clear key cryptography on z/OS V1R2/R3/R4/R5, z/OS.e V1R3/R4/R5 and OS/390 V2R10, the z990 Cryptographic Support web deliverable must be used. To download the z990 Cryptographic Support web deliverable, see <http://www.ibm.com/eserver/zseries/zos/downloads/>.

5.2.2.2 Functional Requisites: A functional requisite is defined as a product that is **not** required for the successful installation of this product or for the basic function of the product, but **is** needed at run time for a specific function of this product to work. This includes products that are specified as IF REQs.

z990 Cryptographic Support has functional requisites above the mandatory requisites listed above.

Figure 7. Functional Requisites

Program Number	Product Name and Minimum VRM/Service Level	Function
5694-A01	If running z/OS V1R2 or z/OS V1R3, you need PTFs UA05299 and UA05143.	Cryptographic Services System SSL
5694-A01	If running z/OS V1R4, you need PTF UA05144.	Cryptographic Services System SSL
5694-A01	If running z/OS V1R4, you need PTF UA05368.	Security Server RACF
5694-A01	If running z/OS V1R2, V1R3 or V1R4, you need PTF UA90005 and Japanese PTF UA90004, if needed.	RMF
5655-G52	If running z/OS.e V1R3, you need PTFs UA05299 and UA05143.	Cryptographic Services System SSL
5655-G52	If running z/OS.e V1R4, you need PTF UA05144.	Cryptographic Services System SSL
5655-G52	If running z/OS.e V1R4, you need PTF UA05368.	Security Server RACF
5655-G52	If running z/OS.e V1R3 or V1R4, you need PTF UA90005 and Japanese PTF UA90004, if needed.	RMF
5647-A01	If running OS/390 V2R10, you need PTF UA05142 and PTF UA06792.	Cryptographic Services System SSL

5.2.2.3 Toleration/Coexistence Requisites: A toleration/coexistence requisite is defined as a product which must be present on a sharing system. 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 at different time intervals.

z990 Cryptographic Support has no toleration/coexistence requisites.

5.2.2.4 Incompatibility (Negative) Requisites: A negative requisite identifies products which must *not* be installed on the same system as this product.

z990 Cryptographic Support has no negative requisites.

5.2.3 DASD Storage Requirements

z990 Cryptographic Support libraries can reside on all supported DASD types.

Figure 8 lists the total space required for each type of library.

Figure 8. Total DASD Space Required by z990 Cryptographic Support

Library Type	Total Space Required
Target	249 tracks on 3390
Distribution	331 tracks on 3390

Notes:

1. IBM recommends use of system determined block sizes for efficient DASD utilization for all non-RECFM U data sets. For RECFM U data sets, IBM recommends a block size of 32760, which is the most efficient from a performance and DASD utilization perspective.

2. Abbreviations used for the data set type are:

- U** Unique data set, allocated by this product and used only by this product. To determine the correct storage needed for this data set, this table provides all required information; no other tables (or Program Directories) need to be referenced for the data set size.
- S** Shared data set, allocated by this product and used by this product and others. To determine the correct storage needed for this data set, the storage size given in this table needs to be added to 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 others. This data set is NOT allocated by this product. To determine the correct storage needed for this data set, the storage size given in this table needs to be added to other tables (perhaps in other program directories). This existing data set 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 one and reclaim the space used by the old release and any service that had been installed. You can determine whether or not 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 on the names and sizes of the required data sets, please refer to 6.1.5, "Allocate SMP/E Target and Distribution Libraries and Paths" on page 17.

The following figures describe the target and distribution libraries required to install z990 Cryptographic Support. The storage requirements of z990 Cryptographic Support must be added to the storage required by other programs having data in the same library or path.

Note: The data in these tables should be used when determining 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 9. Storage Requirements for z990 Cryptographic Support Target Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
MACLIB	Macro	TVOL2	E	PDS	FB	80	2	2
MIGLIB	Module	TVOL1	E	PDS	U	0	3	5
MODGEN	Macro	TVOL2	E	PDS	FB	80	9	2
PARMLIB	Parm	TVOL1	E	PDS	FB	80	2	2
SAMPLIB	Sample	TVOL2	E	PDS	FB	80	11	3
SCSFCLIO	Clist	TVOL1	U	PDS	FB	80	9	3
SCSFHDRS	Data	TVOL2	U	PDS	FB	80	7	2
SCSFMOD0	Lmod	TVOL1	U	PDS	U	0	71	70
SCSFMOD1	Lmod	TVOL1	U	PDS	U	0	2	2
SCSFMSG0	Message	TVOL1	U	PDS	FB	80	6	4
SCSFOBJ	Data	TVOL2	U	PDS	FB	80	9	2
SCSFPNL0	Panel	TVOL1	U	PDS	FB	80	26	14
SCSFSKL0	Skeleton	TVOL1	U	PDS	FB	80	3	2
SCSFTLIB	Table	TVOL1	U	PDS	FB	80	2	2

