Program Directory for
z/VM
System Delivery Offering

Version 7

Program Number 5741-A10

for Use with
z/VM SDO Version 6.2 and higher
(with updates for 7.5.0)

Document Date : September 2026

GI13-4375-05

Note

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

This program directory, dated September 2026, applies to System Delivery Offering Version 7 (z/VM SDO) Program Number 5741-A10.

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Summary of Changes

SDO Licensed Program Product changes (service, upgrade, additions or deletions) are identified in the following change history.

z/VM SDO

Product Number	Product Abbreviation	VRM	Change
Updated for 7.1 release			
Updated for 7.2 release			
Removed SDO Enabling Aid			
Updated for 7.3 release			
Updated for 7.4 release	EREP removed from z/VM 7.4, PSP Buckets replaced with preventive service information on web pages.		
Updated for 7.5 release	DFSMS removed from z/VM 7.5 SDO, Removable Media Services of DFSMS integrated into CMS		

Preface

This document is intended for the system programmer responsible for installation of IBM Licensed Program Products (Licensed Products). This document contains the following sections:

- 1.0, “Introduction”

  This contains a brief description of the System Delivery Offering (SDO), what is included in the package and an explanation of the different install formats for the Licensed Products.

- 2.0, “z/VM SDO Installation Instructions”

  This section explains how to get started with your SDO order. It explains verifying your order, publications to have available, and provides a checklist for the initial installation steps. It describes how to install the z/VM System, the RSU (Recommended Service Update) and SDO Enabling Feature.

- 3.0, “VMSES/E Licensed Product Installation Instructions”

  This section contains general installation instructions for the VMSES/E Licensed Products.

- 4.0, “Semi-VMSES/E Licensed Product Installation Instructions”

  This section identifies the considerations for the installation of Semi-VMSES/E Licensed Products

- 5.0, “VMSES/E Licensed Product Technical Notes”

  This section provides technical installation and verification instructions for each VMSES/E Licensed Product.

- 6.0, “Semi-VMSES/E Licensed Product Technical Notes”

  This section provides technical installation and verification instructions for each Semi-VMSES/E Licensed Product.

- Appendix A, “z/VM SDO IBM Licensed Program Products”

  This appendix lists the z/VM SDO Licensed Products by product abbreviation and provides the product description and install format.

- Appendix B, “IBM Licensed Program Products Interdependencies”

  This appendix lists the Prerequisites, Co-requisites and If-requisites of the Licensed Products in z/VM SDO.

- Appendix C, “DASD Requirements”

This appendix provides recommended sizes of the minidisks associated with each of the Licensed Products in z/VM SDO.

- Appendix D, “Saved Segments”

  This appendix provides recommended sizes, locations and names of the saved segments associated with each of the Licensed Products in z/VM SDO.

- Appendix E, “Licensed Products Tapemaps”

  This appendix provides tapemaps of stacked VMSES/E and Semi-VMSES/E tapes

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1.0 Introduction

Thank you for ordering the z/VM System Delivery offering (z/VM SDO, 5741-A10) package.

The person receiving this order should make sure everything on the Packing List was received. The *Read This First* letter, Packing List, and the Media Report contain important information about the SDO installation and will be required by the system programmer.

The Packing List contains information about the media and the documentation sent. The Media Report describes the contents.

If there are any discrepancies between the package contents and the Packing List or if you have not received any part of your order, please call **IBM Software Manufacturing and Delivery** at the number indicated on the cover letter of the Packing List.

1.1 z/VM System Delivery Offering

The z/VM SDO Version 6 Release 2.0, program number 5741-A08 and higher, is the IBM® program offering for z/VM® that includes a single deliverable containing z/VM and a group of serviced IBM licensed program products. This document has been updated for z/VM SDO Version 7 Release 4.0, program number 5741-A10 however no products contained in this document are serviced beyond z/VM Version 6 Release 2.0, please refer to the specific product Program Directory for installation instructions and obtaining the latest service.

The z/VM SDO Licensed Product package contains:

- The z/VM System which is the VM operating system
- z/VM SDO Licensed Products

1.1.1 The z/VM System

The z/VM System provides a highly flexible test and production environment which provides the capability for the installation and execution of additional IBM Licensed Products, the development and execution of applications and the ability to run full-function operating systems as guests. The z/VM System is a prebuilt VM operating system which is available on DVD or through electronic internet delivery. The DVD and the electronic internet delivery are in binary image format. ISO files are also available with the electronic internet delivery.

1.1.2 Enabling Aid

The Enabling Aid is no longer shipped with an SDO Product Order, please refer to the specific products Program Directory for information. Additional information can be found:

https://www.ibm.com/support/pages/zvm/sdo/

1.1.3 z/VM SDO IBM Licensed Program Products

The following subsections describe the characteristics of the Licensed Products that are part of z/VM SDO.

Note:

> Not all Licensed Products listed in this document can be ordered through the z/VM SDO. Those that are not available can be ordered with its Licensed Product ID number (PID). A list of orderable products can be found in Section 2.4.1.2 Product Packaging, under the heading "Changes to the z/VM System Delivery Offering (SDO)". For Example, to order DITTO you will use PID 5654-029. Contact your IBM Sales Representative for additional information.

Installation of the z/VM SDO Licensed Products is supported on 3390 DASD.

Licensed Products may be in one of these install formats:

1. **VMSES/E** are those products packaged in the IBM Standard VMSES/E Enabled format. One or more Licensed Products may be delivered on a stacked media, so it is important to refer to the Media Report for a product's location.
2. **Semi-VMSES/E** are products that were not originally in VMSES/E format but that have been put through an IBM Process that installs the product per the original IBM installation procedure and repackages the installed product in a VMSES/E enabled format. This provides for the installation of the product utilizing standard VMSES/E commands. One or more Licensed Products may be delivered on a stacked media, so it is important to refer to the Media Report for the product's location.

Note: A **Semi-VMSES/E** product was previously called **'Pre-Install'** format; however, this term was misleading in that it may have indicated that the product was already installed. The name has been changed to better describe the install format type.

The term 'Pre-Install' may still appear on the Packing List or the Media Report, the Configurator, or Marketing Literature, but should be interpreted to mean Semi-VMSES/E.

1.1.4 z/VM SDO Web Site

There is additional information about the z/VM SDO on the web site**:**

https://www.ibm.com/support/pages/zvm/sdo/

This site is maintained with the current z/VM SDO Program Directory (in PDF format), the list of SDO products, and information on applied service. This site also provides links to other useful z/VM information.

1.1.5 Basic Publications

The following basic publications are included with your order of the z/VM base product and will be useful during installation:

z/VM Installation Guide

z/VM License Information Document

Memo to Users for z/VM and its features are provided with your order.

1.1.6 Publications for Licensed Products

Program Directories for a number of the optional IBM SDO Licensed Products that you may have ordered may be found on the IBM z/VM website at:

https://www.ibm.com/support/pages/zvm/library/

If the Program Directory is not available on the above website, it may be obtained from the IBM Documentation website at:

http://www.ibm.com/docs/en/zvm

1.1.7 Optional Documentation

Optional unlicensed documentation is supplied as PDF format with z/VM.

z/VM, including the priced feature Program Directories can be found at:

https://www.ibm.com/support/pages/zvm/progdir/

Publications available in PDF format can be found via the IBM z/VM Internet Library at:

https://www.ibm.com/support/pages/zvm/library/

Publications can also be found at the IBM Documentation website at:

http://www.ibm.com/docs/en/zvm

2.0 Checklist of z/VM SDO Installation Steps

2.1 Checklist of z/VM SDO Installation Steps

Notes:

- *Perform the steps in order.*
- *Mandatory steps are preceded by squares* (■).
- *Optional steps are preceded by circles* (○).

■ **2.2, Before You Begin**

___ ■ Verify Order with Packing List

___ ■ Gather Publications Useful During Installation

___ ■ **2.3, Program Support**

■ Obtain latest z/VM SDO and Licensed Product Install Bucket Information

___ ■ Obtain the latest PSP information

___ ■ **2.4, Installation of the z/VM System and Stacked RSU**

___ ■ Review the z/VM Content

___ ■ DASD Storage Requirements

___ ■ Install the z/VM System and the RSU, referring to the z/VM Program Directory.

If the SDO order includes Licensed Program Products in addition to the z/VM System, continue the installation with the following instructions. If there are no additional products, the installation of the z/VM System is complete.

■ **2.6, Plan for Licensed Product Interdependencies**

■ **2.7, Determine the Install Format of the Licensed Products**

For each VMSES/E Licensed Product repeat the following:

■ **3.0, VMSES/E Licensed Product Installation Instructions**

■ **5.0, VMSES/E Licensed Product Technical Notes**

■ **For each Semi-VMSES/E Licensed Product repeat the following:**

■ **4.0, Semi-VMSES/E License Product Installation Instructions**

■ **6.0, Semi-VMSES/E Licensed Product Technical Notes**

2.2 Before You Begin

Before you begin installing the z/VM SDO, verify that all program materials ordered have been received. Additionally, there are several publications and reference material that may be useful to have available during the installation.

2.2.1 Verify Your Order

Verify the physical media with the Packing List and Media Report to ensure that all DVDs and materials have been received. The Packing List includes information about the DVDs and the documentation. If for some reason you do not have all the media and the documentation specified in the Packing List, or if they are damaged, call the number specified on the cover letter of the Packing List. It may not be possible to install the Licensed Product if you are missing any of the material.

DVDs can be sorted first by using the information on the label. You will see headings similar to the following:

z/VM Product Package for installation on 3390

z/VM Stacked Recommended Service Upgrade

z/VM SDO Version 7

The System DDR and RSU may be delivered on multiple DVDs so verify you have all in the sequence.

Under the barcode at the bottom of the label, will appear the reference number of the DVD, like *WM6578354*. Using only the numeric digits, 6578354, use this number to match the information on the Media Description Report under the column: Ref. No.

The Media Description Report describes the contents of the software ordered and tells which products are on the DVDs.

If you ordered Optional Licensed Program Products, most will be stacked on one of the DVDs labelled 'z/VM SDO Version 7'. If you received more than one Licensed Program Product DVD, you will need to refer to the Media Description Report and reference number from the DVD to determine the contents on each.

The actual number of DVDs you receive depends on the install format of the Licensed Program Products ordered. All VMSES/E and Semi-VMSES/E Licensed Program Products may be 'stacked' on the same media(s).

Prior to installation, please obtain the Program Directory for each Licensed Product you ordered on the IBM z/VM website at:

https://www.ibm.com/support/pages/zvm/library/

There are a few products that do not have Program Directories or may have Installation Guides instead. Some products can be installed using only the directions in the *z/VM SDO Program Directory*. However, it is also possible that while installing a Licensed Product, you will be asked to refer to the product's Program Directory.

2.3 Program Support

For z/VM and the z/VM SDO Licensed Products, refer to the individual Licensed Product Program Directories for programming service details.

2.3.1 Preventive Service Planning

Before installing z/VM, check for the latest service and installation information on these sites:

Description	Website URL
IBM z/VM Change Logs	https://www.ibm.com/support/pages/zvm/changelog
Service News	https://www.ibm.com/support/pages/zvm/service/news
Installation News	https://www.ibm.com/support/pages/zvm/install/news
Program Directories	https://www.ibm.com/support/pages/zvm/progdir
IBM z/VM Documentation	https://www.ibm.com/docs/en/zvm

2.3.1.3 Licensed Products Preventive Service Information

- For preventive service information for the Licensed Products, refer to the Program Support section of the individual Licensed Product's Program Directory. The Licensed Products orderable through the z/VM SDO are not being service refreshed as of z/VM 6.2. Service and new releases of these products will be available under the individual Licensed Product Numbers. Please verify that you have the latest level of service for each product. Some may be found under the link "z/VM SDO Optional Licensed Product Service" on the IBM VM Website.

  https://www.ibm.com/support/pages/zvm/sdo/sdozvm6.html

You can find preventive service information and other service information on the z/VM Service Website:

https://www.ibm.com/support/pages/zvm/service

2.3.2 Statement of Support Procedures

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

2.4 Installation of the z/VM System and Stacked RSU

2.4.1 z/VM Content

The z/VM System is a pre-built VM system that serves as an installation platform for other IBM Licensed Products in the z/VM SDO package. The z/VM Installation Guide should be followed to load the system from the delivery media. Once loaded the z/VM System may be tailored to your individual requirements.

The pre-built VM system contains the following:

Prerequisite IBM licensed programs:

- HCD and HCM for z/VM (568411219) executables are pre-installed and delivered as part of the z/VM 7.4 and above product.
- ICKDSF for VM, V1.17 (5684-042) (includes ICKDSF Standalone release 17)
  - ICKDSF is pre-installed on the z/VM System Deliverable.

The z/VM System contains and includes the following components and facilities:

- AVS
- Control Program (CP)
- Conversational Monitoring System (CMS)
- Dump Viewing Facility (DVF)
- Group Control System (GCS)
- Language Environment® (LE)
- REstructured eXtended eXecutor (REXX)

- Transmission Control Protocol/Internet Protocol (TCP/IP)
- Transparent Services Access Facility (TSAF)
- VM Serviceability Enhancements Staged/Extended (VMSES/E)
- SFS and CRR file pools
- DASD Dump Restore (DDR) program
- Translated CP and CMS message repositories
- English and translated z/VM HELP files (translation no longer available after z/VM 6.4)
- 3800 printer image library object code
- 3800 printer image library source

---

z/VM Optional Features:

- DirMaint™
- Performance Toolkit for VM™
- RACF Security Server for z/VM
- RSCS Networking for z/VM

Notes

1. ICKDSF is not part of the z/VM product. It is a separate prerequisite IBM licensed program that is included in the z/VM System Image for convenience. Before using ICKDSF you must be already licensed for it, or you must place an orders for ICKDSF to establish a license.
2. The DirMaint, Performance Toolkit, RACF®, and RSCS optional features are included in the z/VM System Image for convenience. They are installed disabled. If you decide to use any of these features, you must place orders for them so that you can enable them.
3. The DFSMS/VM optional feature is not included in the z/VM System Image, and is no longer orderable nor supported with z/VM 7.5 or later. Removable Media Services of DFSMS integrated into z/VM 7.5 CMS.
4. The IBM z/VM Single System Image is included in the z/VM System Image as a no charge feature with the release of z/VM Version 7 Release 1.0.

2.4.1.1 Hardware Requirements

The z/VM system operates on the IBM hardware as specified in the release announcement letter. To find a specific announcement letter go to https://www.ibm.com/support/pages/zvm/techinfo and click on the z/VM release.

2.4.1.2 Product Packaging

The z/VM System deliverable is available as:

- Binary image internet delivery
- The restricted source and the PL/X source are not orderable or shipped with z/VM V7. Both will be available as no-charge downloads from IBM Resource Link at

  http://www.ibm.com/servers/resourcelink

- If you are not registered with Resource Link, you will be required to register for a user ID and password. You must also be licensed for z/VM and entitlement will be verified when you request the source code. After approval, you will receive instructions describing how to download the code.

- The stacked RSU will be updated and refreshed in the product install package. The naming convention for the stacked RSU is *VRnn* (ie. *VRnn*, where VR is the z/VM version, release and nn is incremented by one for each level built).

Note:
z/VM is the successor to IBM's VM/ESA® operating system. Some products and functions supported on z/VM and some publications might continue to use VM/ESA in their names.

Withdrawal of distribution medium

z/VM V6.3 will be the last release of z/VM that will be available on tape. Subsequent releases will be available on DVD or electronically.

Distribution of the Recommended Service Update (RSU) on CD-ROM in Optical Media Attachment/2 (OMA/2) format has been discontinued.

Distribution of z/VM Product Media is electronic only delivery as of z/VM 7.4.

Changes to the z/VM System Delivery Offering (SDO)

The following changes have been included with z/VM 6.2 and higher:

- The Licensed Products orderable through the z/VM SDO are not being service refreshed as of z/VM 6.2. Service and new releases of these products will be available under the individual Licensed Product Numbers.
- Licensed Products are re-evaluated on a regular basis, if one is no longer orderable through the z/VM SDO, can be ordered under the individual IBM Licensed Product ID number. Contact your IBM Sales Representative for additional information.

With your Licensed Product order, you will receive a Program Directory for most of the Licensed Products ordered. There are a few products that do not have Program Directories or may have Installation Guides instead. Many of the SDO products can still be installed using the directions in this *z/VM SDO Program Directory*. However, it is also possible that while installing a Licensed Product, you will be asked to refer to the product's Program Directory.

- Virtualization technology and Linux enablement

  z/VM V6.2 implemented multi-system virtualization clustering technology and z/VM 7.3 enhanced it allowing up to eight z/VM instances to be clustered together as members in a Single System Image (VMSSI). This multi-system virtualization clustering technology is a first for the mainframe. Members of a z/VM SSI cluster are managed, serviced and administered as a single system and share the following resources:

  – User directory

  – Minidisks

  – SPOOL files

  – Network device MAC addresses

  Live Guest Relocation (LGR) is a function of a z/VM SSI cluster that provides the capability for a running Linux virtual machine to be moved transparently without disruption from one z/VM system to another within a Single System Image. Live Guest Relocation provides continuity for virtual server workloads during planned z/VM and machine outages, such as service and hardware upgrades.

- Technology exploitation

z/VM 7.1 provides support for the newest IBM Z® hardware technologies, z14 Models M01, M02, M03, M04, and ZR1. LinuxONE Rockhopper II, LinuxONE Emperor II, z13®, z13s®, IBM zEnterprise EC12 and IBM

zEnterprise BC12. z/VM V7.1 includes an Architecture Level Set and requires IBM zEnterprise EC12 or BC12 or later systems.

z/VM 6.4 provides support for the IBM z13™, IBM z13s, LinuxONE Rockhopper, and LinuxONE Emperor.

- Withdrawal of Support for RPC-Based System Management APIs

  With z/VM 6.1, IBM withdrew support for the RPC-based System Management APIs. This satisfied the statement of direction made in the IBM Software Announcement dated February 6, 2007. Sockets-based System Management APIs continue to be supported.

- Withdrawal of Kanji NLS Files

  With z/VM 7.1, z/VM message repositories, help files and other panel or text files are not translated into Kanji.

SDO Packaging Changes from z/VM 5.4 that still applied for z/VM 6.1:

- Removal of Delivery of the SDO Enabling Aid with SDO Product Order

  With z/VM 5.4, the SDO Enabling Aid feature was no longer shipped with the SDO Product Order.

z/VM Information Center

IBM publishes the z/VM documentation at the IBM Documentation website here:

https://www.ibm.com/docs/en/zvm

z/VM Collection DVD image

The z/VM Collection Kit is no longer available after z/VM 6.3.

2.4.3 DASD Storage Requirements

Refer to *z/VM Installation Guide* for the DASD storage requirements.

It is important to have page, spool, and temp space defined. Paging space, spooling space, and temporary minidisk space (PAGE, TEMP, and TDSK, respectively) are installation dependent. The amount of page space required depends on the number and size of logged-on virtual machines, processor size and workload. The amount of space needed for spooling and temporary minidisk requests will be dependent upon user demand and application requirements.

For more information on virtual machine DASD requirements and allocation for PAGE, TEMP. and TDSK, please refer to *z/VM CP Planning and Administration*.

2.4.4 Install the z/VM System

Install the z/VM System prior to installing the Licensed Products.

1. Install the z/VM System using the appropriate steps in the *z/VM Installation Guide*. The stacked RSU will be installed as part of the z/VM installation.
2. Install additional service, if noted in the Preventive Service Planning stage. This service is specified either in the z/VM Program Directory or the z/VM Service News page: https://www.ibm.com/support/pages/zvm/service/news/
3. After the installation of the z/VM System and RSU, and other necessary configurations as stated in *z/VM Installation Guide*, return back to this point in the SDO Program Directory when you are ready to install the Licensed Products.
4. If the SDO order includes licensed program products, continue the installation with the following instructions. If there are no additional products, the installation of the z/VM System and z/VM SDO is complete.

2.5 Plan for Licensed Product Interdependencies

Many Licensed Products are dependent upon other Licensed Products for successful installation or in order for the product to execute correctly. Based on the Licensed Products to be installed, you should now plan for installation of any pre-requisite, co-requisite and if-requisites products. A pre-requisite

product is one that is required to be installed before you install the Licensed Product, so you should also plan, order and install these products.

See Appendix B, “IBM Licensed Program Products Interdependencies” on page 197 to verify the Pre-requisites, Co-requisites, and If-Requisites for the Licensed Products and plan for the order of installation.

When installing a Licensed Product that is a prerequisite to another previously installed Licensed Product(s), it is recommended that the other Licensed Product(s) be re-installed. Also, you may need to increase the space available on the minidisk, especially if the install process loads files to a common minidisk, such as the Product Code Disk (MAINT 19E)

Warning

There is a possibility of losing customized files if a Licensed Product is reinstalled over an existing version.

2.6 Determine the Install Format of the Licensed Products

The instructions for installing Licensed Products depends on the install format of the product. To determine the install format of the product, refer to Appendix A, “z/VM SDO IBM Licensed Program Products”.

To install each Licensed Product, begin by following the general installation instructions for that Licensed Product's format. Then complete the installation by following the specific installation instructions for that Licensed Product in the Technical Notes.

- **VMSES/E**

  Chapter 3.0, “VMSES/E Licensed Product Installation Instructions”

  . Chapter 5.0, “VMSES/E Licensed Product Technical Notes”.

- **Semi-VMSES/E**

  Chapter 4.0, “Semi-VMSES/E Licensed Product Installation Instructions” .

  Chapter 6.0, “Semi-VMSES/E Licensed Product Technical Notes” .

3.0 VMSES/E Licensed Product Installation Instructions

The following is a brief description of the main steps for installing an z/VM SDO VMSES/E Licensed Product using VMSES/E. If you have any questions about using VMSES/E, refer to *z/VM VMSES/E Introduction and Reference*.

The z/VM System serves as an installation platform for other Licensed Products in the SDO package. After the installation of a base z/VM system, the Licensed Products can be installed.

Notes:

- *Perform the steps in order.*
- *Mandatory steps are preceded by squares* (■).
- *Optional steps are preceded by circles* (○).

For each VMSES/E Licensed Product, perform the following installation steps

__ ■ **3.2, Allocate DASD and Userids**

__ ■ **3.3, Prepare the VMSES/E Order for Installation**

__ ■ **3.4, Install the z/VM SDO VMSES/E Licensed Product by following the instructions in the Technical Notes**

__ ■ Install using the VMFINS command

■ Technical Notes may refer to additional instructions in the Licensed Product Program Directory

__ ■ Re-save Saved Segments for some Licensed Products

__ ■ Verify successful installation

If the SDO order includes additional VMSES/E Licensed Products, repeat the installation steps in this checklist beginning at 3.2, Allocate DASD and Userids

3.1 Checklist of the VMSES/E Licensed Products Installation Process

3.2 Allocate DASD and Userids

Appendix C, “DASD Requirements” on page 201 identifies the user IDs and minidisks necessary to install each of the Licensed Product. This information is provided to help plan for DASD storage and other requirements for the installation of these Licensed Products.

Create any required user IDs and minidisks before beginning the installation. Also, any newly created minidisks must be formatted.

3.3 Prepare the VMSES/E Order for Installation

The IBM Licensed Program Product order can be fulfilled either by DVD or downloaded from the internet. In the next step, you will prepare the Product Envelope delivered via the internet for the installation.

3.3.1 Prepare the Product Envelope Delivered from Internet

To install a product using a Product Envelope delivered from the Internet, follow the Installation Instructions provided with Shopz to upload the Product Envelope to the host VM system and de-compact it.

To identify the contents of your order, refer to the packing list provided by Shopz. Match the file names of the downloaded files, to the names listed under the heading 'Ref. No.'. The description will tell you the contents of your file. It may be helpful to rename this file to a descriptive name so that it is easily recognized for future reference. The file type must be renamed to SERVLINK.

Example

```
V6608454 TERS0028 * File name on Workstation
V6608454 BIN      * File received to VM as Binary Fixed 1024
HLASM SERVLINK    * De-compacted file and renamed to SERVLINK
```

After you have uploaded the Product Envelope to the VM host system in BINARY FIXED 1024 and de-compacted the file, you may install the product. When installing using a Product Envelope, the ENV option must be used with the VMFINS commands.

3.4 Install the z/VM SDO VMSES/E Licensed Product

To complete the installation process for a VMSES/E Licensed Product:

1. Review the Technical Notes for the product in the Chapter 5.0, “VMSES/E Licensed Product Technical Notes” on page 43. The Technical Notes will refer to the appropriate sections in the Licensed Product Program Directory and give additional important information about the product.
2. Follow the Installation Instructions in the Program directory of each Licensed Product.

NOTE

The SDO Program Directory will refer to the Licensed Program Product Program Directory and/or other z/VM or Licensed Program Product documents when appropriate.

Important Note for Product Envelopes

When installing using the Product Envelope, use the ENV option with the VMFINS commands. The Product Envelope should be on a minidisk or SFS directory accessed as the 'C' disk.

