Program Directory

For CBPDO Installation and ServerPac Reference

for z990 Compatibility Support

Program Numbers 5694-A01 and 5655-G52

for Use with z/OS V1R4 and z/OS.e V1R4

CBPDO level SMC0305
Service Level 0301

Document Date: May 01, 2003

GI11-2835-00

Attention Installers

This program directory is for customers who are migrating to the z990 Compatibility Support Package from or concurrently with z/OS V1R4 or z/OS.e V1R4. If you are migrating from a release other than z/OS V1R4 or z/OS.e V1R4, you will use this program directory, along with the *Program Directory for z/OS Version 1 Release 4, GI10-0670-03.*

Note!

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

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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 z/OS V1R4 z990 Compatibility Support and z/OS.e V1R4 z990 Coexistence.

Unless otherwise noted, references to z/OS V1R4 z990 Compatibility Support also apply to z/OS.e V1R4 z990 Coexistence. You should read all of this program directory before installing the program and then keep it for future reference.

The program directory contains the following sections:

- 2.0, “Program Materials” on page 5 identifies the basic and optional program materials and documentation for z990 Compatibility Support.
- 3.0, “Program Support” on page 7 describes the IBM support available for z990 Compatibility Support.
- 4.0, “Program and Service Level Information” on page 9 lists the APARs (program level) and PTFs (service level) incorporated into z990 Compatibility Support.
- 5.0, “Installation Requirements and Considerations” on page 13 identifies the resources and considerations for installing and using z990 Compatibility Support.
- 6.0, “Preparing the Installation Path” on page 17 provides detailed information for planning and preparing installation paths.
- 7.0, “Installation Instructions” on page 23 provides detailed installation instructions for z990 Compatibility Support. It also describes the procedures for activating the functions of z990 Compatibility Support, or refers to appropriate publications.

If you choose to install z990 Compatibility Support concurrently with z/OS V1R4, then see the corresponding section of the *Program Directory for z/OS Version 1 Release 4, GI10-0670-03* to combine the various steps where appropriate.

You will be notified in each section of this program directory when to combine the information from the Program Directory for z/OS Version 1 Release 4, GI10-0670-03.

Before installing z990 Compatibility Support, read 3.2, “Preventive Service Planning” on page 7. This section tells you how to find any updates to the information and procedures in this program directory.

If you are installing z990 Compatibility Support using the MVS Custom-Built Product Delivery Offering (CBPDO, 5751-CS3), a softcopy program directory is provided on the CBPDO tape which is identical to the printed copy shipped with your order. Your CBPDO contains a softcopy preventive service planning (PSP) upgrade for this product. All service and HOLDDATA for z990 Compatibility Support are included on the CBPDO tape.

Do not use this program directory if you are installing z990 Compatibility Support with a SystemPac or ServerPac. When using these offerings, use the jobs and documentation supplied with the offering. This documentation may point you to specific sections of the program directory as required.

1.1 z990 Compatibility Support Description

This feature provides Compatibility support for the z990 processor.

1.2 z990 Compatibility Support FMIDs Documented in this Program Directory

Figure 1 lists the changed elements and features in z990 Compatibility Support, describes some of their characteristics, and identifies which ones have various installation-related jobs. Headings in the table are as follows:

- **Element or Feature Name** is the name of the z990 Compatibility Support base element or optional feature.
- **Level** is the latest level in which the element or feature changed (added to z990 Compatibility Support or updated). For non-exclusive elements and features the equivalent level of the stand-alone product is listed in parenthesis.
- **Type** is the type of element or feature and can be **Base** for base elements, **Priced Feature** for priced optional features, or **No Charge Feature** for unpriced optional features.
- **Excl** indicates whether the element or feature is exclusive (available **ONLY** in z990 Compatibility Support) (**Y** for Yes or **N** for No).
- **Dynam** indicates whether the element or feature supports dynamic enablement (**Y** for Yes or **N** for No).
- **Alloc** indicates whether the element or feature has a sample allocate job (**Y** for Yes or **N** for No). Allocations for dependent elements are done by the base FMID unless otherwise noted.
- **DDDEF** indicates whether the element or feature has a sample job to define DDDEF entries. (**Y** for Yes or **N** for No). DDDEFs for dependent elements are done by the base fmid unless otherwise noted.
- **Post-I** indicates whether the element or feature has any post-installation jobs (**Y** for Yes or **N** for No).

  Note: Customization tasks are not considered post-installation jobs in this table.
- **IVP** indicates whether the element or feature has any installation verification procedure (IVP) jobs (**Y** for Yes or **N** for No).

Figure 1. z990 Compatibility Support Base Elements and Optional Features

Element or Feature Name **FMIDs**	**Level**	**Type**	**EXCL**	**DYNAM**	**ALLOC**	**DDDEF**	**POST-I**	**IVP**
Cryptographic Services Integrated Cryptographic Service Facility (ICSF) HCR7708	z990 Compatibility Support	Base	Y	N	Y	Y	N	N
HCD HCS7708 (Base,English) JCS77J8 (Japanese) JCS77H8 (HFS Base English) JCS77HJ (HFS Japanese)	z990 Compatibility Support	Base	Y	N	Y	Y	N	Y
HCM HCM1510	z990 Compatibility Support	Priced Feature	Y	Y	Y	Y	N	N
Note: This CBPDO includes Hardware Configuration Manager (HCM) disabled. Customers wishing to use HCM must enable it. Customers must notify IBM when they enable a feature that was shipped disabled. For more information on enabling a priced feature, refer to z/OS and z/OS.e Planning for Installation (GA22-7504).								
OSA/SF H0GI400	z990 Compatibility Support	Base	Y	N	Y	Y	N	N
ICKDSF EDU1H01 FDU1H07 (ISMF code) FDU1H08 (ISMF English panels) FDU1H09 (ISMF Japanese panels)	z990 Compatibility Support (V1R17)	Base	N	N	Y	Y	N	Y

2.0 Program Materials

An IBM program is identified by a program number and a feature number. The program numbers for z990 Compatibility Support are 5694-A01 and 5655-G52.

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. Optional Machine-Readable Materials are orderable under separate feature codes, and are not required for the product to function.

The program announcement material describes the features supported by z990 Compatibility Support. Ask your IBM representative for this information if you have not already received a copy.

2.1 Basic Machine-Readable Material

If you are running on z/OS V1R4, then you will receive z990 Compatibility Support in CBPDO format with all z990 Compatibility Support FMIDs that are included, except for the languages not ordered. The information about the physical tapes for the z990 Compatibility Support package can be found in the Memo-To Users-Extension supplied with this CBPDO order.

2.2 Optional Machine-Readable Material - Source

There are no optional machine-readable materials for the elements documented in this program directory.

2.3 Program Publications

The current publications for z990 Compatibility Support can be found at URL ***http://www.ibm.com/servers/eserver/zseries/zos/bkserv*** in the V1R4 bookshelf.

2.4 Program Source Materials

Customers with access to View Program Listings (VPL), such as through S/390 SoftwareXcel (IBMLink), can access program listings for the elements that were formerly provided via microfiche.

Those customers without access to VPL may contact an IBM representative.

The VPL facility provides online viewing of program listings that are available to customers.

2.5 Publications Useful During Installation

The publications listed in Figure 2 on page 6 may be useful during the installation of z990 Compatibility Support. Copies of these publications may be downloaded from the URL

- http://www.s390.ibm.com/os390/bkserv or
- http://www.elink.ibmlink.ibm.com/

To order copies, contact your IBM representative.

Figure 2. Publications Useful During Installation

Publication Title	Form Number
z/OS HCD User's Guide	SC33-7988
z/OS HCM User's Guide	SC33-7989
z/OS SMP/E Commands	GA22-7771
z/OS SMP/E Messages and Codes	GA22-7770
z/OS SMP/E Reference	SA22-7772
z/OS SMP/E User's Guide	SC22-7773

3.0 Program Support

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

3.1 Program Services

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

3.2 Preventive Service Planning

Before installing z990 Compatibility Support, you should review the current Preventive Service Planning (PSP) information. If you obtained z990 Compatibility Support as part of a CBPDO, there is HOLDDATA and PSP information included on the CBPDO.

If the CBPDO for z990 Compatibility Support is more than two weeks old when you install it, you should contact the IBM Support Center or use S/390 SoftwareXcel to obtain the current "PSP Bucket".

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

The elements which make up the z990 Compatibility Support have subsets in the ZOSV1R4 upgrade and ICKDSF017 upgrade and are listed in the following tables. PSP information for elements that are not in z990 Compatibility Support but are part of the ZOSV1R4 upgrade should also be reviewed although they are not listed in this table. The entries in the table after the first one are in alphabetical order based on the Element column. For descriptions of the FMIDs in the table see Figure 1 on page 2.

Figure 3. PSP Bucket Information for z990 Compatibility Support Elements in the ZOSV1R4 UPGRADE

Element	PSP Subset	FMIDs Included
General Information	ZOSGEN	
HCD	HCD7708	HCS7708 JCS77J8 JCS77H8 JCS77HJ
HCM	HCM1510	HCM1510
ICSF	ICSF7708	HCR7708
OSA/SF	OSAI400	H0GI400

Figure 4. ICKDSF PSP Upgrade and Subset IDs		
UPGRADE	**SUBSET**	**Description**
ICKDSF017	EDU1H01	ICKDSF base
ICKDSF017	FDU1H07	ISMF code
ICKDSF017	FDU1H08	ISMF English panels
ICKDSF017	FDU1H09	ISMF Japanese panels

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.

See Appendix A, “Component IDs for Elements in z990 Compatibility Support” on page 45 for the component IDs for z990 Compatibility Support elements.

4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of z990 Compatibility 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 against previous releases of z990 Compatibility Support elements have been incorporated into this release. They are listed by FMID.

- FMID HCS7708 (HCD Base and English)

  OA01821 OA01831 OA01870 OW41912 OW42375 OW42420 OW43131 OW43132
  OW43212 OW43296 OW43730 OW43887 OW43972 OW44137 OW44564 OW45055
  OW45783 OW45976 OW46669 OW46983 OW47247 OW47636 OW47739 OW48145
  OW48157 OW48236 OW48491 OW49032 OW49738 OW50343 OW50569 OW51334
  OW51339 OW51656 OW51716 OW52088 OW52573 OW53792 OW53923 OW54246
  OW54857 OW55076 OW56510 OW56601 OW56927 OW57184 OW57298

- FMID JCS77J8 (HCD Japanese)

  OW41912 OW42375 OW43131 OW44137 OW44564 OW45976 OW47247 OW48236
  OW51239 OW51716 OW54246 OW54246 OW54857

- FMID JCS77H8(HCD HFS Base English)

  OW41912 OW47247 OW48236

- FMID JCS77HJ(HCD HFS Japanese)

  No APARs have been incorporated at this time.

