

z/VM



Installation Guide

Version 3 Release 1.0

z/VM



Installation Guide

Version 3 Release 1.0

Note!

Before using this information and the product it supports, read the information in “Notices” on page 293.

First Edition (February 2001)

This edition applies to the Version 3, Release 1, Modification 0 of IBM® z/VM (product number 5654-A17) and to all subsequent releases and modifications until otherwise indicated in new editions.

This edition replaces GC24-5836-03.

© Copyright International Business Machines Corporation 1991, 2001. All rights reserved.

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

Contents

Preface	ix
Who Should Read This Book	ix
What You Should Know Before Reading This Book	ix
What This Book Contains	ix
Where to Start	ix
Where to Find More Information	ix
How to Send Your Comments to IBM.	x

Summary of Changes	xi
First Edition for z/VM (February 2001)	xi
Other Changes.	xi
Third Edition for VM/ESA® (July 1999)	xi
Increased Disks Sizes	xi
Second Edition.	xi
SMALL FILEPOOL Item Added	xi
Other Changes.	xi

Part 1. Introduction and Planning 1

Chapter 1. Introduction	3
Terms and Concepts	4
Important Terms	4
Common Abbreviations and Variables	4
Understanding the Dialog with the System.	5
Summary of the Installation Process	6
Gather Information and Prepare for a z/VM System DDR Installation	7
Tape Layout of the z/VM System DDR	7
CD-ROM Layout of the z/VM System DDR	8
Stopping and Restarting the Installation Procedures.	10
 Chapter 2. Planning Your Installation	11
Step 1. What You Need to Know First	12
Step 2. Decide What You Want to Load	13
Step 3. Determine DASD Requirements and Directory Build Method.	16
Method 1	16
Method 2	17
Method 3	18
DASD Tables for Method 1, Method 2, and Method 3	19
Step 4. Choosing Your Installation Procedure	22
Installation Procedure Overview	22
Choose the Appropriate Installation Procedure	23
Installation Path	24
Worksheet Tables	25

Part 2. z/VM System DDR Installation 29

Chapter 3. Procedure 1	31
Step 1. Restore the Initial Installation System (IIS)	32
Step 2. IPL the z/VM IIS	37
 Chapter 4. Procedure 2	41
Step 1. Planning for Installation	42

Step 2. Restore the Initial Installation System (IIS)	45
Step 3. IPL the z/VM IIS	51
Chapter 5. Load the System DDR	57
Step 1. Run INSTDIR	58
Step 2. Run DIRONLIN EXEC	67
Step 3. Run INSTALL EXEC	68
Chapter 6. Post Load Installation Tasks	73
Step 1. Run POSTLOAD EXEC	74
Step 2. Start the File Pools	78
Step 3. Plan for Running INSTDEF EXEC	80
Step 4. Run INSTDEF EXEC	81
Step 5. Run INSTDEF2 EXEC	88
Step 6. Resave the CMS Named Saved System	89
Step 7. Shutdown and Re-IPL Your System	90
Step 8. Back Up the Named Saved Systems and Segments	92
Step 9. Store a Backup Copy of the z/VM System on Tape	93
Part 3. Post System DDR Installation Information	97
Chapter 7. System Default Information	99
Step 1. CMS Defaults	100
Step 2. CP Defaults	102
Step 3. GCS Defaults	104
Step 4. Saved Segments on the z/VM System	105
Step 5. VMSERVS, VMSERVU, and VMSERVER File Pool Defaults	106
Chapter 8. Preinstalled Licensed Products and Features	109
Step 1. EREP	110
Introduction	110
Installation Requirements and Considerations	110
Installation Instructions	110
Service Instructions	110
Step 2. ICKDSF	111
Introduction	111
Installation Requirements and Considerations	111
Installation Instructions	111
Service Instructions	111
Step 3. IBM Language Environment [®] VM	112
Introduction	112
Installation Requirements and Considerations	112
Installation Instructions	112
Service Instructions	112
Step 4. RSCS	113
Introduction	113
Installation Requirements and Considerations	113
Installation Instructions	113
Service Instructions	113
Step 5. TCP/IP	114
Introduction	114
Installation Requirements and Considerations	114
Installation Instructions	114
Service Instructions	114
Step 6. German NLS Feature	115
Introduction	115

Installation Instructions	115
Service Instructions	115
Step 7. Kanji NLS Feature	116
Introduction	116
Installation Instructions	116
Service Instructions	116
Step 8. OSA/SF	117
Introduction	117
Installation Requirements and Considerations.	117
Installation Instructions	117
Service Instructions	117
Step 9. Tivoli Storage Manager	118
Introduction	118
Installation Requirements and Considerations.	118
Installation Instructions	118
Service Instructions	118
Chapter 9. Installing z/VM Features.	119
Step 1. Installing the z/VM Restricted Source Feature	120
Step 2. Installing the z/VM PL/X-370 Source Code Feature	122
Step 3. Installing the Remaining Features	124
DFSMS/VM Feature	124
CMS Utilities (CUF) Feature	124
REXX/EXEC Migration Tool for z/VM Feature.	124
LANRES/VM 1.3.0	124
DCE	124
TCP/IP VM Source	124
BookManager Library	125
Chapter 10. Customizing National Languages	127
Introduction	128
National Languages Supported	128
Step 1. Updating the CMS Translation Tables.	129
Step 2. Changing the System National Language	131
Step 3. Adding a National Language as a System Segment	134
Step 4. Deleting a National Language Segment	140
Part 4. Reference	145
Chapter 11. Exec References	147
Exec Format Summaries	147
Understanding Syntax Diagrams	151
Syntax Diagram Descriptions.	151
DIRONLIN EXEC	154
INSTALL EXEC.	155
INSTDEF EXEC	161
INSTDEF2 EXEC	164
INSTDIR EXEC.	165
INSTIIS EXEC	167
INSTPLAN EXEC	169
INSTPOOL EXEC	171
MIGR51D EXEC	172
MOVE2SFS EXEC	174
POSTDDR EXEC	178
POSTLOAD EXEC	180

Part 5. Appendixes	183
Appendix A. Moving Components to SFS Directories	185
Appendix B. Adding a Work Disk	191
Appendix C. Post Install Load of Optional Items	193
Step 1. Prepare the USER DIRECT File for New Loads	194
Step 2. Run INSTALL EXEC	201
Step 3. Update System Tables	206
Step 4. Load RSU for TSAF, AVS, OSA/SF, TSM	207
Step 5. Generate Serviced Uppercase HELP Files for TSAF and AVS.	209
Convert Using VMFINS	209
Step 6. Start the File Pools	211
Step 7. Move TSAF, AVS, OSA/SF, or TSM to SFS	214
Step 8. Update the Directory	215
Step 9. Bring the Changed Directory Online	217
Appendix D. Migrate 51D from Old System	219
Appendix E. The SYSTEM NETID File	223
Appendix F. Enlarging CMS Nucleus to Contain the Minidisk Directory (Y-STAT)	225
Appendix G. Example of Alternate CMS Nucleus Placement	227
Appendix H. Updating SAMPNSS to Change the CMS System Name	231
Appendix I. Changing GCS Nucleus Options	233
Appendix J. Restoring the z/VM System Backup Copy	241
Appendix K. Restoring Your Named Saved Systems and Segments	243
Appendix L. Recovering a File or Minidisk	245
Appendix M. Stopping or Restarting the Installation Procedure	249
Stopping the Installation Procedure	249
Restarting the Installation Procedures	249
Appendix N. ITEMMD TABLE and MAINT LINKLIST	251
ITEMMD TABLE	252
MAINT LINKLIST	261
Appendix O. Rebuild the CMS Nucleus	265
Appendix P. Build the CP Nucleus	271
Appendix Q. Build the GCS Nucleus	277
Step 1. Tailor GCS	277
Step 2. Rebuild and Save the GCS Nucleus	287
Notices	293
Trademarks	294
Glossary	297

Bibliography	315
z/VM Base Publications	315
Evaluation	315
Installation and Service	315
Planning and Administration	315
Customization	315
Operation	315
Application Programming	315
End Use	316
Diagnosis	316
Publications for Additional Facilities	316
DFSMS/VM®	316
OSA/SF	316
Language Environment®	316
Publications for Optional Features	316
CMS Utilities Feature	316
TCP/IP Feature for z/VM	316
OpenEdition® DCE Feature for VM/ESA®	316
LANRES/VM	317
CD-ROM	317
Index	319

Preface

This book guides system programmers through the step-by-step installation procedures for installing z/VM on IBM z/Architecture and S/390® (ESA/390 architecture) servers. This includes processors such as the IBM @server zSeries 900, IBM S/390 Parallel Enterprise Server®, S/390 Multiprise® 3000 Enterprise Server, and the S/390 Multiprise 2000 processor. See the *z/VM: General Information* for a list of the processors supported by z/VM.

The procedures allow installation of the z/VM system first-level on the processors just mentioned, or as a guest operating system hosted by z/VM.

Who Should Read This Book

This book is intended for system programmers responsible for installing z/VM.

System programmers are responsible for system operation and system management activities requiring a higher degree of computer skill and technical training and education than those covered by other system support personnel. They are ultimately responsible for the efficient functioning of the system.

What You Should Know Before Reading This Book

This book assumes that you have a general idea of what z/VM does and that you understand the concept of a virtual machine. You should also have a general understanding of z/VM and S/390 data processing techniques.

This document includes all updates at the time of this publication (February 2001). Any updates to this document will be reflected in the document that is available at our website:

<http://www.ibm.com/servers/eserver/zseries/zvm>

What This Book Contains

This book describes the step-by-step installation procedures for z/VM.

This book contains an Installation worksheet and three Directory Build worksheets required for installation planning. This book also includes reference material and descriptions of the installation execs to be used while you install z/VM.

Note: *z/VM Installation and Service Sample Files* is an informal, hardcopy document supplied with your z/VM product order. The sample system definition files in this document are identical to the sample system definition files on the z/VM System DDR.

Where to Start

You should read Chapter 1. Introduction, and Chapter 2. Planning Your Installation of this book before beginning your installation. READ THEM EVEN IF YOU HAVE INSTALLED BEFORE. Some aspects of z/VM installation must be planned using the worksheets provided for you in the planning chapter. Before starting, you should read through the entire installation procedure you plan to use.

Where to Find More Information

See the bibliography at the back of this book, on page 315.

How to Send Your Comments to IBM

Your feedback is important in helping us to provide the most accurate and high-quality information. If you have comments about this book or any other VM documentation, send your comments to us using one of the following methods. Be sure to include the name of the book, the form number (including the suffix), and the page, section title, or topic you are commenting on.

- Visit the z/VM web site at:

| <http://www.ibm.com/servers/eserver/zseries/zvm>

There you will find the feedback page where you can enter and submit your comments.

- Send your comments by electronic mail to one of the following addresses:

Internet: pubrcf@vnet.ibm.com

IBMLink™: GDLVME(PUBRCF)

- Fill out the Readers' Comments form at the back of this book and return it using one of the following methods:
 - Mail it to the address printed on the form (no postage required in the USA).
 - Fax it to 1-607-752-2327.
 - Give it to an IBM representative.

Summary of Changes

This section describes the technical changes made in this edition of the book and in previous editions. This edition may also include minor corrections and editorial changes.

First Edition for z/VM (February 2001)

This edition contains updates for the General Availability of z/VM 3.1.0.

Other Changes

- Increased the size of the VMSYS file pool.
- Added ICKDSF to the MOVE2SFS exec.
- OpenExtensions® Shell and Utilities is now part of CMS.

Third Edition for VM/ESA® (July 1999)

This edition contains updates since the General Availability of VM/ESA 2.4.0.

Increased Disks Sizes

- The following disks increased in size:

P688198H	29E
2VMVMV20	100
OSASF	200
TCPMAINT	592
P735FALT	492

Second Edition

This edition contains updates for the General Availability of VM/ESA 2.4.0.

SMALL FILEPOOL Item Added

A SMALL FILEPOOL item allows customers to install the VMSYS, VMSYSU, and VMSYSR file pool with a smaller data minidisk area.

Other Changes

- The size of the checkpoint and warmstart areas on the RES pack has increased.
- Tivoli ADSTAR® Distributed Storage Manager for VM (Tivoli ADSM®) is now preinstalled in a disabled state on the VM/ESA System DDR. It can be optionally loaded, but this does not change the need for customers to order Tivoli ADSM if they want to use it.

Part 1. Introduction and Planning

In this part, you will:

- Be introduced to terms and techniques that have proven to assist during the installation of z/VM
- Learn the interactive dialog used within this book
- Plan for your installation
- Fill in worksheets
- Choose an installation procedure.

Introduction and Planning

Chapter 1. Introduction

You should read this chapter to:

- Review the definitions of terms, abbreviations, and variables
- Understand the format of this book
- Gather information and prepare for installation.

Terms and Concepts

The following information describes the terms, abbreviations, and format used in this book. Understanding this information will help you use this book with ease.

Important Terms

Term Definition

CD-ROM :

High-capacity read-only memory in the form of an optically read compact disk

Current System:

Your existing VM system.

DASD or Pack Support:

Dedicated pack:

A Direct Access Storage Device (DASD) that is not in use by your current system or CP. It can be attached or detached.

Install pack:

A DASD used for installation of your new z/VM system.

System residence pack:

The pack on which the CP nucleus of the operating system is located (designated as 310RES in this book). This pack must be of the same DASD type as your System DDR and must be one of the densities listed in Table 1 on page 19.

Initial Installation System (IIS):

A functional z/VM system included in the z/VM System DDR restored to the system residence pack (310RES) and used by all procedures to install the rest of the z/VM system.

Installation-supported tape drives:

The 3480, 3490, and CDROM (when emulating a 3422 tape drive) tape drives are supported for installation.

Installation-supported DASD types:

These are: 3380, 3390, 9345 and FBA (FB-512) DASD. However, the 310RES must be one of the DASD type and density listed in Table 1 on page 19.

Recommended Service Upgrade (RSU) tape:

A service tape included in your z/VM order. The RSU has recommended service and will be installed during the z/VM System installation procedures in this manual.

z/VM System DDR:

Tapes or CD-ROM containing a prebuilt system packaged in DASD Dump Restore (DDR) image format. There is a separate prebuilt system for each installation-supported DASD type.

Common Abbreviations and Variables

Here is a list of common abbreviations and variables this publication uses:

Abbreviation	Term
<i>compname</i>	name of component
<i>devno</i>	device number
<i>devtype</i>	device type

<i>fm</i>	file mode
<i>fn</i>	file name
<i>ft</i>	file type
<i>langid</i>	national language identifier
<i>packaddr</i>	DASD (pack) device address
<i>rdev</i>	real device type
<i>tapeaddr</i>	tape device address
<i>userid</i> , user ID	user identifier for a virtual machine
<i>vdev</i>	virtual device type
<i>volid</i>	volume identifier/pack label

Understanding the Dialog with the System

Whenever you need to perform a system task, this publication describes the task in one- and two-column format.

1. **Substeps** in any task will be numbered and appear in one-column format, just like the lines you are now reading.
2. **Screen output and input** will appear on the left side of a two-column format. Information about screen output and input appear on the right side of a two-column format. For example:

```
DMSACC724I '195' REPLACES
'A (191)'
```

This message tells you that minidisk 195 is now the A-disk. The indentation of the second line indicates that this message appears all on one line on the display terminal.

3. **Screen output** may appear in all capital letters or in mixed case. **Variable** information is denoted as a highlighted lowercase item (*value*). For example:

```
REPLY value TO THE PROMPT
"CYL|BLK ADDRESS"
```

value is the cylinder or block address where you will write the CMS nucleus.

4. **Input** that you must enter appears on the left side of the two-column format as a highlighted lowercase item (**like this**). For example:

access 191 a

Enter this command to make your 191 minidisk the A-disk.

5. Sometimes input you must enter varies. In such cases, the variable information appears *like this*. For example:

When the input you enter is a variable, notes on the right side will explain the variable information. For example:

Introduction

input devno devtype 310res

The second control statement is the input control statement. Identify the device number (*devno*) and the tape device type (*devtype*) where the System DDR tape is mounted.