VMFINS INSTALL INFO (NOMEMO ENV *envelope_filename*

EXAMPLE: **VMFINS INSTALL INFO (NOMEMO ENV HLASM**

VMFINS INSTALL PPF *ppfname compid* **(PLAN NOMEMO ENV** *envelope_filename*

EXAMPLE: **VMFINS INSTALL PPF 5696234J HLASM (PLAN NOMEMO ENV HLASM**

VMFINS INSTALL PPF *ppfname compid* **(NOMEMO NOLINK ENV** *envelope_filename*

EXAMPLE: **VMFINS INSTALL PPF 5696234J HLASMT (NOMEMO NOLINK ENV HLASM**

4.0 Semi-VMSES/E Licensed Product Installation Instructions

The following chapter describes the system environment required and explains how to install a Semi-VMSES/E Licensed Product.

The z/VM System serves as an installation platform for other Licensed Products in the SDO package. Licensed Products can be installed after the installation of base z/VM system.

4.1 Checklist for the Semi-VMSES/E Licensed Products Installation Process

Notes:

- *Perform the steps in order.*
- *Mandatory steps are preceded by squares* (■).
- *Optional steps are preceded by circles* (○).

For each Semi-VMSES/E Licensed Products, perform the following installation steps

■ 4.3, Semi-VMSES/E Installation Overview and Planning

- ■ 4.3.1, Plan for the Installation of the Semi-VMSES/E Licensed Product
- ■ 4.3.2, Prepare the Semi-VMSES/E Order for Installation
- ○ 4.3.3, Load Installation-Related Files from provided media
- ■ 4.3.4, Allocate Resources for the Semi-VMSES/E Licensed Product Choose from the following:
  - Install Directly to Default Production Minidisks
  - Install to Test Minidisks, Production Minidisks
  - Installing to Shared File System

■ 4.4, Install the Semi-VMSES/E Licensed Product using the VMFINS command in conjunction with the instructions in the Technical Notes for the Licensed Product.

- ■ Install using the VMFINS command
- ■ Technical Notes may refer to additional instructions in the Licensed Product Program Directory
- ■ Re-save Saved Segments for some Licensed Products
- ■ Verify successful installation

○ If installed to PRETEST place Licensed Product files into production after testing

If the SDO order includes additional SEMI-VMSES/E Licensed Products, repeat the installation steps in this checklist beginning at 4.3, Semi-VMSES/E Installation Overview and Planning

4.2 Semi-VMSES/E Licensed Product Definition

z/VM SDO Semi-VMSES/E Licensed Products are products that are not originally in VMSES/E format but have been installed using the IBM recommended defaults. Because installation files are created and many installation steps are already taken, this will reduce the time it will take to install this Licensed Product. The installation procedure (the Innnnnnn EXEC, where nnnnnnn is the Licensed Product number and the INSTFPP exec) are used to generate new files. All these files are delivered on the Semi-VMSES/E Licensed Product media.

After this process, the files are in VMSES/E enabled format which is supported by VMFINS (the installation tool for VMSES/E). To install from a Semi-VMSES/E Licensed Product media, the system must be at z/VM SDO Version 6 Release 4.0. The Innnnnnn EXEC has been used for each Licensed Product and will not be used again.

4.3 Semi-VMSES/E Installation Overview and Planning

The VMFINS EXEC will be used to install all Semi-VMSES/E Licensed Products. This exec is supplied as part of the VMSES/E component of z/VM and provides a consistent process for installing z/VM and Licensed Products. The VMFINS command syntax is given in Chapter 6.0, “Semi-VMSES/E Licensed Product Technical Notes” for each Licensed Product. Installations may be done from any user ID which has the authority to obtain write access to installation minidisks, write access to Software Inventory Disk (MAINT 51D), and read access to VMSES/E Build Disk (MAINT 5E5).

For a complete description of the VMFINS EXEC and its options, refer to:

z/VM VMSES/E Introduction and Reference

The step-by-step procedures that follow are in two column format. The steps to be performed are in bold large numbers. The commands associated with these steps are on the left-hand side of the page in bold print; additional information for a command may exist to the right of that command.

Each step of these installation instructions must be followed. Do not skip any step unless directed otherwise.

Throughout these instructions, the use of IBM-supplied default minidisk addresses and user IDs is assumed. If you use different user IDs, minidisk addresses, or SFS directories to install a Licensed Product, adapt these instructions as needed for your environment.

The sample console output results presented throughout these instructions may differ from those depicted here.

4.3.1 Plan for the Installation of the Semi-VMSES/E Licensed Product

Each Semi-VMSES/E Licensed Product can either be placed directly into production on the installation defaulted minidisks, can be installed first to “test” mode then to the production minidisks, or installed to the Shared File System (SFS) directories.

It's recommended that you install each Semi-VMSES/E Licensed Product in “test” mode, so that Licensed Product files are loaded to alternate (or “test”) minidisks, instead of directly into production. This will also help avoid problems if a previous version or level of the Licensed Product is currently in production on your system.

If you want to place a Licensed Product directly into production, you can do so by specifying a production-related component when you issue the VMFINS installation commands. The components that will allow this type of installation contain the string PRD at the end of the component name.

4.3.2 Prepare the Semi-VMSES/E Order for Installation

The IBM Licensed Program Product order can be fulfilled either by physical DVD or downloaded from the internet. In the next step, you will either mount the physical DVD or prepare the internet delivered Product Envelope for the installation.

4.3.2.1 Prepare the Product Envelope Delivered from Internet

To install a product using a Product Envelope delivered from the Internet, follow the Installation Instructions provided with Shopz to upload the Product Envelope to the host VM system and de-compact it. To identify the contents of your order, refer to the packing list provided by Shopz. Match the file names of the downloaded files, to the names listed under the heading 'Ref. No.'. The description will tell you the contents of your file. It may be helpful to rename this file to a descriptive name so that it is easily recognized for future reference. The file type must be renamed to SERVLINK.

Example

```
V6608454 TERS0028     * File name on Workstation
V6608454 BIN          * File received to VM as Binary Fixed 1024
EREP SERVLINK         * De-compacted file and renamed to SERVLINK
```

After you have uploaded the Product Envelope to the VM host system in BINARY FIXED 1024 and de-compacted the file, you may install the product. When installing using a Product Envelope, the ENV option must be used with the VMFINS commands. For instructions on uploading and de-compacting the files please refer to: https://www.ibm.com/support/pages/zvm/install/prodinst.html

Important Note for Product Envelopes

When installing using the Product Envelope, use the ENV option with the VMFINS commands. The Product Envelope should be on a minidisk or SFS directory accessed as the 'C' disk.

VMFINS INSTALL INFO (NOMEMO ENV *envelope_filename*

EXAMPLE: **VMFINS INSTALL INFO (NOMEMO ENV EREP**

VMFINS INSTALL PPF *ppfname compid* **(PLAN NOMEMO ENV** *envelope_filename*

EXAMPLE: **VMFINS INSTALL PPF $5654260 EREPPRD (PLAN NOMEMO ENV EREP**

VMFINS INSTALL PPF *ppfname compid* **(NOMEMO ENV** *envelope_filename*

EXAMPLE: **VMFINS INSTALL PPF $5654260 EREPPRD (NOMEMO ENV EREP**

4.3.3 Load Installation-Related Files from Media

This step is optional. However, it is necessary to perform these steps if you are installing to SFS directories in order to get the resources needed for SFS.

The Installation-Related files include all the Memo-to-Users, various Licensed Product control files, including the Product Parameter file (PPF) and the PRODPART files. It will also create the VMFINS PRODLIST file which contains a list of Licensed Products on the installation media. Although the VMFINS command is being used in this step, the product will **not** be loaded at this time.

To install information on the media contents, perform the following steps.

1 Log on to your Licensed Product installation user ID.

---

cp link maint 5e5 5e5 rr
read password
access 5e5 b

The 5E5 minidisk is where VMSES/E resides.

Note: The linking of VMSES/E Build Disk (MAINT 5E5) is only required if you are not installing from userid MAINT.

This user ID can be any ID that has read access to the VMSES/E Build Disk (MAINT 5E5) and write access to the Software Inventory Disk (MAINT 51D).

2 Ensure the media is mounted and attached to the installation userid at virtual address 181.

3 Establish write access to the Software Inventory minidisk if it's not already linked R/W.

cp link maint 51d 51d mr
multi password
access 51d d

The Software Inventory Disk (MAINT 51D) is where the VMSES/E system-level Software Inventory and other Licensed Product dependent files reside.

Note: If another user already has the Software Inventory Disk (MAINT 51D) linked in write mode (R/W), you will obtain only read access (R/O) to this minidisk. If this occurs, you will need to have that user re-link the Software Inventory Disk (MAINT 51D) in read-only mode (RR), and then re-issue the above LINK and ACCESS commands. Do not continue with these procedures until a R/W link is established to the Software Inventory Disk (MAINT 51D).

4 Load Licensed Product-specific files to the Software Inventory Disk (MAINT 51D).

a If installing from a Product Envelope:

vmfins install info (nomemo env *envelope_filename*

The NOMEMO option will load memos from the media but will not issue a prompt to send them to the system printer. Specify the MEMO option if you want to be prompted for printing the memo.

This command will perform the following:

- loads all of the Memo-to-Users
- loads various Licensed Product control files, including the Product Parameter file (PPF) and PRODPART files
- create the VMFINS PRODLIST on your A-disk. The VMFINS PRODLIST contains a list of Licensed Products on the installation media.

```
VMFINS2767I Reading VMFINS DEFAULTS B for additional options
VMFINS2760I VMFINS processing started
VMFINS1909I VMFINS PRODLIST created on your A-disk
VMFINS2760I VMFINS processing completed successfully
Ready;
```

Notes:

1. Licensed Product files will **not** be loaded by the VMFINS command at this time.
2. If you are installing one or more Licensed Products using SFS directories, you should review the information in Chapter 4.3.4.3, “Shared File System (SFS) Considerations” on page 35 before you continue with this step.
3. If you change the PPF name, a default user ID, or other parameters associated with a given Licensed Product via a PPF override, you will need to use your changed values instead of those indicated (when appropriate), throughout the remainder of the installation process for that Licensed Product. For example, you will need to specify your PPF override file name instead of the name of the PPF file provided on the media for certain VMSES/E commands.
4. If you are not familiar with creating PPF overrides using VMFINS, you should review the 'Using the Make Override Panel' section in the chapter entitled “Using the VMFINS EXEC” of *z/VM VMSES/E Introduction and Reference* before you continue.

4.3.4 Allocate Resources for the Semi-VMSES/E Licensed Product

Each Semi-VMSES/E Licensed Product can be placed directly into production on the default production minidisks, or can be installed first to “test” mode then to the production minidisks, or to Shared File System (SFS) directories.

If you are going to install directly to production minidisks, continue with Chapter 4.3.4.1, “Default Production Minidisks”.

If you plan to install first to Test minidisks, continue with Chapter 4.3.4.2, “Semi-VMSES/E Test Resource

Requirements."

If you are installing to SFS, continue with Chapter 4.3.4.3, "Shared File System (SFS) Considerations".

4.3.4.1 Default Production Minidisks

The IBM-supplied default minidisk addresses and user IDs can be found in Appendix C, "DASD Requirements". This Appendix lists all the z/VM SDO products and their DASD Requirements. If you performed the optional step in 4.3.3, "Load Installation-Related Files from media" on page 30, the resource information can be found in the PLANINFO file. Using this information, allocate the resources.

Once the default production minidisks have been allocated, continue the installation in Chapter 4.4, "Install the Semi-VMSES/E Licensed Product".

4.3.4.2 Semi-VMSES/E Test Resource Requirements

If you have decided to install Semi-VMSES/E Licensed Products on test minidisks, for each selected Licensed Product:

1. Add to your system directory a user ID called **PRETEST**. This user ID is used as a place holder for the test minidisks and will own all the alternate minidisks used in conjunction with the Semi-VMSES/E Licensed Products.
2. Set up and format the appropriate minidisks listed in Figure 2. These minidisks must be set up and formatted before you begin the installation process. Additionally, they must be defined using addresses within the range 400 to 4FF, as indicated in Figure 2.
3. The minidisks required for the Licensed Product must be allocated as well because some Licensed Products may have files placed on any one of the Licensed Product's minidisks (i.e. MAINT 319). Refer to Chapter Appendix C, "DASD Requirements" for a list of minidisk requirements.
4. For features which have PRETEST addresses which are the same as the base, add the number of blocks needed for both the base and feature(s) to get the total number of blocks required for test installation.

The installation will fail if the resource is not allocated (i.e. defined and formatted). Files which will eventually end up on end user disks, will be loaded to the test disk(s), and all others are loaded to the appropriate disk (memos, etc.). If the product has one or more features, it may use the same test minidisk as the base product.

In Chapter 6.0, "Semi-VMSES/E Licensed Product Technical Notes", you will be given the **VMFINS** command to install the Licensed Product on the test minidisk(s). All of the Licensed Products end user files will be placed on the test minidisk(s).

Once you have completed testing, you will copy the files from the test minidisk to the "Related Production Disk" via the **VMFCOPY** command.

Figure 2. PRETEST minidisk requirements

Licensed Product Number	Description	PRETEST Minidisk	Size -CMS 4K blocks unless otherwise stated	Related Production Minidisk
5684-043	ISPF	458	150	ISPVM 191
		459	6700	ISPVM 192
5684-123	ISPF PDF	457	6000	ISPVM 192
5684-123	ISPF PDF NLS	457	2700	ISPVM 192
5697-F42	DB2/VM	476	360	SQLMACH 198
		477	900	SQLMACH 199
		46A	1620	SQLDRR 191
		47C	3600	MSTRSRVO 195
		479	6660	5697F75A 193
5697-F42	DB2/VM Client Edition	476	360	SQLCLNT 198
		477	900	SQLCLNT 199
		46A	1620	SQLDRR 191
		47C	3600	MSTRSRVO 195
		47E	6660	5697F75C 193

Once the test and default minidisks have been allocated, continue the installation in Chapter 4.4, “Install the Semi-VMSES/E Licensed Product”.

4.3.4.3 Shared File System (SFS) Considerations

This section provides basic information about changes to these instructions you will need to make if you plan to install any Semi-VMSES/E Licensed Product using SFS directories. However, you may need to make additional changes or adjustments, based on the actual Licensed Product(s) you are installing in this manner.

In general, you will need to adapt any minidisk-specific instructions and concepts to account for an SFS environment. And, when issuing a VMFINS command, you will need to specify an SFS-related component name instead of those established for a minidisk environment (SFS-related component names use the string `SFS` as part of the component name.).

You'll also need to obtain the SFS storage requirements for each Licensed Product using the PLAN option of the VMFINS command; this option will create a *$NNNNNNN* PLANINFO file that contains this information.

Note: VMSYS is the filepool name used in the supplied PPF for both test and production SFS installations.

After the appropriate planning information is available (within the *$NNNNNNN* PLANINFO file), you will need to do the following:

1 Determine the number of 4K blocks that are required for the SFS directories you will use. Refer to the *$NNNNNNN* PLANINFO file and add up the 4K blocks required for each SFS directory you plan to use. This will give you the total number of 4K blocks required. You should also keep track of the 4K block requirements for each user ID as well.

You'll need this information if you need to enroll any Licensed Product user IDs in the VMSYS filepool, or if you need to increase the space allocated to an existing user ID.

Note: If you have created your own PPF override file, you should use your PPF name instead of *$NNNNNNN*.

2 Enroll any required Licensed Product user IDs in the VMSYS filepool by using the ENROLL USER command:

```
ENROLL USER userid VMSYS (BLOCKS blocks
```

where *userid* is the actual user ID to be enrolled and *blocks* is the number of 4K blocks required for this user ID, that you calculated previously.

Note: The ENROLL USER must be issued from a user ID that is an administrator for the VMSYS filepool.

3 Determine if there are enough blocks available in the filepool to install the Licensed Product. This information can be obtained by using the `QUERY FILEPOOL STATUS` command. Near the end of the output from this command is a list of minidisks in the filepool and the number of blocks free. If the number of available blocks is smaller than the total available 4K blocks needed for this Licensed Product, you will need to add space to the filepool. See the *z/VM CMS File Pool Planning, Administration, and Operation* manual for information on adding space to a filepool.

4 Create the subdirectories listed in the *$NNNNNNN* PLANINFO file using the CREATE command with the DIRECTORY option.

set filepool vmsys:
create directory *dirid*

dirid is the name of the SFS directory you are creating, such as:

```
CREATE DIRECTORY dirid
```

If necessary, see the *z/VM CMS Commands and Utilities Reference* for more information about the CREATE DIRECTORY command.

Note: Subdirectories, when required, must be created from the respective user IDs.

5 Give SFS READ (and in some cases, WRITE) authority for each directory to those user IDs for which it's appropriate, using the GRANT AUTHORITY command.

grant auth *dirid* **to** *userid* **(***authority*

If necessary, see the *z/VM CMS Commands and Utilities Reference* for more information about the GRANT AUTHORITY command.

4.4 Install the Semi-VMSES/E Licensed Product

Notes:

Before you continue with the installation process, ensure you have completed the following:

1. Added all of the required user ID directories to the system directory.
2. Changed the passwords for all added user IDs from `xxxxx` to valid passwords, in accordance with your security guidelines.
3. Placed the new directories on-line using VM/Directory Maintenance (DIRMAINT) or an equivalent CP directory maintenance method.
4. Formatted any newly created minidisks or created SFS directories.

NOTE

In the case of a conflict, the information provided in the Licensed Program Product's Program Directory overrides the information provided in this SDO Program Directory. The SDO Program Directory will refer to the Licensed Program Product Program Directory and/or other z/VM or Licensed Program Product documents when appropriate.

4.4.1 Install Using the VMFINS EXEC

1 Log on to the product installation user ID.

2 Establish write access to the **MAINT 51d** and **5e5**, if it's not already linked R/W.

cp link maint 5e5 5e5 rr
read password
cp link maint 51d 51d mr
multi password

The Software Inventory Disk (MAINT 51D) is where the VMSES/E system-level Software Inventory files reside.

3 Create a PROFILE EXEC that will contain `ACCESS` commands for the VMSES/E Build Disk (MAINT 5E5) and Software Inventory Disk (MAINT 51D), or add these commands to the existing PROFILE EXEC.

xedit profile exec a
===> input //**
===> input 'ACCESS 5E5 B'

===> input 'ACCESS 51D D'
===> file

4 Use the profile to access the VMSES/E Build Disk (MAINT 5E5) and Software Inventory Disk (MAINT 51D).

profile

5 Ensure the media is mounted and attached to the installation user ID at virtual address 181. The VMFINS EXEC requires the media to be at virtual address 181.

6 Install the Licensed

Product. **Notes:**

a. If you have already created a PPF override file, you should specify your override file name after the **PPF** keyword for the following VMFINS command.

b. You may be prompted for additional information during VMFINS INSTALL processing depending on your installation environment. If you are unsure how to respond to a prompt, refer to the “Installing Products with VMFINS” and “Install Scenarios” chapters in the *z/VM VMSES/E Introduction and Reference* to decide how to proceed.

Note!

The specific command for each product can be found in Chapter 6.0, “Semi-VMSES/E Licensed Product Technical Notes” on page 147.

a If installing from a Product Envelope:

vmfins install ppf *ppfname* **{***compid* **|** *compid***sfs |** *compid***prd |** *compid***sfsprd} (nomemo env** *envelope_filename*

Use *compid* if you are installing using test minidisks and **not** placing this Licensed Product directly into production.

Use *compid***sfs** if you are installing using test SFS directories and **not** placing this Licensed Product directly into production.

Use *compid***prd** if you are installing using minidisks and you **are** placing this Licensed Product directly into production.

Use *compid***sfsprd** if you are installing using SFS directories and you **are** placing this Licensed

Product directly into production.

Note: If you have created your own PPF override file, you should use your PPF name instead of *$NNNNNNN*.

LINK is the default option on the VMFINS INSTALL command. The LINK option should be utilized so that required minidisks not owned by the installation user ID will be available. VMFINS will attempt to link to these minidisks, and will access them in the appropriate order.

```
VMFINS2767I Reading VMFINS DEFAULTS B for additional options VMFINS2760I
VMFINS processing started
VMFINS2601R Do you want to create an override for :PPF $NNNNNNN COMPID
            $nnnnnnn%COMPID?
            Enter 0 (No), 1 (Yes) or 2 (Exit)
```

0

Enter 0 to bypass creating an override.

Enter 1 to create an override, change the PPF name, and change minidisk definitions.

Enter 2 to exit the VMFINS exec.

```
VMFINS2603I Processing product :PPF $NNNNNN COMPID :PRODID $nnnnnn
     VMFREQ2805I Product :PPF $NNNNNN COMPID :PRODID $nnnnnn%COMPID
     requisite checking
VMFINT2603I Installing product :PPF $NNNNNN COMPID :PRODID $nnnnnn
VMFSET2760I VMFSETUP processing started for $nnnnnn COMPID
VMFUTL2205I Minidisk|Directory Assignments:
            String    Mode Stat Vdev Label/Directory
VMFUTL2205I string     fm    R/W dev   label
  -
VMFUTL2205I -------  A    R/W 191   INS191
VMFUTL2205I -------  B    R/O 5E5   MNT5E5
VMFUTL2205I -------  D    R/W 51D   MNT51D
VMFUTL2205I -------  S    R/O 190   MNT190
VMFUTL2205I -------  Y/S  R/O 19E   MNT19E
VMFSET2760I VMFSETUP processing completed successfully
VMFREC2760I VMFREC processing started
VMFREC1851I (1 of mm) VMFRCALL processing tapefile
VMFRCA2159I Loading part(s) to string dev (fm)
VMFRCA2159I Loaded nn part(s) to string dev (fm)
  -
VMFREC1851I (mm of mm) VMFRCALL processing tapefile
VMFRCA2159I Loading part(s) to string dev (fm)
VMFRCA2159I Loaded nn part(s) to string dev (fm)
VMFREC2760I VMFREC processing completed successfully
VMFINT2603I Product installed
VMFINS2760I VMFINS processing completed successfully
Ready;
```

7 Review the install message log ($VMFINS $MSGLOG). If necessary, correct any problems before going on. For information about handling specific installation messages, see the appropriate z/VM manual.

vmfview install

4.4.2 Place IBM Licensed Program Product into Production

If you did not install this Licensed Product directly into production, you should verify that its components operate satisfactorily within your environment, using the appropriate PRETEST alternate minidisks, and Licensed Product documentation. When you have completed your testing, you should resume with the steps described below.

Notes:

1. The following steps should be done from the MAINT user ID, with links to the required installation minidisks, so that appropriate CMS shared segments can be re-saved, when necessary.
2. You will need to repeat steps 2 and 3 for each pair of test/production minidisks that are associated

with this Licensed Product.

1 Log on to the **MAINT** user ID.

2 Link and access the appropriate test build (PRETEST 4*xx*) and production build minidisks. With regard to the latter minidisk, note the following:

- The production minidisk only needs to be linked if it's not a MAINT-owned minidisk.
- If another user already has the production minidisk linked in write mode (R/W), you will obtain only read access (R/O) to this minidisk. If this occurs, you will need to have that user re-link this minidisk in read-only mode (RR), and then re-issue the appropriate LINK and ACCESS commands. Do not continue with these procedures until a R/W link is established to this minidisk.

cp link PRETEST 4*xx addr1* **wr** *multi password*

• *addr1* is an available minidisk address on the MAINT user ID. 4*xx* is the address of the PRETEST test build minidisk where Licensed Product files were loaded to during installation

cp link *userid prdaddr addr2* **mr** *multi password*

addr2 is an available minidisk address on the MAINT user ID. *prdaddr* is the address of the *userid* production build minidisk where Licensed Product files are to be copied.

Note: If you are already on the MAINT userid and have R/W access to the *prdaddr* minidisk, you do not need to do the **cp link**.

access *addr1* **e**

access *addr2* **f**

If *userid prdaddr* is a MAINT owned minidisk, use

prdaddr instead of *addr2*.

3 Copy the Licensed Product files from the test build minidisk (PRETEST 4*xx*) to the corresponding production build minidisk. (*userid prdaddr).*

vmfcopy * * e = = f2 (prodid *ppfname%compid* **olddate replace**

The VMFCOPY command will update the VMSES

PARTCAT file on the *prdaddr* minidisk.

The time required for the VMFCOPY command will vary depending upon the number of files being copied.

Note:

If you have copied files to the MAINT Product Code Disk (MAINT 19E) (“Y”-disk), you will need to re-save the appropriate CMS shared segment to return this minidisk to “shared” status. If you have copied files to the MAINT AMENG Help Disk (MAINT 19D) (CMS HELP disk) you may need to re-save the CMS HELP saved segment as well. See the *z/VM Service Guide* for detailed information about how these saved segments should be saved on your system.

5.0 VMSES/E Licensed Product Technical Notes

This chapter provides technical considerations for the z/VM SDO VMSES/E Licensed Products. After you have followed the general instructions for VMSES/E products, from 3.0, “VMSES/E Licensed Product Installation Instructions” on page 23, locate the specific Licensed Product in this chapter to complete the installation. Products are ordered in this section by product number.

NOTE

The SDO Program Directory will refer to the Licensed Program Product Program Director and/or other z/VM or Licensed Program Product documents when appropriate.

5.1 VMSES/E Licensed Product Specific Considerations

5.1.1 5654-A22 XL C/C++ 130 FOR Z/VM V1R3.0

5.1.1.1 PUT/ESO Applied

The PUT/ESO Service Level of the Licensed Program Product may be found in the *z/VM SDO Optional Licensed Product Service* section on the *z/VM SDO V6* webpage.