- FMID HCM1510 (HCM)

  IR49949 IR48689 IR46549 IR46907 IR45358 IR45843 IR43614 IR44377
  IR43534 IR42956 IR41750

- FMID HCR7708 (ICSF)

  OA01618 OA01806 OW54447 OW55417 OW55631 OW56547 OW57002 OW57328
  OW57548 OW57587

- FMID EDU1H01 (ICKDSF)

  PN60520 PN60881 PN61480 PN62330 PN62342 PN62444 PN63044 PN63507
  PN64655 PN64868 PN65609 PN66540 PN66541 PN67080 PN68358 PN69166
  PN69797 PN70013 PN70767 PN71101 PN71972 PN72104 PN73132 PN74048
  PN74223 PN76727 PN76862 PN76939 PN77249 PN79757 PN80327 PN80879
  PN83877 PN84194 PN84489 PN84759 PN85067 PN85631 PN86705 PN87929
  PN88014 PN89166 PN89905 PN91223 PQ00652 PQ02288 PQ03341 PQ05231

PQ07015 PQ08691 PQ10899 PQ11775 PQ11919 PQ13687 PQ18005 PQ18393
PQ20390 PQ20391 PQ23131 PQ24114 PQ24577 PQ26800 PQ29648 PQ32380
PQ37791 PQ38921 PQ42534 PQ43495 PQ44667 PQ46396 PQ47472 PQ49243
PQ50940 PQ53196 PQ53326 PQ56431 PQ62077

- FMIDs FDU1H07 and FDU1H08 (ISMF)

  PL84215 PN00713 PN03938 PN09082 PN18300 PN18847 PN19767 PN20378
  PN21633 PN24896 PN24903 PN38041 PN38414 PN42498 PN42602 PN50159
  PN50950 PN55778 PN61073 PN61959 PN66436 PN66767 PN68866 PN73788
  PN87510 PQ13447 PQ26624 PQ47107 PQ57770

- FMID FDU1H09 (ISMF Japanese)

  PL84215 PN00713 PN03938 PN18300 PN18847 PN19767 PN20378 PN24896
  PN24903 PN38414 PN50159 PN50950 PN55778 PN61073 PN61959 PN73788
  PN87510 PQ13447 PQ26624 PQ47107 PQ57770

- FMID H0GI400 (OSA/SF)

  OW51180 OW51720 OW54217 OW54990 OW55733 OW57242

4.2 Program and Service Level Information

The service level of each FMID is listed below. The SMCyyww and PUTyymm levels identify the APAR service cutoff levels which have been incorporated into the FMIDs. If the z990 Compatibility Support elements are installed with the instructions and samples provided in this program directory, they will include service that has been integration tested as well as the HIPERs and PE fixes up to the time z990 Compatibility Support was ordered. Therefore, the service level of the FMIDs after you have installed z990 Compatibility Support will be higher than what is listed and will depend on when it was ordered.

- HCD FMIDs:
  - HCS7708 (SMC0304/PUT0212)
  - JCS77J8 (SMC0304/PUT0212)
  - JCS77H8 (SMC0304/PUT0212)
  - JCS77HJ (SMC0304/PUT0212)
- HCM FMID:
  - HCM1510 (SMC0306/PUT0301)
- ICSF FMID:
  - HCR7708 (SMC0304/PUT0212)
- ICKDSF/ISMF FMIDs:
  - EDU1H01 (ICKDSF) (SMC0241/PUT0209)

  - FDU1H07 (ISMF Base) (SMC0241/PUT0209)
  - FDU1H08 (ISMF Eng) (SMC0241/PUT0209)
  - FDU1H09 (ISMF Jpn) (SMC0241/PUT0209)
- OSA/SF FMID:
  - H0GI400 (SMC0305/PUT0301)

Notes:

1. SMCyyww identifies the service level in terms of CBPDO cycles, where yy is the year and ww is the CBPDO week. For example, 0342 is the forty-second CBPDO week in 2003.
2. PUTyynn identifies the monthly service level in terms of ESO cycles (formerly PUTs), where yy is the year and nn is the ending month of the ESO cycle. For example, 0309 is service through September 2003.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating z990 Compatibility 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.

Set up a clone of your system to use as the target system. The clone should include copies of all system libraries that SMP/E updates, copies of the SMP/E CSI data sets that describe your system libraries, and your PARMLIB and PROCLIB.

5.1 Driving System Requirements

For details on the driving system requirements of z/OS V1R4, and z990 Compatibility Support, see the z/OS V1R4 version of *z/OS and z/OS.e Planning for Installation, GA22-7504.*

Note:

The driving system requirements for z990 Compatibility Support are identical to the driving system requirements for z/OS Version 1 Release 4.

5.2 Target System Requirements

For additional information on the target system requirements of z990 Compatibility Support, see *z/OS and z/OS.e Planning for Installation, GA22-7504.*

Note:

ICKDSF R17 must be installed on all other systems sharing DASD with the z990 processor.

5.2.1 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.

The following are the known APARs which are required for the z990 server at the time this document was written. These APARs and PTFs are provided here for your convenience, but additional requirements for the z990 server are to be found in the hardware PSP bucket 2084DEVICE, subset 2084/ZOS.

Figure 5. Mandatory Requisites for z/OS V1R4 (5647-A01) and z/OS.e V1R4 (5655-G52)
For HBB7707 (and Japanese, if needed, JBB77J7) APAR OW52986 (which is PTF UA02025) APAR OW53845 (which is PTF UA02025) APAR OW54705 (which is PTF UA02173) APAR OW56730 (which is PTF UA01442) APAR OW57714 (which is UA02178, with Japanese, if needed, PTF UA02182)
For HRM7705 (and Japanese, if needed, JRM77J5) APAR OW54347 (which is PTF UA90003, and Japanese, if needed, is PTF UA90002)
For HIO1104 APAR OA02091
For EER3500 APAR IR46582 (which is PTF UR54021)
For HIP6140 APAR PQ71579 (which is PTF UQ74992)
For HVT6140 APAR OA02212 (which is PTF UA01785)

5.2.2 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 Compatibility Support has no functional requisites, above the mandatory requisites listed above.

5.3 FMIDs Deleted

Installing z990 Compatibility 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.

The SMP/E Modification Control Statements (SMPMCS) for z990 Compatibility Support are contained in the SMPMCS file on the installation tape. The SMPMCS for each FMID in the product will be loaded to the SMPPTS data set, with a member name matching the FMID, when the FMID is SMP/E RECEIVEd. You may browse or print these members using TSO/E, ISPF, or IEBGENER (or IEBPTPCH).

5.3.1 SMP/E JCLIN

The JCLIN files for z990 Compatibility Support are contained in the RELFILEs on the installation tape if you received a CBPDO. These files will be loaded to disk by SMP/E when the product is SMP/E RECEIVEd. You may browse or print these files using TSO/E, ISPF, or IEBGENER (or IEBPTPCH).

To find out which RELFILE contains the JCLIN, consult the SMPMCS logic.

5.4 DASD Storage Requirements

The space requirements shown in Appendix B, “DASD Storage Requirements Tables” on page 47 are for changed elements in the z990 Compatibility Support.

Figure 6 lists the total space required for each type of library.

Figure 6. Total DASD Space Required by z990 Compatibility Support

Library Type	**Total Space Required**
Target	1621 tracks on 3390 DASD
Distribution	3831 tracks on 3390 DASD
HFS	100 tracks on 3390 DASD

If you are planning to install z/OS V1R4 and z990 Compatibility Support concurrently, also refer to the DASD storage information in Program Directory for z/OS Version 1 Release 4, GI10-0670-03. The storage information from that program directory must be added to the storage information in this program directory to give you the total storage required.

Data sets for national language FMIDs not ordered may be empty or require less space than documented. These data sets are identified by "NLV" in the notes column of the data set size tables.

6.0 Preparing the Installation Path

The following steps are required to prepare your system for the installation of the z990 Compatibility Support CBPDO. Detailed instructions for each step are provided on the indicated pages.

Figure 7. Checklist for Preparing the Installation Path

Check Box	Section, Step Description	Page	Your Notes
	6.1.1, Step 1: Cloning	18	
	6.1.2, Using Assembler, Binder, SMP/E For Subsequent Installs	18	
	6.1.3, Step 2: Back Up Your Clone System	18	
	6.1.4, Elements in z990 Compatibility Support	18	
	6.1.5, Step 3: Review General Installation Notes	20	

6.1 Overview for the Clone of Your System

The following are the procedures that need to be completed to create a clone of your system.

6.1.1 Step 1: Cloning

Make a *clone*, which is a separate IPLable copy, of your running system. The clone must include copies of all system libraries that SMP/E updates, including the HFS data sets, copies of the SMP/E CSI data sets that describe the system libraries, and your PARMLIB and PROCLIB data sets.

The clone becomes your target system. The system on which the installation jobs are processed is your driving system. All of the changes made to the system during your installation will be made against the clone system, not the driving system. For instructions on how to clone a system, refer to *z/OS and z/OS.e Planning for Installation, GA22-7504.*

Note:

Ensure the following are completed before proceeding:

- The entire HFS data sets are cloned.
- The DDDEF paths have been updated to proper HFS paths for your target system installation.

6.1.2 Using Assembler, Binder, SMP/E For Subsequent Installs

You must use the High Level Assembler, the Program Management Binder, and SMP/E which is found on your target system for the installation of the z990 Compatibility Support FMIDs and subsequent service as indicated in the 5.1, “Driving System Requirements” on page 13.

6.1.3 Step 2: Back Up Your Clone System

After testing your clone system to ensure that it IPLs, back up your clone system to tape or DASD. **Make sure you have a backup of your clone system.**

Also consider making a backup:

- After the APPLY step succeeds.
- After the ACCEPT step succeeds.
- After a successful IPL.
- At later stages in converting your system (after completing significant parts of the work and before starting new parts of the work).

6.1.4 Elements in z990 Compatibility Support

Figure 8 contains the elements to be installed for z990 Compatibility Support.