6. Sometimes two or more choices are shown for input or output. In that case, the choices are separated by a vertical bar (|) and enclosed in braces. For example:

The choices are explained on the right-hand side. For example:

vmfins build ppf {zvmluceng} cms cmsload (all

Use the PPF name ZVM for mixed case English (AMENG) text files or the PPF name UCENG for uppercase English (UCENG) text files.

7. Keys you must press to perform or continue a specific function appear in reverse video. For example:

Press enter or clear key to continue

Enter

+-----Instructions-----+

8. Instructions applying only to certain users are enclosed, like the example you are now reading, in wide horizontal brackets. A phrase identifying the users who must follow these instructions is printed in the middle of the first bracket. A matching end bracket indicates where the special instructions end and the instructions to all users begin again.

+-----End of Instructions-----+

9. :
- The ellipsis indicates that the preceding item may be repeated, or that messages are not shown.

Note: For one or both of the following reasons, the dialog you see on your terminal may vary from those shown in the installation procedures:

- Your system configuration differs from the one on which the procedures were tested
- You changed the IBM-supplied defaults

Summary of the Installation Process

z/VM Version 3 Release 1.0 features an automated installation process that uses panel interface driven execs. You are able to select the items to load and there is flexibility in where you can place the items on your DASD. This installation process minimizes contiguous DASD requirements and DASD type restrictions.

This process offers a choice of two procedures for installing your z/VM system. Both use the z/VM System DDR that includes the Initial Installation System (IIS). The IIS is a functional VM system used during installation of z/VM. You will restore the IIS, IPL the new system, and then continue to load minidisks from the z/VM System DDR prepared for your particular DASD type. The installation procedures allow for:

- Flexibility in which items to load
- Mixed DASD support
- Automated directory build using one of the following three methods:

- The same DASD type and density for all installation packs. Requires the entire pack. The pack labels (310W01, ...) are defined by the installation execs, and the placement of minidisks is generated by the installation exec.
 - Any combination of DASD types/models supported by your installation (3380, 3390, 9345, FBA). The extents used on each pack may be limited by the customer, and the pack labels are defined by the customer. However, the placement of items is generated by the installation execs.
 - Any combination of DASD types/models supported by your installation (3380, 3390, 9345, FBA). The extents used on each pack may be limited by the customer, the pack labels are defined by the customer, and the placement of items is controlled by the customer.
- Layout of your system during installation planning.

Gather Information and Prepare for a z/VM System DDR Installation

Before you begin installing there are a number of things you must do.

1. Be sure that you have the proper processor engineering change level for your ESA-capable processor. Call IBM software support for this information.
2. If you are installing from another VM system, review the *z/VM: Migration Guide*.
3. See the *z/VM Program Directory* and the PSP Bucket for the latest information affecting z/VM.

Tape Layout of the z/VM System DDR

IBM offers the z/VM System DDR on tapes for z/VM Version 3 Release 1.0. When you order z/VM System DDR tapes, the z/VM System DDR you receive contains a prebuilt system image for the DASD you specified.

Figure 1 shows the file arrangement of tape volume one (1) of the z/VM System DDR.

Introduction

Device Support Facilities Program	DASD Dump Restore Program	Tape Header	Installation Files	Initial Installation System	ISMS Trailer File
File 1	File 2	File 3	File 4		
File 1 The first file of volume one (1) includes the Device Support Facilities (ICKDSF) program and the DASD Dump/Restore (DDR) program. This file is used only during Procedure 1 of your installation.					
During installation, the ICKDSF program initializes and formats DASD packs. DDR is a stand-alone program that restores the Initial Installation System (IIS) from tape to the system residence device.					
Note: The Device Support Facilities and DDR program on file 1 of the z/VM System DDR may not be at the latest service level. Use these copies of the programs only during z/VM installation.					
File 2 The second file of volume one (1) contains the volume identifier and the MINIDISK MAP data file.					
File 3 The third file of volume one (1) contains installation tools.					
File 4 The fourth file of volume one (1) contains the IIS. The IIS is device dependent; that is, you must restore the IIS to the same device type as your z/VM System DDR. IBM can supply a 3380 3390, 9345, or FBA (9336) IIS.					
ISMS Trailer Files A tape volume data file is needed for ISMS (IBM Software Manufacturing Solutions) processing.					

Figure 1. z/VM System DDR Tape Layout of Volume 1

Figure 2 shows the file arrangement of the remaining tape volumes of the z/VM System DDR.

Tape Header	DDR Image File	...	...	DDR Image File	ISMS Trailer File
File 1	File 2			File n	

DDR Image Files Each file is the DDR image of one minidisk.

Figure 2. z/VM System DDR Layout of Remaining Tape Volumes

CD-ROM Layout of the z/VM System DDR

IBM offers a z/VM System DDR on CD-ROM for z/VM Version 3 Release 1.0. When you order z/VM on CD-ROM, you receive eight (8) CD-ROMs, two (2) CD-ROMs for each of the installation-supported DASD types (3380, 3390, 9345, and FBA (9336)). The CD-ROM for a particular DASD type has one logical tape containing identical data to that included on the z/VM System DDR on tape. **Be sure to use only one CD-ROM type (2 volumes) for installation of z/VM.**

Note: All media is referred to as tape throughout the installation procedures. The term **z/VM System DDR**, used throughout the installation procedures, refers to both tape and CD-ROM media.

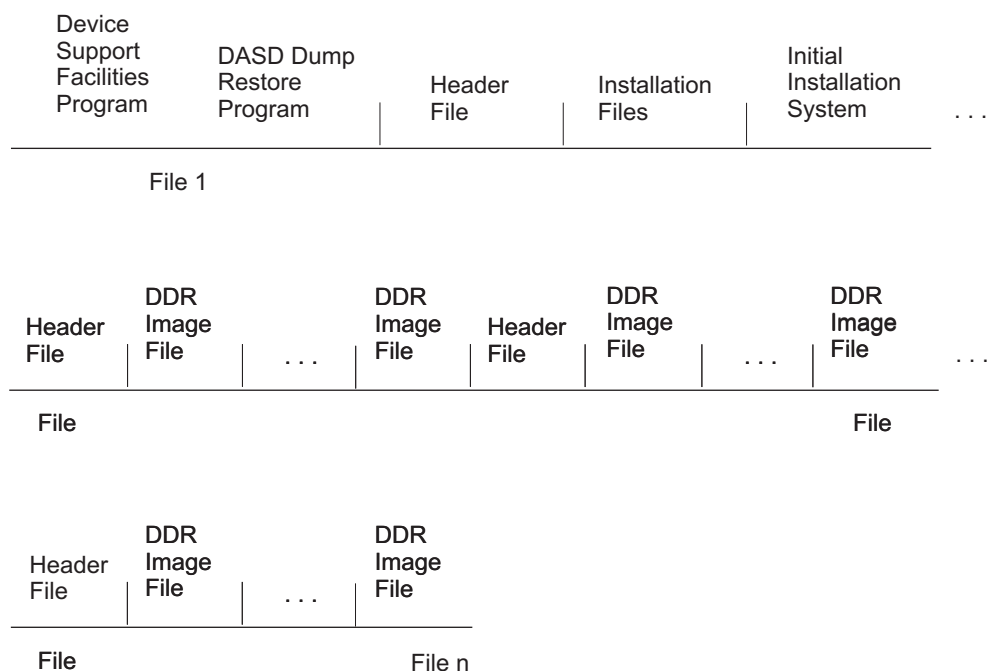
One of the following is required to install from a CDROM:

- IBM PC Server S/390
- RISC System/6000® with a S/390 Server on Board
- S/390 Integrated Server

- PS2 with S/390 Optical Media Attach/2 (OMA/2)
- Multiprise 3000.

Figure 3 shows the file arrangement of the z/VM System DDR CD-ROMs.

1st CD-ROM (Volumes 1-4)



2nd CD-ROM (Volumes 5-8)

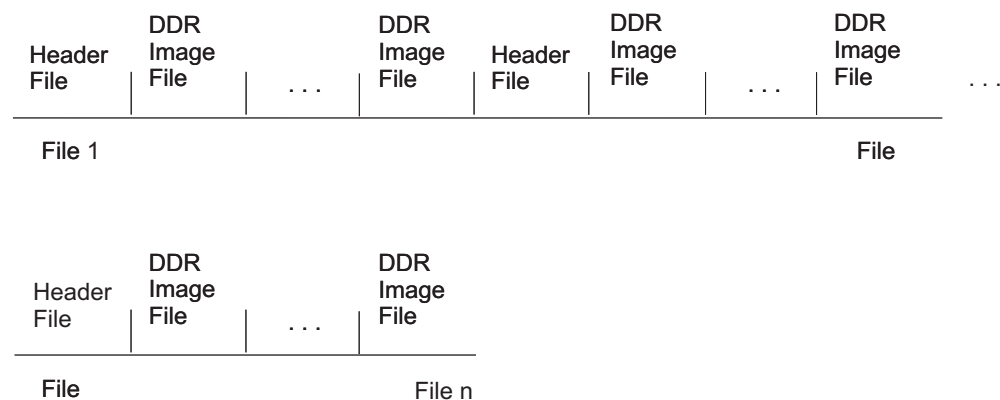


Figure 3. Layout of z/VM CD-ROMs

Stopping and Restarting the Installation Procedures

Each installation procedure is divided into chapters. You can interrupt a procedure at the end of any chapter. The procedures to stop and restart are described in “Appendix M. Stopping or Restarting the Installation Procedure” on page 249.

Chapter 2. Planning Your Installation

In this chapter you will:

- Determine the items to load for your installation
- Determine the DASD requirements for your installation
- Choose the appropriate directory build method to use
- Choose the appropriate installation procedure to use based on your system requirements and available resources
- Fill in the Installation Worksheet and the Directory Build Worksheet.

Step 1. What You Need to Know First

z/VM Version 3 Release 1.0 provides two installation procedures. To determine the proper installation procedure, you need to know some information about the system on which you are installing z/VM Version 3 Release 1.0. The following is a list of questions you must be able to answer:

- What is the DASD type of your z/VM System DDR?
- What type and amount of DASD is available for the installation of z/VM Version 3 Release 1.0?
- Is there a supported VM operating system running on the processor or LPAR?
- Does your full screen monitor display at least 20 lines? Installation requires a full screen terminal with at least 20 lines.

Step 2. Decide What You Want to Load

The BASE item is required and includes the following:

- Control Program (CP)
- Dump Viewing Facility (DV)
- Conversational Monitor System (CMS)
- REstructured eXtended eXecutor (REXX/VM)
- Virtual Machine Serviceability Enhancements Staged/Extended (VMSES/E)
- Group Control System (GCS)
- 3800 Model-3 Printer Image Library
- System minidisks
- EREP, ICKDSF, and LE/370
- RSCS enabled only for system use
- TCP/IP installed disabled.

The optional items you may **Select To Load** are:

- TSAF and AVS - Transparent Services Access Facility and APPC/VM VTAM® Support
- FILEPOOL - CMS file pools VMSYS, VMSYSU, and VMSYSR
- SMALL FILEPOOL - CMS file pools VMSYS, VMSYSU, and VMSYSR with a much smaller data minidisk area for the VMSYS file pool
- CP, DV source - Source minidisk shared by the CP and DV components
- CMS, REXX source - Source minidisk shared by the CMS and REXX/VM components
- VMSES/E source - Source minidisk for the VMSES/E component
- RSCS source - Source minidisk for RSCS
- UCENG Help - Uppercase English Help minidisk
- German Help - German Help minidisk
- Kanji Help - Japanese Help minidisk
- OSA/SF
- TSM installed disabled.

The Installation Worksheet (Table 5 on page 25) lists all the items you can load. As you review each of the following items, place a “Yes” in the **Select To Load** column in the Installation Worksheet for each optional item you select to load. Place a “No” in the **Select to Load** column in the Installation Worksheet for each optional item you select to not load. The BASE item is required; therefore, “Yes” has been placed in the **Select To Load** column for this item.

TSAF

- The Transparent Services Access facility (TSAF) is a z/VM component that lets users connect to and communicate with other APPC/VM applications. TSAF runs in a virtual machine and does not need VTAM to communicate with other z/VM systems in the local z/VM collection. TSAF provides z/VM users with transparent access to server resources across a collection of up to eight z/VM systems.
- For more information on TSAF, see the *VM/ESA: Connectivity Planning, Administration, and Operation* manual.
- TSAF and AVS share minidisks. If you decide to load one, you must select the TSAF, AVS item, which loads both TSAF and AVS.
- TSAF is installed on minidisks. If you want TSAF in the VMSYS file pool, you must load both the TSAF, AVS item **and** the FILEPOOL item. After loading your system, you will be able to move TSAF from minidisks to the VMSYS file pool directories.

Planning Your Installation

AVS

- The APPC/VM VTAM support (AVS) component includes the AVS virtual machine and lets z/VM users connect to and communicate with a SNA network. With AVS, an APPC/VM program in the collection can connect to APPC programs in the SNA network so you can easily access more information. Also, APPC programs in the SNA network can access global and private resources on z/VM.
- For more information on AVS, see the *VM/ESA: Connectivity Planning, Administration, and Operation* manual.
- TSAF and AVS share minidisks. If you decide to load one, you must select the TSAF, AVS item, which loads both TSAF and AVS.
- AVS is installed on minidisks. If you want AVS in the VMSYS file pool, you must load both the TSAF, AVS item **and** the FILEPOOL item. After loading your system, you will be able to move AVS from minidisks to the VMSYS file pool directories.

FILEPOOL

- The FILEPOOL item defines the three file pools—VMSYS, VMSYSU, and VMSYSR. The Byte File System (BFS) root directories are also defined in VMSYS and VMSYSU. A file pool is a collection of minidisks assigned to a single virtual machine called a file pool server machine. Because the minidisks in a file pool are shared by many users, using the Shared File System can save DASD space.
- If you plan to move your VMSYS, VMSYSU, and VMSYSR file pools from an existing VM system, do not select the FILEPOOL item. See the section on converting your SFS file pool servers in the *z/VM: Migration Guide* for information about moving your existing file pools to z/VM Version 3 Release 1.0. If you are going to use Java, NetRexx™, or OpenExtensions Shell & Utilities, you must have the Byte File System defined. If you do not have the Byte File System, use BFSROOT to set up the Byte File System default file space in the VMSYS and VMSYSU file pools. See the *z/VM: CMS File Pool Planning, Administration, and Operation* for details on setting up the Byte File System.
- If you do not plan to move VMSYS, VMSYSU, and VMSYSR from an existing VM system, place a “Yes” in the **Select To Load** column in the Installation Worksheet (Table 5 on page 25) for either the FILEPOOL or SMALL FILEPOOL item. You cannot load both.

SMALL FILEPOOL

- The SMALL FILEPOOL item also defines the three file pools—VMSYS, VMSYSU, and VMSYSR, but the SMALL FILEPOOL item defines a much smaller data minidisk area for the VMSYS file pool. The Byte File System (BFS) root directories are also defined in VMSYS and VMSYSU. A file pool is a collection of minidisks assigned to a single virtual machine called a file pool server machine. Because the minidisks in a file pool are shared by many users, using the Shared File System can save DASD space. If SMALL FILEPOOL is selected, VMSYS contains a smaller SFS area, therefore items cannot be moved into SFS.
- If you plan to move your VMSYS, VMSYSU, and VMSYSR file pools from an existing VM system, do not select the SMALL FILEPOOL item. Select the SMALL FILEPOOL item if you are not moving the items you selected to load from minidisks into SFS.
- If you do not plan to move VMSYS, VMSYSU, and VMSYSR from an existing VM system, place a “Yes” in the **Select To Load** column in the Installation Worksheet (Table 5 on page 25) for either the FILEPOOL or SMALL FILEPOOL item. You cannot load both.