Figure 10 (Page 1 of 2). Storage Requirements for z990 Cryptographic Support Distribution Libraries

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
AMACLIB	E	PDS	FB	80	2	2
AMIGLIB	E	PDS	U	0	3	5
AMODGEN	E	PDS	FB	80	9	2
APARMLIB	E	PDS	FB	80	2	2
ASAMPLIB	E	PDS	FB	80	11	3
ACSFCLIO	U	PDS	FB	80	29	3
ACSFHDRS	U	PDS	FB	80	7	2
ACSFMOD0	U	PDS	U	0	94	96
ACSFMOD1	U	PDS	U	0	4	2
ACSFMSG0	U	PDS	FB	80	7	3

Figure 10 (Page 2 of 2). Storage Requirements for z990 Cryptographic Support Distribution Libraries

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
ACSFOBJ	U	PDS	FB	80	9	2
ACSFNLO	U	PDS	FB	80	26	11
ACSFSKLO	U	PDS	FB	80	4	2
ACSFTLIB	U	PDS	FB	80	2	2

5.3 FMIDs Deleted

Installing z990 Cryptographic Support may result in the deletion of other FMIDs. To see what FMIDs will be deleted, examine the ++VER statement in the product's SMPMCS.

If you do not wish to delete these FMIDs at this time, you must install z990 Cryptographic Support into separate SMP/E target and distribution zones.

Note: These FMIDs will not automatically be deleted from the Global Zone. Consult the SMP/E manuals for instructions on how to do this.

5.4 Special Considerations

z990 Cryptographic Support for z/OS, z/OS.e and OS/390 has no special considerations for the target system.

6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of z990 Cryptographic Support.

Please note the following:

- If you want to install z990 Cryptographic Support 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.
- The SMP/E dialogs may be used instead of the sample jobs to accomplish the SMP/E installation steps.
- Obtain PTF service for z990 Cryptographic Support FMIDs (refer to 3.2, “Preventive Service Planning” on page 5 and 4.3, “Understanding z990 Cryptographic Support Service” on page 7) and receive it into the SMP/E CSI.

6.1 Installing z990 Cryptographic Support

6.1.1 SMP/E Considerations for Installing z990 Cryptographic Support

z990 Cryptographic Support is packaged using the SMP/E GIMZIP function, which was introduced in z/OS V1R2. Although GIMZIP and GIMUNZIP are used for the packaging, the full SMP/E RECEIVE FROMNETWORK function is not available with this package. The SMP/E GIMUNZIP function is required to process the downloaded package. Refer to *z/OS SMP/E Reference* for information about using GIMZIP and GIMUNZIP.

You need to ensure that you have met the driving system requirements as documented in 5.1.2, “Programming Requirements” on page 9.

You will need to perform the following tasks:

1. Allocate a R/W HFS directory on the OS/390 or z/OS driving system where the package will be staged. This is the repository for the download package.
2. Download the “z990 Cryptographic Support” package.

The package is available from the following web site:
<http://www.ibm.com/eserver/zseries/zos/downloads>.

There are two parts of the package:

- **crypto2.README.txt**

This is a sample job that performs the following tasks:

- Executes the UNIX System Services pax command to extract the GIMZIP archives from the downloaded package.

- Executes the GIMUNZIP program to expand the GIMZIP archives and places their contents in data sets that can be processed by SMP/E.
- Executes the SMP/E RECEIVE from DASD function to receive the FMIDs.

This job must be updated to reflect your environment.

Please make sure that this file is transferred from the download site as a text file.

- **crypto2.pax.Z**

This pax archive file consists of the base function. The file contains the SMP/E MCS and the associated RELFILES.

- The file must be downloaded to a node (workstation) that has connectivity to the OS/390, z/OS or z/OS.e driving system.
- The file must then be uploaded to the OS/390, z/OS or z/OS.e driving system.

This file must be transferred from the Web and to the host system in binary format.

3. Run the sample job provided in crypto2.README.txt.

This job will perform the required tasks up to and including the SMP/E RECEIVE from DASD step.