Figure 8. Elements in z990 Compatibility Support		
Element	**FMID(s)**	**Level**
HCD	HCS7708 (Base and English) JCS77J8 (Japanese) JCS77H8 (HFS base and English) JCS77HJ (HFS Japanese)	z990 Compat-ibility Support
HCM	HCM1510	z990 Compat-ibility Support
ICKDSF	EDU1H01 FDU1H07 (ISMF code for ISMF ICKDSF panels) FDU1H08 (ISMF English Panels) FDU1H09 (ISMF Japanese Panels)	z990 Compat-ibility Support
ICSF	HCR7708	z990 Compat-ibility Support
OSA/SF	H0GI400	z990 Compat-ibility Support

6.1.4.1 Understanding z990 Compatibility Support Service

On June 10, 2003, existing z/OS V1R4 customers who order the z/OS V1R4 z990 Compatibility feature using the "product-only" path of CBPDO will receive all the FMIDs for the feature ordered, and all available service for the FMIDs in the feature ordered. However, you must place a separate preventive service order to receive service for the FMIDs in other z/OS features (including the z/OS Base). You can obtain this service through your regular preventive service deliverable.

Effective June 27, 2003, customers ordering the z/OS V1R4 z990 Compatibility feature via a CBPDO will receive service that has been through z/OS integration test for that feature, as well as service for the entire z/OS V1.4 product.

More specifically, when the z990 Compatibility feature is ordered using the product-only" path of CBPDO, you will receive:

- ALL the FMIDs for the feature ordered, and
- ALL available service for the FMIDs in the feature ordered, and
- ALL service since your last CBPDO order (by default) for the FMIDs in other z/OS features, which are in your customer profile.

Note: This does not change your CBPDO order history for future CBPDO orders.

In addition to the FMIDs listed in Figure 8 on page 18, 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). Many of the PTFs in this PSP bucket may already have been identified as z/OS integration tested, and may be included in the PTFs on your CBPDO with the SMP/E SOURCEID "ZOSV1R4" that you receive. Ensure that you have these required Compatibility PTFs available for installation, which may mean that you need to place an order for any additional service you are missing. You may choose to identify the additional PSP service that you need with a specific SMP/E SOURCEID, such as "2084FIX".

It is also recommended that you install preventive service, at the latest Recommended Service Upgrade (RSU) level. For more information on RSU and the Consolidated Service Test done by IBM, see *z/OS and z/OS.e Planning for Installation, GA22-7504.* You will receive service identified with the current RSU SMP/E SOURCEID on your CBPDO. If your CBPDO is more than a month old, when you install it, you can order the latest RSU service. The preferred method of receiving RSU service is via ShopzSeries, where you can order the latest RSU level, plus the latest HIPER and PE fixes, based on your installed service inventory. ShopzSeries can be found at:
https://www14.software.ibm.com/webapp/ShopzSeries/ShopzSeries.jsp . Other methods for receiving preventive service include ordering an ESO tape or a service-only CBPDO.

The following fixes will be provided in the install job by CBPDO users examples in this program directory :

- z/OS V1R4 integration tested fixes (which are identified using the SMP/E SOURCEID of "ZOSV1R4")
- Required PSP fixes (for which you may use SMP/E SOURCEID of "2084FIX")
- RSU level fixes (which are identified using SMP/E SOURCEID "RSU*")

6.1.5 Step 3: Review General Installation Notes

This section describes the general information and messages that you receive during APPLY CHECK, APPLY, ACCEPT CHECK, and ACCEPT processing of the z990 Compatibility Support elements.

For the DDDEF sample jobs being provided, if the DDDEFs have never been defined, you can use either the REP or ADD parameter. The REP parameter replaces the CSI entry if it exists or adds it if it does not exist. If, however, the DDDEFs have already been defined and need to be replaced, you must use the REP parameter. If you use the ADD parameter to attempt to replace an existing entry, the job will fail.

If the target and distribution data sets that correspond to the DDDEFs will be cataloged, the UNIT and VOLUME parameters can be deleted from the DDDEF sample jobs.

In order to receive the full benefit of the SMP/E Causer SYSMOD Summary Report, the following should **not** be bypassed on the APPLY and ACCEPT CHECK: ID, IFREQ, PRE, and REQ. This is because the SMP/E root cause analysis only identifies the cause of **ERRORS** and not **WARNINGS** (SMP/E considers SYSMODs that are bypassed to be warnings, not errors).

GROUPEXTEND indicates that all requisite SYSMODs are to be applied and accepted. The requisite SYSMODs may be applicable to other functions. In the SMP/E examples throughout this program

directory, GROUPEXTEND will not include APARs or USERMODs. If you want it to, then remove the keywords NOAPARS and NOUSERMODS.

During an APPLY/ACCEPT CHECK and APPLY/ACCEPT, SMP/E Element Status can appear as APPLIED/ACCEPTED or NOT SEL in the 'Element Summary Report'.

- When Element Status indicates APPLY/ACCEPT with NOT SEL, the NOT SEL status can be ignored.
- Any Element Status showing ONLY a NOT SEL should be investigated.

6.1.5.1 Notes on APPLY CHECK and APPLY processing

If USERMODs are regressed, you will see the following message, which is acceptable:

- "GIM44502W CHANGES FOR THE FOLLOWING USERMODS WILL BE LOST BECAUSE THE ASSOCIATED FUNCTION SYSMOD HAS BEEN DELETED"

Depending on what your usermod does during APPLY CHECK processing, you may want to SMP/E RESTORE your usermods prior to installing the function sysmod and then APPLY them afterwards, or perform an SMP/E APPLY concurrently with the function sysmod.

For those elements using SMP/E CALLLIBS, warning messages are issued when the load modules are link-edited into the SMPLTS data set. For example the following warning messages are acceptable:

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

IEW2480W EXTERNAL SYMBOL xxxxxxxx OF TYPE LD WAS ALREADY DEFINED AS A SYMBOL OF TYPE LD IN SECTION csectname

IEW2482W THE ORIGINAL DEFINITION WAS IN A MODULE IDENTIFIED BY DDNAME SMPnnnnn. THE DUPLICATE DEFINITION IS IN SECTION xxxxxxx IN A MODULE IDENTIFIED BY DDNAME SMPnnnnn.

6.1.5.2 Notes on ACCEPT CHECK and ACCEPT processing

IBM recommends that you set the ACCJCLIN indicator in the DLIB zone. This causes all inline JCLIN to be saved in the distribution zone at ACCEPT time. For more information about the ACCJCLIN indicator, see the description of inline JCLIN in the ACCEPT command in *z/OS SMP/E Commands, SA22-7771*.

Any requisite service identified by the ACCEPT CHECK should be RECEIVEd and APPLYed before the next step.

General messages expected during ACCEPT processing:

- During SMP/E ACCEPT processing, load modules are installed into the distribution libraries. During the link-edits into these distribution libraries, message IEW0461 or IEW2454W may be issued several times. These messages are acceptable because the distribution libraries are not executable and the unresolved external references will not affect the executable system libraries.

- REPORT CALLLIBS is not required to be run after the installation is finished. Since the CALLable services are upwardly compatible, there is no need to re-link.

- The sample jobs are shown using REGION=0M. A region value equal to 0K or 0M gives the job all the storage available below and above 16 megabytes. Be aware that this can affect the performance of other jobs running in the system. If you do not choose to run with a region size of 0M, refer to *z/OS SMP/E Reference, SA22-7772,* for more information on how to determine region sizes.
- TIME=NOLIMIT is specified on the samples because the jobs take a long time to execute.

7.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install z990 Compatibility Support.

Please note the following:

- Sample jobs have been provided to help perform some or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries required for SMP/E execution have been defined in the appropriate zones.
- The SMP/E dialogs may be used instead of the sample jobs to accomplish the SMP/E installation steps.

7.1 Prepare to Install z990 Compatibility Support

This step describes the preparation work required before doing the APPLY.

Required Planning Tasks Check List

__ Before installing z990 Compatibility Support FMIDs, complete the planning tasks for choosing the software installation method - using CBPDO, preparing the driving system for CBPDO, and preparing the target system which are described in *z/OS and z/OS.e Planning for Installation, GA22-7504.*

__ Clone your system as described in 6.1, “Overview for the Clone of Your System” on page 18.

__ Check the PSP buckets as described in 3.2, “Preventive Service Planning” on page 7.

__ To install z990 Compatibility Support, the OMVS address space **MUST** be active in full function mode on the driving system. For driving system requirements, see *z/OS and z/OS.e Planning for Installation.*

__ To install z990 Compatibility Support, you must install from a user ID that has **UID=0** OR has read access to the BPX.SUPERUSER resource in the facility class. This user ID must have a home directory of ('/'), a program name of (`'/bin/sh'`), and needs READ access to the BPX.FILEATTR.APF and BPX.FILEATTR.PROGCTL resources in the facility class (or READ access to the BPX.FILEATTR.* resource in the generic facility class)." For details, see the following:

  - *z/OS UNIX System Services Planning, GA22-780*
  - *z/OS Security Server RACF Security Administrator's Guide, SA22-7683*
  - *z/OS Security Server RACF Command Language Reference, SA22-7687*

__ Ensure that your system meets the requirements for hardware, software, and coexistence considerations described in *z/OS and z/OS.e Planning for Installation, GA22-7504*

__ Install the required driving system software listed in *z/OS and z/OS.e Planning for Installation.*

7.1.1 RECEIVE the z990 Compatibility Support Package.

You must RECEIVE FMIDs for the elements shown in Figure 1 on page 2 of this program directory.

Refer to *MVS CBPDO Memo to User Extension* included with the CBPDO for more information. The CBPDO contains all non-integrated PTFs for every z990 Compatibility Support FMID. (Cumulative service is included in CBPDO orders, so there is no separate cumulative service tape.) It may also contain all service for other products in the CBPDO profile. As a result, maintenance may be delivered that is already APPLYed and ACCEPTed.

7.1.1.1 Important Service Considerations When Ordering z990 Compatibility Support

It is highly recommended that you upgrade service for your entire system at the time you install this z990 Compatibility Support. This will provide you with service for your system, z990 Compatibility Support, and other products in your ordering profile. Additional information on ordering the z990 Compatibility Support feature can be found in: *z/OS and z/OS.e Planning for Installation, GA22-7504.*

7.1.2 SMP/E Considerations for Installing z990 Compatibility Support

This release of z990 Compatibility Support is installed using the SMP/E RECEIVE, APPLY, and ACCEPT commands. The SMP/E dialogs may be used to accomplish the SMP/E installation steps.

You can also access the sample installation jobs by performing an SMP/E RECEIVE for FMID ##fmid, and then copying the jobs from data set **hlq.IBM.fmid.file** to a work data set for editing and submission.