This webpage may be found off the *VM System Delivery Offering (SDO)* website at url:

https://www.ibm.com/support/pages/zvm/sdo/

This section provides the PUT/ESO Service Level of the Licensed Program Products plus a list of PTFs in addition to the PTFs included in the PUT/ESO service that have been applied.

5.1.1.2 Service Excluded

None.

5.1.1.3 Pre-Requisite Service

None.

5.1.1.4 Co-Requisite Service

None.

5.1.1.5 If-Requisite Service

None.

5.1.1.6 Product Manuals

The program directory can be found https://www.ibm.com/support/pages/zvm/progdir/ under the heading of *Other IBM VM Product Program Directories.*

Form Number	Publication Title
GI11-2899	Program Directory for IBM XL C/C++ for z/VM
SC09-7625	XL C/C++ for z/VM User's Guide
SC09-7624	XL C/C++ for z/VM Run-Time Library Reference
SC09-4815	C/C++ Language Reference
GC09-4819	z/OS C/C++ Messages
SC09-4767	z/OS C/C++ User's Guide
GC09-4913	z/OS C/C++ Compiler and Run-Time Migration Guide
SC09-4765	z/OS C/C++ Programming Guide
SA22-7820	z/OS C courses
SA22-7821	z/OS C/C++ Run-Time Library Reference
GA22-7560	z/OS Language Environment Debugging Guide
SA22-7566	z/OS Language Environment Run-Time Messages

5.1.1.7 Installation

With z/VM 6.2, a number of changes were introduced in the System Maintenance and Service environment. Prior to installing a Licensed Program Product in a Single System Image (SSI) environment (SSI-Ready or SSI-Enabled) Chapter 28. *Converting a z/VM System to a Single-Member z/VM SSI Cluster* and Chapter 25. *Setting Up z/VM Single System Image Clusters* in the *z/VM CP Planning and Administration* manual should be reviewed.

An overview of the changes introduced in z/VM 6.2 to support an SSI environment may be found in Chapter 2. *System Changes* in the *z/VM Migration Guide*.

Appendix F, “z/VM 6.2 Installation and Production Enablement Requirements” on page 219 contains an overview of several of the major changes introduced with z/VM 6.2 and their effect on the installation and Production enablement of Licensed Program Products. This appendix should be reviewed prior to the installation of this Licensed Program Product.

Installing Licensed Products Utilizing Product Envelopes

When installing using the Product Envelope, use the ENV option with the VMFINS commands. The Product Envelope should be on a minidisk or SFS directory accessed as the 'C' disk.

VMFINS INSTALL INFO (NOMEMO ENV *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(PLAN NOMEMO ENV** *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(NOMEMO NOLINK ENV** *envelope_filename*

WARNING:

You **cannot** install both C/C++ Compiler (5654-A22) and IBM C Compiler for VM/ESA (5654-033) on the same system, both targeting the MAINT 19E disk. These two products have identically named files that would overwrite each other yielding unpredictable results. These identical files are:

CC EXEC

CDSECT EXEC

LOCALDEF EXEC

CC HELPCMS

CDSECT HELPCMS

LOCALDEF HELPCMS

CBCDSECT MODULE

Important Note for Product Installation

The 29E disk has been increased in size. Please verify you have the correct size before installation.

IBM XL C/C++ for z/VM is in VMSES/E format and cannot be installed using INSTFPP.

Refer to the *Program Directory for IBM XL C/C++ for z/VM* in the section entitled "Installation Instructions" for the steps to install IBM XL C/C++ using VMSES/E.

For customization instructions, please refer to the section entitled "Customization of Compile-Time Options" in the *Program Directory for IBM XL C/C++ for z/VM*

For instructions on applying service to IBM XL C/C++ for z/VM, please refer to the *Program Directory for IBM XL C/C++ for z/VM*, section 7 .0, entitled "Service Instructions."

5.1.1.8 DCSS Information

Please note that the segment range should be based on the segment layout as defined in the SDO Program Directory. See Appendix D, “Saved Segments” for more information.

Refer to the *Program Directory for IBM XL C/C++ for z/VM* in the section 8.0 entitled "Define and Build The XL C/C++ for z/VM Compiler Saved Segment". for the steps on Saved Segments.

5.1.1.9 Verification

Verification of XL C/C++ is done automatically during installation.

You can run the installation verification manually by issuing the following:

v5654A22

5.1.2 5654-A23 IBM DEBUG TOOL FOR Z/VM V4R1.0

5.1.2.1 PUT/ESO Applied

The product is at service level ESO0809.

The PUT/ESO Service Level of the Licensed Program Product may be found in the *z/VM SDO Optional Licensed Product Service* section on the *z/VM SDO* webpage.

This webpage may be found off the *VM System Delivery Offering (SDO)* website at url:

https://www.ibm.com/support/pages/zvm/sdo/

This section provides the PUT/ESO Service Level of the Licensed Program Products plus a list of PTFs in addition to the PTFs included in the PUT/ESO service that have been applied.

5.1.2.2 Service Excluded

None.

5.1.2.3 Pre-Requisite Service

None.

5.1.2.4 Co-Requisite Service

None.

5.1.2.5 If-Requisite Service

None.

5.1.2.6 Product Manuals

The program directory can be found https://www.ibm.com/support/pages/zvm/progdir under the heading of *Other IBM VM Product Program Directories.*

Form Number	Publication Title
GC18-9387	Licensed Program Specifications for Debug Tool
GI10-8669	Program Directory for Debug Tool for z/VM
SC18-9388	Debug Tool for z/VM: User's Guide

5.1.2.7 Installation

With z/VM 6.2, a number of changes were introduced in the System Maintenance and Service environment. Prior to installing a Licensed Program Product in a Single System Image (SSI) environment (SSI-Ready or SSI-Enabled) Chapter 28. *Converting a z/VM System to a Single-Member z/VM SSI Cluster* and Chapter 25. *Setting Up z/VM Single System Image Clusters* in the *z/VM CP Planning and Administration* manual should be reviewed.

An overview of the changes introduced in z/VM 6.2 to support an SSI environment may be found in Chapter 2. *System Changes* in the *z/VM Migration Guide*.

Appendix F, “z/VM 6.2 Installation and Production Enablement Requirements” contains an overview of several of the major changes introduced with z/VM 6.2 and their effect on the installation and Production enablement of Licensed Program Products. This appendix should be reviewed prior to the installation of this Licensed Program Product.

Other Program Product Requirements Depending on the product being verified, at least one of the following (at level specified or higher):

IBM COBOL for OS/390 & VM V2R1 (5648-A25)

PL/I for MVS & VM V1R1.1 (5688-235)

IBM XL C/C++ for z/VM V1R2 (5654-A22)

Debug Tool for z/VM is in VMSES/E format and cannot be installed using INSTFPP.

Refer to the *Program Directory for IBM Debug Tool for z/VM* in the section entitled "Installation Instructions" for the steps to install IBM Debug Tool for z/VM using VMSES/E.

For instructions on applying service to IBM Debug Tool for z/VM, please refer to the *Program Directory for IBM Debug Tool for z/VM*, section 7.0, entitled "Service Instructions."

5.1.2.8 DCSS Information

Please note that the segment range should be based on the segment layout as defined in the SDO Program Directory. See Appendix D, “Saved Segments” on page 211 for more information.

Refer to the *Program Directory for IBM Debug Tool for z/VM* in the section entitled "Define and Build the IBM Debug Tool for z/VM Saved Segments Using VMSES/E" for the steps on Saved Segments.

5.1.2.9 Verification

Verification of Debug Tool is done automatically during installation.

You can run the installation verification manually by issuing the following:

V5654A23

> **Important Note for Verifying with C/C++ on z/VM**
>
> You should have a minimum of 128M virtual storage when running the verification exec (V5654A23) on a z/VM system and choose to include the C/C++ compiler either implicitly or explicitly (with the **ALL** option).

5.1.3 5654-010 ACF/VTAM ESA V4R2.0

5.1.3.1 PUT/ESO Applied

The product is at service level ESO1011.

For additional information on IBM VTAM for VM/ESA V4R2.0 visit https://www.ibm.com/products/vtam-for-vmesa or for the program directory visit https://www.ibm.com/support/pages/zvm/progdir

5.1.3.2 Service Excluded

None.

5.1.3.3 Pre-Requisite Service

None.

5.1.3.4 Co-Requisite Service

Product Number	PTF	APAR	Product Description
5664-280	UV55517	VM52524	VTAM V3R4 VM/SP
5684-095	UV55515	VM52522	VTAM V3R4 VM/ESA
5684-112	UM59196	VM59196	AVS
5684-112	UM26835	VM58989	CP
5684-112	UM26882	VM58859	CP

5.1.3.5 If-Requisite Service

Product Number	PTF	APAR	Product Description
5654-010	UV59166	VM59197	VTAM V4R2 VM/ESA
5654-010	UV59178	VM59198	VTAM V4R2 VM/ESA

5.1.3.6 Product Manuals

Form Number	Publication Title
GI10-8154	Program Directory for ACF/VTAM
GC31-8114	Overview of VTAM V4R2 for VM/ESA and VSE/ESA
SC31-7122	Planning for Netview, NCP, and VTAM
SC31-7123	Planning Integrated Networks
SX75-0092	Planning Aids: Pre-installation Planning Checklist
GC31-6558	VTAM Glossary for V4R2 for MVS/ESA, VM/ESA, and VSE/ESA
GC31-6490	VTAM Licensed Program Specifications
SC31-6493	VTAM Messages and Codes
GC31-8071	VTAM Migration Guide
SC31-6494	VTAM Network Implementation Guide
SC31-6495	VTAM Operation
SX75-0205	VTAM Operation Quick Reference
GC31-8089	VTAM Release Guide
SC31-6498	VTAM Resource Definition Reference
SK2T-2007	Estimating Storage for VTAM
SC31-6496	VTAM Programming
SC31-6497	VTAM Programming for LU6.2
SC31-6499	VTAM Resource Definition Samples
LY43-0063	VTAM Customization
LY43-0103	VTAM Data Areas for VM/ESA
LY43-0065	VTAM Diagnosis

5.1.3.7 Installation

With z/VM 6.2, a number of changes were introduced in the System Maintenance and Service environment. Prior to installing a Licensed Program Product in a Single System Image (SSI) environment (SSI-Ready or SSI-Enabled) Chapter 28. *Converting a z/VM System to a Single-Member z/VM SSI*

Cluster and Chapter 25. *Setting Up z/VM Single System Image Clusters* in the *z/VM CP Planning and Administration* manual should be reviewed.

An overview of the changes introduced in z/VM 6.2 to support an SSI environment may be found in Chapter 2. *System Changes* in the *z/VM Migration Guide*.

Appendix F, “z/VM 6.2 Installation and Production Enablement Requirements” contains an overview of several of the major changes introduced with z/VM 6.2 and their effect on the installation and Production enablement of Licensed Program Products. This appendix should be reviewed prior to the installation of this Licensed Program Product.

DASD Storage Requirements And User ID Definitions

The DASD storage requirements (e.g. minidisk definitions) and the User ID definitions (i.e. Virtual Machine VM System Directory entries) from the SDO Program Directory should be utilized when creating the IDs and minidisks required for the installation and Production enablement of this Licensed Program Product.

Installation Guidelines

A standard Maintenance ID has been defined for this Licensed Program Product. However, the Product may be installed from any ID that has:

- READ access to the MAINT 5E5 disk
- WRITE access to the MAINT 51D
- WRITE access to the minidisks or SFS Directory that is to be utilized for the Licensed Program Product's code.

It is recommended that the Product be installed utilizing the standard Maintenance ID defined for this Licensed Program Product.

For information on the DASD storage requirements for the installation of this Licensed Program Product, refer to Appendix C, “DASD Requirements”.

Installing Licensed Products Utilizing Product Envelopes

When installing using the Product Envelope, use the ENV option with the VMFINS commands. The Product Envelope should be on a minidisk or SFS directory accessed as the 'C' disk.

VMFINS INSTALL INFO (NOMEMO ENV *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(PLAN NOMEMO ENV** *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(NOMEMO NOLINK ENV** *envelope_filename*

Notes:

If you did not receive a password with your product to bring it up as Client Server, Multi Domain, or Interenterprise you will need to contact the Key Registration Center.

After you place your order, you will receive your password, which you need to start VTAM®. In most cases, you must update your VM startup EXEC with your IBM customer number and your VTAM password for the package you have ordered. If you start VTAM with the IBM supplied sample startup EXEC (found on the samples disk), VTAM is initialized as Client/Server. If you have ordered MultiDomain or InterEnterprise, before you can start VTAM, you must edit the sample startup EXEC and replace the default customer number and VTAM password (specified on the VTAM START command) with your customer number and VTAM password obtained separately from IBM. For further information and instructions, see "PROFILE for the VTAM Virtual Machine" in the *VTAM Network Implementation Guide*.

For installation instructions, please refer to the Installation Instructions section of the *Advanced Communications Function For Virtual Telecommunications Access Method Program Directory* and Installing VTAM under VM of the *VTAM Network Implementation Guide*.

NOTE: The following minidisks for 5654010A have increased:

2D2 disk has increased to 15000 4K blocks. (100 cylinders of 3380 DASD or 84 cylinders of 3390 DASD.)

401 disk has increased to 1200 4K blocks. (8 cylinders of 3380 DASD or 7 cylinders of 3390 DASD.)

402 disk has increased to 1200 4K blocks. (8 cylinders of 3380 DASD or 7 cylinders of 3390 DASD.)

For customization instructions, please refer to *VTAM Customization*.

For service instructions, please refer to the Service Instructions section of the *Advanced Communications Function For Virtual Telecommunications Access Method Program Directory* and Applying Service of the *VTAM Network Implementation Guide*.

5.1.3.8 DCSS Information

Refer to Define and Build the VTAM V4R2 for VM/ESA Saved Segments Using VMSES/E section of the *Advanced Communications Function For Virtual Telecommunications Access Method Program Directory*. Please note that the segment range is based on the segment layout as defined and distributed as part of the SDO package. See Appendix D, “Saved Segments” for more information.

5.1.3.9 Verification

For verification instructions, please refer to the Verifying the Installation section of the *VTAM Network Implementation Guide*.

5.1.4 5654-010 APPC APPL SUITE V1R1.0

5.1.4.1 PUT/ESO Applied

The product is at service level ESO9807.

The PUT/ESO Service Level of the Licensed Program Product may be found in the *z/VM SDO Optional Licensed Product Service* section on the *z/VM SDO V6* webpage.

This webpage may be found off the *VM System Delivery Offering (SDO)* website at url:

https://www.ibm.com/support/pages/zvm/sdo/

This section provides the PUT/ESO Service Level of the Licensed Program Products plus a list of PTFs in addition to the PTFs included in the PUT/ESO service that have been applied.

5.1.4.2 Service Excluded

None.

5.1.4.3 Pre-Requisite Service

5.1.4.4 Co-Requisite Service

5.1.4.5 If-Requisite Service

None.

5.1.4.6 Product Manuals

Form Number	Publication Title
GI10-9617	Program Directory for APPC Application Suite for VM/ESA
SC31-6532	APPC Application Suite User's Guide
SC31-6533	APPC Application Suite Administration
SC31-6534	APPC Application Suite Programming

5.1.4.7 Installation

With z/VM 6.2, a number of changes were introduced in the System Maintenance and Service environment. Prior to installing a Licensed Program Product in a Single System Image (SSI) environment (SSI-Ready or SSI-Enabled) Chapter 28. *Converting a z/VM System to a Single-Member z/VM SSI Cluster* and Chapter 25. *Setting Up z/VM Single System Image Clusters* in the *z/VM CP Planning and Administration* manual should be reviewed.

An overview of the changes introduced in z/VM 6.2 to support an SSI environment may be found in Chapter 2. *System Changes* in the *z/VM Migration Guide*.

Appendix F, “z/VM 6.2 Installation and Production Enablement Requirements” contains an overview of several of the major changes introduced with z/VM 6.2 and their effect on the installation and Production enablement of Licensed Program Products. This appendix should be reviewed prior to the installation of this Licensed Program Product.

DASD Storage Requirements And User ID Definitions

The DASD storage requirements (e.g. minidisk definitions) and the User ID definitions (i.e. Virtual Machine VM System Directory entries) from the SDO Program Directory should be utilized when creating the IDs and minidisks required for the installation and Production enablement of this Licensed Program Product.

The information provided in the SDO Program Directory overrides the information provided in the Licensed Program Product's Program Directory and *PLANINFO* file. The information provided in the Program Directory and the *PLANINFO* file may not have been updated to reflect changes resulting from the IBM Service that has been applied to the Licensed Program Product or changes in the z/VM Environment.

Installation Guidelines

A standard Maintenance ID has been defined for this Licensed Program Product. However, the Product may be installed from any ID that has:

- READ access to the MAINT 5E5 disk
- WRITE access to the MAINT 51D
- WRITE access to the minidisks or SFS Directory that is to be utilized for the Licensed Program Product's code.

It is recommended that the Product be installed utilizing the standard Maintenance ID defined for this Licensed Program Product.

For information on the DASD storage requirements for the installation of this Licensed Program Product, refer to Appendix C, “DASD Requirements”.

Installing Licensed Products Utilizing Product Envelopes

When installing using the Product Envelope, use the ENV option with the VMFINS commands. The Product Envelope should be on a minidisk or SFS directory accessed as the 'C' disk.

VMFINS INSTALL INFO (NOMEMO ENV *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(PLAN NOMEMO ENV** *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(NOMEMO NOLINK ENV** *envelope_filename*

OTHER PROGRAM PRODUCT REQUIREMENTS

IBM C370 LIBRARY 5688-188

For installation instructions, please refer to the Installation Instructions section of the *APPC Application Suite for VM/ESA Program Directory*.

For customization instructions, please refer to *APPC Application Suite Administration Guide* .

For service instructions, please refer to the Service Instructions section of the *APPC Application Suite for VM/ESA Program Directory* .

Notes:

When setting up your SERVERS (eg. ANAME, A3270) use the Administration Guide for the correct setup. The VTAM PRODPART file has a different setup and should not be used.

5.1.4.8 DCSS Information

None.

5.1.4.9 Verification

None.

5.1.5 5654-029 DITTO V1R3.0

5.1.5.1 PUT/ESO Applied

The product is at service level ESO1105.

The PUT/ESO Service Level of the Licensed Program Product may be found in the *z/VM SDO Optional Licensed Product Service* section on the *z/VM SDO* webpage.

This webpage may be found off the *VM System Delivery Offering (SDO)* website at url:

https://www.ibm.com/support/pages/zvm/sdo/

This section provides the PUT/ESO Service Level of the Licensed Program Products plus a list of PTFs in addition to the PTFs included in the PUT/ESO service that have been applied.

5.1.5.2 Service Excluded

None.

5.1.5.3 Pre-Requisite Service

None.

5.1.5.4 Co-Requisite Service

None.

5.1.5.5 If-Requisite Service

None.

5.1.5.6 Product Manuals

Form Number	Publication Title
GI10-0438	Program Directory for DITTO/ESA for VM
GC26-9598	DITTO/ESA Installation and Customization Guide
GH19-8223	DITTO/ESA Release 3 Licensed Program Specifications
GH19-8222	Introducing DITTO/ESA Release 3
SH19-8221	DITTO/ESA Release 3 User's Guide and Reference
SX11-6110	DITTO/ESA Release 3 Reference Summary

5.1.5.7 Installation

With z/VM 6.2, a number of changes were introduced in the System Maintenance and Service environment. Prior to installing a Licensed Program Product in a Single System Image (SSI) environment

(SSI-Ready or SSI-Enabled) Chapter 28. *Converting a z/VM System to a Single-Member z/VM SSI Cluster* and Chapter 25. *Setting Up z/VM Single System Image Clusters* in the *z/VM CP Planning and Administration* manual should be reviewed.

An overview of the changes introduced in z/VM 6.2 to support an SSI environment may be found in Chapter 2. *System Changes* in the *z/VM Migration Guide*.

Appendix F, "z/VM 6.2 Installation and Production Enablement Requirements" contains an overview of several of the major changes introduced with z/VM 6.2 and their effect on the installation and Production enablement of Licensed Program Products. This appendix should be reviewed prior to the installation of this Licensed Program

DASD Storage Requirements And User ID Definitions

The DASD storage requirements (e.g. minidisk definitions) and the User ID definitions (i.e. Virtual Machine VM System Directory entries) from the SDO Program Directory should be utilized when creating the IDs and minidisks required for the installation and Production enablement of this Licensed Program Product.

The information provided in the SDO Program Directory overrides the information provided in the Licensed Program Product's Program Directory and *PLANINFO* file. The information provided in the Program Directory and the *PLANINFO* file may not have been updated to reflect changes resulting from the IBM Service that has been applied to the Licensed Program Product or changes in the z/VM Environment.

Installation Guidelines

A standard Maintenance ID has been defined for this Licensed Program Product. However, the Product may be installed from any ID that has:

- READ access to the MAINT 5E5 disk
- WRITE access to the MAINT 51D
- WRITE access to the minidisks or SFS Directory that is to be utilized for the Licensed Program Product's code.

It is recommended that the Product be installed utilizing the standard Maintenance ID defined for this Licensed Program Product.

For information on the DASD storage requirements for the installation of this Licensed Program Product, refer to Appendix C, "DASD Requirements".

Installing Licensed Products Utilizing Product Envelopes

When installing using the Product Envelope, use the ENV option with the VMFINS commands. The Product Envelope should be on a minidisk or SFS directory accessed as the 'C' disk.

VMFINS INSTALL INFO (NOMEMO ENV *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(PLAN NOMEMO ENV** *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(NOMEMO NOLINK ENV** *envelope_filename*

DITTO/ESA is in VMSES/E format and cannot be installed using INSTFPP.

Refer to the *Program Directory for Data Interfile Transfer, Testing, and Operations Utility / ESA* section entitled “Installation Instructions” for the steps to install DITTO/ESA using VMSES/E.

5.1.5.8 DCSS Information

None.

5.1.5.9 Verification

To verify the installation of DITTO/ESA, perform the following steps:

1. Logon to a CMS user ID that is enabled to access and use DITTO/ESA.
2. Enter DITTO after Ready; appears on your CMS terminal.
3. The first time you invoke DITTO/ESA a copyright panel appears. Press the cancel key(F12) to continue.
4. The DITTO/ESA for VM Release 3 main menu should appear.
5. Press the menu key(F2) to flip between the task selection menu and the primary function menu. You may decide later on your preference for daily operation.
6. Enter NEWS in the entry field or in the command line. Please read the information presented and then press the exit key to return to the menu.
7. Enter LVL in the entry field or in the command line. The information presented tells you the release and service level of DITTO/ESA.
8. Press the exit key to end the DITTO/ESA session.

5.1.6 5655-T13 IBM SECURITY ZSECURE MANAGER FOR RACF V2R5.1

For installation, service and product requirements please refer to the IBM Security zSecure *Manager for RACF z/VM Program Directory* (GI11-7865).

5.1.7 5668-723 GDDM-IVU V1R1.3

5.1.7.1 PUT/ESO Applied

The PUT/ESO Service Level of the Licensed Program Product may be found in the *z/VM SDO Optional Licensed Product Service* section on the *z/VM SDO V6 webpage*.

This webpage may be found off the *VM System Delivery Offering (SDO)* website at url:

https://www.ibm.com/support/pages/zvm/sdo/

This section provides the PUT/ESO Service Level of the Licensed Program Products plus a list of PTFs in addition to the PTFs included in the PUT/ESO service that have been applied.

5.1.7.2 Service Excluded

None.

5.1.7.3 Pre-Requisite Service

None.

5.1.7.4 Co-Requisite Service

None.

5.1.7.5 If-Requisite Service

None.

5.1.7.6 Product Manuals

Form Number	Publication Title
GC33-1802	Program Directory for GDDM/VM

Form Number	Publication Title
SC33-0479	GDDM Image View Utility

5.1.7.7 Installation

With z/VM 6.2, a number of changes were introduced in the System Maintenance and Service environment. Prior to installing a Licensed Program Product in a Single System Image (SSI) environment (SSI-Ready or SSI-Enabled) Chapter 28. *Converting a z/VM System to a Single-Member z/VM SSI Cluster* and Chapter 25. *Setting Up z/VM Single System Image Clusters* in the *z/VM CP Planning and Administration* manual should be reviewed.

An overview of the changes introduced in z/VM 6.2 to support an SSI environment may be found in Chapter 2. *System Changes* in the *z/VM Migration Guide*.

Appendix F, “z/VM 6.2 Installation and Production Enablement Requirements” on page 219 contains an overview of several of the major changes introduced with z/VM 6.2 and their effect on the installation and Production enablement of Licensed Program Products. This appendix should be reviewed prior to the installation of this Licensed Program Product.

DASD Storage Requirements And User ID Definitions

The DASD storage requirements (e.g. minidisk definitions) and the User ID definitions (i.e. Virtual Machine VM System Directory entries) from the SDO Program Directory should be utilized when creating the IDs and minidisks required for the installation and Production enablement of this Licensed Program Product.

The information provided in the SDO Program Directory overrides the information provided in the Licensed Program Product's Program Directory and *PLANINFO* file. The information provided in the Program Directory and the *PLANINFO* file may not have been updated to reflect changes resulting from the IBM Service that has been applied to the Licensed Program Product or changes in the z/VM Environment.