CP, DV Source

- The CP, DV source item consists of a single minidisk. This minidisk contains the source for the CP and DV components. You only need this minidisk if local modifications will be made to these components.
- If you choose not to load this item, a 1 cyl/1200 block minidisk will be defined instead of the full-sized source minidisk. The source minidisk address is defined in the Product Parameter File (PPF); therefore, it must be defined in the directory.

CMS, REXX/VM Source

- The CMS, REXX source item consists of a single minidisk. This minidisk contains the source for the CMS and REXX components. You only need this minidisk if local modifications will be made to these components.
- If you choose not to load this item, a 1 cyl/1200 block minidisk will be defined instead of the full-sized source minidisk. The source minidisk address is defined in the Product Parameter File (PPF); therefore, it must be defined in the directory.

VMSES/E Source

- The VMSES/E source item consists of a single minidisk. This minidisk contains the source for the VMSES/E component. You only need this minidisk if local modifications will be made to this component.
- If you choose not to load this item, a 1 cyl/1200 block minidisk will be defined instead of the full-sized source minidisk. The source minidisk address is defined in the Product Parameter File (PPF); therefore, it must be defined in the directory.

RSCS Source

- The RSCS source item consists of a single minidisk. This minidisk contains the source for the RSCS component. You only need this minidisk if local modifications will be made to this component.

UCENG Help

- The Uppercase English Help (UCENG) consists of a single minidisk. This minidisk is a copy of the Mixed Case English Help disk (19D) with all files converted from mixed case to uppercase. You only need this minidisk if you will be using Uppercase English as the system national language or allowing users to set the language to Uppercase English (SET LANGUAGE UCENG).

German Help

- The German Help (GER) consists of a single minidisk. You only need this minidisk if you will be using German as the system national language or allowing users to set the language to German (SET LANGUAGE GER).

Kanji Help

- The Japanese Help (KANJI) consists of a single minidisk. You only need this minidisk if you will be using Kanji as the system national language or allowing users to set the language to Kanji (SET LANGUAGE KANJI).

OSA/SF

- Open Systems Adapter Support Facility lets you customize the integrated Open Systems Adapter (OSA) hardware feature for the OSA modes, change the settable OSA port parameters, and obtain status about the OSA.

TSM

- Tivoli Storage Manager, which replaced Tivoli ADSM for VM, is a client/server program that provides storage management to customers in a multivendor computer environment.
TSM provides an automated centrally scheduled, policy-managed backup, archive, and space management facility for file servers and workstations.

Step 3. Determine DASD Requirements and Directory Build Method

The Version 3 Release 1.0 installation process allows you choose where to install the items you selected in one of three ways:

1. Method 1 uses the same DASD type and density for all installation packs. The packs must be the same device type as your z/VM System DDR and must match one of the densities listed in Table 1 on page 19. The pack labels are defined by the installation execs as 310RES, 310W01, ... Placement of items on the packs is generated by the installation execs.
2. Method 2 uses any combination of the following DASD types/models supported by your installation (3380, 3390, 9345, FBA). The extents used on each pack are defined by the customer, the pack labels are defined by the customer, and the placement of minidisks is generated by the installation execs within the extents provided by the customer. However, the system residence pack must be labeled 310RES and be one of the DASD types/densities listed in Table 1 on page 19.
3. Method 3 uses any combination of DASD types/models supported by your installation (3380, 3390, 9345, FBA). The pack labels and extents used on each pack are defined by the customer. Large items are split into subitems and the customer defines where each item/subitem will be loaded. Within each item/subitem, the placement of minidisks is generated by the installation execs. However, the system residence pack must be labeled 310RES and be one of the DASD types/densities listed in Table 1 on page 19.

Note: If more detailed customization is required than the following three methods allow, choose the method that most closely approximates your needs. Then, after the directory is built, you may manually edit the directory and customize placements and sizes before loading the z/VM System DDR. Please keep in mind these requirements:

- Minidisks may be increased in size, but they cannot be made smaller.
- All minidisks within each server user ID (VMSERVS, VMSEVRU, and VMSEVR) must be the same DASD type.
- If you change the sizes of the server user ID's minidisks, the sizes of the 302 and 303 minidisks must be equal to each other. The 306 and 307 minidisks for the VMSEVR user ID must also be kept equal in size.

Method 1

Using the same DASD type and density for all installation packs.

This method requires the least amount of customer input. The packs will be labeled 310RES, 310W01, 310W02, 310W03, ... as needed. The minidisks will be placed on the packs in the same order as they are listed in the **LOAD SELECTION SECTION** in the Installation Worksheet (Table 5 on page 25), except where individual disks are moved to prevent unused space at the end of a pack.

It is required that you have a predetermined number of packs, all of the same DASD type and density available for installation.

1. Refer to Table 1 on page 19 for a list of the **Number of Packs Required** for each DASD type (**Device Type**) and **Density** supported.

Notes:

- a. All packs required for this method must be of the same DASD type as your z/VM System DDR
 - b. All packs required for this method must be of the same density.
2. Get the Directory Build Worksheet—Method 1 (Table 6 on page 26).
 3. Select the DASD to use for installation, and in the Directory Build Worksheet—Method 1, record the DASD type, density, and the number of packs required.
 4. In the Directory Build Worksheet—Method 1, for each pack required, record the **Address** of each pack next to its respective **Label**. If you do not need all the packs listed, ignore the extra pack labels in the table.

Method 2

Using any combination of DASD types/models supported by your installation.

This method allows the use of multiple DASD types/models. It also allows placement of minidisks to be restricted to defined extents on a pack. The minidisks will be placed on the extents (taken in the order listed on the input panel) in the same order as they are listed in the **LOAD SELECTION SECTION** in the Installation Worksheet (Table 5 on page 25), except when FILEPOOL was selected (it will be placed first) or where individual disks are moved to optimize DASD space (to prevent unused space at the end of a pack).

1. Refer to Table 2 on page 20 and determine the number of cylinders/blocks needed for the items you choose to load.
2. Select the DASD to be used for installation.
3. Get the Directory Build Worksheet—Method 2 (Table 7 on page 27).
4. In the Directory Build Worksheet—Method 2, record the DASD address and type of the 310RES pack. This pack must be the same device type as your z/VM System DDR and must match one of the densities listed in Table 1 on page 19.
5. Determine the DASD requirements for the items you selected to load by reviewing Table 2 on page 20. In the Directory Build Worksheet—Method 2, record the **Label**, **Address**, **Type**, and **Extents** for each DASD to be used for installation. (The **Type** field must be 3380, 3390, 9345, or FBA.) The total free space on DASD must equal or exceed the total space required for the items you selected to load. FBA starting extents must be on a page boundary (must be divisible by 8). If you want to use the remainder of the 310RES for minidisk placement, see Table 3 on page 20 to determine the starting extent available for use.

Note: If the FILEPOOL or SMALL FILEPOOL item is selected, it will be placed on the first set of extents defined on the panel. Therefore, the first extents defined on the panel must be at least the following size:

	FILEPOOL	SMALL FILEPOOL
3380	116 cylinders	316 cylinders
9345	116 cylinders	316 cylinders
3390	105 cylinders	272 cylinders
FBA	139,200 blocks	379,200 blocks

Note: Gaps may be left at the end of some of the extents. This occurs when the space remaining in a set of extents is less than the smallest minidisk left to load. As a result, you may need more cylinders or blocks than what is specified in Table 2 on page 20. The more sets of extents you use to define your system, the greater the potential for gaps. Therefore, we recommend that you do not use more than four or five sets of extents.

Note: Do not use cylinder 0 or blocks 0000-0031. These extents are reserved for the allocation area.

6. If you plan to use multiple DASD types, you may have to allocate a work minidisk depending on the size of the minidisks that are loaded to a DASD type other than that of your System DDR. This work minidisk must be the same DASD type as your z/VM System DDR. Refer to the following table for the maximum number of cylinders/blocks you may have to allocate for the work minidisk:

3380	540 cylinders
9345	540 cylinders
3390	450 cylinders
FBA	648,000 blocks

Record the **Label**, **Type**, and **Extents** in the Work Minidisk area of the Directory Build Worksheet—Method 2. The extents you allocate for your work disk must be separate from the extents given to INSTDIR to define the directory. When the directory is built, INSTDIR calculates the size of the minidisk needed and prompts you to enter the pack label and starting extents for the work disk.

After the installation is complete, this space may be reused.

Planning Your Installation

Method 3

Using any combination of DASD types/models supported by your installation.

This method allows the use of multiple DASD types/models. It not only allows placement of minidisks to be restricted to defined extents on a pack, but also allows the customer to designate placement for each item/subitem.

1. Refer to the Installation Worksheet (Table 5 on page 25) and Table 4 on page 21 and review each item you chose to load. Large items are split into subitems. For each item or subitem, if split, allocate one contiguous set of extents. For each source item (CP, DV Source, CMS, REXX Source, or VMSES/E Source) you selected **not** to load, you must allocate a 1 cylinder or 1200 block extent.
2. Get the Directory Build Worksheet—Method 3 (Table 8 on page 28).
3. In the Directory Build Worksheet—Method 3, record the DASD address and type of the 310RES pack. This pack must be the same device type as your z/VM System DDR and must match one of the densities listed in Table 1 on page 19.
4. In the Directory Build Worksheet—Method 3, Table 8 on page 28, for each item selected to load, record the **Label**, **Address**, **Type**, and **Extents** for each item or subitem listed under that item. For each source item you select **not** to load, record the **Label**, **Address**, **Type**, and **Extents** in the No Source row. (The **Type** field must be 3380, 3390, 9345, or FBA.) If you want to use the remainder of the 310RES for minidisk placement, see Table 3 on page 20 to determine the starting extent available for use.

Note: Do not use cylinder 0 or blocks 0000-0031. These extents are reserved for the allocation area.

5. If you plan to use multiple DASD types, you may have to allocate a work minidisk. This work minidisk must be the same DASD type as your z/VM System DDR. To determine the size of the work minidisk you may need, refer to the following table for the cylinders/blocks for each item you choose to load. In the table, find the first item listed that you are loading to a DASD type other than that of the System DDR. Look under the column that matches the DASD type of your System DDR. This is the size of the work minidisk needed.

Item	3380 cylinders	9345 cylinders	3390 cylinders	FBA blocks
TCP/IP2	540	540	450	648,000
TCP/IP3	300	300	250	360,000
TCP/IP1	264	264	220	316,000
CP,DV SOURCE	250	250	208	300,000
CMS,REXX	250	250	208	300,000
OSA/SF	240	240	200	288,000
SYSTOOLS	200	200	167	240,000
CP,DV	150	150	125	180,000
LE370	120	120	100	144,000
SYSTEM	120	120	100	144,000
GERMAN HELP	108	129	102	129,600
KANJI HELP	108	108	102	129,600
UCENG HELP	108	108	102	129,600
TSM	108	108	090*	129,600
CMS,REXX SOURCE	095	095	080	114,000

* This is a different size than the HELP disks because it is formatted at 4KB instead of 1KB required for HELP disks.

Record the **Label**, **Type**, and **Extents** in the Work Minidisk area of the Directory Build Worksheet—Method 3. The extents you allocate for your work disk must be separate from the extents

given to INSTDIR to define the directory. When the directory is built, INSTDIR calculates the size of the minidisk needed and prompts you to enter the pack label and starting extents for the disk.

After the installation is complete, the work disk may be reused.

DASD Tables for Method 1, Method 2, and Method 3

Table 1. Number of DASD Needed to Install z/VM Using Method 1

Device Type	Density	Number of Packs Required	
		Base Only	All
3380	Single (885 cyl)	6	9
	Double (1770 cyl)	3	5
	Triple (2655 cyl)	2	3
3390	Single (1113 cyl)	4	6
	Double (2226 cyl)	2	3
	Triple (3339 cyl)	2	2
9345	Model 1 (1440 cyl)	4	6
	Model 2 (2156 cyl)	3	4
9336 (FBA)	Model-10 (920115 blk)	7	10
	Model-20 (1672881 blk)	4	6

Planning Your Installation

Table 2. Number of DASD Cyl/Blk Needed to Install z/VM Using Method 2

Item	3380/9345 (cylinders)	3390 (cylinders)	FBA (blocks)
FILEPOOL	1116	940	1,339,200
SMALL FILEPOOL	316	272	379,200
BASE	4,169	3,533	4,978,800
TSAF, AVS	40	38	48,000
CP, DV Source ²	250	208	300,000
CMS, REXX Source ²	95	80	114,000
VMSES/E Source ²	28	24	33,600
RSCS Source	23	20	27,600
UCENG Help	108	102	129,600
German Help	116	110	139,200
Kanji Help	116	110	139,200
OSA/SF	544	455	652,800
TSM	251	210	301,200
Total³	6,856	5,830	8,203,200
Note: 1. To roughly estimate how many cylinders/blocks of one type of DASD is equivalent to the number of cylinders/blocks of another type of DASD, use the following conversions: • (3380/9345 cylinders) x .84 = (3390 cylinders) • (3380/9345 cylinders) x 1200 = (FBA blocks) • (3390 cylinders) x 1.19 = (3380/9345 cylinders) • (3390 cylinders) x 1431 = (FBA blocks) • (FBA blocks) x .00083 = (3380/9345 cylinders) • (FBA blocks) x .0007 = (3390 cylinders) 2. For each source item you selected not to load, you must allocate a 1 cylinder or 1200 block extent. 3. Total includes the FILEPOOL sizes, but does not include the SMALL FILEPOOL sizes.			

Table 3. 310RES IIS Location

DASD Device Type	IIS Location on 310RES	Start Location of Free Extents
3380, 9345	0-716	717
3390	0-604	605
FBA	0-860399	860400

Table 4. Number of DASD Cyl/Blk Needed for Each Subitem Using Method 3

Item/Subitem		3380/9345 (cylinders)	3390 (cylinders)	FBA (blocks)
BASE	CP, DV	301	253	354,000
	CMS, REXX	551	461	654,000
	VMSES/E	96	85	108,000
	GCS	43	41	51,600
	RSCS	149	133	178,800
	TCP/IP1	643	541	769,200
	TCP/IP2	638	540	765,600
	TCP/IP3	525	437	630,000
	SYSTEM	351	306	421,200
	SYSTOOLS	400	334	480,000
	SYSUSERS	35	33	42,000
	ICKDSF	87	75	104,400
	LE/370	350	294	420,000
TSAF, AVS		40	38	48,000
FILEPOOL	VMSESVU	55	49	66,000
	VMSESVR	13	13	15,600
	VMSESVS1	448	377	537,600
	VMSESVS2	600	501	720,000
SMALL FILEPOOL		316	272	379,200
CP, DV Source		250	208	300,000
CMS, REXX Source		95	80	114,000
VMSES/E Source		28	24	33,600
RSCS Source		23	20	27,600
UCENG Help		108	102	129,600
German Help		116	110	139,200
Kanji Help		116	110	139,200
OSA/SF		544	455	652,800
TSM		251	210	301,200
CP, DV No Source		1	1	1,200
CMS, REXX No Source		1	1	1,200
VMSES No Source		1	1	1,200

Step 4. Choosing Your Installation Procedure

In this section, you will choose a procedure for installing the z/VM Version 3 Release 1.0 System DDR.

Installation Procedure Overview

This section gives you a description of each installation procedure available for installing z/VM Version 3 Release 1.0. After reading this section, you will be able to choose your installation procedure in “Choose the Appropriate Installation Procedure” on page 23.

- **Procedure 1** is a first level installation.

You must use this procedure if no supported VM system is running in the processor or LPAR on which you are installing z/VM Version 3 Release 1.0:

- **Procedure 2** is a second level installation.

Use this procedure if:

- You have a supported VM system running on the processor or LPAR on which you are installing z/VM Version 3 Release 1.0.

Note: You will install z/VM Version 3 Release 1.0 from a user ID on that system.

- **z/VM Installation Summary.** If you are installing using Procedure 2 and the DASD on which you are installing z/VM are the same DASD type and model, you can use the new *z/VM Installation Summary*. The one-page summary is packaged with the *z/VM: Installation Guide*.

Choose the Appropriate Installation Procedure

Answering the question and following the flow chart will lead you to the installation procedure that most closely matches your requirements.