7.1.3 SMP/E Options Subentry Values

The recommended values for some SMP/E CSI subentries are shown in Figure 9. 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 9. 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.

7.1.4 SMP/E CALLLIBS Processing

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

- CNMLINK
- CSSLIB
- SCEELKED
- SCEELKEX
- SCEESPC
- SCSFMOD1 (allocated by ICSF)
- SDFHLOAD
- SDMSSVM
- SEZACMTX
- SIOAMMOD (allocated by OSA/SF)

Note: The DDDEFs above are used only to resolve the link-edit for z990 Compatibility Support using CALLLIBS. These datasets are not updated during the installation of z990 Compatibility Support - except for SCSFMOD1 and SIOAMMOD which are ICSF and OSA/SF data sets and are included in the z990 Compatibility Support package.

7.1.5 Sample Jobs

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

The following fields are represented in this table:

Job Name It contains the name of the sample job to be run.

Job Type It indicates the type of job that is to be run.

Description It contains the element name for which the job is to be run.

RELFILE This field represents the location where the sample job resides.

Figure 10 (Page 1 of 2). Sample Installation Jobs

Job Name	Job Type	Description	RELFILE
CBDSALLC	ALLOCATE	HCD	'prefix.HCS7708.F2'
EEQHCALC	ALLOCATE	HCM	'prefix.HCM1510.F1'
ICKALLOC	ALLOCATE	ICKDSF	'prefix.EDU1H01.F3'
ICKALLKG	ALLOCATE	ISMF Japanese	'prefix.FDU1H09.F2'
CSFALLOC	ALLOCATE	Cryptographic Services ICSF	'prefix.HCR7708.F1'
IOAALLOC	ALLOCATE	OSA/SF	'prefix.H0GI400.F1'

Figure 10 (Page 2 of 2). Sample Installation Jobs

Job Name	Job Type	Description	RELFILE
CBDSDDDF	DDDEF	HCD	'prefix.HCS7708.F2
EEQHCDDF	DDDEF	HCM	'prefix.HCM1510.F1'
ICKDDDEF	DDDEF	ICKDSF	'prefix.EDU1H01.F3'
ICKDDDKG	DDDEF	ISMF Japanese	'prefix.FDU1H09.F2'
CSFDDDEF	DDDEF	Cryptographic Services ICSF	'prefix.HCR7708.F1'
IOADDDEF	DDDEF	OSA/SF	'prefix.H0GI400.F1'
CBDISMKD	MKDIR	HCD HFS	'prefix.HCS7708.F2'

Notes:

1. 'prefix' is the high-level qualifier value specified as the DSPREFIX value in the SMPTLIB DDDEF or the OPTIONS entry of the global zone.
2. For a list of new and deleted datasets and HFS paths for z990 Compatibility Support see Appendix B, “DASD Storage Requirements Tables” on page 47.

7.1.6 Allocate Target and Distribution Libraries

Copy, edit and submit the sample ALLOCATE jobs (CBDSALLC, CSFALLOC, EEQHCALC, ICKALLOC, ICKALLKG, and IOAALLOC) as shown in Figure 10 on page 25 to allocate target and distribution libraries. Consult the instructions in the sample jobs for more information.

EXPECTED RETURN CODES AND MESSAGES: 0.

Note: If you are planning to install z/OS V1R4 and z990 Compatibility Support concurrently, refer to the *Program Directory for z/OS Version 1 Release 4, GI10-0670-03*. The allocation jobs from that program directory must be combined with the allocation jobs in this program directory to give you a list of all allocation jobs to run.

7.1.7 Set Up HFS Directories

At this time, you need to create the HFS target libraries if they do not exist. For files that install into the HFS, the target libraries are directories.

Edit and submit sample job CBDISMKD to create HFS directories for HCD. Consult the instructions in the sample job for more information.

EXPECTED RETURN CODES AND MESSAGES: 0

Note: If you are installing z/OS V1R4 and z990 Compatibility Support concurrently, refer to *Program Directory for z/OS Version 1 Release 4 GI10-0670-03* for the complete list of MKDIR sample jobs. The

sample HFS directory jobs from that program directory must be added to the sample HFS directory jobs in this program to give you a list of all HFS directory jobs to run.

Note: Before running this job, ensure the HFS data sets mounted on the /var, /tmp, and /dev directories are unmounted. After unmounting, verify these directories are empty. Also, ensure that the clone of /etc is mounted, so that necessary /etc changes can be made by the mkdir jobs. If /etc is a symbolic link, run BPXISETD to convert it back a directory to mount it.

Before IPLing, you will need to convert the /etc and /var directories to symbolic links. First unmount the HFS data sets on the /etc and /var directories. Use the BPXISETS REXX exec found in SAMPLIB to convert the /etc and /var directories to symbolic links. To submit the REXX exec in the background, you can use the BPXISJCL provided in SAMPLIB.

If for any reason you require the /etc or /var symbolic links to be removed and the /etc or /var directories recreated, use the BPXISETD REXX exec from SAMPLIB. Again, the BPXISJCL job can be used to submit this in the background.

7.1.8 Define DDDEFs Entries

Copy, edit and submit the sample DDDEFs jobs (CBDSDDDF, CSFDDDEF, EEQHCDDF, ICKDDDEF, ICKDDDKG, and IOADDDEF) as shown in Figure 10 on page 25 to create DDDEF entries for the target libraries, distribution libraries and HFS paths. Consult the instructions in the sample jobs for more information.

EXPECTED RETURN CODES AND MESSAGES: 0.

Note: If you are installing z/OS V1R4 and z990 Compatibility Support concurrently, refer to *Program Directory for z/OS Version 1 Release 4, GI10-0670-03* for the complete list of DDDEF sample jobs. The sample DDDEF jobs from that program directory must be added to the sample DDDEF jobs in this program directory to give you a list of all sample DDDEF jobs to run .

7.1.9 Pre-APPLY Migration Actions

- Commands copied from CMDLIB to LPALIB

  SMP/E will be unable to maintain and apply product and service updates to commands which you copy from CMDLIB to LPALIB, unless you first identify the residency change to SMP/E. Therefore, IBM does not recommend that you copy commands from CMDLIB to LPALIB. If your installation feels it is necessary to place commands into LPALIB to achieve better runtime performance and you have previously copied the commands from CMDLIB to LPALIB, you must do one of the following:

  – Delete the old copies from LPALIB.

  – Replace with the new version of the commands.

- Because it is necessary to manually update LPALIB if you have copied your commands from CMDLIB to LPALIB, you may instead want to MLPA the commands, or add SYS1.CMDLIB to the LPA list rather than physically copying commands to LPALIB. If you choose to add CMDLIB to the LPA list, you must also add it to the APF list.

- Modified Modules and User Exits

  Installation of z990 Compatibility Support elements may replace modified modules or User Exits which you may have changed during prior installations of the elements. To ensure that you do not lose these modified modules or User Exits, you may wish to save a copy of them prior to doing the APPLY.

7.2 Step 2: APPLY z990 Compatibility Support

You must use the High Level Assembler, the Program Management Binder, and SMP/E which is found on your target system for the z990 Compatibility Support installation and subsequent service as indicated in the 5.1, “Driving System Requirements” on page 13.

It is assumed that the level of SMP/E which is on your target is being used. If the SMP/E dialogs will be used, ensure the ISPF set up is the same as the one on your target system.

7.2.1 Create FMIDSET

The FMIDSET entry defines a group of FMIDs for use in reducing the SYSMODs processed by an SMP/E command.

For more information on this operand, refer to *z/OS SMP/E Commands, SA22-7771.* If you received your order via CBPDO, then you will receive sample JCL in the RIMLIB(FMIDSET0).

If you are installing z/OS V1R4 and z990 Compatibility Support concurrently, you will receive a sample job shipped in RIMLIB(FMIDSET0). This sample job has incorporated the FMIDs for z990 Compatibility Support in the original z/OS V1R4 FMIDSET sample according to the ripple order, as instructed in the z/OS V1R4 Program Directory.

7.2.2 Create a Cross-Zone Set

If you have already completed the cross-zone checking set up from your install of z990 Compatibility Support as described in this section, you will not need to do it again. You can continue to the SMP/E APPLY CHECK step (7.2.3, “Perform SMP/E APPLY for z990 Compatibility Support and Service” on page 30).

There are different methods that can be used for cross-zone processing. A zone group can be defined and added to the install jobs or the XZGROUP operand can be used. XZGROUP(value) contains a list of ZONESETs or zones that are used to establish the zone group. Each value in the list must be a valid ZONESET or zone name. XZGROUP(value) would be added to the install jobs instead of adding the XZREQCHK operand to one or more ZONESETs.

In OS/390 Release 3, SMP/E introduced the operand, XZREQ, which provides a method for a user to more easily install cross-zone requisites. SMP/E identifies the cross-zone requisites needed in the set-to zone by reading CIFREQ data in the secondary zones of the zone group in effect for the current APPLY/ACCEPT commands. Any CIFREQ data that is for FMIDs installed or being installed in the set-to

zone that are not yet in the set-to zone causes the required SYSMODs to become candidates for installation. If the FORFMID operand is also used, the FMID specified on the CIFREQ must match one of the FMIDs specified on the FORFMID operand for the SYSMOD to become a candidate.

By adding the XZREQ operand, the CIFREQ SYSMODs are installed automatically into the set-to zone. An APPLY XZREQ needs to be performed against the other zones in order to synchronize service.

Note: If SYSMODs being installed into the set-to zone have requirements against the other cross-zones, that service must be APPLY'd to those zones before installation can be completed into the set-to zone.