Installation Guidelines

A standard Maintenance ID has been defined for this Licensed Program Product. However, the Product may be installed from any ID that has:

- READ access to the MAINT 5E5 disk
- WRITE access to the MAINT 51D
- WRITE access to the minidisks or SFS Directory that is to be utilized for the Licensed Program Product's code.

It is recommended that the Product be installed utilizing the standard Maintenance ID defined for this Licensed Program Product.

For information on the DASD storage requirements for the installation of this Licensed Program Product, refer to Appendix C, “DASD Requirements” on page 201.

Installing Licensed Products Utilizing Product Envelopes

When installing using the Product Envelope, use the ENV option with the VMFINS commands. The Product Envelope should be on a minidisk or SFS directory accessed as the 'C' disk.

VMFINS INSTALL INFO (NOMEMO ENV *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(PLAN NOMEMO ENV** *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(NOMEMO NOLINK ENV** *envelope_filename*

IMPORTANT NOTE:

The Program Directory for GDDM-IVU Section 6.13 mistates when to Update the Build Status Table. This needs to be done BEFORE Section 6.12: Place GDDM into Production

You will need to run it after the following sections:

1. 6.5 Install GDDM/VM using the VMFINS EXEC, Step 4
2. 6.7 Install GDDM-PGF using the VMFINS EXEC, Step 4
3. 6.8 Install GDDM-IMD using the VMFINS EXEC, Step 4
4. 6.9 Install GDDM-IVU using the VMFINS EXEC, Step 4

You can use the tables listed in Section 6.13 for reference as to what the syntax of the VMFINS command should be.

GDDM-IVU is in VMSES/E format and cannot be installed using INSTFPP.

Refer to the *Program Directory for GDDM/VM* in the section entitled "6.0 Install GDDM/VM using the VMFINS EXEC" for the steps for installing GDDM-IVU using VMSES/E.

Refer to the *Program Directory for GDDM/VM* in the section entitled "7.0 Service Instructions" for information on applying service to GDDM-IVU using VMSES/E.

5.1.7.8 DCSS Information

Refer to “Using GDDM® saved segments” section of the *GDDVM/VM Program Directory*

Please note that the segment range should be based on the segment layout as defined in the SDO Program Directory. See Appendix D, “Saved Segments” for more information.

5.1.7.9 Verification

GDDM/VM and GDDM/VM NLS (US ENGLISH) feature must be installed prior to verifying the installation of GDDM-IVU. Consult **Testing GDDM-IVU Installation, Chapter 9** in the *Program Directory for GDDM/VM* for instructions to run the verification.

5.1.8 5668-801 GDDM-IMD V2R1.3

5.1.8.1 PUT/ESO Applied

The PUT/ESO Service Level of the Licensed Program Product may be found in the *z/VM SDO Optional Licensed Product Service* section on the *z/VM SDO webpage*.

This webpage may be found off the *VM System Delivery Offering (SDO)* website at url:

https://www.ibm.com/support/pages/zvm/sdo/

This section provides the PUT/ESO Service Level of the Licensed Program Products plus a list of PTFs in addition to the PTFs included in the PUT/ESO service that have been applied.

5.1.8.2 Service Excluded

None.

5.1.8.3 Pre-Requisite Service

None.

5.1.8.4 Co-Requisite Service

None.

5.1.8.5 If-Requisite Service

None.

5.1.8.6 Product Manuals

Form Number	Publication Title
GC33-1802	Program Directory for GDDM/VM
SC33-0338	GDDM Interactive Map Definition

5.1.8.7 Installation

With z/VM 6.2, a number of changes were introduced in the System Maintenance and Service environment. Prior to installing a Licensed Program Product in a Single System Image (SSI) environment (SSI-Ready or SSI-Enabled) Chapter 28. *Converting a z/VM System to a Single-Member z/VM SSI Cluster* and Chapter 25. *Setting Up z/VM Single System Image Clusters* in the *z/VM CP Planning and Administration* manual should be reviewed.

An overview of the changes introduced in z/VM 6.2 to support an SSI environment may be found in Chapter 2. *System Changes* in the *z/VM Migration Guide*.

Appendix F, “z/VM 6.2 Installation and Production Enablement Requirements” contains an overview of several of the major changes introduced with z/VM 6.2 and their effect on the installation and Production enablement of Licensed Program Products. This appendix should be reviewed prior to the installation of this Licensed Program Product.

Installing Licensed Products Utilizing Product Envelopes

When installing using the Product Envelope, use the ENV option with the VMFINS commands. The Product Envelope should be on a minidisk or SFS directory accessed as the 'C' disk.

VMFINS INSTALL INFO (NOMEMO ENV *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(PLAN NOMEMO ENV** *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(NOMEMO NOLINK ENV** *envelope_filename*

IMPORTANT NOTE

The Program Directory for GDDM-IMD Section 6.13 mistakes when to Update the Build Status Table. This needs to be done BEFORE Section 6.12: Place GDDM into Production

You will need to run it after the following sections:

1. 6.5 Install GDDM/VM using the VMFINS EXEC, Step 4
2. 6.7 Install GDDM-PGF using the VMFINS EXEC, Step 4
3. 6.8 Install GDDM-IMD using the VMFINS EXEC, Step 4
4. 6.9 Install GDDM-IVU using the VMFINS EXEC, Step 4

You can use the tables listed in Section 6.13 for reference as to what the syntax of the VMFINS

GDDM-IMD is in VMSES/E format and cannot be installed using INSTFPP.

Refer to the *Program Directory for GDDM/VM* in the section entitled "6.0 Install GDDM/VM using the VMFINS EXEC" for the steps for installing GDDM-IMD using VMSES/E.

Refer to the *Program Directory for GDDM/VM* in the section entitled "7.0 Service Instructions" for information on applying service to GDDM-IMD using VMSES/E.

5.1.8.8 DCSS Information

Refer to “Using GDDM saved segments” section of the *Program Directory for GDDVM/VM*

Please note that the segment range should be based on the segment layout as defined in the SDO Program Directory. See Appendix D, “Saved Segments” on page 211 for more information.

5.1.8.9 Verification

GDDM/VM and GDDM/VM NLS (US ENGLISH) feature must be installed prior to verifying the installation of GDDM-IMD. Consult **Testing GDDM-IMD Installation, Chapter 9** in the *Program Directory for GDDM/VM* for instructions to run the verification.

5.1.9 5668-812 GDDM-PGF V2R1.3

5.1.9.1 PUT/ESO Applied

The product is at service level ESO0003.

The PUT/ESO Service Level of the Licensed Program Product may be found in the *z/VM SDO Optional Licensed Product Service* section on the *z/VM SDO V6 webpage*.

This webpage may be found off the *VM System Delivery Offering (SDO)* website at url:

https://www.ibm.com/support/pages/zvm/sdo/

This section provides the PUT/ESO Service Level of the Licensed Program Products plus a list of PTFs in addition to the PTFs included in the PUT/ESO service that have been applied.

5.1.9.2 Service Excluded

None.

5.1.9.3 Pre-Requisite Service

None.

5.1.9.4 Co-Requisite Service

None.

5.1.9.5 If-Requisite Service

None.

5.1.9.6 Product Manuals

Form Number	Publication Title
GC33-1802	Program Directory for GDDM/VM
SC33-0328	GDDM-PGF Interactive Chart Utility

Form Number	Publication Title
SC33-0913	GDDM-PGF Application Programming Guide
SC33-0333	GDDM-PGF Application Programming Reference
SC33-0330	GDDM-PGF Vector Symbol Editor
SC33-1776	GDDM-PGF OPS User's Guide

5.1.9.7 Installation

With z/VM 6.2, a number of changes were introduced in the System Maintenance and Service

environment. Prior to installing a Licensed Program Product in a Single System Image (SSI) environment (SSI-Ready or SSI-Enabled) Chapter 28. *Converting a z/VM System to a Single-Member z/VM SSI Cluster* and Chapter 25. *Setting Up z/VM Single System Image Clusters* in the *z/VM CP Planning and Administration* manual should be reviewed.

An overview of the changes introduced in z/VM 6.2 to support an SSI environment may be found in Chapter 2. *System Changes* in the *z/VM Migration Guide*.

Appendix F, "z/VM 6.2 Installation and Production Enablement Requirements" on page 219 contains an overview of several of the major changes introduced with z/VM 6.2 and their effect on the installation and Production enablement of Licensed Program Products. This appendix should be reviewed prior to the installation of this Licensed Program Product.

DASD Storage Requirements And User ID Definitions

The DASD storage requirements (e.g. minidisk definitions) and the User ID definitions (i.e. Virtual Machine VM System Directory entries) from the SDO Program Directory should be utilized when creating the IDs and minidisks required for the installation and Production enablement of this Licensed Program Product.

The information provided in the SDO Program Directory overrides the information provided in the Licensed Program Product's Program Directory and *PLANINFO* file. The information provided in the Program Directory and the *PLANINFO* file may not have been updated to reflect changes resulting from the IBM Service that has been applied to the Licensed Program Product or changes in the z/VM Environment.

Installation Guidelines

A standard Maintenance ID has been defined for this Licensed Program Product. However, the Product may be installed from any ID that has:

- READ access to the MAINT 5E5 disk
- WRITE access to the MAINT 51D
- WRITE access to the minidisks or SFS Directory that is to be utilized for the Licensed Program Product's code.

It is recommended that the Product be installed utilizing the standard Maintenance ID defined for this Licensed Program Product.

For information on the DASD storage requirements for the installation of this Licensed Program Product, refer to

Appendix C, "DASD Requirements".

Installing Licensed Products Utilizing Product Envelopes

When installing using the Product Envelope, use the ENV option with the VMFINS commands. The Product Envelope should be on a minidisk or SFS directory accessed as the 'C' disk.

VMFINS INSTALL INFO (NOMEMO ENV *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(PLAN NOMEMO ENV** *envelope_filename* **VMFINS INSTALL PPF** *ppfname compid* **(NOMEMO NOLINK ENV** *envelope_filename*

IMPORTANT NOTE: The Program Directory for GDDM-PGF Section 6.13 mistates when to Update the Build Status Table. This needs to be done BEFORE Section 6.12: Place GDDM into Production

You will need to run it after the following sections:

1. 6.5 Install GDDM/VM using the VMFINS EXEC, Step 4
2. 6.7 Install GDDM-PGF using the VMFINS EXEC, Step 4
3. 6.8 Install GDDM-IMD using the VMFINS EXEC, Step 4
4. 6.9 Install GDDM-IVU using the VMFINS EXEC, Step 4

You can use the tables listed in Section 6.13 for reference as to what the syntax of the VMFINS command should be.

GDDM-PGF is in VMSES/E format and cannot be installed using INSTFPP. Refer to the *Program Directory for GDDM/VM* , Chapter 6.0, "Installation Instructions" and Chapter 7.0, "Service Instructions", for the steps to install and apply service to GDDM-PGF using VMSES/E.

5.1.9.8 DCSS Information

Refer to “Using GDDM saved segments” section of the *Program Directory for GDDVM/VM*

Please note that the segment range should be based on the segment layout as defined in the SDO Program Directory. See Appendix D, “Saved Segments” on page 211 for more information.

5.1.9.9 Verification

GDDM/VM and GDDM/VM NLS (US ENGLISH) feature must be installed prior to verifying the installation of GDDM-PGF. Consult **Testing GDDM-PGF Installation, Chapter 9** in the *Program Directory for GDDM/VM* for instructions to run the verification.

5.1.10 5684-042 ICKDSF V1R17.0

5.1.10.1 PUT/ESO Applied

The product is at service level ESO1201.

The PUT/ESO Service Level of the Licensed Program Product may be found in the *z/VM SDO Optional Licensed Product Service* section on the *z/VM SDO V6 webpage*.

This webpage may be found off the *VM System Delivery Offering (SDO)* website at url:

https://www.ibm.com/support/pages/zvm/sdo/

This section provides the PUT/ESO Service Level of the Licensed Program Products plus a list of PTFs in addition to the PTFs included in the PUT/ESO service that have been applied.

5.1.10.2 Service Excluded

None.

5.1.10.3 Pre-Requisite Service

None.

5.1.10.4 Co-Requisite Service

None.

5.1.10.5 If-Requisite Service

None.

5.1.10.6 Product Manuals

Form Number	Publication Title
GI10-4514-02	Program Directory for Device Support Facilities (ICKDSF)
GC26-3946-21	Device Support Facilities Release 17 System Control Program Specifications
GC35-0033-24	Device Support Facilities User's Guide and Reference Release 17

5.1.10.7 Installation

With z/VM 6.2, a number of changes were introduced in the System Maintenance and Service environment. Prior to installing a Licensed Program Product in a Single System Image (SSI) environment (SSI-Ready or SSI-Enabled) Chapter 28. *Converting a z/VM System to a Single-Member z/VM SSI Cluster* and Chapter 25. *Setting Up z/VM Single System Image Clusters* in the *z/VM CP Planning and Administration* manual should be reviewed.

An overview of the changes introduced in z/VM 6.2 to support an SSI environment may be found in Chapter 2. *System Changes* in the *z/VM Migration Guide*.

Appendix F, “z/VM 6.2 Installation and Production Enablement Requirements” on page 219 contains an overview of several of the major changes introduced with z/VM 6.2 and their effect on the installation and Production enablement of Licensed Program Products. This appendix should be reviewed prior to the installation of this Licensed Program Product.

Installing Licensed Products Utilizing Product Envelopes

When installing using the Product Envelope, use the ENV option with the VMFINS commands. The Product Envelope should be on a minidisk or SFS directory accessed as the 'C' disk.

VMFINS INSTALL INFO (NOMEMO ENV *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(PLAN NOMEMO ENV** *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(NOMEMO NOLINK ENV** *envelope_filename*

ICKDSF is in VMSES/E format and cannot be installed using INSTFPP.

Refer to the *Program Directory for Device Support Facilities (ICKDSF)* in chapter 6.0 entitled "Installation Instructions" for the steps to install ICKDSF using VMSES/E.

Refer to the *Program Directory for Device Support Facilities (ICKDSF)* in chapter 8.0 entitled "The Stand-Alone Program" to see how to create the stand-alone ICKDSF IPL media.

Important Installation Note

PTFs UK61061, UK70218, UK70052, UK68685, UK67626, UK70553, UK71584 and UK74445 have made product enhancements or Publication Changes to the *Device Support Facilities (ICKDSF) User's Guide and Reference Release 17* (GC35-0033-39)

Please refer to the 'MEMO TO USERS' (':UMEMO.') section of the following files for information regarding these changes: 'UK61061 $PTFPART' 'UK70218 $PTFPART' 'UK70052 $PTFPART' 'UK68685 $PTFPART' 'UK67626 $PTFPART' 'UK70553 $PTFPART' 'UK71584 $PTFPART' 'UK74445 $PTFPART' These files may be found on the maintenance ID '5684042J' 2D2 disk.

5.1.10.8 DCSS Information

None.

5.1.10.9 Verification

To run the verification program issue:

v5684042

5.1.11 5684-168 GDDM/VM V3R2.0

5.1.11.1 PUT/ESO Applied

The product is at service level ESO0603.

The PUT/ESO Service Level of the Licensed Program Product may be found in the *z/VM SDO Optional Licensed Product Service* section on the *z/VM SDO V6 webpage*.

This webpage may be found off the *VM System Delivery Offering (SDO)* website at url:

https://www.ibm.com/support/pages/zvm/sdo/

This section provides the PUT/ESO Service Level of the Licensed Program Products plus a list of PTFs in addition to the PTFs included in the PUT/ESO service that have been applied.

5.1.11.2 Service Excluded

5.1.11.3 Pre-Requisite Service

None.

5.1.11.4 Co-Requisite Service

None.

5.1.11.5 If-Requisite Service

None.

5.1.11.6 Product Manuals

Form Number	Publication Title
GC33-0866	GDDM General Information
SC33-0875	GDDM User's Guide
SC33-0867	GDDM Base Application Programming Guide
SC33-0868	GDDM Base Application Programming Reference
SC33-0870	GDDM Diagnosis
SC33-0869	GDDM Messages
SC33-0871	GDDM System Customization and Administration
SC33-0920	GDDM Using the Image Symbol Editor
GC33-0876	GDDM Series Licensed Program Specifications
GC33-1802	Program Directory for GDDM/VM
LY33-6080	How to activate GDDM-REXX

5.1.11.7 Installation

With z/VM 6.2, a number of changes were introduced in the System Maintenance and Service environment. Prior to installing a Licensed Program Product in a Single System Image (SSI) environment (SSI-Ready or SSI-Enabled) Chapter 28. *Converting a z/VM System to a Single-Member z/VM SSI Cluster* and Chapter 25. *Setting Up z/VM Single System Image Clusters* in the *z/VM CP Planning and Administration* manual should be reviewed.

An overview of the changes introduced in z/VM 6.2 to support an SSI environment may be found in Chapter 2. *System Changes* in the *z/VM Migration Guide*.

Appendix F, “z/VM 6.2 Installation and Production Enablement Requirements” on page 219 contains an overview of several of the major changes introduced with z/VM 6.2 and their effect on the installation and Production enablement of Licensed Program Products. This appendix should be reviewed prior to the installation of this Licensed Program Product.

DASD Storage Requirements And User ID Definitions

The DASD storage requirements (e.g. minidisk definitions) and the User ID definitions (i.e. Virtual Machine VM System Directory entries) from the SDO Program Directory should be utilized when creating the IDs and minidisks required for the installation and Production enablement of this Licensed Program Product.

The information provided in the SDO Program Directory overrides the information provided in the Licensed Program Product's Program Directory and *PLANINFO* file. The information provided in the Program Directory and the *PLANINFO* file may not have been updated to reflect changes resulting from the IBM Service that has been applied to the Licensed Program Product or changes in the z/VM Environment.

Installation Guidelines

A standard Maintenance ID has been defined for this Licensed Program Product. However, the Product may be installed from any ID that has:

- READ access to the MAINT 5E5 disk
- WRITE access to the MAINT 51D
- WRITE access to the minidisks or SFS Directory that is to be utilized for the Licensed Program Product's code.

It is recommended that the Product be installed utilizing the standard Maintenance ID defined for this Licensed Program Product.

For information on the DASD storage requirements for the installation of this Licensed Program Product, refer to Appendix C, “DASD Requirements” on page 201.

Installing Licensed Products Utilizing Product Envelopes

When installing using the Product Envelope, use the ENV option with the VMFINS commands. The Product Envelope should be on a minidisk or SFS directory accessed as the 'C' disk.

VMFINS INSTALL INFO (NOMEMO ENV *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(PLAN NOMEMO ENV** *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(NOMEMO NOLINK ENV** *envelope_filename*

IMPORTANT NOTE

The Program Directory for GDDM/VM Section 6.13 mistates when to Update the Build Status Table. This needs to be done BEFORE Section 6.12: Place GDDM into Production

You will need to run it after the following sections:

1. 6.5 Install GDDM/VM using the VMFINS EXEC, Step 4
2. 6.7 Install GDDM-PGF using the VMFINS EXEC, Step 4
3. 6.8 Install GDDM-IMD using the VMFINS EXEC, Step 4
4. 6.9 Install GDDM-IVU using the VMFINS EXEC, Step 4

You can use the tables listed in Section 6.13 for reference as to what the syntax of the VMFINS command should be.

GDDM is in VMSES/E format and cannot be installed using INSTFPP. Refer to the *Program Directory for GDDM/VM*, Chapter 6.0, "Installation Instructions", for the steps to install GDDM using VMSES/E.

GDDM-PCLK and GDDM-OS/2 Link are shipped as part of GDDM/VM. If you want to make them available to your systems, refer to *GDDM System Customization and Administration (SC33-0871)*.

GDDM-REXX is also shipped as part of GDDM/VM. To activate GDDM-REXX refer to *How to activate GDDM-REXX (LY33-6080)*. To save the DCSS for GDDM-REXX see instructions in the "DCSS Information" section of this document.

Refer to *GDDM System Customization and Administration* to customize GDDM/VM.

Refer to the *Program Directory for GDDM/VM*, Chapter 7.0 "Service Instructions", for information on applying service to GDDM using VMSES/E.

5.1.11.8 DCSS Information

Refer to “Using GDDM saved segments” section of the *GDDVM/VM Version 3 Program Directory*

Please note that the segment range should be based on the segment layout as defined in the SDO Program Directory. See Appendix D, “Saved Segments” on page 211 for more information.

5.1.11.9 Verification

The verification will be run automatically at the end of the **vmfins build** step if you have GDDM/VM US English National Language Support installed or have a GDDM user default specification for NATLANG telling GDDM to use a different language. Consult the *Program Directory for GDDM/VM*, **Chapter 9.0 "Testing GDDM Installation"**, for instructions to run the verification separately. Note that step 4 of the **Testing GDDM/VM Base** section documents a process for setting the User Control Key to something other than the default of PA3. This may be necessary if the keyboard does not have a PA3 key, or if the PA3 key is already used by another application. If it is necessary to follow this step, you can facilitate this by creating a **PROFILE ADMDEFS** file, if one does not already exist. Then insert the following line into that file as indicated, making sure that there is a space in col 1. This line is an example of how to define the PF1 key to function as the User Control Key:

```
ADMMNICK FAM=1,PROCOPT=((CTLKEY,1,1))
```

5.1.12 5695-013 REXX/370 COMPILER V1R4.0

5.1.12.1 PUT/ESO Applied

The product is at service level ESO0507.

The PUT/ESO Service Level of the Licensed Program Product may be found in the *z/VM SDO Optional Licensed Product Service* section on the *z/VM SDO V6 webpage*.

This webpage may be found off the *VM System Delivery Offering (SDO)* website at url:

https://www.ibm.com/support/pages/zvm/sdo/

This section provides the PUT/ESO Service Level of the Licensed Program Products plus a list of PTFs in addition to the PTFs included in the PUT/ESO service that have been applied.

5.1.12.2 Service Excluded

None.

5.1.12.3 Pre-Requisite Service

None.

5.1.12.4 Co-Requisite Service

None.

5.1.12.5 If-Requisite Service

None.

5.1.12.6 Product Manuals

Form Number	Publication Title
SH19-8160	IBM Compiler and Library for REXX on zSeries User's Guide and Reference Version 1 Release 4
SH19-8179	IBM Compiler and Library for REXX on zSeries Diagnosis Guide Version 1 Release 4
GI19-0029	Program Directory for IBM Compiler for REXX on zSeries Release 4.0

5.1.12.7 Installation

With z/VM 6.2, a number of changes were introduced in the System Maintenance and Service environment. Prior to installing a Licensed Program Product in a Single System Image (SSI) environment (SSI-Ready or SSI-Enabled) Chapter 28. *Converting a z/VM System to a Single-Member z/VM SSI Cluster* and Chapter 25. *Setting Up z/VM Single System Image Clusters* in the *z/VM CP Planning and Administration* manual should be reviewed.

An overview of the changes introduced in z/VM 6.2 to support an SSI environment may be found in Chapter 2. *System Changes* in the *z/VM Migration Guide*.

Appendix F, “z/VM 6.2 Installation and Production Enablement Requirements” contains an overview of several of the major changes introduced with z/VM 6.2 and their effect on the installation and Production enablement of Licensed Program Products. This appendix should be reviewed prior to the installation of this Licensed Program Product.

Installing Licensed Products Utilizing Product Envelopes

When installing using the Product Envelope, use the ENV option with the VMFINS commands. The Product Envelope should be on a minidisk or SFS directory accessed as the 'C' disk.

VMFINS INSTALL INFO (NOMEMO ENV *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(PLAN NOMEMO ENV** *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(NOMEMO NOLINK ENV** *envelope_filename*

For installation instructions, please refer to chapter 6 of the *Program Directory for* ***IBM COMPILER for REXX on zSeries***.

5.1.12.8 DCSS Information

None.

5.1.12.9 Verification

Verification could be started automatically by the installation exec or manually by entering:

v5695013

5.1.13 5695-013 REXX/370 COMPILER KANJI V1R4.0

5.1.13.1 PUT/ESO Applied

DASD Storage Requirements And User ID Definitions

The DASD storage requirements (e.g. minidisk definitions) and the User ID definitions (i.e. Virtual Machine VM System Directory entries) from the SDO Program Directory should be utilized when creating the IDs and minidisks required for the installation and Production enablement of this Licensed Program Product.

The information provided in the SDO Program Directory overrides the information provided in the Licensed Program Product's Program Directory and *PLANINFO* file. The information provided in the Program Directory and the *PLANINFO* file may not have been updated to reflect changes resulting from the IBM Service that has been applied to the Licensed Program Product or changes in the z/VM Environment.

The product is at service level ESO0404.

The PUT/ESO Service Level of the Licensed Program Product may be found in the *z/VM SDO Optional Licensed Product Service* section on the *z/VM SDO V6 webpage*.

This webpage may be found off the *VM System Delivery Offering (SDO)* website at url:

https://www.ibm.com/support/pages/zvm/sdo/

This section provides the PUT/ESO Service Level of the Licensed Program Products plus a list of PTFs in addition to the PTFs included in the PUT/ESO service that have been applied.

5.1.13.2 Service Excluded

None.

5.1.13.3 Pre-Requisite Service

None.