If you have any questions, refer back to “Installation Procedure Overview” on page 22.

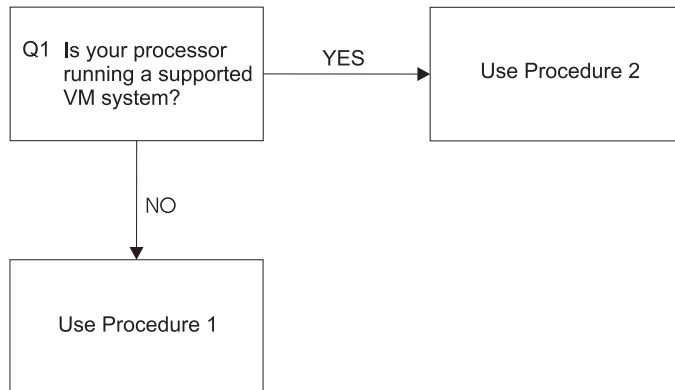


Figure 4. Installation Flow Chart

Record your procedure number in the Installation Procedure # field in the Installation Worksheet (Table 5 on page 25).

Planning Your Installation

Installation Path

Use Figure 5 to proceed to the appropriate procedure.

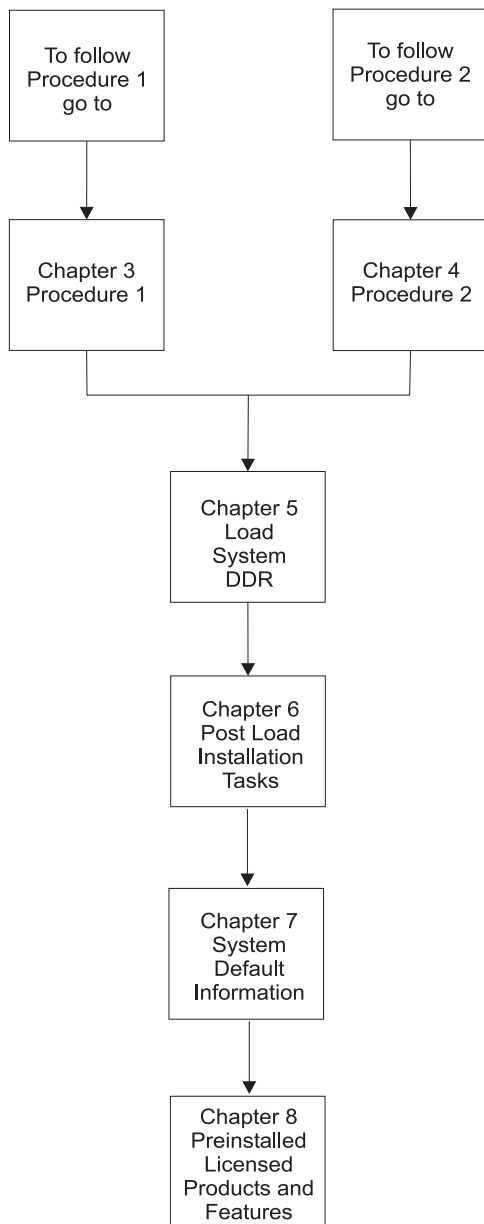


Figure 5. Charting Your z/VM System DDR Installation Course

Worksheet Tables

This section includes the Installation Worksheet and the three Directory Build Worksheets.

Table 5. Installation Worksheet

LOAD SELECTION SECTION			
Item/Minidisk		Select To Load (Yes/No)	
BASE (required)		Yes	
TSAF, AVS			
FILEPOOL			
SMALL FILEPOOL			
CP, DV Source			
CMS, REXX Source			
VMSES/E Source			
RSCS Source			
UCENG Help			
German Help			
Kanji Help			
OSA/SF			
TSM			
TAPE DRIVE SECTION			
Drive	Address (1st Level Real)	Address (1st Level Virtual) (2nd Level Real)	Address (2nd Level Virtual)
1			
2			
3			
4			
5			
6			
7			
8			
MISCELLANEOUS INFORMATION			
Installation Procedure # :			
wdaddr (Work Disk Address) :			
currID (Procedure 2 ONLY) User ID :			
consaddr (Primary System Console Address) :			
Note: You will fill in the TAPE DRIVE SECTION, wdaddr, currID, and consaddr during the procedures.			

Planning Your Installation

Table 6. Directory Build Worksheet—Method 1

Device Type and Density: _____	
Number of Packs Required: _____	
Label	Addr
310RES	
310W01	
310W02	
310W03	
310W04	
310W05	
310W06	
310W07	
310W08	
310W09	

Table 7. Directory Build Worksheet—Method 2

310RES Address: _____ Type/Model (Density): _____			
Label	Address	Type	Extents
			Start End
Work Minidisk (if required)			

Note: If loading either the FILEPOOL or SMALL FILEPOOL item, it will be placed in the first set of extents listed. Therefore, the first extent defined **must** be at least as large as that item.

Note: Make a separate entry for each set of contiguous extents on the same pack.

Note: Do not use cylinder 0 or blocks 0000-0031. These extents are reserved for the allocation area.

Planning Your Installation

Table 8. Directory Build Worksheet—Method 3

310RES Address: _____ Type/Model (Density): _____					
Item/Subitem		Label	Addr	Type	Extents
					Start End
BASE	CP, DV				
	CMS, REXX				
	VMSES/E				
	GCS				
	RSCS				
	TCP/IP1				
	TCP/IP2				
	TCP/IP3				
	SYSTEM				
	SYSTOOLS				
	SYSUSERS				
	ICKDSF				
	LE/370				
TSAF, AVS					
FILEPOOL	VMSESVU				
	VMSESVR				
	VMSESVS1				
	VMSESVS2				
SMALL FILEPOOL					
CP, DV Source					
CMS, REXX Source					
VMSES/E Source					
RSCS Source					
UCENG Help					
German Help					
Kanji Help					
OSA/SF					
TSM					
CP, DV No Source					
CMS, REXX No Source					
VMSES/E No Source					
Work Minidisk (if required)					

Part 2. z/VM System DDR Installation

This part contains the two different installation procedures that you can use to install z/VM System DDR.

Chapter 3. Procedure 1

In this chapter, you will use step-by-step procedures to install the z/VM System DDR in a new system environment.

Step 1. Restore the Initial Installation System (IIS)

In this step you will:

- Mount the z/VM System DDR on the tape drive.
- Initialize, format, and relabel the DASD.
- Load down the Initial Installation System (IIS) from the z/VM System DDR.

Notes:

1. The IPLable Device Support Facilities (ICKDSF) program in Tape File 1 of the z/VM System DDR may not be at the latest service level. Use this copy of the program only for installation.
2. Make sure that any packs with the same labels you are using for installation are **not** attached to your system.

1. Before you begin, read “Chapter 1. Introduction” on page 3 and “Chapter 2. Planning Your Installation” on page 11.
2. **If possible**, power off all devices you do not plan to use during installation. This precaution is advisable because the initial install program on the z/VM System DDR assumes that the first device to present an interrupt is the system console.

Note: If your system has a 3725, 3745, 3704, or 3705 controller attached and available to it and that controller is ALSO available and active to other systems, it is possible that the IPL of the z/VM install tape (which will IPL ICKDSF) will cause the controller to re-IPL. To prevent this from occurring, do one of the following:

- a. Make the controller channel path ID (CHPID) unavailable at the system console
- b. Make sure the controller is configured so the system running z/VM cannot IPL the controller.

3. Refer to the Directory Build Worksheet that corresponds to the directory build method you selected. Ensure all the DASD packs listed on the worksheet are available for use. Follow the operation manual for your own hardware.

Attention: Make sure that any packs with the same labels that you are using for installation are **never** attached to your system. Any such packs might be brought online when you IPL the Initial Installation System in “Step 2. Restore the Initial Installation System (IIS)” on page 45. If necessary, use the Device Support Facilities (ICKDSF) to relabel your packs in substep 9 on page 33.

Attention: The system residence pack used for installation must be the same DASD device type as your z/VM System DDR and must match a density listed in Table 1 on page 19 in order to restore the Initial Installation System.

4. Choose the addresses of your tape drives. For the Base item, you will need tape drives for tape volumes (2-6) of the z/VM System DDR. Depending on the optional items you choose to load, you will need tape drives for volumes (7-8). You will need two CD-ROM volumes for the z/VM System DDR on CD-ROM.

Note: If you use a unique tape drive for each volume, or use a tape stacker in automatic mode, the tapes will be loaded without interruption. If you must use one tape drive for multiple volumes, you will be prompted by the INSTALL EXEC when a tape volume needs to be changed.

5. **Record** the real address of each tape drive in the **1st Level Real** and **1st Level Virtual/2nd Level Real** address columns in the **TAPE DRIVE SECTION** in Installation Worksheet Table 5.

Record the device type(s) of the tape drive(s) in the **Device Type** column of the **TAPE DRIVE SECTION** in Installation Worksheet Table 5.

6. Mount Volume 1 of the z/VM System DDR on tape drive 1. Make sure the tape is write protected.

Restore the Initial Installation System (IIS)

If you are installing with CDROM and you are:

- Using an IBM PC Server S/390, a RISC System/6000 with a S/390 Server on Board, or a S/390 Integrated Server, then refer to the User's Guide for your system in the chapter titled "Installing a Non-Preconfigured S/390 Operating System" under the subsection for installing z/VM.
- Installing from a PS2 with OMA/2, refer to the *Optical Media Attach/2 User's Guide* and the *Optical Media Attach/2 Technical Reference*.
- Installing from a Multiprise 3000, refer to the *Emulated I/O User's Guide* and AWSOMA.DOC in the Service Element directories.

- ___ 7. IPL the tape drive to load the Device Support Facilities (ICKDSF) program. Follow the **hardware IPL** procedure specified for your processor.

Refer to your processor's hardware operation manuals for help. For instance, on the 9000 Processor Complex, refer to the *ES/9000 Processor Complex Operator's Guide*.

Notes:

- a. For more information about the Device Support Facilities (ICKDSF), see the *Device Support Facilities User's Guide and Reference*.
- ___ 8. Wait 60 seconds or so for the IPL to complete. You will see no messages. Press **Enter** to create an interrupt. If you do not see a response, you pressed **Enter** before the IPL was complete. Reset the keyboard. Wait approximately 60 seconds and press **Enter** again.

Note: You have to wait approximately 15 minutes on a CD-ROM device.

ENTER

CLEAR SCREEN WHEN READY

Reset

Clear

ICK005E DEFINE INPUT DEVICE, REPLY
'DDDD, CUU' OR 'CONSOLE'

ENTER INPUT/COMMAND:

console

CONSOLE

ICK006E DEFINE OUTPUT DEVICE, REPLY
'DDDD, CUU' or 'CONSOLE'

ENTER INPUT/COMMAND:

console

CONSOLE

ICKDSF - SA/XA/ESA DEVICE SUPPORT FACILITIES

nn.n TIME:hh:mm:ss mm/dd/yy PAGE 1

ENTER INPUT/COMMAND:

Press the **Reset** key to unlock the keyboard.

Depending on how your console is defined, you may not have to clear your screen.

This message tells you that the Device Support Facilities (ICKDSF) is loaded and ready.

- ___ 9. If you have packs with the same labels listed on your Directory Build Worksheet that are not being used for this installation, use the ICKDSF program to relabel them. If there is more than one pack to relabel, relabel one at a time.

cpvolume label unit(packaddr) novfy valid(valid)

packaddr is the address of the DASD pack you want to relabel, and *valid* is the new label you will use for that pack.

Restore the Initial Installation System (IIS)

```
ICK00700I  DEVICE INFORMATION FOR packaddr IS
            CURRENTLY AS FOLLOWS:
            PHYSICAL DEVICE = xxxx.
            STORAGE CONTROLLER = xxxx
            STORAGE CONTROL DESCRIPTOR = xx
            DEVICE DESCRIPTOR = xx
ICK003D  REPLY U TO ALTER VOLUME packaddr CONTENTS,
            ELSE T
ENTER INPUT/COMMAND:
u
:
:
ENTER INPUT/COMMAND:
```

If you have another initialized pack to relabel, **repeat** the CPVOLUME LABEL command.

- ___ 10. If your DASD packs are already initialized, skip now to substep 13 on page 35 to format them.
- ___ 11. For uninitialized FBA DASD, use the INIT command to initialize the packs. If there is more than one uninitialized pack, initialize one at a time.

init unit(packaddr) devtype(xxxx) novfy valid(valid) nomap

packaddr is the address of the DASD pack you want to initialize. *packaddr* is recorded on your Directory Build Worksheet.

xxxx is the FBA device type.

valid is the volume identifier recorded on your Directory Build Worksheet.

```
ICK00700I  DEVICE INFORMATION FOR packaddr IS
            CURRENTLY AS FOLLOWS:
            PHYSICAL DEVICE = xxxx.
            STORAGE CONTROLLER = xxxx
            STORAGE CONTROL DESCRIPTOR = xx
            DEVICE DESCRIPTOR = xx
ICK003D  REPLY U TO ALTER VOLUME packaddr CONTENTS,
            ELSE T
ENTER INPUT/COMMAND:
u
:
:
ENTER INPUT/COMMAND:
```

The system takes at least 20 to 40 minutes to inspect and initialize a FBA pack. You will get a series of ICK messages that describe the status of the device being initialized at the point that the initialization is almost complete. (If the FBA pack is already initialized, the INIT command will not reinitialize the DASD, and you will receive the ICK messages almost immediately.)

If you have another FBA pack to initialize, **repeat** the INIT command.

- ___ 12. For uninitialized CKD DASD, use the INSTALL command to initialize the packs. If there is more than one uninitialized pack, initialize one at a time.

install unit(packaddr) novfy

packaddr is the address of the DASD pack you want to initialize. *packaddr* is recorded on your Directory Build Worksheet.

Restore the Initial Installation System (IIS)

```
ICK00700I DEVICE INFORMATION FOR packaddr IS
      CURRENTLY AS FOLLOWS:
      PHYSICAL DEVICE = xxxx.
      STORAGE CONTROLLER = xxxx
      STORAGE CONTROL DESCRIPTOR = xx
      DEVICE DESCRIPTOR = xx
ICK003D REPLY U TO ALTER VOLUME packaddr CONTENTS,
      ELSE T
ENTER INPUT/COMMAND:
u
:
ENTER INPUT/COMMAND:
```

The system takes at least 20 to 40 minutes to inspect and initialize a CKD pack. You will get a series of ICK messages that describe the status of the device being initialized at the point that the initialization is almost complete.

If you have another CKD pack to initialize, **repeat** the INSTALL command.

- ___ 13. Format the 310RES and each pack listed on your Directory Build Worksheet that does not contain data you want to save. Do **not** format any packs with data you need to keep. Issue the command for each pack.

cpvolume format unit(packaddr) novfy valid(valid) mode(esa) nofiller

packaddr is the address of the DASD pack you want to format. *packaddr* is recorded on your Directory Build Worksheet.

valid is the volume identifier recorded on your Directory Build Worksheet.

The **nofiller** option excludes filler records when formatting. For FBA devices, the **nofiller** option is ignored and CPVOLUME FORMAT successfully completes with a return code of 4.

```
:
ICK003D REPLY U TO ALTER VOLUME packaddr CONTENTS,
      ELSE T
ENTER INPUT/COMMAND:
u
:
ENTER INPUT/COMMAND:
```

If you have another pack to format, **repeat** the CPVOLUME FORMAT command.

- ___ 14. IPL the tape drive again to load the DDR program from tape. You do not have to exit the ICKDSF program. Follow the **hardware IPL** procedure specified for your processor.

During hardware IPL procedures, you may specify a console address in the Load Parameter field.

+-----Load Parameter Specified-----+

If the Load Parameter field is used, the DDR program will appear at the specified console.

+-----End of Load Parameter Specified-----+

+-----Load Parameter Not Specified-----+

If no console address is used, you will need to wait a minute or so for the IPL to complete. You will see no messages. Press **Enter** to create an interrupt. If you do not see a response, you pressed **Enter** before the IPL was complete. Reset the keyboard. Wait approximately 60 seconds and press **Enter** again.