Expected return codes: RC=0

4. You must upgrade your target system (z/OS V1R2/R3/R4/R5, z/OS.e V1R3/R4/R5 or OS/390 V2R10) with current service. To obtain PTF service for the z990 Cryptographic Support FMID, refer to 3.2, “Preventive Service Planning” on page 5 and 4.3, “Understanding z990 Cryptographic Support Service” on page 7.

5. Complete the installation using the instructions in this program directory.

6.1.2 SMP/E Options Subentry Values

The recommended values for some SMP/E CSI subentries are shown in Figure 11. Use of values lower than these may result in failures in the installation process. DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry. Refer to the SMP/E manuals for instructions on updating the global zone.

Figure 11. SMP/E Options Subentry Values

SUB-ENTRY	Value	Comment
DSSPACE	Existing target CSI value	IBM recommends using your existing target system CSI's DSSPACE value.
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

6.1.3 SMP/E CALLLIBS Processing

z990 Cryptographic Support uses the CALLLIBS function provided in SMP/E to resolve external references during installation. When z990 Cryptographic Support is installed, ensure that DDDEFs exists for the following libraries:

- CSSLIB
- SCEELKED
- SCEESPC
- SCSFMOD1
- SDFHLOAD

Note: The DDDEFs above are used only to resolve the link-edit for z990 Cryptographic Support using CALLLIBS. These data sets are not updated during the installation of z990 Cryptographic Support, except for SCSFMOD1, which is an ICSF data set and is included in the z990 Cryptographic Support package.

6.1.4 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install z990 Cryptographic Support:

<i>Figure 12. Sample Installation Jobs</i>			
Job Name	Job Type	Description	RELFILE
CSFALLOC	ALLOCATE	Sample job to allocate target and distribution libraries for ICSF	'prefix.HCR770A.F1'
CSFDDDEF	DDDEF	Sample job to define SMP/E DDDEFs for ICSF	'prefix.HCR770A.F1'

You can access the sample installation jobs by copying the jobs from the SMPTLIBs to a work data set for editing and submission. See Figure 12 to find the appropriate SMPTLIB data set.

Notes:

1. *prefix* is the high-level qualifier specified as the DSPREFIX value in the SMPTLIB DDDEF or the OPTIONS entry of the global zone.

6.1.5 Allocate SMP/E Target and Distribution Libraries and Paths

Edit and submit sample job CSFALLOC to allocate the SMP/E target and distribution libraries for z990 Cryptographic Support. Consult the instructions in the sample jobs for more information.

Expected Return Codes and Messages: RC=0

6.1.6 Create DDDEF Entries

Edit and submit sample job CSFDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for z990 Cryptographic Support. Consult the instructions in the sample jobs for more information.

Expected Return Codes and Messages: RC=0

6.1.7 Perform SMP/E APPLY

Edit and submit sample job shown in Figure 13 to perform an SMP/E APPLY CHECK for z990 Cryptographic Support.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the following on the APPLY CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/E root cause analysis identifies the cause only of **ERRORS** and not of **WARNINGS** (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E).

Once you have taken any actions indicated by the APPLY CHECK, remove the CHECK operand and run the job again to perform the APPLY.

```
//APPLY JOB
//STEP1 EXEC PGM=GIMSMP,REGION=0M,TIME=NOLIMIT
//SMPCSI DD DSN=csiname,DISP=SHR
//SMPCNTL DD *
    SET BOUNDARY(targetzone) .
    APPLY CHECK
    FORFMID(HCR770A)
    SELECT(HCR770A)
    GROUPEXTEND(NOAPARS,NOUSERMODS)
    SOURCEID(ICSFFIX,HIPER)
    BYPASS(HOLDSYSTEM,
    HOLDUSER,HOLDCLASS(UCLREL,ERREL,HIPER)) .
/*
```

Figure 13. SMP/E APPLY

Required Updates

1. Update the job parameters.
2. Replace the csiname on the SMPCSI DD statement with your CSI name.
3. Update targetzone to your target zone name.
4. Update ICSFFIX with the name of the fixes that were required, as documented in the software PSP bucket ZOSV1R5 or ZOSV1R4 upgrade, subset ICSF770A.

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

Expected Return Codes and Messages from APPLY CHECK: RC=4

During the APPLY CHECK of ICSF element, the following message is received and is acceptable if it is the only cause of the condition code 4.