5.1.13.4 Co-Requisite Service

None

5.1.13.5 If Requisite Service

Form Number	Publication Title
GI19-0029	Program Directory for IBM Compiler for REXX on zSeries Release 4.0

None

5.1.13.6 Product Manuals

5.1.13.7 Installation

With z/VM 6.2 a number of changes were introduced in the System Maintenance and Service Environment. Prior to installing a Licensed Program Product in a Single System Image (SSI) environment (SSI Ready or SSI Enabled) Chapter 28. *Converting a z/VM System to a Single Member z/VM SSI Cluster and Chapter 25 Setting up z/VM Single System Image Clusters in the z/VM CP Planning and Administration manual should be reviewed.*

An overview of the changes introduced in z/VM 6.2 to support an SSI environment may be found in *Chapter 2 System Changes in the z/VM Migration Guide.*

Appendix F, "z/VM 6.2 Installation and Production Enablement Requirements" contains an overview of several of the major changes introduced with z/VM 6.2 and their effect on the installation and production enablement of Licensed Program Products. This appendix should be reviewed prior to the installation of this Licensed Program Product.

Installation Guidelines

A standard Maintenance ID has been defined for this Licensed Program Product. However, the Product may be installed from any ID that has:

- READ access to the MAINT 5E5 disk
- WRITE access to the MAINT 51D
- WRITE access to the minidisks or SFS Directory that is to be utilized for the Licensed Program Product's code.

It is recommended that the Product be installed utilizing the standard Maintenance ID defined for this Licensed Program Product.

For information on the DASD storage requirements for the installation of this Licensed Program Product, refer to Appendix C, "DASD Requirements" on pag.

Installing Licensed Products Utilizing Product Envelopes

When installing using the Product Envelope, use the ENV option with the VMFINS commands. The Product Envelope should be on a minidisk or SFS directory accessed as the 'C' disk.

VMFINS INSTALL INFO (NOMEMO ENV *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(PLAN NOMEMO ENV** *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(NOMEMO NOLINK ENV** *envelope_filename*

For installation instructions, please refer to Appendix A. 'Install NLS Japanese (Kanji) Feature with VMSES/E in the *Program Directory for* ***IBM COMPILER for REXX on zSeries***.

- ***Note:***

  1. The Program Directory indicates that 'the Japanese (Kanji) feature is located on the REXX Compiler base media.' Since the time that this was written, IBM has changed the procedure utilized to create Product Media. Please check the documentation provided with your order to determine which media contains the Japanese feature.

  2. Step 3 'Install the Japanese feature' is missing several of the steps required to load the REXX Compiler Japanese Feature control files to the 51D disk. The following steps must be executed to load the Japanese Feature:

     vmfins install info (nomemo

     vmfins install ppf 5695013J {rexxc|rexxcsfs}(plan nomemo

     vmfins install ppf 5695013J {rexxc|rexxcsfs}(nomemo nolink

     vmfins build ppf 5695013J {rexxc|rexxcsfs}(serviced nolink

     – Use **rexxc** if installing using minidisks or

     – Use **rexxcsfs** if installing using SFS

5.1.13.8 DCSS Information

None.

5.1.13.9 Verification

There is no verification routine for the Japanese Feature of the REXX Compiler.

5.1.14 5695-014 REXX/370 LIBRARY V1R4.0

5.1.14.1 PUT/ESO Applied

The product is at service level ESO0505.

The PUT/ESO Service Level of the Licensed Program Product may be found in the *z/VM SDO Optional Licensed Product Service* section on the *z/VM SDO V6 webpage*.

This webpage may be found off the *VM System Delivery Offering (SDO)* website at url:

https://www.ibm.com/support/pages/zvm/sdo/

This section provides the PUT/ESO Service Level of the Licensed Program Products plus a list of PTFs in addition to the PTFs included in the PUT/ESO service that have been applied.

5.1.14.2 Service Excluded

None.

5.1.14.3 Pre-Requisite Service

None.

5.1.14.4 Co-Requisite Service

None.

5.1.14.5 If-Requisite Service

None.

5.1.14.6 Product Manuals

Form Number	Publication Title
SH19-8179	IBM Compiler and Library for REXX on zSeries Diagnosis Guide Version 1 Release 4
SH19-8160	IBM Compiler and Library for REXX on zSeries Users Guide and Reference Version 1 Release 4
GI19-0027	Program Directory for IBM Library for REXX on zSeries Release 4.0

5.1.14.7 Installation

With z/VM 6.2, a number of changes were introduced in the System Maintenance and Service environment. Prior to installing a Licensed Program Product in a Single System Image (SSI) environment (SSI-Ready or SSI-Enabled) Chapter 28. *Converting a z/VM System to a Single-Member z/VM SSI Cluster* and Chapter 25. *Setting Up z/VM Single System Image Clusters* in the *z/VM CP Planning and Administration* manual should be reviewed.

An overview of the changes introduced in z/VM 6.2 to support an SSI environment may be found in Chapter 2. *System Changes* in the *z/VM Migration Guide*.

Appendix F, “z/VM 6.2 Installation and Production Enablement Requirements” on page 219 contains an overview of several of the major changes introduced with z/VM 6.2 and their effect on the installation and Production enablement of Licensed Program Products. This appendix should be reviewed prior to the installation of this Licensed Program Product.

DASD Storage Requirements And User ID Definitions

System Directory entries) from the SDO Program Directory should be utilized when creating the IDs and minidisks required for the installation and Production enablement of this Licensed Program Product.

The information provided in the SDO Program Directory overrides the information provided in the Licensed Program Product's Program Directory and *PLANINFO* file. The information provided in the Program Directory and the *PLANINFO* file may not have been updated to reflect changes resulting from the IBM Service that has been applied to the Licensed Program Product or changes in the z/VM Environment.

Installation Guidelines

A standard Maintenance ID has been defined for this Licensed Program Product. However, the Product may be installed from any ID that has:

- READ access to the MAINT 5E5 disk
- WRITE access to the MAINT 51D
- WRITE access to the minidisks or SFS Directory that is to be utilized for the Licensed Program Product's code.

It is recommended that the Product be installed utilizing the standard Maintenance ID defined for this Licensed Program Product.

For information on the DASD storage requirements for the installation of this Licensed Program Product, refer to Appendix C, “DASD Requirements” on page 201.

Installing Licensed Products Utilizing Product Envelopes

When installing using the Product Envelope, use the ENV option with the VMFINS commands. The Product Envelope should be on a minidisk or SFS directory accessed as the 'C' disk.

VMFINS INSTALL INFO (NOMEMO ENV *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(PLAN NOMEMO ENV** *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(NOMEMO NOLINK ENV** *envelope_filename*

For installation instructions, please refer to Chapter 6 of the *Program Directory for* ***IBM Library for REXX on z/Series***.

5.1.14.8 DCSS Information

Please note if you are going to utilize the REXX Library segment, the segment range should be based on the segment layout as defined in the SDO Program Directory. See Appendix D, “Saved Segments” on page 211 for more information.

If the REXX Library segment is defined in the range 20000-3FFFF, the z/VM 6.1 SAMPI VM Guard Server, VSMGUARD, will fail initialization with:

```
DMSITP143T Data exception occurred at B2D00002 in system routine
DMSRTPRC; re-IPL CMS
```

in a call to routine DMSSIDM from the exec DMSWSSMI. The error is the result of the EAGRTSEG REXX Library Segment being overlaid by the SMAPI VM Guard Server Segment VSMDCSS.

When creating the REXX Library segment, be sure that your machine's virtual storage is sufficient. For the SDO recommended segment range, your machine's virtual storage size should be 2048M.

For additional information on the REXX Library segment, please refer to the section Define and Build the REXX Library Saved Segment of the *IBM Library for REXX on z/Series Program Directory*.

5.1.14.9 Verification

Verification could be started automatically by the installation exec or manually by entering:

v5695014

5.1.15 5695-014 REXX/370 LIBRARY KANJI V1R4.0

5.1.15.1 PUT/ESO Applied

The product is at service level ESO0404.

The PUT/ESO Service Level of the Licensed Program Product may be found in the *z/VM SDO Optional Licensed Product Service* section on the *z/VM SDO V6 webpage*.

This webpage may be found off the *VM System Delivery Offering (SDO)* website at url:

https://www.ibm.com/support/pages/zvm/sdo/

This section provides the PUT/ESO Service Level of the Licensed Program Products plus a list of PTFs in addition to the PTFs included in the PUT/ESO service that have been applied.

5.1.15.2 Service Excluded

None.

5.1.15.3 Pre-Requisite Service

None.

5.1.15.4 Co-Requisite Service

None.

5.1.15.5 If-Requisite Service

None.

5.1.15.6 Product Manuals

Form Number	Publication Title
GI19-0027	Program Directory for IBM Library for REXX on zSeries Release 4.0

5.1.15.7 Installation

With z/VM 6.2, a number of changes were introduced in the System Maintenance and Service environment. Prior to installing a Licensed Program Product in a Single System Image (SSI) environment (SSI-Ready or SSI-Enabled) Chapter 28. *Converting a z/VM System to a Single-Member z/VM SSI Cluster* and Chapter 25. *Setting Up z/VM Single System Image Clusters* in the *z/VM CP Planning and Administration* manual should be reviewed.

An overview of the changes introduced in z/VM 6.2 to support an SSI environment may be found in Chapter 2. *System Changes* in the *z/VM Migration Guide*.

Appendix F, “z/VM 6.2 Installation and Production Enablement Requirements” on page 219 contains an overview of several of the major changes introduced with z/VM 6.2 and their effect on the installation and Production enablement of Licensed Program Products. This appendix should be reviewed prior to the installation of this Licensed Program Product.

DASD Storage Requirements And User ID Definitions

The DASD storage requirements (e.g. minidisk definitions) and the User ID definitions (i.e. Virtual Machine VM System Directory entries) from the SDO Program Directory should be utilized when creating the IDs and minidisks required for the installation and Production enablement of this Licensed Program Product.

The information provided in the SDO Program Directory overrides the information provided in the Licensed Program Product's Program Directory and *PLANINFO* file. The information provided in the Program Directory and the *PLANINFO* file may not have been updated to reflect changes resulting from the IBM Service that has been applied to the Licensed Program Product or changes in the z/VM Environment.

Installation Guidelines

A standard Maintenance ID has been defined for this Licensed Program Product. However, the Product may be installed from any ID that has:

- READ access to the MAINT 5E5 disk
- WRITE access to the MAINT 51D
- WRITE access to the minidisks or SFS Directory that is to be utilized for the Licensed Program Product's code.

It is recommended that the Product be installed utilizing the standard Maintenance ID defined for this Licensed Program Product.

For information on the DASD storage requirements for the installation of this Licensed Program Product, refer to Appendix C, “DASD Requirements”.

Installing Licensed Products Utilizing Product Envelopes

When installing using the Product Envelope, use the ENV option with the VMFINS commands. The Product Envelope should be on a minidisk or SFS directory accessed as the 'C' disk.

VMFINS INSTALL INFO (NOMEMO ENV *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(PLAN NOMEMO ENV** *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(NOMEMO NOLINK ENV** *envelope_filename*

Important Note for Product Envelopes

When installing using the Product Envelope, use the ENV option with the VMFINS commands. The Product Envelope should be on a minidisk or SFS directory accessed as the 'C' disk.

VMFINS INSTALL INFO (NOMEMO ENV *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(PLAN NOMEMO ENV** *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(NOMEMO NOLINK ENV** *envelope_filename*

For installation instructions, please refer to Appendix B. 'Install NLS Japanese (Kanji) Feature with VMSES/E in the *Program Directory for* ***IBM LIBRARY for REXX on zSeries***.

- ***Note:***

  1. The Program Directory indicates that 'the Japanese (Kanji) feature is located on the REXX Library base media.' Since the time that this was written, IBM has changed the procedure utilized to create Product Media. Please check the documentation provided with your order to determine which media contains the Japanese feature.

2. Step 3 'Install the Japanese feature' is missing several of the steps required to load the REXX Library Japanese Feature control files to the 51D disk. The following steps must be executed to load the Japanese Feature:

   vmfins install info (nomemo

   vmfins install ppf 5695014J {rexxl|rexxlsfs}(plan nomemo

   vmfins install ppf 5695014J {rexxl|rexxlsfs}(nomemo nolink

   vmfins build ppf 5695014J {rexxl|rexxlsfs}(serviced nolink

   – Use **rexxl** if installing using minidisks or

   – Use **rexxlsfs** if installing using SFS

5.1.15.8 DCSS Information

None.

5.1.15.9 Verification

There is no verification routine for the Japanese Feature of the REXX Library.

5.1.16 5696-234 HLASM V1R6.0

5.1.16.1 PUT/ESO Applied

The product is at service level ESO1201.

The PUT/ESO Service Level of the Licensed Program Product may be found in the *z/VM SDO Optional Licensed Product Service* section on the *z/VM SDO V6 webpage*.

This webpage may be found off the *VM System Delivery Offering (SDO)* website at url:

https://www.ibm.com/support/pages/zvm/sdo/

This section provides the PUT/ESO Service Level of the Licensed Program Products plus a list of PTFs in addition to the PTFs included in the PUT/ESO service that have been applied.

5.1.16.2 Service Excluded

5.1.16.3 Pre-Requisite Service

None.

5.1.16.4 Co-Requisite Service

None.

5.1.16.5 If-Requisite Service

None.

5.1.16.6 Product Manuals

High Level Assembler manuals are located at: https://www.ibm.com/docs/en/hla-and-tf/1.6

Form Number	Publication Title
GC26-4944	High Level Assembler for z/OS & z/VM & z/VSE Licensed Program Specifications
SC26-3494	High Level Assembler for z/OS & z/VM & z/VSE Installation and Customization Guide Release 6 https://www.ibm.com/docs/en/hla-and-tf/1.6?topic=installation-customization-guide
SC26-4940	High Level Assembler for z/OS & z/VM & z/VSE Language Reference
SC26-4941	High Level Assembler for z/OS & z/VM & z/VSE Programmers Guide
GC26-4943	High Level Assembler for z/OS & z/VM & z/VSE General Information

5.1.16.7 Installation

With z/VM 6.2, a number of changes were introduced in the System Maintenance and Service environment. Prior to installing a Licensed Program Product in a Single System Image (SSI) environment (SSI-Ready or SSI-Enabled) Chapter 28. *Converting a z/VM System to a Single-Member z/VM SSI Cluster* and Chapter 25. *Setting Up z/VM Single System Image Clusters* in the *z/VM CP Planning and Administration* manual should be reviewed.

An overview of the changes introduced in z/VM 6.2 to support an SSI environment may be found in

Chapter 2. *System Changes* in the *z/VM Migration Guide*.

Appendix F, “z/VM 6.2 Installation and Production Enablement Requirements” on page 219 contains an overview of several of the major changes introduced with z/VM 6.2 and their effect on the installation and Production enablement of Licensed Program Products. This appendix should be reviewed prior to the installation of this Licensed Program Product.

Installing Licensed Products Utilizing Product Envelopes

When installing using the Product Envelope, use the ENV option with the VMFINS commands. The Product Envelope should be on a minidisk or SFS directory accessed as the 'C' disk.

VMFINS INSTALL INFO (NOMEMO ENV *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(PLAN NOMEMO ENV** *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(NOMEMO NOLINK ENV** *envelope_filename*

See the IBM HLASM Installation and Customization Guide for installation instructions.

IBM High Level Assembler V1R6.0 is VMSES/E enabled and must be installed using VMFINS. VMFINS is an installation aid supplied as part of VMSES/E to make installation of VM and LPs consistent.

The installation and tailoring of IBM High Level Assembler V1R6.0 is documented in the *IBM HLASM Installation and Customization Guide*. You **must** have a copy of this manual to properly install and customize the High Level Assembler.

The *IBM HLASM Installation and Customization Guide* can be found using the link in the PRODUCT MANUALS section above.

For more information on servicing IBM High Level Assembler using VMSES/E refer to *VMSES/E Introduction and Reference*.

5.1.16.8 DCSS Information

Refer to Part 2, Chapter 8, Step 5 "Define and Build High Level Assembler Saved Segment" of the *Installation and Customization Guide* for HLASM V1R6. for complete instructions. Please note that the segment range should be based on the segment layout as defined in the SDO Program Directory. See Appendix D, “Saved Segments” on page 211 for more information.

5.1.16.9 Verification

See the IBM HLASM Installation and Customization Guide for verification instructions.

When the command is issued to update the VMSES/E Build Status Table for IBM High Level Assembler, VMSES/E also executes the verfication EXEC, V5696234. The procedure for updating the build status table is outlined in Step 4: “Verify the Installation in a Test Environment” in Chapter 8. “Installing High Level Assembler on VM” of the *IBM HLASM Installation and Customization Guide*.

5.1.17 5696-234 HLASM TOOLKIT V1R6.0

5.1.17.1 PUT/ESO Applied

The product is at service level ESO1112.

The PUT/ESO Service Level of the Licensed Program Product may be found in the *z/VM SDO Optional Licensed Product Service* section on the *z/VM SDO V6 webpage*.

This webpage may be found off the *VM System Delivery Offering (SDO)* website at url:

https://www.ibm.com/support/pages/zvm/sdo/

This section provides the PUT/ESO Service Level of the Licensed Program Products plus a list of PTFs in addition to the PTFs included in the PUT/ESO service that have been applied.

5.1.17.2 Service Excluded

5.1.17.3 Pre-Requisite Service

None.

5.1.17.4 Co-Requisite Service

None.

5.1.17.5 If-Requisite Service

None.

5.1.17.6 Product Manuals

High Level Assembler Toolkit manuals are located at: https://www.ibm.com/docs/en/hla-and-tf/1.6

Form Number	Publication Title
GC26-4944	High Level Assembler for z/OS & z/VM & z/VSE Licensed Program Specifications
GC26-8711	High Level Assembler for z/OS & z/VM & z/VSE Toolkit Feature Installation and Customization Guide Release 6 https://publibz.boulder.ibm.com/epubs/pdf/asmtic22.pdf
GC26-8709	High Level Assembler for z/OS & z/VM & z/VSE Toolkit Feature Interactive Debug Facility User's Guide Release 6
GC26-8710	High Level Assembler for z/OS & z/VM & z/VSE Toolkit Feature User's Guide Release 6
GC26-8712	High Level Assembler for z/OS & z/VM & z/VSE IDF Reference Summary Release 6

5.1.17.7 Installation

With z/VM 6.2, a number of changes were introduced in the System Maintenance and Service environment. Prior to installing a Licensed Program Product in a Single System Image (SSI) environment (SSI-Ready or SSI-Enabled) Chapter 28. *Converting a z/VM System to a Single-Member z/VM SSI Cluster* and Chapter 25. *Setting Up z/VM Single System Image Clusters* in the *z/VM CP Planning and Administration* manual should be reviewed.

An overview of the changes introduced in z/VM 6.2 to support an SSI environment may be found in Chapter 2. *System Changes* in the *z/VM Migration Guide*.

Appendix F, “z/VM 6.2 Installation and Production Enablement Requirements” on page 219 contains an overview of several of the major changes introduced with z/VM 6.2 and their effect on the installation and Production enablement of Licensed Program Products. This appendix should be reviewed

DASD Storage Requirements And User ID Definitions

The DASD storage requirements (e.g. minidisk definitions) and the User ID definitions (i.e. Virtual Machine VM System Directory entries) from the SDO Program Directory should be utilized when creating the IDs and minidisks required for the installation and Production enablement of this Licensed Program Product.

The information provided in the SDO Program Directory overrides the information provided in the Licensed Program Product's Program Directory and *PLANINFO* file. The information provided in the Program Directory and the *PLANINFO* file may not have been updated to reflect changes resulting from the IBM Service that has been applied to the Licensed Program Product or changes in the z/VM Environment.

Installation Guidelines

A standard Maintenance ID has been defined for this Licensed Program Product. However, the Product may be installed from any ID that has:

- READ access to the MAINT 5E5 disk
- WRITE access to the MAINT 51D
- WRITE access to the minidisks or SFS Directory that is to be utilized for the Licensed Program Product's code.

It is recommended that the Product be installed utilizing the standard Maintenance ID defined for this Licensed Program Product.

For information on the DASD storage requirements for the installation of this Licensed Program Product, refer to Appendix C, “DASD Requirements”.

Installing Licensed Products Utilizing Product Envelopes

When installing using the Product Envelope, use the ENV option with the VMFINS commands. The Product Envelope should be on a minidisk or SFS directory accessed as the 'C' disk.

VMFINS INSTALL INFO (NOMEMO ENV *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(PLAN NOMEMO ENV** *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(NOMEMO NOLINK ENV** *envelope_filename*

See the High Level Assembler Toolkit Feature Installation and Customization Guide for installation instructions.

IBM High Level Assembler Toolkit Feature is VMSES/E enabled and must be installed using VMFINS.

Important Installation Note

The 'High Level Assembler for z/OS & z/VM & z/VSE Toolkit Feature Installation and Customization Guide' Release 6 (GC26-8711-08) indicates that the name of the HLASM Toolkit PPF file is 'P696234K'. This is incorrect, the PPF file name is '5696234K'.

The installation and tailoring of IBM High Level Assembler Toolkit Feature is documented in the *High Level Assembler Toolkit Feature Installation and Customization Guide*. You **must** have a copy of this manual to properly install and customize the High Level Assembler Toolkit Feature.

The *IBM High Level Assembler Toolkit Feature Installation and Customization Guide* can be found on the following web page:

Installation and Customization Guide (SC26-3494)

https://publibz.boulder.ibm.com/epubs/pdf/asmi1021.pdf

Additional information on the installation, customization and servicing of HLASM Toolkit may be found in the following chapters of the *IBM Toolkit Installation and Customization Guide*:

5.1.17.8 DCSS Information

The HLASM ToolKit Feature does not have any segments.

5.1.17.9 Verification

See the IBM High Level Assembler Toolkit Feature Installation and Customization Guide for verification instructions.

Chapter 5 step 4 describes the verification test. You need to run T5696234 exec and reproduce the output shown in the *IBM High Level Assembler Toolkit Installation and Customization Guide*.

NOTE: If HLASM has been loaded into a shared segment and with no links to the HLASM mini disks, the invoking of HLASM returns RC=20. The NOSEG option has been removed from the IVP exec T5696234 invocation of HLASM. If HLASM has been loaded into a shared segment, then HLASM will be found and assembly of IVP sample program will work.

5.1.22 5697-J05 ARCHIVE MANAGER FOR Z/VM

For installation, service and product requirements please refer to the *Archive Manager for z/VM Program Directory (*GI10-8661).

5.1.23 5697-J06 BACKUP AND RESTORE MANAGER FOR Z/VM

For installation, service and product requirements please refer to the *Backup and Restore Manager for z/VM Program Directory* (GI10-8662).

5.1.24 5697-J08 TAPE MANAGER FOR Z/VM

For installation, service and product requirements, please refer to the *Tape Manager for z/VM Program Directory (GI10-8660).*

5.1.25 5697-J10 OPERATIONS MANAGER FOR Z/VM

For installation, service and product requirements please refer to the *Operations Manager for z/VM Program Directory (GI10-8664)*.

5.1.26 5698-A36 IBM TIVOLI OMEGAMON XE ON ZVM AND LINUX V4R3.0

For installation, service and product requirements please refer to the *IBM TIVOLI OMEGAMON XE on z/VM and Linux Program Directory (GI11-4135).*

5.1.27 5741-A09 DFSMS/VM V2R2.1

DFSMS/VM is no longer shipped or supported with the z/VM SDO in v7.5 and later.

Removable Media Services of DFSMS has been integrated into CMS with z/VM 7.5 and later.

6.0 Semi-VMSES/E Licensed Product Technical Notes

This chapter provides technical considerations for the Semi-VMSES/E Licensed Products. After you have followed the general instructions for Semi-VMSES/E products, from 4.0, “Semi-VMSES/E Licensed Product Installation Instructions”, locate the specific Licensed Product in this chapter to complete the installation. Products are ordered in this section by product number.

6.1 Semi-VMSES/E Licensed Product Specific Considerations

6.1.1 5654-260 EREP V3R5.0

The Environmental Record Editing and Printing Program (EREP) for VM is no longer packaged with z/VM starting with z/VM 7.4.

6.1.2 5684-043 ISPF V3R2.0

6.1.2.1 PUT/ESO Applied

The PUT/ESO Service Level of the Licensed Program Product may be found in the *z/VM SDO Optional Licensed Product Service* section on the *z/VM SDO webpage*.

This webpage may be found off the *VM System Delivery Offering (SDO)* website at url:

https://www.ibm.com/support/pages/zvm/sdo/

This section provides the PUT/ESO Service Level of the Licensed Program Products plus a list of PTFs in addition to the PTFs included in the PUT/ESO service that have been applied.

6.1.2.2 Service Excluded

None.

6.1.2.3 Pre-Requisite Service

None.

6.1.2.4 Co-Requisite Service

None.

6.1.2.5 If-Requisite Service

None.