Restore the Initial Installation System (IIS)

ENTER

CLEAR SCREEN WHEN READY

Reset

Clear

Press the **Reset** key to unlock the keyboard.

Depending on your console, you may not have to clear your screen.

+-----End of Load Parameter Not Specified-----+

- ___ 15. Answer the following prompts from the DDR program to load the Initial Installation System from the z/VM System DDR to the system residence pack (310RES).

Note: The device types for which the following steps are valid include 3380, 3390, 9345, 9336 DASD and 3480, 3490, and 3422 (when using a CDROM) tape drives.

VM/ENTERPRISE SYSTEMS ARCHITECTURE
DASD DUMP/RESTORE PROGRAM
ENTER CARD READER ADDRESS OR CONTROL STATEMENTS
ENTER:

sysprint cons

ENTER:

input tapeaddr tape (skip 3

ENTER:

tapeaddr is the address of the tape drive recorded in the **TAPE DRIVE SECTION** in Installation Worksheet Table 5.

By typing the word **tape**, the tape device type is automatically identified by the DDR program, either 3422, 3480, or 3490.

packaddr is the address of the system residence pack (310RES) recorded on your Directory Build Worksheet.

DDR checks the pack label to make sure it is 310RES, the system residence pack.

output packaddr dasd 310res

ENTER:

restore all

HCPDDR725D SOURCE DASD DEVICE WAS (IS) LARGER THAN OUTPUT DEVICE
DO YOU WISH TO CONTINUE? RESPOND YES OR NO:

You may or may not receive this message. This is not a problem. Respond **yes** and continue.

yes

RESTORING 310RES

DATA DUMPED *mm/dd/yy*
AT *hh.mm.ss* GMT FROM 310RES
RESTORED TO 310RES

Informational messages: GMT means Greenwich Mean Time. The exact cylinder or block extents vary according to the device type.

INPUT CYLINDER/BLOCK EXTENTS		OUTPUT CYLINDER/BLOCK EXTENTS	
START	STOP	START	STOP
<i>nnnnnnnn</i>	<i>nnnnnnnn</i>	<i>nnnnnnnn</i>	<i>nnnnnnnn</i>

⋮
END OF RESTORE
BYTES RESTORED *nnnnnnnnnn*

ENTER:

ENTER

END OF JOB

Press **Enter** to end the program.

Step 2. IPL the z/VM IIS

In this step you will:

- Bring up the z/VM Initial Installation System first-level.

1. Bring up the z/VM Version 3 Release 1.0 system from the DASD device you just restored it to; that is, IPL the real address of 310RES noted on your Directory Build Worksheet. Follow the specified **hardware IPL** operation for your processor. You **must** specify your operator console address on the Load Parameter field on the hardware system console. **Record** this console address (*consaddr*) on the Installation Worksheet Table 5.

Note: Refer to the proper hardware operation manuals for help. For instance, on the 9000 Processor Complex, refer to the *ES/9000 Processor Complex Operator's Guide*.

2. The stand alone program loader panel is displayed on the VM operator console you specified in substep 1.

```

STAND ALONE PROGRAM LOADER: z/VM VERSION 3 RELEASE 1.0

DEVICE NUMBER:  packaddr  MINIDISK OFFSET:  nnnnnnnn  EXTENT:  1
MODULE NAME:    CPLOAD    LOAD ORIGIN:      1000

-----IPL PARAMETERS-----
cons=consaddr

-----COMMENTS-----

-----

9= FILELIST  10= LOAD  11= TOGGLE EXTENT/OFFSET

```

Figure 6. Sample Stand Alone Program Loader Panel

3. Move the cursor to the IPL PARAMETERS field and type:

cons=consaddr

As shown in Figure 6, *consaddr* is the primary system console address recorded in the **CONSOLE SECTION** in Installation Worksheet Table 5 on page 25. This statement defines the operator console. Spaces are not allowed around the equal sign.

4. Press **PF10** to load.

PF10

5. The IPL of your z/VM system continues:

IPL the z/VM IIS

```
hh:mm:ss z/VM V3 R1.0
        SERVICE LEVEL nnnn (mode)
```

```
hh:mm:ss SYSTEM NUCLEUS CREATED ON yyyy-mm-dd AT hh:mm:ss,
        LOADED FROM 310RES
```

```
hh:mm:ss *****
hh:mm:ss * LICENSED MATERIALS - PROPERTY OF IBM* *
hh:mm:ss * 5654-A17 (C) COPYRIGHT IBM CORP. 1983, *
hh:mm:ss * 2001. ALL RIGHTS RESERVED. *
hh:mm:ss * US GOVERNMENT USERS RESTRICTED RIGHTS - *
hh:mm:ss * USE, DUPLICATION OR DISCLOSURE *
hh:mm:ss * RESTRICTED BY GSA ADP SCHEDULE CONTRACT *
hh:mm:ss * WITH IBM CORP. *
hh:mm:ss * *
hh:mm:ss * * TRADEMARK OF INTERNATIONAL BUSINESS *
hh:mm:ss * * MACHINES *
hh:mm:ss *****
```

```
hh:mm:ss HCPZC06718I Using parm disk 1 on volume valid (device xxxx).
```

```
hh:mm:ss HCPZC06718I Parm disk resides on cylinders xx through xx.
```

```
:
```

The parm disk will reside on either cylinders or blocks.

You may receive an informational message, HCPIISU951I, about volumes not mounted. If you are not using those volume labels, ignore this message.

Attention: If you receive informational message HCPIIS954I, you have duplicate volumes with the same label and must correct this error before continuing. Refer back to substep 3 on page 32.

```
hh:mm:ss Start ((Warm|Force|COLD|CLEAN) (DRain)
        (Disable) (NODIRect) (NOAUTOlog)) or (SHUTDOWN)
```

cold drain noautolog

Because there is no data or accounting information to recover, use **cold drain** to request a cold start. Use **noautolog** at this point because you do not need the servers and all user IDs logged on.

- ___ 6. If it has not been set before, set the TOD (time-of-day) clock using standard operating procedures. Consult *z/VM: System Operation* for those procedures.

```
NOW hh:mm:ss {EST|EDT} weekday yyyy-mm-dd
Change TOD clock (yes|no)
{yes|no}
```

You will see this message only if the TOD clock has been set before.

Answer **yes** to reset the TOD clock, **no** to keep the current setting.

+—————Yes Reply System Response—————+

Set date MM/DD/YY

Type in the month, day and year, separated by slash marks.

Set time HH:MM:SS

Type in the hours, minutes and seconds, separated by colons.

```
Press "TOD ENABLE SET" key at designated instant
NOW hh:mm:ss {EST|EDT} weekday mm/dd/yy
Change TOD clock (Yes|No)
no
```

+—————End of Yes Reply System Response—————+

If you are using a multiprocessor, you may receive a message here concerning the clocks of the different images of the processor. If you do, see *z/VM: System Operation* for information about resetting the clocks.

___ 7. CP logs on the primary system operator (user ID OPERATOR).

```
hh:mm:ss The directory on volume 310RES at address nnnn
        has been brought online.
hh:mm:ss HCPWRS2513I
hh:mm:ss HCPWRS2513I Spool files available      {nnnn|NONE}
```

Note: Depending on the type of spool files available, you may receive the following prompt:

+-----Spool Files Prompt-----+

```
hh:mm:ss HCPWRS2513I
hh:mm:ss HCPWRS2513I Spool files on offline volumes      {nnnn|NONE}
hh:mm:ss HCPWRS2513I Spool files with I/O errors        {nnnn|NONE}
hh:mm:ss HCPWRS2513I Spool files with control errors    {nnnn|NONE}
hh:mm:ss HCPWRS2513I Spool files to be discarded        {nnnn|NONE}
hh:mm:ss HCPWRS2513I                                     -----
hh:mm:ss HCPWRS2513I Total files to be deleted          nnnn
hh:mm:ss HCPWRS2511A
hh:mm:ss HCPWRS2511A Spool files will be deleted because of
                        COLD start.
hh:mm:ss HCPWRS2511A No files have been deleted yet.
```

```
hh:mm:ss HCPWRS2511A To continue COLD start and delete files,
                        enter GO.
hh:mm:ss HCPWRS2511A To stop COLD start without deleting
                        files, enter STOP.
```

go

Here the system gives you an opportunity to stop the cold start and save your spool files. You do not need to save any spool files at this time; answer **go**.

+-----End of Spool Files Prompt-----+

```
hh:mm:ss HCPWRS2512I Spooling initialization is complete.
:
:
hh:mm:ss FILES:      NO RDR,      NO PRT,      NO PUN
                        The FILES message refers to system spool files;
                        there are no spool files in the system, because this
                        is a cold start of the system.

hh:mm:ss LOGON AT hh:mm:ss {EST|EDT} weekday mm/dd/yy
hh:mm:ss GRAF nnnn LOGON AS OPERATOR USERS = n
hh:mm:ss HCP10P952I nnnnM system storage
                        This message tells you the amount of storage
                        available.

hh:mm:ss FILES: nnnnnnn RDR, nnnnnnn PRT,      NO PUN
                        The FILES message here refers to operator spool
                        files.
```

___ 8. Detach OPERATOR's 191, 192, 19D, 19E minidisks.

IPL the z/VM IIS

detach 191 192 19d 19e

hh:mm:ss 191 192 19D 19E detached

MAINT will need to link to these disks in write mode later in the installation.

These minidisks may be currently attached to OPERATOR. If they are not attached, you will receive the message:

HCPDTV040E Device *nnn* does not exist

This does not indicate a problem.

___ 9. Disconnect from the OPERATOR user ID.

disconnect

DISCONNECT AT *hh:mm:ss* {EST|EDT} *weekday mm/dd/yy*

Press enter or clear key to continue

ENTER

What to Do Next

Go to “Chapter 5. Load the System DDR” on page 57.

Chapter 4. Procedure 2

In this chapter, you will use step-by-step procedures to install the z/VM System DDR from a VM system.

Step 1. Planning for Installation

In this step you will

- Choose a first-level user ID, *currID*.
- Attach a tape drive to *currID*.
- Mount Volume 1 of the z/VM System DDR on the tape drive.
- Load the installation tools.
- Run the installation tools to:
 1. Plan for your install
 2. Format the DASD
 3. Load down the Initial Installation System (IIS) from the z/VM System DDR.

1. Before you begin, read “Chapter 1. Introduction” on page 3 and “Chapter 2. Planning Your Installation” on page 11.
2. Choose a first-level user ID from your current operating system with privilege classes B through G which you will use to install z/VM Version 3 Release 1.0. This procedure refers to this user ID as *currID*. **Record** *currID* in Installation Worksheet Table 5. It is a good idea **not** to grant *currID* **privilege class A authority**, so that you cannot accidentally shutdown the first-level system. Whenever you see these procedures using *currID*, substitute the user ID you recorded in Installation Worksheet Table 5.
3. Log on to *currID*.
4. Choose one of *currIDs* R/W minidisks, with at least 2 cylinders or 2400 blocks of available space, to use as the work disk, or use your A-disk. The DASD type of this disk does not have to be the same DASD type as the z/VM System DDR. Access the work disk as your A-disk. The installation tools will be loaded to the work disk. **Record** the work disk address (*wdaddr*) on the Installation Worksheet Table 5.

access *wdaddr* a

Ready; T=*n.nn/n.nn hh:mm:ss*

wdaddr is the work disk address of *currIDs* R/W work disk.

5. **Record** the following in the **TAPE DRIVE SECTION** in Installation Worksheet Table 5:
 - a. The real address (*tapeaddr*) of tape drive 1 under the **1st Level Real** column
 - b. The device type of tape drive 1 under the **Device Type** column
 - c. **181** in the **1st Level Virtual/2nd Level Real** column
6. Attach tape drive 1 to *currID* at virtual device address 181.

If you are installing with CDROM and you are:

 - Using an IBM PC Server S/390, a RISC System/6000 with a S/390 Server on Board, or a S/390 Integrated Server, then refer to the User's Guide for your system in the chapter titled "Installing a Non-Preconfigured S/390 Operating System" under the subsection for installing z/VM.
 - Installing from a PS2 with OMA/2, refer to the *Optical Media Attach/2 User's Guide* and the *Optical Media Attach/2 Technical Reference*.
 - If installing from a Multiprise 3000, refer to the *Emulated I/O User's Guide* and AWSOMA.DOC in the Service Element directories.

attach *tapeaddr* * 181

TAPE *tapeaddr* ATTACHED TO *currID* 0181
Ready; T=*n.nn/n.nn hh:mm:ss*

tapeaddr is the **1st Level Real** address of the tape drive where Volume 1 of the z/VM System DDR will be mounted. *tapeaddr* is recorded in the **TAPE DRIVE SECTION** in Installation Worksheet Table 5.

Planning for Installation

- ___ 7. Mount Volume 1 of the z/VM System DDR on tape drive 1 attached as 181. Make sure the tape is write protected.
- ___ 8. Load the installation tools from Volume 1 of the z/VM System DDR to your work disk.

vmfplc2 rew

Ready; T=*n.nn/n.nn hh:mm:ss*

vmfplc2 fsf 2

Ready; T=*n.nn/n.nn hh:mm:ss*

vmfplc2 load * * a

Loading ...

:

End-of-file or end-of-tape

Ready; T=*n.nn/n.nn hh:mm:ss*

Rewind the tape.

Forward space past the first and second tape file.

Loads the tape files to the work disk.

Planning for Installation

___ 9. Invoke INSTPLAN to select which items to load and the DASD type on which to install.

instplan

*** z/VM INSTALLATION PLANNING ***

Mark items selected to be loaded with an S in the STATUS column, and those selected not to be loaded with an N .

Status	Item	Status	Item	Status	Item
S	BASE	S	TSAF/AVS	S	FILEPOOL
N	SMALL FILEPOOL	S	CP/DV SOURCE	S	CMS/REXX SOURCE
S	VMSES SOURCE	S	RSCS SOURCE	S	UCENG HELP
S	GERMAN HELP	S	KANJI HELP	S	OSA/SF
S	TSM				

Place a nonblank character in front of the DASD model layout onto which the selected items will be loaded. Only one layout may be selected. The number in parenthesis is the number of packs needed to load the items selected.

_ (6) 3390 Single _ (3) 3390 Double _ (2) 3390 Triple
 _ () USER PLACEMENT

PF1 = HELP PF3/PF12 = QUIT PF5 = Process ENTER = Refresh

Figure 7. Installation Planning Panel

- ___ a. Refer to Installation Worksheet Table 5 on page 25. In the z/VM INSTALLATION PLANNING panel, place an “N” in the STATUS column for each item you did not choose to load. You must have an S in the STATUS column to load an item.
- ___ b. If you are using Directory Build Method 1, place a nonblank character in front of the DASD model that matches the **Device Type and Density** in Table 6 on page 26. If you are using Directory Build Method 2 or 3, place a nonblank character in front of USER PLACEMENT.
- ___ c. After you select the items to be loaded and the DASD model to be used for installation, press **PF5** to complete the planning step.

HCP1PX8475I THE ITEMS YOU SELECTED TO BE LOADED ARE:
 BASE TSAF/AVS FILEPOOL CP/DV SOURCE CMS/REXX SOURCE
 VMSES SOURCE RSCS SOURCE UCENG HELP GERMAN HELP
 KANJI HELP OSA/SF TSM

THE ITEMS YOU SELECTED NOT TO BE LOADED ARE:
 SMALL FILEPOOL

THE DASD TYPE YOU SELECTED TO LOAD ON IS:
dasd model

THE PACKS NEEDED TO LOAD THESE ITEMS ARE:
packs

If you selected USER PLACEMENT, *packs* refers to all the packs listed on your Directory Build Worksheet.