For more information on this operand, refer to *z/OS SMP/E Commands, SA22-7771.* See Figure 11 for an example of how to set up the ZONEINDEX, ZONESET, and XZREQCHK for use during the APPLY/ACCEPT and Figure 12 on page 31 for an example of the APPLY using the XZREQ operand.

```
//ZINDEX   JOB (Job parameters)
//SMPE     EXEC PGM=GIMSMP
//STEPLIB DD DSN=SYS1.MIGLIB,DISP=SHR,
//         UNIT=SYSALLDA,VOL=SER=xxxtvol1
//        DD DSN=ASM.SASMMOD1,DISP=SHR,
//         UNIT=SYSALLDA,VOL=SER=xxxtvol1
//SYSPRINT DD SYSOUT=*
//SMPCSI   DD DSN=your.global.csi,DISP=SHR
//SMPCNTL  DD *
  SET BDY(GLOBAL) .
    UCLIN .
      ADD GLOBALZONE ZONEINDEX(
        (os390t,os390.target.csi,TARGET)
        (mvsv5t,mvsv5.target.csi,TARGET)
        (jes2tgt,jes2.target.csi,TARGET)
        (jes3tgt,jes3.target.csi,TARGET)
        (pptgt,pgmprod.target.csi,TARGET)
        (db2tgt,db2.target.csi,TARGET)
        (imstgt,ims.target.csi,TARGET)
        (cicstgt,cics.target.csi, TARGET)
        (os390d,os390.dlib.csi,DLIB)
        (mvsv5d,mvsv5.dlib.csi,DLIB)
        (jes2dlb,jes2.dlib.csi,DLIB)
        (jes3dlb,jes3.dlib.csi,DLIB)
        (ppdlib,pgmprod.dlib.csi,DLIB)
        (cicsdlb,cics.dlib.csi,DLIB)
        (db2dlib,db2.dlib.csi,DLIB)
        (imsdlib,ims.dlib.csi,DLIB)) .
```

Figure 11 (Part 1 of 2). Sample Job to Add XZREQCHK(YES) to a ZONESET Entry

```
      ADD ZONESET(XZONE)
        ZONE(os390t,
             mvsv5t,
             jes2tgt,
             jes3tgt,
             pptgt,
             cicstgt,
             db2tgt,
             imstgt,
             os390d,
             mvsv5d,
             jes2dlb,
             jes3dlb,
             ppdlib,
             cicsdlb,
             db2dlib,
             imsdlib)
       XZREQCHK(YES) .
    ENDUCL.
/*
```

Figure 11 (Part 2 of 2). Sample Job to Add XZREQCHK(YES) to a ZONESET Entry

Required Updates

1. Update the job parameters.
2. Update the xxxtvol1 with the volume serial number for the MIGLIB and the SASMMOD1 data sets residing on the target system on which the z990 Compatibility Support FMIDs are being installed.
3. Replace the CSI name on the SMPCSI DD statement with your CSI name.
4. Update cross dependency zones and CSI names.

Successful processing returns a condition code of 0.

7.2.3 Perform SMP/E APPLY for z990 Compatibility Support and Service

Prior to proceeding with the APPLY CHECK for the FMIDs documented in this program directory, all dataset allocations and DDDEFs must be completed for all elements within this program directory. This is necessary because some elements share datasets.