6.1.2.6 Product Manuals

Form Number	Publication Title
GC34-4268	ISPF LICENSED PROGRAM SPECIFICATION
SC34-4273	ISPF DIALOG MANAGEMENT GUIDE AND REFERENCE
SC34-4265	ISPF DIALOG MANAGEMENT EXAMPLES
SC34-4267	ISPF DIALOG TAG LANGUAGE GUIDE AND REFERENCE
SC34-4297	ISPF AND ISPF/PDF REFERENCE SUMMARY
GC34-4261	ISPF AND ISPF/PDF GENERAL INFORMATION
SC34-4271	ISPF AND ISPF/PDF PLANNING AND CUSTOMIZING

Form Number	Publication Title
SC34-4270	ISPF AND ISPF/PDF PRIMER
SC34-4282	ISPF AND MASTER INDEX
GI11-1448	ISPF V3R2 PROGRAM DIRECTORY
GI10-8150	ISPF/PDF V3R2 PROGRAM DIRECTORY

6.1.2.7 Installation

Installing ISPF for use with RACF and/or zSecure Manager z/VM, use the following link instead of the product's program directory. https://publibfp.dhe.ibm.com/epubs/pdf/i1335541.pdf

With z/VM 6.2, a number of changes were introduced in the System Maintenance and Service environment. Prior to installing a Licensed Program Product in an Single System Image (SSI) environment (SSI-Ready or SSI-Enabled) Chapter 28. *Converting a z/VM System to a Single-Member z/VM SSI Cluster* and Chapter 25. *Setting Up z/VM Single System Image Clusters* in the *z/VM CP Planning and Administration* manual should be reviewed.

An overview of the changes introduced in z/VM 6.2 to support an SSI environment may be found in Chapter 2. *System Changes* in the *z/VM Migration Guide*.

Appendix F, "z/VM 6.2 Installation and Production Enablement Requirements" contains an overview of several of the major changes introduced with z/VM 6.2 and their effect on the installation and Production enablement of Licensed Program Products. This appendix should be reviewed prior to the installation of this Licensed Program Product.

DASD Storage Requirements And User ID Definitions

The DASD storage requirements (e.g. minidisk definitions) and the User ID definitions (i.e. Virtual Machine VM System Directory entries) from the SDO Program Directory should be utilized when creating the IDs and minidisks required for the installation and Production enablement of this Licensed Program Product.

The information provided in the SDO Program Directory overrides the information provided in the Licensed Program Product's Program Directory and *PLANINFO* file. The information provided in the Program Directory and the *PLANINFO* file may not have been updated to reflect changes resulting from the IBM Service that has been applied to the Licensed Program Product or changes in the z/VM Environment.

Installation Guidelines

This Licensed Program Product may be installed from any ID that has:

- READ access to the MAINT 5E5 disk
- WRITE access to the MAINT 51D and 31D disks
- WRITE access to the minidisks or SFS Directory that is to be utilized for the Licensed Program Product's code.

This Licensed Program Product may be installed to the Product's Production disks or to the Product's Test disks.

- For Production minidisk information refer to Appendix C, “DASD Requirements”.
- For Test minidisk information refer to Figure 2.

It is recommended that the Product be installed utilizing the z/VM 6.2 standard system maintenance ID, MAINT620, and the Test disks.

Prior to installation of this Licensed Program Product, ensure that all minidisks required by this Licensed Program Product are **not linked R/W** by any ID including the ID where this Licensed Program Product is being installed from.

Installing Licensed Products Utilizing Product Envelopes

When installing using the Product Envelope, use the ENV option with the VMFINS commands. The Product Envelope should be on a minidisk or SFS directory accessed as the 'C' disk.

VMFINS INSTALL INFO (NOMEMO ENV *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(PLAN NOMEMO ENV** *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(NOMEMO ENV** *envelope_filename*

To install this product onto a test disk issue:
vmfins install ppf $5684043 ispdm (nomemo

To install this product onto the production disk issue:
vmfins install ppf $5684043 ispdmprd (nomemo

To install this product into the SFS test directory issue:
vmfins install ppf $5684043 ispdmsfs (nomemo

To install this product into the SFS production directory issue:
vmfins install ppf $5684043 ispdmsfsprd (nomemo

If you have installed the product onto a test disk, use **VMFCOPY** to copy the files to your production disks once you have completed your testing.

The ISPF/DM segment is required for the execution of ISPF/PDF. Be carefule, not to delete the Production version of the ISPF/DM segment during out the production segment during testing.

Warning

The *Program Directory for ISPF/DM V3* provides sample VM Directory entries for the ISPVM virtual service machine. These entries are for VM/SP 6 and VM/XA and should not be utilized for z/VM Systems.

The ISPFVM virtual service machine must execute using the System/370 Architecture to support the ISPF/DM application. The System/370 Architecture is not supported under z/VM. To allow for the execution of applications that require the System/370 Architecture the 370 Accommodation Facility has been included as a integrated part of z/VM. The 370 Accommodation Facility is enabled by issuing the command 'CP SET 370ACCOM ON' prior to invoking the application.

The command 'CP SET 370ACCOM ON' has already been added to the PROFILE EXEC that is delivered on the ISPVM 191 disk. If you utilize this exec, no additional action is required. However, if you utilize another exec to start the ISPF/DM application on the ISPVM virtual service machine, the exec must be modified to include the 'CP SET 370ACCOM ON' command prior to invoking the ISPF/DM application.

6.1.2.8 DCSS Information

The following commands may be utilized to create the ISPF/DM segment. The commands may be issued from any ID that with the following:

1. Maximum virtual storage size of 1024M (1G)
2. CP Privilege Class 'E' (Required to create the segment)
3. Write access to the ISPF/DM Code disk (Required to load the segment)
   - For the ISPF/DM Product disks, this is the ISPVM 192.
   - For the ISPF/DM Test disks, this is the PRETEST 459.

The segment range utilized for the ISPF/DM segment should be based on the segment layout as defined in the SDO Program Directory.

- Define the virtual storage at 1024M (1G) and ensure that storage is cleared.

  def stor 1024M

  system clear

- Link and access the ISPF/DM code disk. The disk should be linked in write mode.
  – For the ISPF/DM Production disk:

  link ISPVM 192 002 MW

acc 002 b

– For the ISPF/DM Test disk:

link PRETEST 459 002 MW

acc 002 b

- Define the ISPF/DM segment space

  defseg *segmentname startaddr - endaddr* **SR**

  Where:

  segment name - The name of the ISPF/DM segment.

  startaddr - The starting address of the segment range

  endaddr - The ending address of the segment range

  Note:

  1. ISPDCSS is the default name for the ISPF/DM segment.
  2. The segment range specified in the SDO Program Directory is based on only English NLS been loaded. If other Language NLS is to be included in the segment, the segment range (size) must be adjusted accordingly.

  For the space required to load additional National Languages into the ISPF/DM segment, please refer to the table *ISPF DCSS Storage Requirements for National Language Files* in Section 2.4 *Step 2 - Define the ISPF DCSS Area* in the *Program Directory for ISPF/DM V3*.

- Execute the ISPSAVE exec to save the ISPF/DM segment.

  ISPSAVE *segmentname*

  Where:

  segment name - The name of the ISPF/DM segment.

  Note:

  The ISPSAVE exec will output a series of questions regarding the size of the ISPF/DM segment and the National Languages that are to be included in the segment.

For additional information regarding the creation of the ISPF/DM segment, please see Appendix D, “Saved Segments”.

6.1.2.9 Verification

1. Make sure the ISPVM Virtual Machine is running disconnected:

query ispvm

This should return:

```
ISPVM    - DSC
```

2. Link and access the ISPVM 192 disk containing the ISPF/DM application code:

link ispvm 192 192 rr

access 192 b

3. Execute the ISPSTART EXEC
4. The ISPF exec has executed successfully if the master application panel is displayed.

6.1.3 5684-123 ISPF/PDF V3R2.0

6.1.3.1 PUT/ESO Applied

The product is at service level PUT9405.

The PUT/ESO Service Level of the Licensed Program Product may be found in the *z/VM SDO Optional Licensed Product Service* section on the *z/VM SDO webpage*.

This webpage may be found off the *VM System Delivery Offering (SDO)* website at url:

https://www.ibm.com/support/pages/zvm/sdo/

This section provides the PUT/ESO Service Level of the Licensed Program Products plus a list of PTFs in addition to the PTFs included in the PUT/ESO service that have been applied.

6.1.3.2 Service Excluded

None.

6.1.3.3 Pre-Requisite Service

Product Number	PTF	APAR	Product Description
5684-043	UM18982	VM45458	ISPF APAR
5684-043	UM16038	VM43115	ISPF APAR
5684-043	UM17561	VM44707	ISPF APAR
5748-XX9	UN04159	PL77128	SCRIPT APAR: execute SCRIPT/BOOKMASTER in ISPF/PDF

6.1.3.4 Co-Requisite Service

Product Number	PTF	APAR	Product Description
5684-123	UM18168	VM46996	ISPF/PDF NLS - Swiss German
5684-123	UM18424	VM47921	ISPF/PDF NLS - Swiss German
5684-123	UM19493	VM47561	ISPF/PDF NLS - Swiss German
5684-123	UM19509	VM46996	ISPF/PDF NLS - Swiss German
5684-123	UM19509	VM47574	ISPF/PDF NLS - Swiss German
5684-123	UM19510	VM47675	ISPF/PDF NLS - Swiss German

5684-123	UM19515	VM47676	ISPF/PDF NLS - Swiss German
5684-123	UM21878	VM47921	ISPF/PDF NLS - Swiss German
5684-123	UM21878	VM51918	ISPF/PDF NLS - Swiss German
5684-123	UM22584	VM53357	ISPF/PDF NLS - Swiss German
5684-123	UM22769	VM53002	ISPF/PDF NLS - Swiss German
5684-123	UM23024	VM53030	ISPF/PDF NLS - Swiss German
5684-123	UM23197	VM53876	ISPF/PDF NLS - Swiss German
5684-123	UM23669	VM53876	ISPF/PDF NLS - Swiss German
5684-123	UM23669	VM54245	ISPF/PDF NLS - Swiss German
5684-123	UM24823	VM56318	ISPF/PDF NLS - Swiss German
5684-123	UM25230	VM54518	ISPF/PDF NLS - Swiss German
5684-123	UM25939	VM57709	ISPF/PDF NLS - Swiss German
5684-123	UM26370	VM58322	ISPF/PDF NLS - Swiss German
5684-123	UM27019	VM59075	ISPF/PDF NLS - Swiss German
5684-123	UM27102	VM59240	ISPF/PDF NLS - Swiss German
5684-123	UM27655	VM60128	ISPF/PDF NLS - Swiss German
5684-123	UM28251	VM60513	ISPF/PDF NLS - Swiss German
5684-123	UM28303	VM60791	ISPF/PDF NLS - Swiss German
5684-123	UM29205	VM62060	ISPF/PDF NLS - Swiss German
5684-123	UM31095	VM63433	ISPF/PDF NLS - Swiss German
5684-123	UM18169	VM46996	ISPF/PDF NLS - Japanese
5684-123	UM18425	VM47921	ISPF/PDF NLS - Japanese
5684-123	UM19494	VM47561	ISPF/PDF NLS - Japanese
5684-123	UM19508	VM46996	ISPF/PDF NLS - Japanese
5684-123	UM19508	VM47574	ISPF/PDF NLS - Japanese

Product Number	PTF	APAR	Product Description
5684-123	UM19511	VM47675	ISPF/PDF NLS - Japanese
5684-123	UM19516	VM47676	ISPF/PDF NLS - Japanese
5684-123	UM21879	VM47921	ISPF/PDF NLS - Japanese
5684-123	UM21879	VM51918	ISPF/PDF NLS - Japanese
5684-123	UM22585	VM53357	ISPF/PDF NLS - Japanese
5684-123	UM22770	VM53002	ISPF/PDF NLS - Japanese
5684-123	UM23025	VM53030	ISPF/PDF NLS - Japanese
5684-123	UM23198	VM53876	ISPF/PDF NLS - Japanese

5684-123	UM23670	VM53876	ISPF/PDF NLS - Japanese
5684-123	UM23670	VM54245	ISPF/PDF NLS - Japanese
5684-123	UM24824	VM56318	ISPF/PDF NLS - Japanese
5684-123	UM25231	VM54518	ISPF/PDF NLS - Japanese
5684-123	UM25940	VM57709	ISPF/PDF NLS - Japanese
5684-123	UM26371	VM58322	ISPF/PDF NLS - Japanese
5684-123	UM27020	VM59075	ISPF/PDF NLS - Japanese
5684-123	UM27103	VM59240	ISPF/PDF NLS - Japanese
5684-123	UM27656	VM60128	ISPF/PDF NLS - Japanese
5684-123	UM28252	VM60513	ISPF/PDF NLS - Japanese
5684-123	UM28304	VM60791	ISPF/PDF NLS - Japanese
5684-123	UM29206	VM62060	ISPF/PDF NLS - Japanese
5684-123	UM31096	VM63433	ISPF/PDF NLS - Japanese
5684-123	UM18170	VM46996	ISPF/PDF NLS - German
5684-123	UM18426	VM47921	ISPF/PDF NLS - German
5684-123	UM19495	VM47561	ISPF/PDF NLS - German
5684-123	UM19503	VM46996	ISPF/PDF NLS - German
5684-123	UM19503	VM47574	ISPF/PDF NLS - German
5684-123	UM19512	VM47675	ISPF/PDF NLS - German
5684-123	UM19517	VM47676	ISPF/PDF NLS - German
5684-123	UM21880	VM47921	ISPF/PDF NLS - German
5684-123	UM21880	VM51918	ISPF/PDF NLS - German
5684-123	UM22586	VM53357	ISPF/PDF NLS - German
5684-123	UM22771	VM53002	ISPF/PDF NLS - German

Product Number	PTF	APAR	Product Description
5684-123	UM23026	VM53030	ISPF/PDF NLS - German
5684-123	UM23199	VM53876	ISPF/PDF NLS - German
5684-123	UM23671	VM53876	ISPF/PDF NLS - German
5684-123	UM23671	VM54245	ISPF/PDF NLS - German
5684-123	UM24825	VM56318	ISPF/PDF NLS - German
5684-123	UM25232	VM54518	ISPF/PDF NLS - German
5684-123	UM25941	VM57709	ISPF/PDF NLS - German
5684-123	UM26372	VM58322	ISPF/PDF NLS - German
5684-123	UM27021	VM59075	ISPF/PDF NLS - German

5684-123	UM27104	VM59240	ISPF/PDF NLS - German
5684-123	UM27657	VM60128	ISPF/PDF NLS - German
5684-123	UM28253	VM60513	ISPF/PDF NLS - German
5684-123	UM28305	VM60791	ISPF/PDF NLS - German
5684-123	UM29207	VM62060	ISPF/PDF NLS - German
5684-123	UM31097	VM63433	ISPF/PDF NLS - German
5684-123	UM18216	VM46996	ISPF/PDF NLS - Traditional Chinese
5684-123	UM18427	VM47921	ISPF/PDF NLS - Traditional Chinese
5684-123	UM19496	VM47561	ISPF/PDF NLS - Traditional Chinese
5684-123	UM19504	VM46996	ISPF/PDF NLS - Traditional Chinese
5684-123	UM19504	VM47574	ISPF/PDF NLS - Traditional Chinese
5684-123	UM19513	VM47675	ISPF/PDF NLS - Traditional Chinese
5684-123	UM19518	VM47676	ISPF/PDF NLS - Traditional Chinese
5684-123	UM21881	VM47921	ISPF/PDF NLS - Traditional Chinese
5684-123	UM21881	VM51918	ISPF/PDF NLS - Traditional Chinese
5684-123	UM22587	VM53357	ISPF/PDF NLS - Traditional Chinese
5684-123	UM22772	VM53002	ISPF/PDF NLS - Traditional Chinese
5684-123	UM23027	VM53030	ISPF/PDF NLS - Traditional Chinese
5684-123	UM23200	VM53876	ISPF/PDF NLS - Traditional Chinese
5684-123	UM23672	VM53876	ISPF/PDF NLS - Traditional Chinese
5684-123	UM23672	VM54245	ISPF/PDF NLS - Traditional Chinese
5684-123	UM24826	VM56318	ISPF/PDF NLS - Traditional Chinese
5684-123	UM25235	VM54518	ISPF/PDF NLS - Traditional Chinese

Product Number	PTF	APAR	Product Description
5684-123	UM25942	VM57709	ISPF/PDF NLS - Traditional Chinese
5684-123	UM26373	VM58322	ISPF/PDF NLS - Traditional Chinese
5684-123	UM27022	VM59075	ISPF/PDF NLS - Traditional Chinese
5684-123	UM27105	VM59240	ISPF/PDF NLS - Traditional Chinese
5684-123	UM27658	VM60128	ISPF/PDF NLS - Traditional Chinese
5684-123	UM28254	VM60513	ISPF/PDF NLS - Traditional Chinese
5684-123	UM28306	VM60791	ISPF/PDF NLS - Traditional Chinese
5684-123	UM29208	VM62060	ISPF/PDF NLS - Traditional Chinese
5684-123	UM31098	VM63433	ISPF/PDF NLS - Traditional Chinese

6.1.3.5 If-Requisite Service

None.

6.1.3.6 Product Manuals

Form Number	Publication Title
GC34-4261	ISPF AND ISPF/PDF GENERAL INFORMATION
SC34-4270	ISPF AND ISPF/PDF PRIMER
SC34-4295	ISPF AND ISPF/PDF MASTER INDEX
GC34-4303	LICENSED PROGRAM SPECIFICATION
SC34-4305	ISPF AND ISPF/PDF PLANNING AND CUSTOMIZING
GC34-4306	ISPF/PDF GUIDE
GC34-4307	ISPF/PDF SERVICES
GC34-4308	ISPF/PDF LIBRARY MANAGEMENT FACILITY
SC34-4309	ISPF AND ISPF/PDF REFERENCE SUMMARY
SC34-4296	Software Configuration and Library Manager (SCLM) Guide and Reference
GI11-1448	ISPF V3R2 PROGRAM DIRECTORY
GI10-8150	ISPF/PDF V3R2 PROGRAM DIRECTORY

6.1.3.7 Installation

With z/VM 6.2, a number of changes were introduced in the System Maintenance and Service environment. Prior to installing a Licensed Program Product in a Single System Image (SSI) environment (SSI-Ready or SSI-Enabled) Chapter 28. *Converting a z/VM System to a Single-Member z/VM SSI Cluster* and Chapter 25. *Setting Up z/VM Single System Image Clusters* in the *z/VM CP Planning and Administration* manual should be reviewed.

An overview of the changes introduced in z/VM 6.2 to support an SSI environment may be found in Chapter 2. *System Changes* in the *z/VM Migration Guide*.

Appendix F, “z/VM 6.2 Installation and Production Enablement Requirements” contains an overview of several of the major changes introduced with z/VM 6.2 and their effect on the installation and Production enablement of Licensed Program Products. This appendix should be reviewed prior to the installation of this Licensed Program Product.

DASD Storage Requirements And User ID Definitions

The DASD storage requirements (e.g. minidisk definitions) and the User ID definitions (i.e. Virtual Machine VM System Directory entries) from the SDO Program Directory should be utilized when creating the IDs and minidisks required for the installation and Production enablement of this Licensed Program Product.

Installation Guidelines

This Licensed Program Product may be installed from any ID that has:

- READ access to the MAINT 5E5 disk
- WRITE access to the MAINT 51D and 31D disks
- WRITE access to the minidisks or SFS Directory that is to be utilized for the Licensed Program Product's code.

This Licensed Program Product may be installed to the Product's Production disks or to the Product's Test disks.

- For Production minidisk information refer to Appendix C, “DASD Requirements”.
- For Test minidisk information refer to Figure 2.

It is recommended that the Product be installed utilizing the z/VM 6.2 standard system maintenance ID, MAINT620, and the Test disks.

Prior to installation of this Licensed Program Product, ensure that all minidisks required by this Licensed Program Product are **not linked R/W** by any ID including the ID where this Licensed Program Product is being installed from.

Installing Licensed Products Utilizing Product Envelopes

When installing using the Product Envelope, use the ENV option with the VMFINS commands. The Product Envelope should be on a minidisk or SFS directory accessed as the 'C' disk.

VMFINS INSTALL INFO (NOMEMO ENV *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(PLAN NOMEMO ENV** *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(NOMEMO ENV** *envelope_filename*

Other Requisite Licensed Products

VS PASCAL Library V1R2.0 5668-717

PRODUCT INSTALLATION REQUIREMENTS

1. **Mount the Product Tape as 181**
2. **Load Product Files from Tape**
   - To install this product onto a test disk issue:

     vmfins install ppf $5684123 ispdf (nomemo

   - To install this product onto the production disk issue:

     vmfins install ppf $5684123 ispdfprd (nomemo

   - To install this product into the SFS test directory issue:

vmfins install ppf $5684123 ispdfsfs (nomemo

- To install this product into the SFS production directory issue:

vmfins install ppf $5684123 ispdfsfsprd (nomemo

3. **Detach Product Tape**

4. **Load NLS Other Than English**

Notes:

a. The English ISPF/PDF - NLS feature in MACLIB format is included with this version of ISPF/PDF.

b. The ISPF/PDF - NLS feature should be installed only if a language other than English is required.

c. The SDO ISPF/PDF NLS feature has all the service listed as co-req service already applied. (i.e. If the SDO ISPF/PDF NLS feature is utilized to install a language, no additional service has to be applied to the language.)

If the SDO ISPF/PDF NLS feature ***IS NOT*** utilized to install a language, all the service listed as co-req service for the NLS must be applied. Failure to do so may result in incorrect results and/or the abend of ISPF/PDF.

5. **Customize ISPF/PDF**

Please refer to the *ISPF/PDF Program Directory* for tailoring and customization.

Notes:

a. If the Remote Spooling Communications (RSCS) Subsystem and the PDF Spool Utility (Option 3.6) are to be utilized the ISRXPARM ASSEMBLE file must be created. Failure to do so will result in the ISPF/PDF modules being built incorrectly by the ISRINSXR exec. Please refer to the section *Preprocessing for Transmit/Receive* in the *ISPF/PDF Program Directory* for information on the ISRXPARM ASSEMBLE file.

b. The ISPF/PDF modules are built utilizing the following command:

ISRINSXR fm

```
where:
fm   - The file mode of the disk containing the
ISPF/PDF code. The disk must be accessed
as R/W.
```

Notes:

1) The disk containing the Product 5684-043 ISPF/DM must be accessed.

2) The modules created by the ISRINSXR EXEC are not included on the SDO tape. As a result, when the ISRINSXR EXEC attempts to erase the modules prior to creating them it is unable to do so and the following message is output:

DMSERS002E FILE module_name MODULE B1 NOT FOUND

This messages may be ignored.

3) Please refer to the section *'ISRINSXR EXEC'* in the *ISPF/PDF Program Directory* for information on the use of the 'ISRINSXR EXEC'.

6. Build the ISPF/PDF Segment

Please refer to the section *DCSS Information* for information on building the ISPF/PDF segments.

7. Move ISPF/PDF Into Production

If you have installed the product onto a test disk, use **VMFCOPY** to copy the files to your production disks once you have completed your testing.

PRODUCT SERVICE REQUIREMENTS

- After the service has been loaded from the corrective service tape and the 'RENAME EXEC' has been executed, renamed files must be moved to the disk that contains your PDF Product maintenance.
- If your corrective service contains any of the following files the 'ISRINSXR EXEC' will have to be run to rebuild the appropriate modules. Please refer to the section *'ISRINSXR EXEC'* in the the *ISPF/PDF Program Directory* for information on the use of the 'ISRINSXR EXEC'.

```
FLMCMD TEXT        ISRFXDAT TEXT        ISRLE* TEXT
ISRLMFI TEXT       ISRLMFZ TEXT         ISRS* TEXT
ISRV*   TEXT       ISRW*    TEXT        ISRX* TEXT
```

- IF your corrective service contains any 'ISR* TEXT' files other than those mentioned above, the 'ISRSAVE EXEC' will have to be run to rebuild your ISPF/PDF shared segment. Please refer to the section *SAVE THE ISPF/PDF AND SCLM DCSS* in the *ISPF/PDF Program Directory* for information on resaving the ISPF/PDF shared segments.
- If your corrective service contains any 'FLM* TEXT' files other than those listed above, the 'FLMSAVE EXEC' will have to be run to rebuild your SCLM shared segment. Please refer to the section *SAVE THE ISPF/PDF AND SCLM DCSSS* in the the *ISPF/PDF Program Directory* for information on resaving the ISPF/PDF shared segments.
- Any panels, messages, skeletons of tables should be put into the appropriate MACLIB using the CMS 'MACLIB REP' command.

6.1.3.8 DCSS Information

The following commands may be utilized to create the ISPF/PDF segment. The commands may be issued from any ID that with the following:

1. Maximum virtual storage size of 1024M (1G)
2. CP Privilege Class 'E' (Required to create the segment)
3. Write access to the ISPF/DM and ISPF/PDF Code disks (Required to load the segment)
   - For the ISPF/DM and ISPF/PDF Product disk, this is the ISPVM 192.
   - For the ISPF/DM and ISPF/PDF Test disks, this is the PRETEST 459 and PRETEST 457 respectively.

The segment range utilized for the ISPF/PDF segment should be based on the segment layout as defined in the SDO Program Directory.

- Define the virtual storage at 1024M (1G) and ensure that storage is cleared.

  def stor 1024M

  system clear

- Link and access the ISPF/DM ISPF/PDF code disk(s). The disk(s) should be linked in write mode.
  – For the ISPF/DM and ISPF/PDF Production disk:

    link ISPVM 192 002 MW

    acc 002 b

  – For the ISPF/DM and ISPF/PDF Test disk:

    link PRETEST 459 002 MW

    link PRETEST 457 003 MW

    acc 003 b

    acc 002 c

- Define the ISPF/PDF segment space

  defseg *segmentname startaddr - endaddr* **SR**

  Where:

  segment name - The name of the ISPF/PDF segment.

  startaddr - The starting address of the segment range

  endaddr - The ending address of the segment range

  Note:

  1. ISRDCSS is the default name for the ISPF/PDF segment.

  2. The segment range specified in the SDO Program Directory is large enough to contain ISPF/PDF, LMF and two National Languages. If more that two languages are to be included in the ISPF/PDF segment, seven (7) must be added to the segment range for each additional segment.