HCP1NP8391I INSTPLAN EXEC ENDED SUCCESSFULLY
 Ready; T=n.nn/n.nn hh:mm:ss

Step 2. Restore the Initial Installation System (IIS)

___ 1. If you logged off after Step 1:

___ a. Log on to *currID*.

___ b. Attach tape drive 1 to *currID* at virtual device address 181.

If you are installing with CD-ROM, refer to the *Optical Media Attach/2 User's Guide* and the *Optical Media Attach/2 Technical Reference*.

If you are installing from a Multiprise 3000, refer to the *Emulated I/O User's Guide* and AWSOMA.DOC in the Service Element directories.

attach *tapeaddr* * 181

TAPE *tapeaddr* ATTACHED TO *currID* 0181
Ready; T=*n.nn/n.nn hh:mm:ss*

tapeaddr is the **1st Level Real** address of the tape drive where Volume 1 of the z/VM System DDR will be mounted. *tapeaddr* is recorded in the **TAPE DRIVE SECTION** in Installation Worksheet Table 5.

___ c. Mount Volume 1 of the z/VM System DDR on your tape drive. Make sure the tape is write protected.

___ d. Access the work disk as your A-disk.

access *wdaddr* a

Ready; T=*n.nn/n.nn hh:mm:ss*

wdaddr is the address of *currID*'s work disk.

___ 2. Refer to the Directory Build Worksheet that corresponds to the directory build method you selected. Attach all the packs listed on the worksheet that are not already attached to *currID*. Enter the following ATTACH command for each pack:

attach *packaddr* *

DASD *packaddr* ATTACHED TO *currID* *packaddr*
:
Ready; T=*n.nn/n.nn hh:mm:ss*

packaddr is the address of the DASD.

Attention: Make sure that any packs with the same labels that you are using for installation are **not** attached to *currID* (issue **QUERY DASD ATT ***). You must detach any other packs with these labels now to **prevent** bringing them online.

Attention: The system residence pack used for installation must be of the same DASD device type as your z/VM System DDR in order to restore the Initial Installation System.

___ 3. Invoke INSTIIS to format and label your installation DASD and to restore the IIS.

instiis

Restore the Initial Installation System (IIS)

- ___ a. Depending on the DASD layout you chose on the z/VM INSTALLATION PLANNING panel, one of the following panels is displayed:
- If you selected a specific DASD type on which to install, the following panel is displayed:

```
*** z/VM INSTALLATION DASD FORMAT/RESTORE ***

You selected to install on dasdtype DASD
```

DASD LABEL	DASD ADDRESS	VIRTUAL TAPE ADDRESS	DO NOT FORMAT DASD
310RES	_____	_____	_____
310W01	_____		
310W02	_____		
310W03	_____		
310W04	_____		
310W05	_____		

PF1 = HELP PF3/PF12 = QUIT PF5 = PROCESS ENTER = REFRESH

Figure 8. Installation DASD Format and Restore Panel (3390 Model Layout)

- 1) Fill in the panel using the information from the Installation Worksheet (Table 5 on page 25) and your Directory Build Worksheet. For detailed information, press **PF1** for HELP.
- 2) Press **PF5** to process and continue to substep 3b on page 48.

Restore the Initial Installation System (IIS)

- If you selected User Placement DASD layout, the following panel is displayed:

*** z/VM INSTALLATION DASD FORMAT/RESTORE ***

Enter 310RES DASD address and virtual tape address.
Enter DASD label and address for any additional full packs to be formatted.

DASD LABEL	DASD ADDRESS	VIRTUAL TAPE ADDRESS	DO NOT FORMAT DASD
310RES	_____	_____	_____
_____	_____		
_____	_____		
_____	_____		
_____	_____		
_____	_____		
_____	_____		
_____	_____		
_____	_____		
_____	_____		

PF1 = HELP PF3/PF12 = QUIT PF5 = PROCESS ENTER = REFRESH

Figure 9. Installation DASD Format and Restore Panel (Customized DASD Layout)

Note: If you select to format your DASD, enter only the labels and addresses of packs you want to format. (If you place a character in the DO NOT FORMAT DASD column, none of the packs listed will be formatted.)

- 1) Fill in the panel using the information from the Installation Worksheet (Table 5 on page 25) and your Directory Build Worksheet. For detailed information, press **PF1** for HELP.
- 2) Press **PF5** to process and continue to substep 3b on page 48.

Restore the Initial Installation System (IIS)

- ___ b. Depending on whether you selected to format your DASD or selected not to format your DASD, one of the following groups of messages is displayed:

- If you put an X in the DO NOT FORMAT DASD column, the following is displayed:

```
HCPIIX8381I CHECKING TAPE VOLUME NUMBER FOR DRIVE 181
```

```
HCPIIX8483R YOU HAVE SELECTED NOT TO FORMAT YOUR DASD.  
THIS ASSUMES YOU HAVE DONE THIS PRIOR TO  
ENTERING THIS EXEC. ANY PROCESSING WHICH  
FOLLOWS THIS PROMPT COULD RESULT IN ERRORS  
IF YOU HAVE NOT MANUALLY FORMATTED AND  
LABELED YOUR DASD.
```

```
DO YOU WANT TO CONTINUE ? (Y/N)
```

y

```
HCPIIX8380I RESTORING IIS TO 310RES
```

```
RESTORING 310RES
```

```
DATA DUMPED   mm/dd/yy AT hh.mm.ss  GMT FROM 310RES RESTORED TO 310RES
```

```
INPUT BLOCK EXTENTS
```

```
OUTPUT BLOCK EXTENTS
```

```
START        STOP
```

```
START
```

```
STOP
```

```
nnnnnnnnn  nnnnnnnnn
```

```
nnnnnnnnn
```

```
nnnnnnnnn
```

```
nnnnnnnnn  nnnnnnnnn
```

```
nnnnnnnnn
```

```
nnnnnnnnn
```

```
END OF RESTORE
```

```
BYTES RESTORED nnnnnnnnnnn
```

```
END OF JOB
```

```
HCPINI8391I INSTIIS EXEC ENDED SUCCESSFULLY
```

```
Ready; T=n.nn/n.nn hh:mm:ss
```

Restore the Initial Installation System (IIS)

- If you did not put an X in the DO NOT FORMAT DASD column, therefore, choosing to format your DASD, the following is displayed:

HCPIIX8381I CHECKING TAPE VOLUME NUMBER FOR DRIVE 181

HCPIIX8477R YOU HAVE SELECTED TO FORMAT THE FOLLOWING PACKS:

310RES *packaddr1*
packname2 *packaddr2*
packname3 *packaddr3*

:

ALL DATA ON THESE PACKS WILL BE LOST.

DO YOU WANT TO CONTINUE ? (Y/N)

y

HCPIIX8480I NOW FORMATTING PACK *packaddr1*

HCPIIX8480I NOW FORMATTING PACK *packaddr2*

HCPIIX8480I NOW FORMATTING PACK *packaddr3*

:

HCPIIX8380I RESTORING IIS TO 310RES

RESTORING 310RES

DATA DUMPED *mm/dd/yy* AT *hh.mm.ss* GMT FROM 310RES RESTORED TO 310RES

INPUT CYLINDER EXTENTS OUTPUT CYLINDER EXTENTS

START STOP START STOP

nnnnnnnn *nnnnnnnn* *nnnnnnnn* *nnnnnnnn*

nnnnnnnn *nnnnnnnn* *nnnnnnnn* *nnnnnnnn*

END OF RESTORE

BYTES RESTORED *nnnnnnnnnn*

END OF JOB

HCPINI8391I INSTIIS EXEC ENDED SUCCESSFULLY

Ready; T=*n.nn/n.nn hh:mm:ss*

Restore the Initial Installation System (IIS)

- ___ 4. If you are installing from CD-ROM, skip this substep and go to “Step 3. IPL the z/VM IIS” on page 51 . If you are installing from tape, continue with this substep. Volume 1 of the z/VM System DDR is complete. Unload the tape from the drive.

tape run

Ready; T=*n.nn/n.nn hh:mm:ss*

Step 3. IPL the z/VM IIS

In this step you will:

- Bring up the Initial Installation System.

When you IPL second-level note the following:

- Contention for service by the devices on shared control units may result in this step taking longer than it would when you are installing a first-level system.

1. Choose the addresses of your tape drives.

For the Base item, you will need tape drives for five tape volumes (2-6) of the z/VM System DDR. Depending on the optional items you chose to load, you will need tape drives for volumes (7-8). You will need two CD-ROM volumes for the z/VM System DDR on CD-ROM.

Note: If you use a unique tape drive for each volume, or use a tape stacker in automatic mode, the tapes will be loaded without interruption. If you must use one tape drive for multiple volumes, you will be prompted by the INSTALL EXEC when a tape volume needs to be changed.

2. If you are using more than one tape drive, record the following in the **TAPE DRIVE SECTION** in Installation Worksheet (Table 5 on page 25):

- a. The real address (*tapeaddr*) of each tape drive in the **1st Level Real** and **1st Level Virtual/2nd Level Real** columns

- b. The device type of each tape drive under the **Device Type** column.

3. Attach the install tape drives that are not already attached to *currID*. Repeat the ATTACH command for each tape drive you plan to use for installation.

attach *tapeaddr* *

tapeaddr is the address of the tape drive.

TAPE *tapeaddr* ATTACHED TO *currID* *tapeaddr*

4. Attach the packs for installation that are not already attached to *currID*. Repeat the ATTACH command for each pack you plan to use for installation.

attach *packaddr* *

packaddr is the address of the DASD recorded in your Directory Build Worksheet.

DASD *packaddr* ATTACHED TO *currID* *packaddr*

Attention: Make sure that any packs with the same labels that you are using for installation are **not** attached to *currID*. You must now detach any packs with these labels to **prevent** bringing them online.

5. Enter the following commands to clear your virtual machine and make sure that the z/VM system will recognize your terminal as a 3277, 3278, or 3279:

system clear

Reset and clear your virtual machine storage.

Storage cleared - system reset.

terminal conmode 3270

IPL the z/VM IIS

- ___ 6. Determine the amount of your virtual storage. If it is less than 64MB, define your storage to 64MB.

query virtual storage

STORAGE = *nnnnM*

Run the define command **only** if you have less than 64M of storage.

define storage 64m

STORAGE = 64M

Storage cleared - system reset

- ___ 7. Query the console and **record** the virtual console address (*consaddr*) on the Installation Worksheet Table 5. The address is required in the next substep.

query console

CONS *consaddr*

⋮

consaddr is the address of your virtual console.

- ___ 8. IPL the IIS you loaded to the system residence pack (310RES).

ipl *packaddr* **clear** **loadparm** *consaddr*

Clear is necessary. Do not omit it.

packaddr is the address of the system residence pack (310RES). Refer to your Directory Build Worksheet.

consaddr is the address of your virtual console recorded previously.

MORE...

Clear

The stand alone program loader panel displays after issuing the IPL command.

STAND ALONE PROGRAM LOADER: z/VM VERSION 3 RELEASE 1.0

DEVICE NUMBER: *packaddr* MINIDISK OFFSET: *nnnnnnnn* EXTENT: 1

MODULE NAME: CPLOAD LOAD ORIGIN: 1000

-----IPL PARAMETERS-----

cons=*consaddr*

-----COMMENTS-----

9= FILELIST 10= LOAD 11= TOGGLE EXTENT/OFFSET

Figure 10. Sample Stand Alone Program Loader Panel

- ___ 9. Move the cursor to the IPL PARAMETERS field and type

cons=consaddr

As shown in Figure 10 on page 52, *consaddr* is the primary system console address recorded as the value of *consaddr* on the Installation Worksheet Table 5 on page 25. This statement defines the operator console. Spaces are not allowed around the equal sign.

- ___ 10. Press **PF10** to load.

PF10

- ___ 11. The IPL of your z/VM system continues:

```
hh:mm:ss z/VM V3 R1.0
        SERVICE LEVEL nnnn (mode)
```

```
hh:mm:ss SYSTEM NUCLEUS CREATED ON yyyy-mm-dd AT hh:mm:ss,
        LOADED FROM 310RES
```

```
hh:mm:ss *****
```

```
hh:mm:ss * LICENSED MATERIALS - PROPERTY OF IBM* *
```

```
hh:mm:ss * 5654-A17 (C) COPYRIGHT IBM CORP. 1983, *
```

```
hh:mm:ss * 2001. ALL RIGHTS RESERVED. *
```

```
hh:mm:ss * US GOVERNMENT USERS RESTRICTED RIGHTS - *
```

```
hh:mm:ss * USE, DUPLICATION OR DISCLOSURE *
```

```
hh:mm:ss * RESTRICTED BY GSA ADP SCHEDULE CONTRACT *
```

```
hh:mm:ss * WITH IBM CORP. *
```

```
hh:mm:ss *
```

```
hh:mm:ss * * TRADEMARK OF INTERNATIONAL BUSINESS *
```

```
hh:mm:ss * MACHINES *
```

```
hh:mm:ss *****
```

```
hh:mm:ss HCPZC06718I Using parm disk 1 on volume valid (device xxxx).
```

```
hh:mm:ss HCPZC06718I Parm disk resides on cylinders xx through xx.
```

```
⋮
```

The parm disk will reside on either cylinders or blocks.

You may receive an informational message, HCPISU951I, about volumes not mounted. If you are not using those volume labels, ignore this message.

Attention: If you receive informational message HCPIS954I, you have duplicate volumes with the same label and must correct this error before continuing. Refer back to substep 4 on page 51.

```
hh:mm:ss Start ((Warm|Force|COLD|CLEAN) (DRain)
        (Disable) (NODIRect) (NOAUTolog)) or (SHUTDOWN)
```

cold drain noautolog

Because there is no data or accounting information to recover, use **cold drain** to request a cold start. Use **noautolog** at this point because you cannot have the servers and all user IDs logged on.

```
NOW hh:mm:ss {EST|EDT} weekday yyyy-mm-dd
Change TOD clock (yes|no)
```

no

IPL the z/VM IIS

__ 12. CP logs on the primary system operator (user ID OPERATOR).

```
hh:mm:ss The directory on volume 310RES at address nnnn
        has been brought online.
hh:mm:ss HCPWRS2513I
hh:mm:ss HCPWRS2513I Spool files available      {nnnn|NONE}
```

Note: Depending on the type of spool files available, you may receive the following prompt:

+-----Spool Files Prompt-----+

```
hh:mm:ss HCPWRS2513I
hh:mm:ss HCPWRS2513I Spool files on offline volumes      {nnnn|NONE}
hh:mm:ss HCPWRS2513I Spool files with I/O errors        {nnnn|NONE}
hh:mm:ss HCPWRS2513I Spool files with control errors    {nnnn|NONE}
hh:mm:ss HCPWRS2513I Spool files to be discarded        {nnnn|NONE}
hh:mm:ss HCPWRS2513I                                     -----
hh:mm:ss HCPWRS2513I Total files to be deleted          nnnn
hh:mm:ss HCPWRS2511A
hh:mm:ss HCPWRS2511A Spool files will be deleted because of
                        COLD start.
hh:mm:ss HCPWRS2511A No files have been deleted yet.
```

```
hh:mm:ss HCPWRS2511A To continue COLD start and delete files,
                        enter GO.
hh:mm:ss HCPWRS2511A To stop COLD start without deleting
                        files, enter STOP.
```

go

Here the system gives you an opportunity to stop the cold start and save your spool files. You do not need to save any spool files at this time; answer **go**.

+-----End of Spool Files Prompt-----+

```
hh:mm:ss HCPWRS2512I Spooling initialization is complete.
:
:
hh:mm:ss FILES:      NO RDR,      NO PRT,      NO PUN
                        The FILES message refers to system spool files;
                        there are no spool files in the system, because this
                        is a cold start of the system.

hh:mm:ss LOGON AT hh:mm:ss {EST|EDT} weekday mm/dd/yy
hh:mm:ss GRAF nnnn LOGON AS OPERATOR USERS = n
hh:mm:ss HCPIOP952I nnnnM system storage
                        This message tells you the amount of storage
                        available.

hh:mm:ss FILES: nnnnnnn RDR, nnnnnnn PRT,      NO PUN
                        The FILES message here refers to operator spool
                        files.
```

- ___ 13. Detach OPERATOR's 191, 192, 19D, 19E minidisks.

detach 191 192 19d 19e

hh:mm:ss 191 192 19D 19E DETACHED

MAINT will need to link to these disks in write mode later in the installation.