Edit and submit the sample job shown in Figure 12 on page 31 to perform an SMP/E APPLY CHECK for z990 Compatibility Support. 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 <job parameters>
//STEP1 EXEC PGM=GIMSMP,REGION=0M,TIME=NOLIMIT
//STEPLIB DD DSN=SYS1.MIGLIB,DISP=SHR,
//         UNIT=SYSALLDA,VOL=SER=xxxtvol1
//        DD DSN=ASM.SASMMOD1,DISP=SHR,
//           UNIT=SYSALLDA,VOL=SER=xxxtvol1
//SMPCSI DD DSN=your.global.csi,DISP=SHR
//SMPCNTL DD *
  SET BOUNDARY(targetzone)
      OPTIONS(ZOSOPT) .
    APPLY CHECK XZREQ
      FORFMID(ZR4ALL)
      SELECT(z990T)
      GROUPEXTEND(NOAPARS,NOUSERMODS)
      SOURCEID(ZOSV1R4,RSU*,2084FIX,HIPER,PRP)
      BYPASS(HOLDSYSTEM,HOLDUSER,
              HOLDCLASS(UCLREL, ERREL, HIPER)) .
/*
```

Figure 12. SMP/E APPLY (z990 Compatibility Support and all required z/OS V1R4 Service)

Required Updates

1. Update the job parameters.
2. Update the xxxtvol1 with the volume serial number for the MIGLIB and the SASMMOD1 data sets residing on the target system on which the z990 Compatibility Support FMIDs are being installed.
3. Replace the CSI name on the SMPCSI DD statement with your CSI name.
4. Update targetzone to your target zone name.
5. FMIDSET z990T and ZR4ALL are created when you run sample jcl in RIMLIB(FMIDSET0). FMIDSET z990T contains changed FMIDs in z990 Compatibility Support, while FMIDSET ZR4ALL contains all z/OS V1R4 FMIDs including z990 Compatibility Support.
6. Update 2084FIX with the name of the fixes that were required, as documented in the hardware PSP bucket 2084DEVICE, subset 2084/ZOS.

Notes:

a. The XZREQ operand only needs to be specified when cross-zone processing is required. If this operand is specified when there is no zone group set up, the following message will be received, which is acceptable:

- "GIM50810W THE XZREQ OPERAND WAS SPECIFIED ON THE APPLY COMMAND BUT SINCE NO ZONES WERE APPLICABLE FOR CROSS-ZONE REQUISITE CHECKING, THE XZREQ OPERAND WILL BE IGNORED."

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

During APPLY CHECK and APPLY processing, the following message may be issued if BYPASS was specified:

"GIM42001W THE FOLLOWING CONDITIONS FOR SYSMOD aaaaaaa WERE NOT SATISFIED, BUT WERE IGNORED BECAUSE THE BYPASS OPERAND WAS SPECIFIED. PROCESSING CONTINUES.

where aaaaaaa is the sysmod ID. This message and the resulting return code of 4, are acceptable.

Notes:

1. You must investigate and resolve any "requisites" or "holds" that were not satisfied before continuing with the install.
2. If you have bypassed a HOLDSYSTEM for MSGSKEL, refer to 7.3.1.1, “Compile MMS Data Sets” on page 33 for how to compile the z/OS Message Service skeleton files after a successful APPLY.

   Be certain that all the exception conditions have been satisfied before adding other conditions to the BYPASS(HOLDSYSTEM(MSGSKEL)) during the SMP/E APPLY step.
3. If you BYPASS(HOLDCLASS(HIPER)), you should run the SMP/E REPORT ERRSYSMODS command to identify missing HIPER HOLDs before putting your system into production. If you do not BYPASS(HOLDCLASS(HIPER)), the FMIDs may not be installed if any of the HIPER maintenance is unavailable.
4. "NOT SEL" messages in the ELEMENT SUMMARY REPORT can be ignored if the SYSMOD STATUS indicates "APPLIED". Any ELEMENT STATUS showing ONLY a "NOT SEL" should be investigated.

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

During the APPLY CHECK of ICSF element in z990 Compatibility Support, 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 HCR7708 BECAUSE CSFDSTAT IS NOT IN THE target ZONE.”

Expected Return Codes and Messages from APPLY : RC=4

During the APPLY of ICSF element in z990 Compatibility Support, the following is received and is acceptable as a cause of the condition code 4.

Message “GIM61903W LMOD CSFDSTAT WAS NOT DELETED BY SYSMOD HCR7708 BECAUSE CSFDSTAT 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.

If you are installing z/OS V1R4 and z990 Compatibility Support concurrently, refer to Program Directory for z/OS V1R4 for detailed sample APPLY job by ripple. You will install z990 Compatibility Support within the appropriate ripple, as you specified in the FMIDSET definition for each ripple.

7.3 Step 3: Perform Post-APPLY Work for z990 Compatibility Support

Once you have successfully SMP/E APPLY'd all the z990 Compatibility Support elements, you must perform the post-APPLY activities. Post-APPLY work for z990 Compatibility Support must be run from your **driving** system unless otherwise specified.

Post-APPLY jobs include:

- General:
  - Run SMP/E REPORT CROSSZONE (target zone)

Note: IBM has verified that every product that is now part of OS/390 and z/OS and that supplies CALLLIB'd libraries is upwardly compatible. Therefore, a REPORT CALLLIBS is not required.

7.3.1 z990 Compatibility Support Post-Installation Jobs

7.3.1.1 Compile MMS Data Sets

After installing z990 Compatibility Support, if you choose to use the z/OS Message Service (MMS) the message files must be compiled into run-time message files. After the installation of the additional products or elements, compilation can begin.

For the z/OS message service (MMS) to handle translated messages, your installation must use the z/OS message compiler to format and install message files that contain English message skeletons and translated language message skeletons.

The following summarizes the steps for providing translated messages:

- Verify the message files are correctly installed on your system.
- Allocate space for each run-time message file. Edit and run the job in member CNLDEFCL to allocate run-time message files. CNLDEFCL is supplied in your SAMPLIB library on the target system after APPLY processing has completed.
- Use the z/OS message compiler to format the installation message file into a run-time message file. Edit and run the job in member CNLCOMP to compile and load the run-time message files. CNLCOMP is supplied in your SAMPLIB library on the target system after APPLY processing has completed.
- Create installation exit routines, if needed.
- Create or update the SYS1.PARMLIB members to initialize values for MMS:
  - CNLLSTxx - to define the available languages for message translation. A sample CNLLSTXX is provided in the SYS1.SAMPLIB library.

  - CNLcccxx - to define the date and time formats.
  - CONSOLxx - to specify the CNLLSTxx member in effect for the system.
- Activate MMS.

See the description of how to activate MMS, creating installation exits, and how to handle translated messages in *z/OS MVS Planning: Operations, SA22-7601.*

7.3.2 z990 Compatibility Support General Post-Installation Jobs

7.3.2.1 Run SMP/E REPORT CROSSZONE (Target Zone)

If you did not use automatic cross-zone IFREQ checking when installing z990 Compatibility Support, refer to *z/OS SMP/E Commands, SA22-7771*, for information on the SMP/E REPORT CROSSZONE command.

7.4 Step 4: Customize z990 Compatibility Support

Once you have successfully SMP/E APPLY'd the z990 Compatibility Support elements and performed the post-APPLY work, you must customize these elements. Customization for z990 Compatibility Support may be run from your **driving** system unless otherwise specified.

It is important that you have read the migration requirements documented in z/OS and z/OS.e Planning for Installation, GA22-7504.

7.4.1 PARMLIB Member Considerations

After the products are installed, you must tailor the system to meet your installation's needs. You will need to review, modify, and create entries in SYS1.PARMLIB, SYS1.PROCLIB, and SYS*n*.IPLPARM.

Starting with OS/390 Release 2, you have the capability to concatenate up to ten additional data sets to SYS1.PARMLIB at IPL, creating a “logical PARMLIB.” A logical PARMLIB is a concatenation of parameter libraries that can be accessed through a set of system services. The concatenation is defined in the LOAD*xx* PARMLIB member at system initialization but can be changed later with a SET command. Programs that use the new services can access PARMLIB members without being aware of which data sets actually comprise the concatenation. You can use separate PARMLIB data sets to isolate IBM-supplied and SMP/E-supported members from locally customized members. For information on PARMLIB concatenation, see *Initialization and Tuning Reference, GC28-1635*

The support of system symbols in PARMLIB has been provided by the BCP element since MVS/ESA SP 5.2.0. In OS/390 Release 2, a PARMLIB symbolic preprocessor was provided. The preprocessor is an ISPF dialog that provides parsing, syntax validation, and data verification services for the LOAD*xx* PARMLIB member and the other associated members (those pointed to by LOAD*xx* in the chain). It identifies whether certain members or data sets can be found, detects certain syntax errors, and displays the results in the members you select. The dialog allows you to manipulate the symbol table and see the

expected results. You can also perform other useful PARMLIB functions through the dialog. See the SPPINST SAMPLIB member for detailed instructions on how to install and use the tool.

SMP/E installation places a number of members in the PARMLIB pointed to by the PARMLIB DDDEF in your target zone, or the PARMLIB DD statement in your SMP/E procedure. This PARMLIB data set is a copy of your production PARMLIB, as described in 6.1, "Overview for the Clone of Your System" on page 18. Before IPLing your production system, you must do one of the following:

1. Concatenate the PARMLIB pointed to by the SMP/E DDDEF.
2. Copy the members that SMP/E installed into your production PARMLIB concatenation.

7.4.1.1 z990 Compatibility Support PARMLIB Members

z990 Compatibility Support shipped the following PARMLIB member in SYS1.PARMLIB.

1. CSFIPCSP

Attention

If you do not make necessary changes to SYS1.PARMLIB, SYS1.PROCLIB, and SYS*n*.IPLPARM, the system might not initialize or run successfully.

For a complete description of all changes needed for a migration, see *z/OS MVS Migration, GA22-7580*.

For information on PARMLIB members, see *z/OS MVS Initialization and Tuning Reference, SA22-7592.*

There are no additional PARMLIB updates recommended for z990 Compatibility Support above what is required for z/OS V1 R4. Refer to the z/OS V1R4 Program Directory for PARMLIB updates for z/OS V1R4.

7.4.1.2 IFAPRDxx Considerations

With z/OS, products can use registration services to determine if they are enabled to run on a particular system. This requires the product be defined appropriately in the enablement policy for the system via the IFAPRD*xx* PARMLIB member.

Customers must ensure the policy in IFAPRD*xx* enables only that which they are licensed. Use of (and enablement of) z/OS features is subject to the z/OS license terms and conditions and must be done with the knowledge of your asset manager according to the terms and conditions for z/OS. See the Usage Restriction section of the *z/OS Licensed Program Specifications*, GC28-1728, for additional license terms and conditions.

When you ordered z990 Compatibility Support which packaged priced optional features with the base product, IBM supplied a tailored IFAPRD00 PARMLIB member that enabled the product and any optional features ordered with the product. Thus, any feature ordered with the product was enabled during installation when you copied the contents of the tailored IFAPRD00 member to an active IFAPRD*xx*

member and issued SET command or IPL. *z/OS MVS Product Management GC28-1730* contains information on how to enable a z/OS feature and how to discontinue use of a feature.

7.4.1.3 Making the Run-time Library Available

z990 Compatibility Support requires the run-time library provided by Language Environment, SCEERUN, to be made available in the program search order. The best way to do that is by adding SCEERUN data set in LNKLST. However, adding the SCEERUN data set to LNKLST could adversely affect other applications that have dependencies on pre-Language Environment run-time libraries.

This is because the SCEERUN data set contains load module names that are the same as load module names that existed in the pre-Language Environment run-time libraries, for example, VS COBOL II library, COB2LIB. For those applications that have not migrated to use Language Environment, accessing the SCEERUN data set via LNKLST could be detrimental. However, the SCEERUN2 data set does not contain any load module names that are the same as any other data set. Therefore, we recommend SCEERUN2 be accessed through LNKLST, for easier systems management.

If you cannot add the SCEERUN data set to LNKLST, access the SCEERUN data set through STEPLIB in the individual z/OS element procedures that require it. The STEPLIB approach is a supported environment by IBM.

7.4.2 PROCLIB Member Considerations

This section describes the PROCLIB customization that must be performed for the z990 Compatibility Support elements. PROCLIB customization consists of three steps:

1. Ensure the default PROCLIB members have been copied to your default PROCLIB to pick up the new and changed members.
2. Update individual sample members provided and ensure they are accessible to the system, as shown in Figure 13.
3. Ensure entire libraries are accessible to the system

The following figure describes the PROCLIB updates that are required for z990 Compatibility Support. Note that function (for example, PARMLIB concatenation) has been incorporated into some sample procedures. **IBM recommends** you base your customized procedures on the IBM-supplied samples. For additional information on PROCLIB considerations, see the customization books for the particular element.

7.4.2.1 Copying Default Proclib Members

After the PROCLIB updates are complete, the members listed below must be made accessible to the system by copying them to a procedure library that is in your JES procedure library concatenation.

Figure 13. PROCLIB Member Updates

PROCLIB Member	Action to Take	Element Name
CBDJCMPR CBDJIMPT CBDJIOCP CBDJRPTS CBDJXMIT CBDQAJSK CBDQDISP	Ensure these procedures are correctly customized for your environment. They are provided in your PROCLIB data set.	HCD
IOAOSASF	Copy this procedure and update for your environment. Sample member is provided in your SIOASAMP library.	OSA/SF

7.4.3 z990 Compatibility Support ISPF Setup Considerations

The following table shows which data sets must be concatenated to ISPF DDNAMEs in the logon procedure in order to use z990 Compatibility Support functions.

Figure 14. Logon PROC Updates

DDNAME	DDDEF	ELEMENT
ISPLLIB	SCBDHENU	HCD
ISPMLIB	SCBDMENU	HCD
ISPMLIB	SCSFMSG0	ICSF
ISPPLIB	SCBDPENU	HCD
ISPPLIB	SCSFPNL0	ICSF
ISPSLIB	SCSFSKL0	ICSF
ISPTLIB	SCBDTENU	HCD
SYSPROC	SCBDCLST	HCD

Notes:

1. Ensure all libraries in the SYSPROC concatenation have the same record format.

7.4.4 Customization Considerations for z990 Compatibility Support

7.4.4.1 OSA/SF Customization Considerations

Refer to *zSeries: z990 Open Systems Adapter-Express Customer's Guide and Reference, SA22-7935* for information on how to:

- Set up OSA/SF
  - Create started procedure
  - Create Startup Profile

  - Create Configuration and Master Index files
  - What to do after OSA/SF is started
- Download and Install the OSA/SF GUI.
- Start the OSA/SF GUI
- Customize OSAs Using the GUI or REXX EXECs

Note: When placing the OSA/SF SIOALMOD library in LNKLST it must be after the TCPIP SEZALOAD library.

7.4.4.2 ICKDSF Customization Considerations

ICKDSF now provides a sample job for creating the stand-alone tape. Edit and submit SYS1.SAMPLIB(ICKSAT) to copy ICKDSF Stand-Alone program to an unlabeled tape. Consult the instructions in the sample job for more information. Successful creation of Stand-Alone tape returns a condition code of 0. Refer to Chapter 7 in the *Device Support Facilities User's Guide and Reference for additional information, GC35-0033* on loading the stand-alone tape.

7.5 Step 5: Verify Installation of z990 Compatibility Support

Once you have successfully:

- SMP/E APPLY'd the z990 Compatibility Support elements,
- Performed the post-APPLY work, and
- Finished the minimal customization documented in 7.4, “Step 4: Customize z990 Compatibility Support” on page 34,

you should verify the installation of the z990 Compatibility Support elements. The z990 Compatibility Support installation verification procedures (IVPs) should be run from your **target** system, unless specifically noted.

7.5.1 IPL the z/OS System

Attention

Do not IPL the new release in a production environment until you have tested the new release with a simulated production load that includes all applications and all non-IBM products, which ensures service level agreements can be met.

Do not IPL in a shared resource environment unless you have installed service for any applicable Compatibility and coexistence APARs described in *z/OS and z/OS.e Planning for Installation, GA22-7504.*

Do not IPL the z/OS system with a root file system used with previous OS/390 or z/OS releases. Invoking programs contained in previous file systems, may result in unpredictable behavior.

You must specify CLPA to create the link pack area.

IEA299I may be received during system initialization. This message is issued only if a conditional resource initialization module (RIM) is not found. Processing continues because z990 Compatibility Support is not dependent on the function of the indicated RIM. However, subsystems, program products, or applications might require conditional RIMs. Check the installation procedures for any subsystem that fails for mention of the indicated RIM. Any RIMs shipped by these products must reside in the SYS1.NUCLEUS library.

The following messages might be issued one or more times, depending on which products you have installed and which I/O device types are defined to your system during IPL:

- IEA093I MODULE IEANUC01 CONTAINS UNRESOLVED WEAK EXTERNAL REFERENCE <name>. References to modules with any of the following names can be ignored:
  - AOMATTN
  - AOMATTNT
  - CBRATTN
  - IARYGGTS
  - IECTATEN
  - IECTCATN
  - IECTCQSC
  - IEDQATTN
  - IFFIOM
  - IRDVATT1
  - ISTZFMAA
  - ISTZFMAB
  - IXCIOATX
- IEA093I MODULE IGGDDT01 CONTAINS UNRESOLVED WEAK EXTERNAL REFERENCE <name>. All such messages for unresolved external references in IGGDDT01 can be ignored. For more information, see APAR II03282.
- IEA093I MODULE IGC116 CONTAINS UNRESOLVED WEAK EXTERNAL REFERENCE IGX03007.

7.5.2 Verify Installation of z990 Compatibility Support FMIDs

To verify that the z990 Compatibility Support elements are installed, you should make at least the following **minimal checks:**

- Initialize the system.
- Initialize JES.
- Submit a job and check its output.
- If CICS or IMS is installed, initialize a region and sign on to a terminal.

More complete checks:

- Run critical production jobs.

- Communicate with all networks without IP.
- Test critical functions in applications.
- Check for completeness of accounting records.
- Test all non-IBM product functions.
- Ensure that performance goals stated in service level agreements can be met.

7.5.3 IVP Jobs for z990 Compatibility Support

There are currently no installation verification procedures for the following elements in z990 Compatibility Support:

- HCM
- ICSF
- OSA/SF

7.5.3.1 Run the ICKDSF Installation Verification Procedure

ICKDSF provides a new installation verification procedure in SYS1.SAMPLIB(ICKVER). Copy this sample to a work data set. Edit and submit ICKVER to verify the installation of ICKDSF. The job may be executed against any ***offline*** device that is supported; it will not alter the volume in any way.

Note that ICKDSF was placed in SYS1.LINKLIB by SMP/E. Note that ccuu - specifies the address (in hexadecimal) of the device to be inspected.

The following information messages will appear in the SYSPRINT data set due to the execution of the above job.

The contents of these messages may vary slightly due to variations on your particular pack.

- VERIFY HEADER ON OUTPUT