Message "GIM61903W LMOD CSFDSTAT WAS NOT DELETED BY SYSMOD HCR770A BECAUSE IT IS NOT IN THE target ZONE."

Expected Return Codes and Messages from APPLY: RC=4

During the APPLY of ICSF element, the following is received and is acceptable as a cause of the condition code 4.

Message "GIM61903W LMOD CSFDSTAT WAS NOT DELETED BY SYSMOD HCR770A BECAUSE IT IS NOT IN THE target ZONE."

Additional Link-Edit messages may appear if a null CICS library is defined. These will result in condition code 4 as well and are acceptable.

For ICSF use of SMP/E CALLLIBS, warning messages are issued when the load modules are link-edited into the SMPLTS data set. For example the following warning message is acceptable:

IEW2454W SYMBOL xxxxxxxx UNRESOLVED. NO AUTOCALL(NCAL) SPECIFIED.

6.1.8 Perform SMP/E ACCEPT

Edit and submit sample job shown in Figure 14 on page 20 to perform an SMP/E ACCEPT CHECK for z990 Cryptographic Support.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report do not bypass the following on the ACCEPT CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/E root cause analysis identifies the cause only of **ERRORS** and not of **WARNINGS** (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E). Once you have taken any actions indicated by the ACCEPT CHECK, remove the CHECK operand and run the job again to perform the ACCEPT.

```

//ACCEPT JOB
//STEP1 EXEC PGM=GIMSMP,REGION=0M,TIME=NOLIMIT
//SMPCSI DD DSN=csiname,DISP=SHR
//SMPCNTL DD *
    SET BOUNDARY(dlibzone) .
    ACCEPT CHECK
    FORFMID(HCR770A)
    SELECT(HCR770A)
    GROUPEXTEND(NOAPARS,NOUSERMODS)
    SOURCEID(ICSFFIX,HIPER)
    BYPASS(HOLDSYSTEM,
    HOLDUSER,HOLDCLASS(UCLREL,ERREL,HIPER)) .
/*

```

Figure 14. SMP/E ACCEPT sample

Required Updates

1. Update the job parameters.
2. Replace the csiname on the SMPCSI DD statement with your CSI name.
3. Update dlibzone to your dlib zone name.
4. Update ICSFFIX with the name of the fixes that were required, as documented in the software PSP bucket ZOSV1R5 or ZOSV1R4 upgrade, subset ICSF770A.

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

Expected Return Codes and Messages from ACCEPT CHECK: RC=4

During the ACCEPT CHECK of ICSF element, the following message is received and is acceptable if it is the only cause of the condition code 4.

Message "GIM61903W LMOD CSFDSTAT WAS NOT DELETED BY SYSMOD HCR770A BECAUSE IT IS NOT IN THE dlib ZONE."

Expected Return Codes and Messages from ACCEPT: RC=4

During the ACCEPT of ICSF element, the following message is received and is acceptable if it is the only cause of the condition code 4.

Message "GIM61903W LMOD CSFDSTAT WAS NOT DELETED BY SYSMOD HCR770A BECAUSE IT IS NOT IN THE dlib ZONE."

If PTFs containing replacement modules are being ACCEPTed, SMP/E ACCEPT processing will linkedit/bind the modules into the distribution libraries. During this processing, the Linkage Editor or Binder may issue messages documenting unresolved external references, resulting in a return code of 4 from the

ACCEPT step. These messages can be ignored, because the distribution libraries are not executable and the unresolved external references will not affect the executable system libraries.

6.1.9 Cleaning Up Obsolete Path, and DDDEF

The following data sets and DDDEF entries allocated and used by previous releases of ICSF are no longer used in this release. You may choose to delete these obsolete data sets and DDDEFs after you have installed z990 Cryptographic Support successfully.

Figure 15. Obsolete Path/DDDEFs

DDDEF	Data Set/Path	Related Element	Note
ACSFPUBS	hlq.ACSFPUBS	ICSF	OS/390 V2.6
ACSFPSHF	hlq.ACSFPSHF	ICSF	OS/390 V2.6
SCSFPUBS	hlq.SCSFPUBS	ICSF	OS/390 V2.6
SCSFPSHF	hlq.SCSFPSHF	ICSF	OS/390 V2.6

6.2 Activating z990 Cryptographic Support

The *z/OS ICSF System Programmers Guide, SA22-7520* contains the step-by-step procedures to activate the functions of z990 Cryptographic Support.

Reader's Comments

Program Directory for z990 Cryptographic Support for z/OS, z/OS.e and OS/390 March 2004

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