     For example, if the segment range for the ISPF/PDF segment range specified in the SDO Program Directory is 30000-300FF and one (1) additional National Language is included in the segment, than a segment range of 30000-30106 must be specified.

     If three additional languages are to be included in the segment (i.e. All five National Languages provided with ISPF/PDF are to be included in the segment), a segment range of 30000-30115 must be specified.

- Execute the ISRSAVE exec to save the ISPF/PDF segment.

  ISRSAVE *segmentname*

  Where:

  segment name - The name of the ISPF/PDF segment.

  Note:

  The ISRSAVE exec will output a series of questions regarding the size of the ISPF/PDF segment and the National Languages that are to be included in the segment.

For additional information regarding the creation of the ISPF/PDF segment, please see Appendix D, “Saved Segments”.

The SCLM feature of ISPF/PDF is not required for the execution of ISPF/PDF, is not Y2K Ready and is no

longer supported by IBM.

The SCLM feature however has been included with this version of ISPF/PDF for consistency with previous versions of ISPF/PDF on a 'as is' basis.

For more information on the SCLM feature of ISPF/PDF refer to the *ISPF/PDF Software Configuration and Library Manager(SCLM) Guide and Reference*.

For information on the creation of the segment for the SCLM feature, please refer to the section *DCSS Information* and to the *ISPF/PDF Program Directory*.

For the recommended segment range for the SCLM segment, please see Appendix D, “Saved Segments”.

6.1.3.9 Verification

1. Make sure the ISPVM Virtual Machine is running disconnected **query ispvm**

   This should return:

   ```
   ISPVM    - DSC
   ```

2. Use the **PDF EXEC**
3. The exec ran successfully if the primary option panel is displayed.

6.1.4 5684-123 ISPF/PDF NLS V3R2.0

6.1.4.1 PUT/ESO Applied

The product is at service level PUT9405.

The PUT/ESO Service Level of the Licensed Program Product may be found in the *z/VM SDO Optional Licensed Product Service* section on the *z/VM SDO webpage*.

This webpage may be found off the *VM System Delivery Offering (SDO)* website at url:

https://www.ibm.com/support/pages/zvm/sdo/

This section provides the PUT/ESO Service Level of the Licensed Program Products plus a list of PTFs in addition to the PTFs included in the PUT/ESO service that have been applied.

6.1.4.2 Service Excluded

None.

6.1.4.3 Pre-Requisite Service

None.

6.1.4.4 Co-Requisite Service

Product Number	PTF	APAR	Product Description
5684-123	UM28301	VM60791	ISPF/PDF BASE
5684-123	UM28249	VM60513	ISPF/PDF BASE
5684-123	UM27100	VM59240	ISPF/PDF BASE
5684-123	UM27017	VM59075	ISPF/PDF BASE
5684-123	UM26368	VM58322	ISPF/PDF BASE
5684-123	UM25937	VM57709	ISPF/PDF BASE
5684-123	UM25228	VM54518	ISPF/PDF BASE
5684-123	UM23667	VM54245	ISPF/PDF BASE
5684-123	UM23195	VM53876	ISPF/PDF BASE
5684-123	UM23022	VM53030	ISPF/PDF BASE

Product Number	PTF	APAR	Product Description
5684-123	UM22767	VM53002	ISPF/PDF BASE
5684-123	UM31093	VM63433	ISPF/PDF BASE

6.1.4.5 If-Requisite Service

None.

6.1.4.6 Product Manuals

None.

6.1.4.7 Installation

With z/VM 6.2, a number of changes were introduced in the System Maintenance and Service environment. Prior to installing a Licensed Program Product in a Single System Image (SSI) environment (SSI-Ready or SSI-Enabled) Chapter 28. *Converting a z/VM System to a Single-Member z/VM SSI Cluster* and Chapter 25. *Setting Up z/VM Single System Image Clusters* in the *z/VM CP Planning and Administration* manual should be reviewed.

An overview of the changes introduced in z/VM 6.2 to support an SSI environment may be found in Chapter 2. *System Changes* in the *z/VM Migration Guide*.

Appendix F, “z/VM 6.2 Installation and Production Enablement Requirements” contains an overview of several of the major changes introduced with z/VM 6.2 and their effect on the installation and Production enablement of Licensed Program Products. This appendix should be reviewed prior to the installation of this Licensed Program Product.

DASD Storage Requirements And User ID Definition

The DASD storage requirements (e.g. minidisk definitions) and the User ID definitions (i.e. Virtual Machine VM System Directory entries) from the SDO Program Directory should be utilized when creating the IDs and minidisks required for the installation and Production enablement of this Licensed Program Product.

The information provided in the SDO Program Directory overrides the information provided in the Licensed Program Product's Program Directory and *PLANINFO* file. The information provided in the Program Directory and the *PLANINFO* file may not have been updated to reflect changes resulting from the IBM Service that has been applied to the Licensed Program Product or changes in the z/VM Environment.

Installation Guidelines

This Licensed Program Product may be installed from any ID that has:

- READ access to the MAINT 5E5 disk
- WRITE access to the MAINT 51D and 31D disks
- WRITE access to the minidisks or SFS Directory that is to be utilized for the Licensed Program Product's code.

This Licensed Program Product may be installed to the Product's Production disks or to the Product's Test disks.

- For Production minidisk information refer to Appendix C, “DASD Requirements”.
- For Test minidisk information refer to Figure 2.

It is recommended that the Product be installed utilizing the z/VM 6.2 standard system maintenance ID, MAINT620, and the Test disks.

Prior to installation of this Licensed Program Product, ensure that all minidisks required by this Licensed Program Product are **not linked R/W** by any ID including the ID where this Licensed Program Product is being installed from.

Installing Licensed Products Utilizing Product Envelopes

When installing using the Product Envelope, use the ENV option with the VMFINS commands. The Product Envelope should be on a minidisk or SFS directory accessed as the 'C' disk.

VMFINS INSTALL INFO (NOMEMO ENV *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(PLAN NOMEMO ENV** *envelope_filename*

VMFINS INSTALL PPF *ppfname compid* **(NOMEMO ENV** *envelope_filename*

SDO ISPF/PDF NLS Tape Content

The SDO ISPF/PDF NLS Tape contains the following languages in MACLIB format:

- German
- Swiss German
- Traditional Chinese
- Japanese
- English (American English)

All service specified as required in the ISPF/PDF Base feature section of the SDO Program Directory has been included. (i.e. If this feature is utilized to install a language no additional service has to be applied to the language.)

SDO ISPF/PDF NLS Disk Requirements

The disk size specified in the 'DASD Requirements' Appendix of the SDO Program Directory for ISPF/PDF NLS feature is the amount of DASD required to install one (1) NLS language. To estimate the total DASD required for the ISPF/PDF NLS feature multiple the disk size specified in the Appendix by the number of NLS languages to be installed.

For example, if you are going to install German and Swiss German and the 'DASD Requirements' Appendix states that 1000 4K blocks are required, then the DASD required for German and Swiss German is 2000 4k blocks (i.e. 2 x 1000).

NLS INSTALLATION REQUIREMENTS

1. **Mount the SDO ISPF/PDF NLS Tape as 181**
2. **Load Language Files from Tape**
   - To install a language onto a test disk issue:

     vmfins install ppf $568412n inLLL **(nomemo**
   - To install a language onto the production disk issue:

vmfins install ppf $568412n inLLL**prd (nomemo**

- To install a language into the SFS test directory

  issue: **vmfins install ppf $568412n in**LLL**sfs**

  (nomemo

- To install a language into the SFS production directory issue:

  vmfins install ppf $568412n inLLL**sfsprd (nomemo**

  Notes:

  a. 'LLL' in the above command must be replaced with the three character language code for the language that is to be loaded:

  DEU - German
  DES - Swiss German
  CHT - Traditional Chinese
  JPN - Japanese
  ENG - English

  b. The above command must be repeated for each language to be loaded.

  c. English NLS in MACLIB format is included with the SDO ISPF/PDF Base feature. If the Base feature of ISPF/PDF was installed from the SDO, the English NLS does not have to be installed from the ISPF/PDF NLS tape.

  d. All service listed in the SDO Program Directory under the ISPF/PDF Base Feature as co-req service for the NLS feature has already been applied. (i.e. If this feature is utilized to install a language, no additional service has to be applied to the language.)

  e. The SDO ISPF/PDF Base feature has all the service listed as co-req service already applied. (i.e. If the SDO ISPF/PDF Base feature was utilized to install the Base feature of ISPF/PDF no additional service has to be applied to the Base feature of ISPF/PDF.)

  If the SDO ISPF/PDF Base feature ***WAS NOT*** utilized to install the Base feature of ISPF/PDF, all the service listed as co-req service for ISPF/PDF Base Feature must be applied. Failure to do so may result in incorrect results or the abend of ISPF/PDF.

Warning: Ensure that all minidisks required by this Licensed Product are not linked R/W by any user ID including the user ID where this Licensed Product is being installed from. For production minidisk information refer to Appendix C, “DASD Requirements” or for test minidisk information refer to Figure 2.

3. **Detach ISPF/PDF NLS Tape**

PRODUCT SERVICE REQUIREMENTS

The ISPF/PDF NLS feature is serviced as part of ISPF/PDF. Please refer to the ISPF/PDF Base feature section of the SDO Program Directory for information on servicing ISPF/PDF.

6.1.4.8 DCSS Information

Please refer to the ISPF/PDF Base feature section of the SDO Program Directory for information on the generation of the ISPF/PDF segment and the inclusion of a language within the segment.

6.1.4.9 Verification

Please refer to the ISPF/PDF Base feature section of the SDO Program Directory for information on ISPF/PDF verification.

Appendix A. z/VM SDO IBM Licensed Program Products

The figure below is a list of the z/VM SDO Licensed Products. The list is in alphabetical order by "Product Abbrev" and can be used as a cross reference between Licensed Product name and Licensed Product number.

Note!

A **Semi-VMSES/E** product was previously called **'Pre-Install'** format.

These terms were misleading, so the names have been changed to better describe the install format of the Licensed Product. The term 'Pre-Install' may still appear on the Packing List or the Media Desciption report, the Configurator, or Marketing Literature, but should be interpreted to mean Semi-VMSES/E.

A.1 z/VM SDO Licensed Products Table

Figure 3 (Page 1 of 2). Licensed Products Abbreviations

Product Abbrev.	Product Number	Description	Install Format
Archive Manager for z/VM	5697-J05	Archive Manager for z/VM	VMSES/E
ACF/VTAM ESA	5654-010	ACF/VTAM for Use with VM/ESA	VMSES/E
APPC APPL SUITE	5654-010	APPC Applications Suite	VMSES/E
Backup and Restore Manager for z/VM	5697-J06	Backup and Restore Manager for z/VM	VMSES/E
DB2 Client for VM	5697-F42	DB2 Client for VM	VMSES/E
DB2 Client NLS VM Help Files	5697-F42	DB2 Client NLS VM Help Files	Semi-VMSES/E
DB2 Control Center	5697-F42	DB2 Control Center	Semi-VMSES/E
DB2 Data Propagator	5697-F42	DB2 Data Propagator	VMSES/E
DB2 Data Restore	5697-F42	DB2 Data Restore	Semi-VMSES/E
DB2 NLS VM Help Files	5697-F42	DB2 NLS VM Help Files	Semi-VMSES/E
DB2 QMF	5697-F42	Query Management Facility English Base VM	VMSES/E
DB2 RXSQL	5697-F42	DB2 RXSQL	Semi-VMSES/E
DB2 Server for VM	5697-F42	DB2 Server for VM	VMSES/E

Figure 3 (Page 2 of 2). Licensed Products Abbreviations

Product Abbrev.	Product Number	Description	Install Format
DITTO	5654-029	Data Interfile Transfer, Testing, and Operations Utility for VM	VMSES/E
GDDM-IMD	5668-801	Graphical Data Display Manager/Interactive Map Definition	VMSES/E
GDDM-IVU	5668-723	Graphical Data Display Manager/Image Viewing Facility	VMSES/E
GDDM-PGF	5668-812	Graphical Data Display Manager/Presentation Graphics Facility	VMSES/E
GDDM/VM	5684-168	Graphical Data Display Manager/VM	VMSES/E
HLASM	5696-234	IBM High Level Assembler/VM	VMSES/E
HLASM Toolkit	5696-234	IBM High Level Assembler/VM	VMSES/E
IBM Debug Tool for z/VM	5654-A23	IBM Debug Tool for z/VM	VMSES/E
IBM Director	5648-DRZ	IBM Director for Linux on System z	DVD
IBM Tivoli zSecure Manager for RACF	5655-T13	IBM Tivoli zSecure Manager for RACF z/VM	VMSES/E
IBM Tivoli Omegamon XE on z/VM and Linux	5698-A36	IBM Tivoli Omegamon XE on z/VM and Linux	VMSES/E
ICKDSF	5684-042	Device Support Facilities	VMSES/E
ISPF/PDF	5684-123	ISPF/Program Development Facility	Semi-VMSES/E
ISPF/PDF NLS	5684-123	ISPF/Program Development Facility NLS	Semi-VMSES/E
ISPF	5684-043	Interactive System Productivity Facility/Dialog Manager	Semi-VMSES/E
Operations Manager for z/VM	5697-J10	Operations Manager for z/VM	VMSES/E
REXX/370 Compiler	5695-013	IBM Compiler for SAA REXX/370	VMSES/E
REXX/370 Compiler Kanji	5695-013	IBM Compiler for SAA REXX/370	VMSES/E
REXX/370 Library	5695-014	IBM Library for SAA REXX/370	VMSES/E
REXX/370 Library Kanji	5695-014	IBM Library for SAA REXX/370	VMSES/E
[illegible]	[illegible]	[illegible]	[illegible]
XL C/C++ 130 for z/VM	5654-A22	XL C/C++ for z/VM	VMSES/E

Appendix B. IBM Licensed Program Products Interdependencies

B.1 Requisite IBM Licensed Program Product Dependencies

Figure 4 lists the pre-, co-, and if-requisites for all the z/VM SDO Licensed Products that are part of the z/VM SDO package. A requisite Licensed Product is one that is required by another Licensed Product. The extent of the requirement determines which requisite category the Licensed Product belongs in.

When re-installing a Licensed Product Y, then any Licensed Product X that has Y as a pre- or co-requisite should also be re-installed. This is recommended for every re-install.

Note: z/VM SDO ensures that the Pre-requisites and Co-requisites of the Licensed Products are also included in the z/VM SDO package, unless otherwise noted.

B.1.1 Pre-Requisites (Install-Time Full Requisite)

The absence of a pre-requisite (Y) prevents the successful installation of Licensed Product X. A pre-requisite (Y) must be installed prior to the installation of Licensed Product X; otherwise, Licensed Product X will not be installed successfully.

B.1.2 Co-Requisite (Run-time Full Requisite)

The absence of a co-requisite (Y) results in the full loss of the function of any Licensed Product X. This loss of function occurs at the time that Licensed Product X is used. Although Licensed Product X installed successfully, Licensed Product X will not function. A co-requisite (Y) may be installed after Licensed Product X without affecting the installation or the operation of Licensed Product X.

B.1.3 If-Requisites (Install-time and Run-time Part Requisites)

Note: Only Licensed Products supported by z/VM SDO are listed as If-requisites.

- If-requisite Needed for Install-time

  The absence of an if-requisite (Y) for install results in the partial loss of function for any Licensed Product X, during the installation of Licensed Product X. Usually this loss occurs in the interface between Licensed Product X and the requisite (Y). An if-requisite for install must be installed prior to the installation of Licensed Product X; otherwise, Licensed Product X will lose some of its function.

- If-requisite Needed for Run-time

  The absence of an if-requisite (Y) for run-time results in the partial loss of function for any Licensed Product X. This loss of function occurs at the time that Licensed Product X is used. Although Licensed Product X was installed successfully, some of the functions of Licensed Product X will not be available when Licensed Product X is used. An if-requisite for run-time may be installed after Licensed Product X without affecting the installation or operation of Licensed Product X.

B.2 z/VM SDO Licensed Product Requisites Table

Figure 4 (Page 1 of 2). Product Pre-, Co-, and If-Requisites List

Product Number	Product Abbrev.	Pre-Requisites	If-Requisite (for Install)	Co-Requisite	If-Requisite (for run-time)
feature of 5654-A22	XL C/C++	HLASM			
5654-A23	Debug Tool for z/VM				
5654-010	ACF/VTAM ESA				
feature of 5654-010	APPC APPL SUITE			ACF/VTAM ESA	
5654-029	DITTO				
5655-T13	zSecure Manager	ISPF/DM		ISPF/DM	ISPF/PDF
5668-723	GDDM-IVU	GDDM/VM			GDDM/VM
5668-801	GDDM-IMD	GDDM/VM			GDDM/VM
5668-812	GDDM-PGF	GDDM/VM			GDDM/VM
5684-042	ICKDSF				
5684-043	ISPF/DM				
5684-123	ISPF/PDF	ISPF/DM		ISPF/PDF NLS	
feature of 5684-123	ISPF/PDF NLS	ISPF/PDF			
5684-168	GDDM/VM				
feature of 5695-013	REXX/370 Comp. Kanji	REXX/370 Compiler			
5695-013	REXX/370 Compiler			REXX/370 Library	
feature of 5695-014	REXX/370 Lib. Kanji	REXX/370 Library			
5695-014	REXX/370 Library			REXX/370 Compiler	
5696-234	HLASM				
feature of 5696-234	HLASM Toolkit	HLASM			
5697-F42	DB2 Server for VM				
feature of 5697-F42	DB2 Data Propagator	DB2 Server for VM			
feature of 5697-F42	DB2 RXSQL	DB2 Server for VM			
feature of 5697-F42	DB2 Data Restore	DB2 Server for VM			
feature of 5697-F42	DB2 Control Center	DB2 Server for VM			
feature of 5697-F42	DB2 QMF	DB2 Server for VM	GDDM/VM	GDDM/VM	ISPF/PDF GDDM-PGF

Figure 4 (Page 2 of 2). Product Pre-, Co-, and If-Requisites List

Product Number	Product Abbrev.	Pre-Requisites	If-Requisite (for Install)	Co-Requisite	If-Requisite (for run-time)
feature of 5697-F42	DB2 NLS VM Help			DB2 Server for VM	
feature of 5697-F42	DB2 Client for VM				

feature of 5697-F42	DB2 Client NLS Help	DB2 Client for VM
5697-J05	Archive Manager	REXX/370 Library
5697-J06	Backup and Restore	REXX/370 Library
5697-J08	Tape Manager	REXX/370 Library
5697-J10	Operations Manager	
5698-A36	Omegamon XE	

Appendix C. DASD Requirements

This appendix provides the specific sizes for the minidisks associated with each of the Licensed Products in z/VM SDO.

To obtain an estimated total amount of DASD required to install the z/VM System Delivery and selected Licensed Products please see your IBM Marketing Representative.

To estimate the size a minidisk should be in order to install the Licensed Products you have selected, total the number of blocks for each minidisk across all Licensed Products.

For example, the following Licensed Products are going to be installed:

ISPF Service Machine Work Disk	ISPVM 191	150 4K blocks
ISPF Service Machine Code Disk	ISPVM 192	6700 4K blocks
ISPVM Document Disk	MAINT 319	150 4K blocks
	TOTAL	7000 4K blocks

VMFCNVT can be used to obtain the number of cylinders required for your DASD type. Refer to *z/VM VMSES/E Introduction and Reference* for more information on using VMFCNVT.

For updates, refer to 2.3.1, “Preventive Service Planning” for PSP information.

C.1 z/VM SDO Licensed Product DASD Requirements

Figure 5 (Page 1 of 8). Product DASD Requirements

Product Number	Product Abbrev.	Minidisks	Size -CMS 4K blocks unless otherwise stated
feature of 5654-A22	XL C/C++	29E 5654A22C 2A2 5654A22C 2D2 5654A22C 19E MAINT 51D MAINT 191 5654A22C 2A6 5654A22C 2B2 5654A22C 2C2 5654A22C	81000 900 81000 81000 2700 22500 900 45000 900

Note 1: The amount of DASD used by the feature has been included in the DASD allocation shown for a previous feature.

Figure 5 (Page 2 of 8). Product DASD Requirements

Product Number	Product Abbrev.	Minidisks	Size -CMS 4K blocks unless otherwise stated

5654-A23	Debug Tool for z/VM	19E MAINT	3600
		51D MAINT	360
		191 5654A23A	900
		29E 5654A23A	3600
		2A2 5654A23A	360
		2A6 5654A23A	360
		2B2 5654A23A	5400
		2C2 5654A23A	360
		2D2 5654A23A	2700
5654-010	ACF/VTAM ESA	51D MAINT	35
		191 5654010A	3000
		29A 5654010A	6000
		2A2 5654010A	1500
		2A6 5654010A	1500
		2B2 5654010A	11250
		2C2 5654010A	1500
		2C4 5654010A	300
		2D2 5654010A	15000
		401 5654010A	1200
		402 5654010A	1200
		493 5654010A	900
		49A 5654010A	6000
feature of 5654-010	APPC APPL SUITE	191 ANAME	1500
		191 A3270	1500
		51D MAINT	150
		191 5654025	1500
		29A 5654025	4500
		2A2 5654025	300
		2A6 5654025	300
		2B2 5654025	4500
		2C2 5654025	1500
		2D2 5654025	1500
		49A 5654025	4500
5654-029	DITTO	51D MAINT	150
		191 5654029D	2250
		2A2 5654029D	300
		2A6 5654029D	300
		2B2 5654029D	3000
		2C2 5654029D	300
		2D2 5654029D	2250
		400 5654029D	2340
		401 5654029D	2250
Note 1: The amount of DASD used by the feature has been included in the DASD allocation shown for a previous feature.			

Figure 5 (Page 3 of 8). Product DASD Requirements

Product Number	Product Abbrev.	Minidisks	Size
			-CMS 4K blocks unless Otherwise stated
5655-T13	zSecure Manager	51D MAINT	180
		0191 5655T13B	5400
		02A2 5655T13B	1800
		02A6 5655T13B	1800

		02B2 5655T13B	19800
		02C2 5655T13B	360
		02D2 5655T13B	7200
		100 5655T13B	19800
		200 5655T13B	19800
5668-723	GDDM-IVU	19E MAINT	150
		51D MAINT	180
		191 P68416B	180
		29E P68416B	300
		2A2 P68416B	180
		2A6 P68416B	180
		2B2 P68416B	300
		2C2 P68416B	180
		2D2 P68416B	180
5668-801	GDDM-IMD	19E MAINT	750
		51D MAINT	180
		191 P68416B	180
		29E P68416B	750
		2A2 P68416B	180
		2A6 P68416B	180
		2B2 P68416B	750
		2C2 P68416B	180
		2D2 P68416B	180
5668-812	GDDM-PGF	19E MAINT	1800
		51D MAINT	180
		191 P68416B	180
		29E P68416B	1800
		2A2 P68416B	180
		2A6 P68416B	180
		2B2 P68416B	1980
		2C2 P68416B	180
		2D2 P68416B	1260
Note 1: The amount of DASD used by the feature has been included in the DASD allocation shown for a previous feature.			

Figure 5 (Page 4 of 8). Product DASD Requirements

Product Number	Product Abbrev.	Minidisks	Size -CMS 4K blocks unless otherwise stated
5684-042	ICKDSF	19D MAINT	55 1K
		19E MAINT	775
		51D MAINT	35
		191 5684042J	1620
		29D 5684042J	360
		29E 5684042J	2700
		2A2 5684042J	360
		2A6 5684042J	360
		2B2 5684042J	1440
		2C2 5684042J	360
		2D2 5684042J	3600
5684-043	ISPF/DM	191 ISPVM	150
		192 ISPVM	6700
		319 MAINT	150

5684-123	ISPF/PDF	192 ISPVM	6000
		319 MAINT	120
feature of 5684-123	ISPF/PDF NLS	192 ISPVM	2700
		192 ISPVM	2700
		192 ISPVM	2700
		192 ISPVM	2700
		192 ISPVM	2700
5684-168	GDDM/VM	19E MAINT	15000
		51D MAINT	450
		191 P68416B	15000
		29E P68416B	15000
		2A2 P68416B	450
		2A6 P68416B	450
		2B2 P68416B	13600
		2C2 P68416B	450
		2D2 P68416B	9000
5695-013	REXX/370 Compiler	19E MAINT	450
		51D MAINT	150
		101 P695013H	1200
		191 P695013H	1800
		201 P695013H	1200
		2A2 P695013H	300
		2A6 P695013H	300
		2B2 P695013H	1050
		2C2 P695013H	300
		2D2 P695013H	1500

Note 1: The amount of DASD used by the feature has been included in the DASD allocation shown for a previous feature.