```
ICKDSF - MVS/ESA    DEVICE SUPPORT FACILITIES 17.0
  ANALYZE UNIT(ccuu) NODRIVE SCAN CYLR(1,2)
ICK00700I DEVICE INFORMATION FOR ccuu IS CURRENTLY AS FOLLOWS:
          PHYSICAL DEVICE = xxxx
          STORAGE CONTROLLER = xxxx
          STORAGE CONTROL DESCRIPTOR = xx
          DEVICE DESCRIPTOR = xx
          ADDITIONAL DEVICE INFORMATION = xxxxxxxx
ICK04000I DEVICE IS IN SIMPLEX STATE
ICK00091I ccuu NED=  xxxx.xxx.xxx.xx.xxxxxxxxxxx
ICK01400I ccuu ANALYZE STARTED
ICK01408I ccuu DATA VERIFICATION TEST STARTED
ICK01405I ccuu ALL DATA 'MACHINE READABLE' WITHOUT ERRORS
ICK01406I ccuu ANALYZE ENDED
ICK00001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS 0
            hh:mm:ss dd/mm/yy
```

The publication *Device Support Facilities User's Guide and Reference Release 17, GC35-0033*, contains information on using ICKDSF.

7.5.3.2 Run the HCD Installation Verification Procedure

To verify HCD is installed, you should at least make the following minimal checks.

- Issue 'D IOS,CONFIG' command and verify the resulting IOS506I message.
- Invoke HCD. You will receive the primary task selection panel of HCD, Hardware Configuration. Verify it says "z/OS V1.4 HCD " at the first line of the panel. Then, select "What's new in this release" from the primary task selection panel. Verify it says "What's New in This Release" at the heading of the panel. Finally, scroll forward. You will see:

  ```
  What's New in This Release
  ```

  This panel tells you what changes have been made in the present release. If you have not used HCD before, select Item 8, 'Getting Started with This Dialog' on the primary selection panel for "Overview of Changes".

  For information on HCD support for new processor types and the enhanced capabilities of new processor models, select 'Query supported hardware and installed UIMs' on the primary selection panel and then 'List supported processors.'

  For information on new functions and enhancements of the present HCD release, move your cursor to a highlighted topic, then press Enter. Pressing F12 on the panel describing the selected topic returns you to this panel to select another topic. This release of HCD provides new support for:

  – XMP processors

- Multiple channel subsystems
- Spanned channel paths
- Physical channel identifier
- CHPID Mapping Tool
- Validated Work IODF

7.6 Step 6: ACCEPT z990 Compatibility Support

7.6.1 Perform SMP/E ACCEPT for z990 Compatibility Support FMIDs and Service

Edit and submit sample job shown in Figure 15 on page 43 to perform an SMP/E ACCEPT CHECK for z990 Compatibility 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.

Before using SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. This will cause entries produced from JCLIN to be saved in the distribution zone whenever a SYSMOD containing inline JCLIN is ACCEPTed. For more information on the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E manuals.

See Figure 15 on page 43 for a sample ACCEPT of z990 Compatibility Support and service.