These minidisks may be currently attached to OPERATOR. If they are not attached, you will receive the message:

HCPDTV040E Device *nnn* does not exist

This does not indicate a problem.

- ___ 14. Disconnect from the OPERATOR user ID.

disconnect

DISCONNECT AT *hh:mm:ss* {EST|EDT} *weekday mm/dd/yy*

Press enter or clear key to continue

ENTER

What to Do Next

Go to "Chapter 5. Load the System DDR" on page 57.

IPL the z/VM IIS

Chapter 5. Load the System DDR

In this chapter, you will run INSTDIR to generate the system directory and INSTALL to load your new system.

Step 1. Run INSTDIR

In this step you will:

- Log on to the MAINT user ID.
- Run INSTDIR to build the directory for your system.
- Update your system configuration file.

1. Log on to the MAINT user ID.

ENTER

The default password for MAINT is MAINT.

logon maint

```
HCPLNM108E MAINT nnnn not linked; VOLID xxxxxx not mounted
:
HCPLNM101E DASD nnnn forced R/O; R/O by xxxxxx stable by xxxxxx
:
```

You may receive these logon error messages because the appropriate directory is not online yet. This is not a problem.

```
DMSACP113S Y(19E) not attached or invalid
device address.
```

You may receive either message DMSACP113S or DMSACP112S. This is not a problem at this time.

```
DMSACP112S Y(19E) device error
z/VM V3.1.0   yyyy-mm-dd hh:mm
```

ENTER

```
DMSACP113S A(191) not attached or invalid
device address.
```

You may receive either message DMSACP113S or DMSACP112S because you are accessing disk 191 that is not yet formatted. This is not a problem.

```
DMSACP112S A(191) device error
Ready; T=n.nn/n.nn hh:mm:ss
```

2. Spool MAINT's console and set a retrieve key.

spool console * start

```
Ready; T=n.nn/n.nn hh:mm:ss
```

This command creates a spool file of all display output for the MAINT virtual machine. Spooling MAINT's console can be valuable if problems arise and you want to review the system generation activity. If you enter this command, you will have a record of this activity.

set pf12 retrieve

```
Ready; T=n.nn/n.nn hh:mm:ss
```

This command sets function key 12 to retrieve commands previously entered.

3. You **must** access the 2C2 disk as your A-disk. The INSTDIR EXEC will only run when the 2C2 disk is accessed as your A-disk.

access 2c2 a

```
Ready; T=n.nn/n.nn hh:mm:ss
```


+-----Procedure 2-----+

- ___ 4. Attach and access the work disk used to plan the installation.

attach wdaddr * 199

DASD *wdaddr* ATTACHED TO MAINT 0199 [WITH DEVCTL]
Ready; T=*n.nn/n.nn hh:mm:ss*

wdaddr is the virtual address of CURRIDs R/W work disk. *wdaddr* is the work disk address recorded in the **WORK DISK SECTION** in Installation Worksheet Table 5 on page 25.

access 199 z

Ready; T=*n.nn/n.nn hh:mm:ss*

- ___ 5. Copy the planning file from the work disk to MAINT's 2C2 disk.

copyfile \$inst\$ \$file\$ z = a (olddate replace

Ready; T=*n.nn/n.nn hh:mm:ss*

- ___ 6. Release the work disk.

release z (detach

DASD 0199 DETACHED
Ready; T=*n.nn/n.nn hh:mm:ss*

Continue to substep 8 on page 60.

+-----End of Procedure 2-----+

+-----Procedure 1-----+

- ___ 7. Run INSTPLAN to select items to load and the DASD type on which to install.

instplan

*** z/VM INSTALLATION PLANNING ***

Mark items selected to be loaded with an S in the STATUS column, and those selected not to be loaded with an N .

Status	Item	Status	Item	Status	Item
S	BASE	S	TSAF/AVS	S	FILEPOOL
N	SMALL FILEPOOL	S	CP/DV SOURCE	S	CMS/REXX SOURCE
S	VMSES SOURCE	S	RSCS SOURCE	S	UCENG HELP
S	GERMAN HELP	S	KANJI HELP	S	OSA/SF
S	TSM				

Place a nonblank character in front of the DASD model layout onto which the selected items will be loaded. Only one layout may be selected. The number in parenthesis is the number of packs needed to load the items selected.

_ (6) 3390 Single _ (3) 3390 Double _ (2) 3390 Triple
_ () USER PLACEMENT

PF1 = HELP PF3/PF12 = QUIT PF5 = Process ENTER = Refresh

- ___ a. Refer to Installation Worksheet Table 5 on page 25. In the z/VM INSTALLATION PLANNING panel, place an "N" in the STATUS column for each item you did not choose to load. You must have an S in the STATUS column to load an item.

Run INSTDIR

- ___ b. If you are using Directory Build Method 1, place a nonblank character in front of the DASD model that matches the **Device Type and Density** in Table 8 on page 28. If you are using Directory Build Method 2 or 3, place a nonblank character in front of USER PLACEMENT.
- ___ c. After you select the items to be loaded and the DASD model to be used for installation, press PF5 to complete the planning step.

```
HCPIPX8475I THE ITEMS YOU SELECTED TO BE LOADED ARE:
              BASE TSAF/AVS FILEPOOL CP/DV SOURCE CMS/REXX SOURCE
              VMSES SOURCE RSCS SOURCE UCENG HELP GERMAN HELP
              KANJI HELP OSA/SF TSM
```

```
              THE ITEMS YOU SELECTED NOT TO BE LOADED ARE:
              SMALL FILEPOOL
```

```
              THE DASD TYPE YOU SELECTED TO LOAD ON IS:
              dasd model
```

```
              THE PACKS NEEDED TO LOAD THESE ITEMS ARE:
              packs
```

If you selected USER PLACEMENT, *packs* refers to all the packs listed on your Directory Build Worksheet.

```
HCPINP8391I INSTPLAN EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss
```

+-----End of Procedure 1-----+

- ___ 8. Run INSTDIR to build the appropriate directory for your installation and to bring the directory online.
 - If you select Directory Build Method 1, go to substep 8a on page 61.
 - If you select Directory Build Method 2, go to substep 8b on page 62.
 - If you select Directory Build Method 3, go to substep 8c on page 64.

- a. You selected Directory Build Method 1 to install.

__ 1) Run INSTDIR to build the appropriate directory for your installation.

instdir

The minidisks with the END option specified in this directory will not be included in the following DISKMAP file.

```
File USER DISKMAP A has been created.
HCPINP8391I INSTDIR EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss
```

USER DIRECT and VMFRMT EXTENTS are built.

xedit user diskmap

If there are errors in the file, do one of the following:

- Erase USER DIRECT and rerun INSTDIR.

or

- Correct all errors by updating USER DIRECT and then issue the DISKMAP command. If there are still errors in the file, repeat this task.

__ 2) Run DIRONLIN to bring the new USER DIRECT directory online.

dironlin

```
HCPZAC6730I CPRELEASE request for disk B completed.
z/VM USER DIRECTORY CREATION PROGRAM - VERSION 3 RELEASE 1.0
EOJ DIRECTORY UPDATED AND ON LINE
HCPZAC6732I CPACCESS request for MAINT's 0CF1 in mode A completed.
HCPZAC6732I CPACCESS request for MAINT's 0CF2 in mode B completed.
HCPDOL8391I DIRONLIN EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss
```

__ 3) Log off of the MAINT user ID.

logoff

This is required to pick up the new or changed directory links.

```
CONNECT= nn:nn:nn VIRTCPU= nnn:nn.nn TOTCPU= nnn:nn.nn
LOGOFF AT hh:mm:ss {EST|EDT} weekday mm/dd/yy
```

Press enter or clear key to continue

ENTER

__ 4) Go to "Step 3. Run INSTALL EXEC" on page 68.

Run INSTDIR

- b. You selected Directory Build Method 2 to install.

___ 1) Run INSTDIR to build the appropriate directory for your installation.

instdir

```
HCPIDX8484R YOU HAVE SELECTED USER PLACEMENT OF ITEMS.  
ENTER A IF YOU WOULD LIKE AUTOMATIC PLACEMENT OF ITEMS  
ENTER U IF YOU WOULD LIKE USER DEFINED PLACEMENT OF ITEMS  
ENTER Q TO QUIT
```

A

The following panel is displayed:

*** z/VM INSTALLATION AUTOMATIC ITEM PLACEMENT ***				
DASD LABEL	DASD TYPE	EXTENTS		
		START		END
-----	-----	-----		-----
-----	-----	-----		-----
-----	-----	-----		-----
-----	-----	-----		-----
-----	-----	-----		-----
-----	-----	-----		-----
-----	-----	-----		-----
-----	-----	-----		-----
-----	-----	-----		-----
-----	-----	-----		-----
-----	-----	-----		-----
-----	-----	-----		-----

PF1 = HELP PF3/PF12 = EXIT PF5 = PROCESS
PF7 = BACKWARD PF8 = FORWARD

- ___ 2) Fill in the panel using the information from your Directory Build Worksheet—Method 2, Table 7 on page 27. For detailed information press **PF1** for HELP.

Note: INSTDIR does not verify that the extents entered for a DASD are within the actual extents of that DASD. **Do not enter cylinder 0 or blocks 0000-0031.**

Note: If you receive the message HCPIDX8492W NOT ENOUGH DISK SPACE DEFINED TO LOAD THE SELECTED ITEM, you must add more space. You receive this message because gaps may be left at the end of each set of extents when the space remaining is less than the smallest minidisk left to place. As a result, you may need more cylinders or blocks than what is specified in Table 2 on page 20. The more sets of extents you use to define your system, the greater the potential for gaps.

Note: The FILEPOOL or SMALL FILEPOOL item will be loaded to the first extent specified. If you receive message HCPIDX8497W, the first set of extents listed on the panel is not large enough to hold the FILEPOOL or SMALL FILEPOOL item. You must move a DASD with enough free space to the first position on the panel.

- ___ 3) Press **PF5** to process.

HCPWDK8494I NO WORK DISK NEEDED
or

You will receive either message 8494I or 8493R.

HCPWDK8493R YOU MUST DEFINE A *nnnn* cyl/block
 MINIDISK AS A WORK DISK. THIS MINIDISK
 MUST RESIDE ON *ddrtype* DASD. ENTER DASD
 LABEL AND STARTING EXTENT WHERE YOU
 WOULD LIKE THIS WORK DISK PLACED, OR
 PRESS ENTER TO EXIT.

dasdlabel strtext

dasdlabel is the label of the DASD.

strtext is the starting extent where the work disk
 will be placed.

Do **not** use cylinders/blocks located within the
 extents defined on the previous panel. INSTDIR
 has defined minidisks on those extents.

The minidisks with the END option specified in this directory will not be
 included in the following DISKMAP file.

File USER DISKMAP A has been created.
 HCPINP8391I INSTDIR EXEC ENDED SUCCESSFULLY
 Ready; T=*n.nn/n.nn hh:mm:ss*

USER DIRECT and VMFRMT EXTENTS are built. Go to substep 9 on page 65.

Run INSTDIR

c. You selected Directory Build Method 3 to install.

___ 1) Run INSTDIR to build the appropriate directory for your installation.

instdir

```
HCPIDX8484R YOU HAVE SELECTED USER PLACEMENT OF ITEMS.
                ENTER A IF YOU WOULD LIKE AUTOMATIC PLACEMENT OF ITEMS
                ENTER U IF YOU WOULD LIKE USER DEFINED PLACEMENT OF ITEMS
                ENTER Q TO QUIT
```

U

The following panel is displayed:

*** z/VM INSTALLATION USER DEFINED ITEM PLACEMENT ***				
ITEM	DASD LABEL	DASD TYPE	EXTENTS START	EXTENTS END
CP/DV	_____	_____	_____	_____
CMS/REXX	_____	_____	_____	_____
VMSES	_____	_____	_____	_____
GCS	_____	_____	_____	_____
RSCS	_____	_____	_____	_____
TCP/IP1	_____	_____	_____	_____
TCP/IP2	_____	_____	_____	_____
TCP/IP3	_____	_____	_____	_____
SYSTEM	_____	_____	_____	_____
SYSTOOLS	_____	_____	_____	_____
SYSUSERS	_____	_____	_____	_____
ICKDSF	_____	_____	_____	_____
LE/370	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

PF1 = HELP PF3/PF12 = EXIT PF5 = PROCESS
PF7 = BACKWARD PF8 = FORWARD

___ 2) Fill in the panel using the information from your Directory Build Worksheet—Method 3, Table 8 on page 28. For detailed information press **PF1** for HELP.

___ 3) Press **PF8** to continue to the next page of input.

___ 4) Press **PF5** to process.

HCPWDK8494I NO WORK DISK NEEDED
or

You will receive either message 8494I or 8493R.

```
HCPWDK8493R YOU MUST DEFINE A nnnn cyl/block
                MINIDISK AS A WORK DISK. THIS MINIDISK
                MUST RESIDE ON ddrttype DASD. ENTER DASD
                LABEL AND STARTING EXTENT WHERE YOU
                WOULD LIKE THIS WORK DISK PLACED, OR
                PRESS ENTER TO EXIT.
```

dasdlabel strtext

dasdlabel is the label of the DASD.

strtext is the starting extent where the work disk will be placed.

Do **not** use cylinders/blocks located within the extents defined on the previous panel. INSTDIR has defined minidisks on those extents.

The minidisks with the END option specified in this directory will not be included in the following DISKMAP file.

```
File USER DISKMAP A has been created.
HCPINP8391I INSTDIR EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss
```

USER DIRECT and VMFRMT EXTENTS are built.

- ___ 9. Review USER DISKMAP to check for errors.

xedit user diskmap

If there are errors in the file, do one of the following:

- Erase USER DIRECT and go to substep 8 on page 60.

or

- Correct all errors by updating USER DIRECT and then issue the DISKMAP command. If there are still errors in the file, repeat this task.

- ___ 10. Add the pack labels listed on your Directory Build Worksheet to your system configuration file (SYSTEM CONFIG). Any volumes that will contain real system paging, spooling, dump, directory, or temporary disk space need to be added to the CP-owned volume list. Any volumes that will contain only minidisks need to be added to the user volume list.

cprelease a

```
HCPZAC6730I CPRELEASE request for disk A completed.
Ready; T=n.nn/n.nn hh:mm:ss
```

link maint cf1 cf1 mw

```
DASD 0CF1 LINKED R/W: R/O BY SYSTEM
Ready; T=n.nn/n.nn hh:mm:ss
```

access cf1 a

```
DMSACC724II CFI replaces A(2C2).
Ready; T=n.nn/n.nn hh:mm:ss
```

xedit system config a

====> set case mixed ignore

- ___ a. Locate the CP-owned volume list in the system configuration file.

====> locate /cp_owned/&/310RES/

If you are not using 310W01, 310W02, 310W03, 310W04, 310W05, 310W06, 310W07, 310W08, or 310W09, change the pack label to RESERVED.

Add each of the volumes that need to be added, if any, to the CP-owned volume list by changing the label RESERVED to the label of your volume.

- ___ b. Locate the user volume list in the system configuration file

```
====> locate /user_volume_list usrp01/
====> input User_Volume_List valid1
:
```

Add each of the volumes that need to be added to the list (*valid1* to *validxx*).

====> input User_Volume_List validxx

Run INSTDIR

====> **file**

Ready; T=*n.nn/n.nn hh:mm:ss*

access 2c2 a

DMSACC724I 2C2 replaces A(CF1)

Ready; T=*n.nn/n.nn hh:mm:ss*

- 11. Attach all packs added to the system configuration file in substep 10 on page 65 to your system by repeating the ATTACH command for each volume (pack) you are using for installation.

attach packaddr system valid

packaddr is the address of the DASD device.

valid is the pack's label.