Figure 5 (Page 5 of 8). Product DASD Requirements

Product Number	**Product Abbrev.**	**Minidisks**	**Size** **-CMS 4K blocks unless Otherwise stated**
feature of 5695-013	REXX/370 Comp. Kanji	51D MAINT	150
		191 P695013H	150
		2A2 P695013H	150
		2A6 P695013H	150
		2D2 P695013H	150
		501 P695013H	300
5695-014	REXX/370 Library	19E MAINT	600
		51D MAINT	150
		100 P695014H	600
		191 P695014H	1500
		200 P695014H	600
		2A2 P695014H	150
		2A6 P695014H	150
		2B2 P695014H	300
		2C2 P695014H	150
		2D2 P695014H	4500
feature of 5695-014	REXX/370 Lib. Kanji	51D MAINT	150
		191 P695014H	150
		2A2 P695014H	150
		2A6 P695014H	150
		2D2 P695014H	150

		501 P695014H	150
5696-234	HLASM	51D MAINT 0191 P696234J 29E P696234J 2A2 P696234J 2A6 P696234J 2B2 P696234J 2C2 P696234J 2D2 P696234J	180 900 1080 180 180 1800 720 18000
feature of 5696-234	HLASM Toolkit	51D MAINT 0191 P696234K 29E P696234K 2A2 P696234K 2A6 P696234K 2B2 P696234K 2C2 P696234K 2D2 P696234K	180 900 9000 180 180 9000 720 9000
Note 1: The amount of DASD used by the feature has been included in the DASD allocation shown for a previous feature.			

Figure 5 (Page 6 of 8). Product DASD Requirements

Product Number	**Product Abbrev.**	**Minidisks**	**Size** **-CMS 4K blocks unless Otherwise stated**
5697-F42	DB2 Server for VM	51D MAINT 191 SQLMACH 193 SQLMACH 195 SQLMACH 200 SQLMACH 201 SQLMACH 202 SQLMACH 191 SQLUSER 191 5697F75A 193 5697F75A 195 5697F75A 2A2 5697F75A 2A6 5697F75A 2B2 5697F75A 2C2 5697F75A 2D2 5697F75A	300 1980 12600 5940 5220 1K 1260 11700 900 5400 12600 5940 2340 2340 11160 1620 9900
feature of 5697-F42	DB2 Data Propagator	191 CAPTMACH 300 CAPTMACH 51D MAINT 191 5697F74B 200 5697F74B 2A2 5697F74B 2A6 5697F74B 2B2 5697F74B 2C2 5697F74B 2D2 5697F74B	180 2160 300 720 2160 180 180 2160 180 2700
feature of 5697-F42	DB2 RXSQL	198 SQLMACH 199 SQLMACH 191 SQLUSER	540 1080 900
feature of 5697-F42	DB2 Data Restore	191 SQLDRR	1620

feature of 5697-F42	DB2 Control Center	191 MSTRSRVO 195 MSTRSRVO	2700 3600
feature of 5697-F42	DB2 QMF	51D MAINT 191 P697F4BA 2A2 P697F4BA 2A6 P697F4BA 2B2 P697F4BA 2C2 P697F4BA 2D2 P697F4BA 400 P697F4BA 401 P697F4BA 500 P697F4BA 501 P697F4BA	450 1620 360 360 4500 360 1620 3240 3240 3060 3060
Note 1: The amount of DASD used by the feature has been included in the DASD allocation shown for a previous feature.			

Figure 5 (Page 7 of 8). Product DASD Requirements

Product Number	**Product Abbrev.**	**Minidisks**	**Size** **-CMS 4K blocks unless Otherwise stated**
feature of 5697-F42	DB2 NLS VM Help	401 MAINT 402 MAINT 404 MAINT 405 MAINT 193 SQLMACH 193 5697F75A	300 300 300 300 1800 9000
feature of 5697-F42	DB2 Client for VM	51D MAINT 191 SQLCLNT 193 SQLCLNT 195 SQLCLNT 191 SQLUSER 191 5697F75C 193 5697F75C 195 5697F75C 2A2 5697F75C 2A6 5697F75C 2B2 5697F75C 2C2 5697F75C 2D2 5697F75C	300 1980 12600 5940 900 5400 12600 5940 2340 2340 11160 1620 9900
feature of 5697-F42	DB2 Client NLS Help	401 MAINT 402 MAINT 404 MAINT 405 MAINT 193 SQLCLNT 193 5697F75C	300 300 300 300 1800 9000
5697-J05	Archive Manager	Refer to Program Directory	Publication GI10-8661

Figure 5 (Page 8 of 8). Product DASD Requirements

Product Number	Product Abbrev.	Minidisks	Size -CMS 4K blocks unless otherwise stated
5697-J06	Backup and Restore	Refer to Program Directory	Publication GI10-8662
5697-J08	Tape Manager	Refer to Program Directory	Publication GI10-8660
5697-J10	Operations Manager	Refer to Program Directory	Publication GI10-8664
Note 1: The amount of DASD used by the feature has been included in the DASD allocation shown for a previous feature.			

Appendix D. Saved Segments

This appendix provides the recommended size, location and name for the saved segments associated with the z/VM Licensed Program Products.

For information about planning, administering and generating saved segments see the *z/VM Saved Segments Planning and Administration* manual.

It is recommended that the Section *Planning Considerations* in Chapter 1. *Planning and Defining CP Saved Segments* in the *z/VM Saved Segments Planning and Administration* manual be reviewed.

D.1 z/VM SDO Program Product Segment Layout

The following table provides the recommended size, location and name for the saved segments associated with the z/VM SDO Licensed Program Products.

The segment layout specified in the table is the same layout that is utilized by IBM internally. The layout is designed to both allow for expansion and to place as many saved segments associated with the Program Products above the 16MB memory line as possible.

Segment Overlap

Saved segments for Licensed Program Products and z/VM Components/Features may overlap provided that the Products and/or z/VM Component/Features are not normally utilized at the same time.

The **VMFSGMAP** or **q nss map** command may be utilized to see which saved segments overlap.

Shared Segment Size Requirements

The shared segment size specified in the SDO Program Directory should be utilized when creating the shared segment for the z/VM SDO Licensed Program Products.

The information provided in the SDO Program Directory overrides the information provided in the Licensed Program Product's Program Directory and *PLANINFO* file. The information provided in the Program Directory and the *PLANINFO* file may not have been updated to reflect changes resulting from the IBM Service that has been applied to the Licensed Program Product or changes in the z/VM Environment.

Figure 6 (Page 1 of 2). Product Segments for z/VM SDO SDO Products

Product Number	Product Abbrev.	Segment Name	Location	Type	Space Name
5654-A22	C/C++ Compiler	CCNSEG	3D000-41BFF	SR	
5654-A23	Debug Tool	SEQBSEG SEQASEG	900-9FF 2800-2EFF	SR SR	
5654-010	ACF/VTAM ESA	VTAM	D00-DFF	SR	
5668-723	GDDM-IVU	ADMIV000	3C900-3C9FF	SR	
5668-801	GDDM-IMD	ADMIM000	3BF00-3BFFF	SR	
5668-812	GDDM-PGF	ADMPG000	3B700-3BDFF	SR	
5684-043	ISPF	ISPDCSS	30000-300FF	SR	
5684-123	ISPF/PDF	ISRDCSS FLMDCSS	30200-302FF 36000-36172	SR SR	
5684-168	GDDM/REXX GDDM/VM	ERXRX000 ADMXSS00	36700-367FF 3C400-3C8FF	SR SR	
5695-014	REXX/370 Library	EAGRTSEG	40000-400FF	SR	
5696-234	HLASM	ASMAPSEG	3CF00-3CFFF	SR	

Figure 6 (Page 2 of 2). Product Segments for z/VM SDO SDO Products

Product Number	Product Abbrev.	Segment Name	Location	Type	Space Name
5697-F42	DB2 for VM	SQLISQL	B00-B5F	SR	
		SQLRMGR	3A000-3A23F	SR	
		SQLSQLDS	900-A7F	SR	
		SQLXRDS	35000-353DF	SR	
		LANGS001	A00-A4F	SR	
		LANGS002	A00-A4F	SR	
		LANGS003	A00-A4F	SR	
		LANGS004	A00-A4F	SR	
		LANGD001	A00-A4F	SR	
	DB2 Client Edition	SQLISQL	B00-B5F	SR	
		SQLRMGR	3A000-3A23F	SR	
		LANGS001	A00-A4F	SR	
		LANGS002	A00-A4F	SR	
		LANGS003	A00-A4F	SR	
		LANGS004	A00-A4F	SR	
		LANGD001	A00-A4F	SR	
5697-F42	QMF	QMF720E	36400-366FF	SR	

Semi-VMSES/E Formatted Program Products

Saved segments for z/VM SDO Licensed Program Products that are in Semi-VMSES/E format must be defined and created following the instructions in the Licensed Product Technical Notes Section provided for each Product.

Semi-VMSES/E formatted Licensed Program Products cannot be created utilizing VMSES/E.

After the *z/VM SDO Enabling Aid* has been downloaded to the z/VM System, the instructions found in Chapter 3. *Using VMSES/E to Define, Build and Manage Saved Segments* of the *z/VM Saved Segments Planning and Administration* manual under the Sub-Section *Adding Saved Segment Definitions for VMSES/E-Format Product* may be utilized, with the following modifications, to update the *SEGDATA* file:

- In Step 4, use **sdozvm62** as the *prodid*

  A *compname*, which represents a product component, is not required.
- Skip Step 5
- In Step 7, type in the keyword **deleted** in the DEFPARMS field for any saved segments for an Licensed Program Product that you haven't installed and are not planning to install. For z/VM 6.3 or higher the HELPSEG segment was deleted please make sure to delete it.

After you have completed Step 11, the VMFBLD Command (z/VM 5.4 or z/VM 6.2) or the PUT2PROD Exec (z/VM 6.2) may be utilized to build or delete the saved segments.

Segment Requirements

- Segment Overlap

  Saved segments for Licensed Program Products and z/VM Components/Features may overlap provided that the Products and/or z/VM Component/Features are not normally utilized at the same time.

  The **VMFSGMAP** or **q nss map** command may be utilized to see which saved segments overlap.
- Segments Above the 16MB Memory Line

  If any part of the segment range specified on the *DEFPARMS* line in the segment definition is above the 16MB Memory Line (i.e. Page 1000 or greater), then the *GT_16MB* must be set to *YES*

If all of the segment range specified on the *DEFPARMS* line in the segment definition is below the 16MB Memory Line (i.e. Page 0FFF or less), then the *GT_16MB* must be set to *NO*

Appendix E. Licensed Products Tapemaps

This appendix provides tapemaps of stacked VMSES/E and Semi-VMSES/E.

E.1 Stacked Tape for VMSES/E and Semi-VMSES/E Licensed Products

The first tape file of the Licensed Product tape is created by merging the first tape files of all the products on the tape. The second tape file of the Licensed Product tape is created by merging the second tape files of all the products on the tape. Together, the first and second files form the Table of Contents (TOC)

of the Licensed Product tape.

The first file on Tape File 1 will be a file with a filename of 'INS' and filetype of the 'yymm' (where 'yy' is the year and 'mm' is the month in which the tape was manufactured). This file combines the 'INS' files for all the products on the tape. The next file will be the $$TAPE$$ VMSES file, which combines all the copyright files for all the products on the tape.

Tape File 3 marks the beginning of the first product on the tape and contains only information on the first product. It can be identified by the 'prodid 0vrmnn1' and 'prodid $INSyymm' file. The remainder of the tape files for this product will follow in sequence.

The next product will follow, beginning with its Tape File 3, the 'prodid 0vrmnn1' and 'prodid $INSyymm' files.

Figure 7 (Page 1 of 2). VMSES/E and Semi-VMSES/E IBM Licensed Program Product Tape Format

Tape File 1 (Combines all Tape Files 1 for all Products on Tape)

```
INS      0203
$$TAPE$$ VMSES
prodid1 $PPF
prodid1 PPF
prodid1 PRODPART
prodid1 MEMO
   .
   .
   .
prodidn $PPF
prodidn PPF
prodidn PRODPART
prodidn MEMO
```

Figure 7 (Page 2 of 2). VMSES/E and Semi-VMSES/E IBM Licensed Program Product Tape Format

Tape File 2 (Combines all Tape Files 2 for all Products on Tape)

```
prodid1 0vrmnn1
prodid1 $PPF
prodid1 PPF
prodid1 PRODPART
prodid1 MEMO
                    .
                    .
                    .
prodidn 0vrmnn1
prodidn $PPF
prodidn PPF
prodidn PRODPART
prodidn MEMO
```

Tape File 3 (Tape File 3 of first product only)

```
prodid1 0vrmnn1
```

prodid1 $INSyynn

Tape File 4 (Tape File 4 of first product only)
$prodid1 MEMO

Tape File 5 (Begins remaining tape files of first product)
$prodid1 Files

.
.
.

Tape File n (Tape File 3 of next product)
prodidn 0vrmnn1
prodidn $INSyynn

Tape File n + 1 (Tape File 4 of next product)
prodidn MEMO

Tape File n + 2 (Begins remaining tape files for this product)
$prodidn Files

.
.
.

Files in Tape File1 to Tape File 4

- prodid1, prodidn - Indicates the PPF file name
- INS 'yymm' - Content directory which lists tape files for all products on this tape. 'yymm' indicates the year and month this tape was manufactured.
- $$TAPE$$ VMSES - Contains copyright statements for all products on the tape.

- prodid MEMO - The z/VM SDO memo for prodid
- prodid $PPF - Source Product Parameter File (installation customization file) for prodid
- prodid PPF - Compiled Product Parameter File prodidN
- prodid PRODPART - Contains control information for prodidN such as resource requirements
- prodid 0vrmnn1 - the Licensed Product identifier file for prodidN The characters in the file type are defined as follows

0	Constant denoting this as part of the Licensed Product tape.
v	The version number of the Licensed Product
r	The release number of the Licensed Product
m	The modification level number of the Licensed Product
nn	The number of product files + 2 product headers + 1 tape header
1	The “1” indicates it is in VMSES/E format.

Appendix F. z/VM 6.2 and higher Installation and Production Enablement Requirements

This appendix provides an overview of the major changes introduced in z/VM 6.2 to support a z/VM Single System Image (SSI) and the effect of the changes on the installation and Production enablement of Licensed Program Products.

F.1 SSI-Enabled (Multisystem SSI Cluster) User ID Definitions

z/VM 6.2 introduced a new VM Directory ID definition statement, *IDENTITY* and changed how a System utilizes the *USER* VM Directory ID definition statement:

USER: An ID defined by the USER statement can only be logged on (i.e. actively logged on or in a disconnected state) a single Member in the Cluster at any given time. That is the ID *CANNOT* be concurrently logged onto more than one (1) Member in the Cluster.

IDENTITY: An ID defined by the IDENTITY statement can be logged onto one (1) or more Members in the Cluster at any given point in time. That is the ID can be concurrently logged onto more than one (1) Member in the Cluster.

For those Licensed Program Products that have a unique installation User ID associated with them, it is recommended that the installation ID be defined utilizing the *USER* statement.

F.2 SSI-Enabled Real Device and Minidisk Management

In an SSI-Enabled environment, real DASD storage devices may be either:

Shared:

The real DASD storage devices are accessible by more than one System (Member) in the SSI Cluster. With Shared DASD, the DASD may be accessed from an available authorized Member in the Cluster regardless of the availability of any other authorized Member of the Cluster.

For example, in a two system SSI Cluster, Member '1' and Member '2', for DASD authorized to be accessed by both Member '1' and Member '2', the DASD may be accessed by

- Member '1' when Member '1' is available and Member '2' is not available.
- Member '2' when Member '2' is available and Member '1' is not available.
- Both Member '1' and Member '2' when both Member '1' and Member '2' are available.

Nonshared:

The real DASD storage devices are only accessible from a single System (Member) in the SSI Cluster. With Nonshared DASD, the DASD cannot be accessed if the single authorized Member in the Cluster is not available.

For example in a two system SSI Cluster, Member '1' and Member '2', if a Nonshared DASD is only authorized to be accessed by Member '1', then the DASD cannot be accessed by Member '2', regardless of whether Member '1' is available or not available.

Minidisks may be defined on either Nonshared or Shared DASD. If the minidisk is defined on Nonshared DASD, then the minidisk is only accessible on the Member in the SSI Cluster that DASD is authorized for.

If the minidisk is defined on a Shared DASD, then the minidisk may be accessible from all Members in the Cluster. Whether a minidisk is accessible on a specific Member in the Cluster is dependent upon whether the DASD is authorized for the Member and how the minidisk is defined in the VM System Directory.

z/VM 6.2 introduced the VM Directory *SUBCONFIGURATION* statement. The *SUBCONFIGURATION* statement must be associated with an *IDENTITY* User ID definition statement and is utilized to specify those User ID statements which are apply only to the specific Member in the Cluster associated with the *SUBCONFIGURATION* statement.

Each Member in a Cluster has its own unique *SUBCONFIGURATION* statement. When a User ID logs onto a Member in the Cluster, the User ID statements under the *SUBCONFIGURATION* statement for the Member are merged with the User ID statements under the ID's *IDENTITY* statement to create the instance of the ID on the Member.

The *Scope of a Minidisk* is utilized to indicate the effect the *USER, IDENTITY* and *SUBCONFIGURATION* statements associated with the minidisk's MDISK definition statement have on the accessibility of a minidisk from the Members in a Cluster:

Scope	Cluster Accessibility	Minidisk Definition
Global	All Members in the SSI Cluster	*MDISK* statement under *USER* or *IDENTITY* User ID definition statement
Local	Single Member in the SSI Cluster	*MDISK* statement under *SUBCONFIGURATION* statement

In addition to it's *Scope*, a minidisk is defined as either *Shareable* or *Nonshareable (Private)*. A *Shareable* minidisk may be concurrently linked by multiple virtual machines. A *Nonshareable* minidisk may only be accessed by a single virtual machine at any given time.

All minidisks defined by a *MDISK* statement in the VM Directory are *Shareable* regardless of whether they are defined under a *USER, IDENTITY* or *SUBCONFIGURATION* statement.

For those Licensed Program Products that have a unique installation minidisks associated with them, it is recommended that the minidisks be defined with a *Global Scope* on *Shared* DASD.

F.3 Installation of Licensed Program Product into SFS Directories

Licensed Program Products may be installed either on minidisks or into a Shared File System (SFS) Filepool. Unless specified in either the SDO PD or the Licensed Program Product's PD, the default SFS Filepool for Licensed Program Products delivered under SDO, is the z/VM System Filepool *VMSYSU*

In a SSI-Enabled Environment, a separate *VMSYSU* filepool exist on each Member in the SSI Cluster.

Directories established in this filepool are unique to the Member that the directory was created on and cannot be shared across Members in the Cluster.

The recommended SFS Filepool for Licensed Program Products is *VMPSFS*. On the IBM z/VM 6.2 and higher System as delivered by IBM, the minidisks utilized for this filepool are defined on *Shared* DASD and have a *Global* scope. As a result the minidisks that comprise the *VMSYSP* filepool may be accessed from any Member in the SSI Cluster.

However, the z/VM SFS component only allows a single filepool server for a given filepool to be active (e.g. logged on) at any point in time. In addition, under z/VM, SFS filepools whose name starts with *VMSYS* are accessible only from the System that the filepool server is active on.

The SFS directories in the *VMPSFS* Filepool can be accessed from all Members in the SSI Cluster at any point in time.

If the Licensed Program Product is to be installed on other than the default filepool for the Product, the Product's PPF file must be updated with the name of the filepool that is to be utilized for the installation. For information on modifying the Licensed Program Product's PPF file refer to Chapter 3 in the *z/VM VMSES/E Introduction and Reference* manual.

F.4 z/VM 6.2 and higher System Maintenance ID and System Disk Ownership

The standard system maintenance ID for z/VM 6.2 and higher is MAINT6*rm* (where *rm* is the release modification level).

The MAINT ID, which was the standard system maintenance ID prior to z/VM 6.2, is still defined on the z/VM 6.2 and higher system as delivered by IBM.

The MAINT6*rm* ID is defined utilizing an *IDENTITY* VM Directory statement which allows the MAINT6rm to be concurrently logged on to multiple Members in the SSI Cluster. The MAINT ID is defined utilizing a *USER* VM Directory statement. As a result, the MAINT ID can only be logged onto a single Member in the Cluster at any point in time.

The MAINT6*rm* ID and the MAINT ID share the same 5E5 (SES/E code disk), 51D (System Inventory disk), 319 (System document disk) and System Disks (190, 193, 19D, 19E). Therefore either the MAINT ID or the MAINT620 ID may be utilized for Licensed Program Product installation, customization and Production enablement.

> For example, if the Licensed Program Product instructions state that the MAINT 19E should be linked in WRITE mode as the 29E then either a *'LINK MAINT 19E 29E MW'* or a *'LINK MAINT620 19E 29E MW'* may be utilized.

When performing Licensed Program Product installation, maintenance or Production enablement consideration must be given to the Member of the Cluster that is being utilized for the installation, maintenance or enablement, and the disk access requirements.

On the IBM delivered z/VM 6.2 System, the MAINT620 ID owns the 5E5, 51D and 319 minidisks. These minidisks are defined on *Shared* DASD volumes which are accessible from all Members of the SSI Cluster. Therefore, the same 5E5, 51D and 319 minidisks are utilized on all Members in the SSI Cluster.

The System Disks (190, 193, 19D, 19E) are owned by the MAINT ID and are defined on *Nonshared* DASD volumes which are only accessible to a single Member in the Cluster. As a result, the System Disks are unique to each Member in the Cluster.

The z/VM 6.2 and higher System as delivered by IBM is based on the same Member of the SSI Cluster being utilized for maintenance of the all z/VM System Components. It is recommended that Licensed Program Product installation and service be performed on the same Member that is utilized for z/VM System Component service.

In addition, when the Licensed Program Product installation, customization or Production enablement instructions indicate that the MAINT ID should be utilized to perform a task, it is recommended that the MAINT6*rm* ID be utilized instead.

F.5 SSI-Enabled Environment LP Production Enablement Considerations

The following items should be taken into consideration when Production enabling a Licensed Program Product (LP) in a Single System Image (SSI) Cluster multisystem (SSI-Enabled) environment.

System Minidisks and SFS Filepools

In an SSI-Enabled environment, each Member in the cluster has its own System minidisks (MAINT 190, 193, 19D and 19E disks) and System filepools (VMSYS and VMSYSU). As a result, for Licensed Program Products that are to be utilized on more than one (1) Member in the Cluster, consideration must be given

as to whether the Licensed Program Product code is to be shared across the Members in the SSI Cluster or whether each Member in the Cluster is to have it own unique version of the Product code.

> For example, for a Licensed Program Product that is normally placed on the MAINT 19E, the decision may be to place the Product on a minidisk that is shared across all Members in the Cluster.

If the decision is to continue to utilize the MAINT 190, 193, 19D or 19E disks, or the filepools VMSYS or VMSYSU than the Product must be moved to the minidisks or filepools on *EACH* Member in the Cluster that the Product will be utilized on.

Licensed Program Product Shared Segments

Shared Segments are unique to each Member in the SSI Cluster and cannot be shared across Members. Therefore, if a Licensed Program Product utilizes a Shared Segment, the Segment must be created (saved) on each Member in the Cluster that the Product will be utilized on.

For some Licensed Program Products, the creation of a shared segment for the Product is optional. If the optional shared segment for a Product is created on one Member of the Cluster, it is recommended that the shared segment be created on all Members in the Cluster.

z/VM 6.2 and higher Shared Segments and Systems

Dependent upon the service applied to or the customization performed on a Licensed Program Product, it may be necessary to rebuilt the CMS Saved System or the z/VM System Shared Segments. Information

on rebuilding the CMS Saved System and z/VM System Shared Segments may be found in the *z/VM Service Guide*.

It is recommended that the both CMS Saved System and the z/VM System Shared Segments be rebuilt from the MAINT6*rm* Maintenance ID.

The following are the general commands for rebuilding CMS Saved System and the z/VM Shared Segments:

CMS Saved System

PUT2PROD SAVECMS

z/VM Shared Segments

- All z/VM Shared Segments

  PUT2PROD SEGMENTS ALL

- Specific z/VM Shared Segment

  PUT2PROD SEGMENTS segment_name

In an SSI-Enabled Environment, the CMS Saved System and the z/VM System Shared Segments must be rebuilt on each Member in the Cluster.

z/VM 6.2 and higher DASD Format and Directory Maintenance Utilities

With z/VM 6.2 and higher the following utilities components have been moved from the *MAINT 190 (System CMS Disk)* to a new disk, *PMAINT 551*.

CPFMTXA EXEC

CPRMTXA MODULE

DIRECTXA MODULE

DIRMAP MODULE

DISKMAP EXEC

FORMSSI MODULE

The *PMAINT 551* is defined on a *Shared* DASD and is available on all Members in the SSI Cluster.

Bibliography

z/VM Program Directory (GI13-4358)

z/VM Installation Guide (GC24-6292)

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z/VM CMS File Pool Planning, Administration, and Operation (SC24-6261)

z/VM CMS and REXX/VM Messages and Codes (GC24-6255)

z/VM CP Messages and Codes (GC24-6270)

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z/VM Saved Segments Planning and Administration (SC24-6322)

Reader's Comments

Program Directory for System Delivery Offering Version 6.2 and higher (including Version 7)

You may use the VM Feedback page (Contact z/VM) on the z/VM Web site at:

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