```
//ACCEPT JOB <job parameters>
//STEP1 EXEC PGM=GIMSMP,REGION=0M,TIME=NOLIMIT
//STEPLIB DD DSN=SYS1.MIGLIB,DISP=SHR,
//         UNIT=SYSALLDA,VOL=SER=xxxtvol1
//        DD DSN=ASM.SASMMOD1,DISP=SHR,
//           UNIT=SYSALLDA,VOL=SER=xxxtvol1
//SMPCSI   DD DSN=your.global.csi,DISP=SHR
//SMPCNTL DD *
  SET BOUNDARY(dlibzone)
      OPTIONS(ZOSOPT) .
  ACCEPT CHECK XZREQ
          FORFMID(ZR4ALL)
          SELECT(z990T)
          GROUPEXTEND(NOAPARS,NOUSERMODS)
          SOURCEID(ZOSV1R4,RSU*,2084FIX,HIPER,PRP)
          BYPASS(HOLDSYSTEM,HOLDUSER,
          HOLDCLASS(UCLREL,ERREL,HIPER)).
/*
```

Figure 15. All FMIDs for z990 Compatibility Support and all required z/OS V1R4 Service

Required Updates

1. Update the job parameters.
2. Update the xxxtvol1 with the volume serial number for the MIGLIB and the SASMMOD1 which were the targets of the z990 Compatibility Support install.
3. Replace the CSI name on the SMPCSI DD statement with your CSI name.
4. Update dlibzone to your dlib zone name.
5. FMIDSET z990T and ZR4ALL are created when you run sample jcl in RIMLIB(FMIDSET0). FMIDSET z990T contains changed FMIDs in z990 Compatibility Support, while FMIDSET ZR4ALL contains all z/OS V1R4 FMIDs including z990 Compatibility Support.
6. Update 2084FIX with the name of the fixes that were required, as documented in the hardware PSP bucket 2084DEVICE, subset 2084/ZOS.

Notes:

1. The XZREQ operand only needs to be specified when cross-zone processing is required. If this operand is specified when there is no zone group set up, the following message will be received, which is acceptable:
   - "GIM50810W THE XZREQ OPERAND WAS SPECIFIED ON THE ACCEPT COMMAND BUT SINCE NO ZONES WERE APPLICABLE FOR CROSS-ZONE REQUISITE CHECKING, THE XZREQ OPERAND WILL BE IGNORED."

2. The GROUPEXTEND operand indicates that SMP/E accept all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.
3. If you BYPASS(HOLDCLASS(HIPER)), you should run the SMP/E REPORT ERRSYSMODS command to identify missing HIPER HOLDs before putting your system into production. If you do not BYPASS(HOLDCLASS(HIPER)), the FMIDs may not be installed in any of the HIPER maintenance is unavailable.
4. "NOT SEL" messages in the ELEMENT SUMMARY REPORT can be ignored if the SYSMOD STATUS indicates "ACCEPTED". Any ELEMENT STATUS showing ONLY a "NOT SEL" should be investigated.

During ACCEPT CHECK and ACCEPT processing, the following message may be issued if BYPASS was specified:

> "GIM42001W THE FOLLOWING CONDITIONS FOR SYSMOD aaaaaaa WERE NOT SATISFIED, BUT WERE IGNORED BECAUSE THE BYPASS OPERAND WAS SPECIFIED. PROCESSING CONTINUES.

where aaaaaaa is the sysmod ID. This message, and the resulting return code of 4, is acceptable.

You must investigate and resolve any "requisites" or "holds" that were not satisfied before continuing with the install.

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

During the ACCEPT CHECK of ICSF element in z990 Compatibility Support, the following message is received and is acceptable as a cause of the condition code 4.

> Message “GIM61903W LMOD CSFDSTAT WAS NOT DELETED BY SYSMOD HCR7708 BECAUSE IT IS NOT IN THE dlib ZONE.”

Expected Return Codes and Messages from ACCEPT: RC=4

During the ACCEPT of ICSF element in z990 Compatibility Support, the following message is received and is acceptable as a cause of the condition code 4.

> Message “GIM61903W LMOD CSFDSTAT WAS NOT DELETED BY SYSMOD HCR7708 BECAUSE IT IS NOT IN THE dlib ZONE.”

If you are installing z/OS V1R4 and z990 Compatibility Support concurrently, refer to Program Directory for z/OS V1R4 for detailed sample ACCEPT job by ripple. You will install z990 Compatibility Support within the appropriate ripple, as you specified in the FMIDSET definition for each ripple.

Appendix A. Component IDs for Elements in z990 Compatibility Support

This appendix lists each z990 Compatibility Support Component Id along with its corresponding FMIDs.

Figure 16. Component IDs

FMID	COMP ID	Component Name	RETAIN release
H0GI400	565510400	OSA/SF	400
EDU1H01	565899201	ICKDSF	H01
FDU1H07 FDU1H08 FDU1H09	565899202	ISMF	H07 H08 H09
HCR7708	568505101	ICSF	708
HCS7708 JCS77J8 JCS77H8 JCS77HJ	5695SC1XL	HCD	708 7J8 7H8 7HJ
HCM1510	569711900	Hardware Configuration Manager	510

Appendix B. DASD Storage Requirements Tables

B.1 Understanding the DASD Storage Requirements Tables

The DASD space requirements shown in this appendix represent the actual storage required by the FMIDs listed in Figure 1 on page 2 after the product and integration-tested service are installed and the data sets are compressed, plus approximately 15%. The directory blocks have been increased by 40% for load libraries and 15% for the rest. The additional space allows for service installation. When allocating these data sets, you can specify additional storage and directory blocks to allow for future maintenance.

The storage requirements tables in this appendix reflect the data sets required if you are installing all FMIDs of the z990 Compatibility Support package (the FMIDs documented in this program directory). They do not reflect any customization performed by the customer. For example, the PARMLIB and PROCLIB space shown is the space required for the SMP/E installation without taking into account copying members from your production PARMLIB and PROCLIB data sets.

If you are planning to install z/OS V1R4 and z990 Compatibility Support concurrently, also refer to the DASD storage information in *Program Directory for z/OS Version 1 Release 4, GI10-0670-03.* The storage information from that program directory must be added to the storage information in this program directory to give you the total storage required.

For libraries required for IPL, libraries that cannot have secondary space allocated, data sets that cannot be partitioned data set extended (PDSE), and data sets that should have a high-level qualifier of SYS1, see *z/OS MVS System Data Set Definition, SA22-7629*.

Sample jobs to allocate the target and distribution libraries for certain elements are provided. For descriptions and locations of these jobs, see:

- 7.1.6, “Allocate Target and Distribution Libraries” on page 26

You only need to run these jobs if any of the libraries do not exist on the target system.

Similarly, sample jobs for certain elements are provided to set up the HFS directories. See 7.1.7, “Set Up HFS Directories” on page 26 for a description of these jobs and where to find them.

Sample jobs to define DDDEF entries for the target and distribution libraries for certain elements are provided. For descriptions and locations of these jobs, see:

- 7.1.8, “Define DDDEFs Entries” on page 27

You only need to run these jobs if any of the DDDEF entries do not exist.

Note that the DDDEFs should point to the target system data sets and not to the production data sets. To use the target PARMLIB data set to IPL, you can use the PARMLIB concatenation to isolate the new members or copy the members to the production library. Refer to 7.4.1, “PARMLIB Member Considerations” on page 34 for more information on using the target system libraries.

In the tables, abbreviations used for the **NOTE** column are:

Z9X	New library introduced in z990 Compatibility Support Package
NLV	Library used only for National Language support. This library can be empty if the language is not ordered.

B.2 SMP/E Data Sets for z990 Compatibility Support

There is a negligible change in the sizes of the SMP/E data sets for z990 Compatibility Support; your z/OS Release 4 SMP/E data set sizes are valid.

B.3 Target Libraries for z990 Compatibility Support

The following figure describes the target libraries required to install z990 Compatibility Support.

Abbreviations used for Member Type for z/OS are:

BOOK	Book
CLST	CLIST
DATA	Data
EXEC	Exec
FONT	Font
HELP	Help
LMOD	Load Module
MAC	Macro
MSGA	Message
PARM	Parameter
PANL	Panel
PROC	Procedure
SAMP	Sample
SKEL	Skeleton
SRCE	Source
TABL	Table
TEXT	Text

Abbreviations used for Target Volume are:

T1	TVOL1

T2 TVOL2

Abbreviations used for the data set type field are:

U Unique data set, allocated by this product and used only by this product. In order 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. In order 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. In order 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.

Abbreviations used for the ORG field are:

PDS Partition Data Set

PDSE Partition Data Set Extended

SEQ Sequential Data Set

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 7.1.6, “Allocate Target and Distribution Libraries” on page 26.

Abbreviations used for the HFS Path type are:

N New path, created by this product.
P Previously existing path, created by another product.
X Path created by this product, but may already exist from previous release

Figure 17 (Page 1 of 2). Storage Required for Target Libraries for z990 Compatibility Support

Library DDNAME	Mem Type	Tar Vol	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks	Note
DGTLLIB	LMOD	T1	U	PDS	U	0	6	3	
DGTMKLB	MSG	T1	U	PDS	FB	80	4	3	NLV
DGTMLIB	MSG	T1	U	PDS	FB	80	4	3	
DGTPKLB	PANL	T1	E	PDS	FB	80	44	25	NLV
DGTPLIB	PANL	T1	U	PDS	FB	80	45	25	
DGTSKLB	SKEL	T1	U	PDS	FB	80	3	2	NLV
DGTSLIB	SKEL	T1	U	PDS	FB	80	6	4	
LINKLIB	LMOD	T1	E	PDS	U	0	741	51	
MACLIB	MAC	T2	E	PDS	FB	80	23	2	
MODGEN	MAC	T2	E	PDS	FB	80	35	3	
NUCLEUS	LMOD	T1	E	PDS	U	0	28	21	
PARMLIB	PARM	T1	E	PDS	FB	80	4	2	
PROCLIB	PROC	T1	E	PDS	FB	80	2	2	
SAMPLIB	SAMP	T2	E	PDS	FB	80	46	6	
SCBDCLST	CLST	T1	U	PDS	FB	80	3	2	
SCBDHENU	LMOD	T1	U	PDS	U	0	703	485	
SCBDHJPN	LMOD	T1	U	PDS	U	0	722	950	NLV
SCBDMENU	MSG	T1	U	PDS	FB	80	20	18	
SCBDMJPN	MSG	T1	U	PDS	FB	80	20	18	NLV
SCBDPENU	PANL	T1	U	PDS	FB	80	71	27	
SCBDPJPN	PANL	T1	U	PDS	FB	80	71	27	NLV
SCBDTEMP	DATA	T1	U	PDS	FB	80	18	2	
SCBDTENU	TABL	T1	U	PDS	FB	80	2	2	
SCBDTJPN	TABL	T1	U	PDS	FB	80	29	2	NLV
SCSFCLI0	CLST	T1	U	PDS	FB	80	9	3	
SCSFHDRS	DATA	T2	U	PDS	FB	80	7	2	
SCSFMOD0	LMOD	T1	U	PDS	U	0	71	70	
SCSFMOD1	LMOD	T1	U	PDS	U	0	2	2	
SCSFMSG0	MSG	T1	U	PDS	FB	80	6	4	
SCSFOBJ	DATA	T2	U	PDS	FB	80	9	2	

Figure 17 (Page 2 of 2). Storage Required for Target Libraries for z990 Compatibility Support

Library DDNAME	Mem Type	Tar Vol	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks	Note
SCSFPNL0	PANL	T1	U	PDS	FB	80	26	14	
SCSFSKL0	SKEL	T1	U	PDS	FB	80	3	2	
SCSFTLIB	TABL	T1	U	PDS	FB	80	2	2	
SDGTPKSR	DATA	T2	U	PDS	VB	255	8	3	
SDGTPSRC	DATA	T2	U	PDS	VB	255	8	3	
SEEQINST	DATA	T2	U	PDS	FB	80	89	2	
SIOAIBIN	DATA	T2	U	PDS	FB	256	78	2	
SIOAJAVA	DATA	T2	U	PDS	VB	84	40	2	Z9X
SIOALMOD	LMOD	T1	U	PDS	U	0	53	3	
SIOAMMOD	LMOD	T1	U	PDS	U	0	2	3	
SIOASAMP	SAMP	T2	U	PDS	FB	80	118	3	

B.4 Distribution Libraries for z990 Compatibility Support

The following figure describes the distribution libraries required to install z990 Compatibility Support.

Abbreviations used for the data set type field are:

U Unique data set, allocated by this product and used only by this product. In order 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. In order 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. In order 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.

Abbreviations used for the ORG field are:

PDS Partition Data Set

PDSE Partition Data Set Extended

SEQ Sequential Data Set

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 7.1.6, “Allocate Target and Distribution Libraries” on page 26.

Figure 18 (Page 1 of 2). Storage Required for Distribution Libraries for z990 Compatibility Support

Library DDNAME	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks	Note
ACBDCLST	U	PDS	FB	80	5	2	
ACBDEHFS	U	PDS	VB	255	2	2	
ACBDHENU	U	PDS	U	0	703	485	
ACBDHJPN	U	PDS	U	0	722	95	NLV
ACBDMENU	U	PDS	FB	80	41	18	
ACBDMJPN	U	PDS	FB	80	41	18	NLV
ACBDMOD1	U	PDS	U	0	673	128	
ACBDMOD2	U	PDS	U	0	10	7	
ACBDMOD3	U	PDS	U	0	10	7	NLV
ACBDPENU	U	PDS	FB	80	141	27	
ACBDPJPN	U	PDS	FB	80	141	27	NLV
ACBDTEMP	U	PDS	FB	80	37	2	
ACBDTENU	U	PDS	FB	80	4	2	
ACBDTJPN	U	PDS	FB	80	4	2	NLV
ACSFCLI0	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	
ACSFOBJ	U	PDS	FB	80	9	2	
ACSFPNL0	U	PDS	FB	80	26	11	

Figure 18 (Page 2 of 2). Storage Required for Distribution Libraries for z990 Compatibility Support

Library DDNAME	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks	Note
ACSFSKL0	U	PDS	FB	80	4	2	
ACSFTLIB	U	PDS	FB	80	2	2	
ADGTLLIB	E	PDS	U	0	18	7	
ADGTMKLB	U	PDS	FB	80	5	3	NLV
ADGTMLIB	E	PDS	FB	80	5	3	
ADGTPKLB	E	PDS	FB	80	85	25	NLV
ADGTPKSR	U	PDS	VB	255	15	3	
ADGTPLIB	U	PDS	FB	80	85	25	
ADGTPSRC	U	PDS	VB	255	14	3	
ADGTSKLB	U	PDS	FB	80	6	2	NLV
ADGTSLIB	U	PDS	FB	80	19	2	
AEEQINST	U	PDS	FB	80	96	2	Z9X
AIOAIBIN	U	PDS	FB	256	157	2	
AIOAJAVA	U	PDS	VB	204	83	2	Z9X
AIOALMOD	U	PDS	U	0	114	45	
AIOAMMOD	U	PDS	U	0	2	2	
AIOASAMP	U	PDS	FB	80	232	3	
AMACLIB	E	PDS	FB	80	45	2	
AMODGEN	E	PDS	FB	80	63	3	
AOSU0	E	PDS	U	0	71	22	
APARMLIB	E	PDS	FB	80	2	2	
APROCLIB	E	PDS	FB	80	4	2	
ASAMPLIB	E	PDS	FB	80	75	6	

B.5 HFS Paths for z990 Compatibility Support

Abbreviations used for the HFS Path type are:

N New path, created by this product.

P Previously existing path, created by another product.

X Path created by this product, but may already exist from previous release.

Note: The NLV directories will be empty if the NLV features are not ordered.

Figure 19. z990 Compatibility Support HFS Paths

DDNAME	TYPE	Path Name
SCBDMLDP	X	/usr/lpp/hcd/msg/IBM/
SCBDEXMP	X	/usr/lpp/hcd/examples/IBM/
SCBDHFSL	N	/usr/lpp/hcd/bin/IBM/

B.5.1 New Libraries and HFS Paths Added in z990 Compatibility Support

Figure 20. New Libraries/Paths in z/OS Release 4

DDDEF	Data Set/Path	Related Element	Note
AIOAJAVA	IOA.AIOAJAVA	OSA/SF	
SIOAJAVA	IOA.SIOAJAVA	OSA/SF	
SCBDHFSL	/usr/lpp/hcd/bin/IBM	HCD	

B.5.2 Deleted Libraries and HFS path in z990 Compatibility Support

Figure 21. Deleted Libraries/Paths in z/OS Release 4

DDDEF	Data Set/Path	Related Element	Note
AIOAWEUI	IOA.AIOAWEUI	OSA/SF	
AIOAWIN	IOA.AIOAWIN	OSA/SF	
SCBDETCH	/usr/lpp/hcd/etc/IBM/	HCD	
SCBDLHFS	/usr/lpp/hcd/bin	HCD	
SIOAWEUI	IOA.SIOAWEUI	OSA/SF	
SIOAWIN	IOA.SIOAWIN	OSA/SF	

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Program Directory for z990 Compatibility Support CBPDO level SMC0305

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satisfied  <====================>  dissatisfied  applicable
    1        2        3        4         5            N
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Necessity of all installation tasks	1	2	3	4	5	N
Accuracy of the definition of the installation tasks	1	2	3	4	5	N
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