DASD *packaddr* ATTACHED TO SYSTEM *valid*

Ready; T=*n.nn/n.nn hh:mm:ss*

Step 2. Run DIRONLIN EXEC

In this step you will:

- Run DIRONLIN to bring the new directory online.
- Log off of the MAINT user ID.

___ 1. Bring the new USER DIRECT directory online.

dironlin

```
HCPZAC6730I CPRELEASE request for disk A completed.
HCPZAC6730I CPRELEASE request for disk B completed.
z/VM USER DIRECTORY CREATION PROGRAM - VERSION 3 RELEASE 1.0
EOJ DIRECTORY UPDATED AND ON LINE
HCPZAC6732I CPACCESS request for MAINT's 0CF1 in mode A completed.
HCPZAC6732I CPACCESS request for MAINT's 0CF2 in mode B completed.
HCPDOL8391I DIRONLIN EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss
```

___ 2. Log off of the MAINT user ID.

logoff

This is required to pick up the new or changed directory links.

```
CONNECT= nn:nn:nn VIRTCPU= nnn:nn.nn TOTCPU= nnn:nn.nn
LOGOFF AT hh:mm:ss {EST|EDT} weekday mm/dd/yy
```

Press enter or clear key to continue

ENTER

Step 3. Run INSTALL EXEC

In this step you will:

- Log on to the MAINT user ID
- Run INSTALL to load the items you chose from the z/VM System DDR. Refer to Installation Worksheet Table 5 on page 25.

Notes:

1. On all panels, CP and CMS commands can be issued from the panel command line. Line end characters, for example #, cannot be used.
2. Running the INSTALL EXEC requires a full screen terminal with at least 20 lines.
3. Run INSTALL from the 2C2 disk accessed as file mode 'A'.

1. Log on to the MAINT user ID.

ENTER

The default password for MAINT is MAINT.

logon maint

:

DMSACP112S Y(19E) device error
:

You will receive this device error message because you are accessing disk 19E that is not yet formatted. This is not a problem.

z/VM V3.1.0 yyyy-mm-dd hh:mm

ENTER

DMSACP112S A(191) device error

You will receive this device error message because you are accessing disk 191 that is not yet formatted. This is not a problem.

Ready; T=n.nn/n.nn hh:mm:ss

2. Spool MAINT's console and set a retrieve key.

spool console * start

Ready; T=n.nn/n.nn hh:mm:ss

This command creates a spool file of all display output for the MAINT virtual machine. Spooling MAINT's console can be valuable if problems arise and you want to review the system generation activity. If you enter this command, you will have a record of this activity.

set pf12 retrieve

Ready; T=n.nn/n.nn hh:mm:ss

This command sets function key 12 to retrieve commands previously entered.

3. You **must** access the 2C2 disk as your A-disk. The INSTALL EXEC will only run when the 2C2 disk is accessed as your A-disk.

access 2c2 a

Ready; T=n.nn/n.nn hh:mm:ss

+ Procedure 1 Only +

4. Choose the addresses of your tape drives.

For the Base item, you will need tape drives for five tape volumes (2-6) of the z/VM System DDR. Depending on the optional items you chose to load, you will need tape drives for volumes (7-8). You will need two CD-ROM volumes for the z/VM System DDR on CD-ROM.

Note: If you use a unique tape drive for each volume, or use a tape stacker in automatic mode, the tapes will be loaded without interruption. If you must use one tape drive for multiple volumes, you will be prompted by the INSTALL EXEC when a tape volume needs to be changed.

- ___ 5. If you require any more tape drives, record the following in the **TAPE DRIVE SECTION** in Installation Worksheet (Table 5 on page 25):
 - ___ a. The real address (*tapeaddr*) of each tape drive in the **1st Level Real** and **1st Level Virtual/2nd Level Real** columns
 - ___ b. The device type of each tape drive under the **Device Type** column.

+-----End of Procedure 1 Only-----+

- ___ 6. Attach the tape drives by **repeating** this step for **each** tape drive needed. Refer to the **1st Level Virtual/2nd Level Real** column in the **TAPE DRIVE SECTION** in Installation Worksheet Table 5 on page 25 for *tapeaddr*.

You can attach additional tape drives from the INSTALL panel command line.

```
attach tapeaddr * vtapeaddr
```

```
TAPE tapeaddr ATTACHED TO MAINT vtapeaddr
Ready; T=n.nn/n.nn hh:mm:ss
```

tapeaddr is the address in the **1st Level Virtual/2nd Level Real** column of the **TAPE DRIVE SECTION** in Installation Worksheet Table 5.

vtapeaddr is the virtual address where the tape drive will be attached. *vtapeaddr* must be attached at virtual addresses within the following ranges: 180 to 187 or 288 to 28F.

- ___ 7. Record *vtapeaddr* in the **2nd Level Virtual** column in the **TAPE DRIVE SECTION** in Installation Worksheet Table 5.
 - ___ 8. Run INSTALL to display the z/VM LOAD MENU panel.
- If installing from CD-ROM, enter:

```
install cd (quiet
```

If installing from tape, enter:

```
install (quiet
```

Using the QUIET option of the INSTALL EXEC changes your console setting to SPOOL NOTERM so you will not receive system output messages to your console while the exec is running. This suppresses all messages except the percent loaded, loading, and completion messages.

Attention: If you used the QUIET option and the INSTALL exec terminates before successful completion, you must manually return your console to the normal state of receiving system messages. Enter the command `spool console term` whether you have terminated the exec or the exec itself has abended because of error. As the INSTALL exec successfully completes, it automatically returns your console to the normal state of receiving system messages.

The z/VM LOAD MENU panel displays after issuing the INSTALL command.

Run INSTALL EXEC

```
z/VM LOAD MENU

ENTER 'S' TO SELECT ('L' INDICATES ALREADY LOADED)

S      BASE
S      TSAF, AVS
S      FILEPOOL
S      SMALL FILEPOOL
S      CP, DV SOURCE
S      CMS, REXX SOURCE
S      VMSES/E SOURCE
S      RSCS SOURCE
S      UCENG HELP
S      GERMAN HELP
S      KANJI HELP
S      OSA/SF
S      TSM

====>

PF1 = HELP      PF3 = QUIT      PF4 = UNLOCK RELOAD      PF5 = NEXT
```

- ___ 9. The “S” in the z/VM LOAD MENU panel shows all items you selected during planning.
- ___ 10. Press **PF5** to proceed to the LOAD DEVICE MENU panel, shown next.

PF5

The LOAD DEVICE MENU panel displays after pressing PF5 from the z/VM LOAD MENU panel.

```
LOAD DEVICE MENU

MEDIA SELECTED IS: media

MOUNT VOLUME      VADDR
  2
  3
  4
  5
  6
  7
  8

====>

PF1 = HELP      PF3 = QUIT      PF5 = LOAD      PF12 = RETURN
```

- ___ 11. Complete the LOAD DEVICE MENU panel.

Note: The INSTALL EXEC shows you on this panel which tape volumes you need to mount based on your load choices from the z/VM LOAD MENU panel. The INSTALL EXEC prompts you when a tape volume needs changing.

- ___ a. Check the **MEDIA SELECTED IS:** field. This is a required field that will contain either TAPE or CD depending on the parameter used to invoke the INSTALL exec. If the *media* specified is not correct, press **PF3** to quit and run the INSTALL exec with the correct parameter.
- ___ b. Attach additional tape drive(s), if needed, from the panel's command line.

Note: Tape drives must be attached at virtual addresses within the following ranges: 180 to 187 or 288 to 28F.

- ___ c. Type in the tape drive addresses.

Run INSTALL EXEC

Use the addresses in the **2nd Level Virtual** column in the **TAPE DRIVE SECTION** in the Installation Worksheet Table 5 on page 25.

Each volume must have an associated tape drive. If you use one tape drive or tape stacker for multiple volumes, you must enter that tape drive address next to each volume for which it will be used.

Note: If you use a unique tape drive for each volume, or use a tape stacker in automatic mode, the tapes will be loaded without interruption. If you must use one tape drive for multiple volumes, you will be prompted by the INSTALL EXEC when a tape volume needs to be changed.

- ___ 12. Mount the z/VM System DDR tape(s) or CD-ROM on the corresponding tape drive(s).

Note: Only mount the tape volumes listed on your screen.

- ___ 13. Press **PF5** to load.

PF5

The load starts with the following system messages:

Note: You will not see the optional item messages if you chose not to load those items.

HCPWIN8388I CHECKING STATUS OF DRIVES

HCPWIN8381I CHECKING TAPE VOLUME NUMBER FOR DRIVE *vaddr*

You will receive this message for each tape drive you are using. The screen will clear after these messages are displayed.

HCPWIN8371I LOADING BASE

HCPWIN8371I LOADING TSAF, AVS ...

HCPWIN8371I LOADING FILEPOOL ...

HCPWIN8371I LOADING CP, DV SOURCE ...

HCPWIN8371I LOADING CMS, REXX SOURCE ...

HCPWIN8371I LOADING VMSES/E SOURCE ...

⋮

The screen will clear for a few seconds after these messages are displayed.
valid is the volume identifier.

HCPWIN8428I TOTAL PERCENT LOADED -> *nn*%

HCPWIN8380I RESTORING MINIDISK *nnn* TO *valid*

+-----Additional messages-----+

⋮

HCPWIN8433I INSTALL PROCESSING CONTINUES

HCPWIN8372A PLEASE MOUNT VOLUME *n* ON TAPE DRIVE
vaddr THEN PRESS ENTER TO CONTINUE

HCPWIN8381I CHECKING TAPE VOLUME NUMBER FOR DRIVE
vaddr

Depending on the tape devices you are using for installation, you may receive these tape device management messages.

Run INSTALL EXEC

+-----End of Additional messages -----+

HCPWIN8434I *item* HAS BEEN SUCCESSFULLY LOADED.

This message is repeated for each item loaded.

:

Ready; T=*n.nn/n.nn hh:mm:ss*

___ 14. IPL your System disk (190) to access minidisks.

ipl 190 clear

Clear is necessary. Do not omit it.

z/VM V3.1.0 *yyyy-mm-dd hh:mm*

ENTER

Press **Enter** to complete CMS initialization.

Ready; T=*n.nn/n.nn hh:mm:ss*

What to Do Next

Go to "Chapter 6. Post Load Installation Tasks" on page 73.

Chapter 6. Post Load Installation Tasks

In this chapter, you will:

- Use POSTLOAD EXEC to perform clean-up tasks
- Start or generate the VMSERVS, VMSERVU, and VMSERVER file pools
- Use INSTDEF EXEC to customize and rebuild nuclei
- Load new nuclei
- Use INSTDEF2 EXEC to rebuild segments and backup disks
- Load new CLOAD module
- Back up system to tape.

Step 1. Run POSTLOAD EXEC

In this step you will:

Run POSTLOAD to perform the following tasks depending on the items you have loaded:

1. POSTLOAD allocates the first cylinder or page of the system residence pack. This will adjust the number of cylinders or pages in the allocation map to match the size of your system residence pack.
2. If you did not load CP, DV Source, CMS, REXX Source, or VMSES Source, POSTLOAD formats a 1-cylinder minidisk that corresponds to the Source minidisk not loaded.
3. If you did not load the FILEPOOL servers, POSTLOAD removes the statements that autolog the servers during an IPL by erasing the profile exec (PROFILE EXEC) supplied on AUTOLOG1's 191 disk.
4. RPWLST DATA is a file that contains a list of restricted logon passwords. The CP nucleus includes a system security feature called ADRP (Auto-Deactivation of Restricted Passwords) that works with RPWLST DATA. POSTLOAD gives you three choices:
 - You do not want automatic deactivation of passwords
 - You do want the automatic deactivation of passwords and want to use RPWLST DATA unchanged
 - You do want the automatic deactivation of passwords but want to tailor RPWLST DATA.
5. POSTLOAD comments out a subset of MAINT's 800-series LINK statements in the USER DIRECT file. These links were used only for install and must be removed to prevent errors.
6. If you loaded UCENG HELP, GERMAN HELP, or KANJI HELP, POSTLOAD updates the PROFILE IBMDFLT section in the USER DIRECT file. POSTLOAD removes the comment (*) in front of the LINK statement for the HELP disk you loaded.
7. POSTLOAD places the directory online using the DIRECTXA command. If the directory contains any restricted logon passwords that are listed in RPWLST DATA, these passwords are changed to NOLOG before the directory is placed online.
8. POSTLOAD creates the following system-level Software Inventory Tables:
 - VM SYSRECS
 - VM SYSDESCT
 - VM SYSREQT
 - VM SYSBLDS
 - VM SYSAPPS
9. POSTLOAD loads the service files from the Recommended Service Upgrade (RSU) tapes. You need to have the RSU tape mounted and ready on a tape drive before you run POSTLOAD.
10. If you loaded UCENG, POSTLOAD converts the new serviced HELP files to uppercase English (UCENG) HELP files on the HELP file minidisk (402).

- ___ 1. Log on to the MAINT user ID if you are not already logged on.

ENTER

The default password for MAINT is MAINT.

logon maint

:

Ready; T=n.nn/n.nn hh:mm:ss

- ___ 2. Query the access order of your disks. If you have any extra disks accessed, IPL the 190 disk to clear the access order.

q disk

```

LABEL  VDEV M  STAT
MNT191 191  A   R/W
MNT5E5 5E5  B   R/W
MNT51D 51D  D   R/W
MNT190 190  S   R/O
MNT19E 19E  Y/S  R/O
Ready; T=n.nn/n.nn hh:mm:ss

```

ipl 190 clear

```
z/VM V3.1.0   yyyy-mm-dd hh:mm
```

ENTER

```
Ready; T=n.nn/n.nn hh:mm:ss
```

Clear is necessary. Do not omit it.Press **Enter** to complete CMS initialization.

- ___ 3. Access the z/VM installation tools disk as E.

access 2c2 e

```
Ready; T=n.nn/n.nn hh:mm:ss
```

- ___ 4. Determine if you want ADRP (Auto-Deactivation of Restricted Passwords). If so, determine if you want to use RPWLST DATA unchanged or want to tailor RPWLST DATA. (When you run POSTLOAD in substep 7, you will be asked if you want to change the RPWLST DATA file.)

If any logon password in the USER DIRECT file is in the list of restricted passwords in RPWLST DATA, DIRECTXA changes the password in the directory to NOLOG before bringing the directory online. A password of NOLOG prevents the user ID from being logged on to the system.

There are no passwords in the default USER DIRECT file that match a restricted password in RPWLST DATA.

The RPWLST DATA file contains the following list of passwords:

ACNT	ECMODE	OPASS	SQLDBAPW
AUTOLOG	IBMCE	OSVS1	SQLUSER
BATCH	IPCS	PASSWORD	SYSADMIN
CE	ISMAINT	PRODBM	SYSDUMP
CMSUSER	ITPS	PROMAIL	VMAP
CMS2	IVPASS	PSR	VSEIP
CMS3	LEV2VM	ROUTER	VSEIPO
CPCMS	MASTER	SFBATCH	VSEMAINT
DIRM	MDVR	SSFCAL	

- ___ 5. Attach the tape drives used for the RSU to MAINT. Repeat this step for each tape drive needed.

attach tapeaddr* vtapeaddr

```
TAPE tapeaddr ATTACHED TO MAINT vtapeaddr
```

```
Ready; T=n.nn/n.nn hh:mm:ss
```

tapeaddr is the address in the **1st Level Virtual/2nd Level Real** column of the **TAPE DRIVE SECTION** in Installation Worksheet Table 5.

vtapeaddr is the virtual address where the tape drive will be attached. *vtapeaddr* must be attached at virtual addresses within the following ranges: 180 to 187 or 288 to 28F.

- ___ 6. Mount the RSU on your tape drives. Follow the operation manual for the machine on which you mount the tapes.

Note: Make sure that the tapes are write-protected.

- ___ 7. Invoke POSTLOAD.

postload

Run POSTLOAD EXEC

```
HCPPLD8345R *****
HCPPLD8345R *
HCPPLD8345R *   WHAT WOULD YOU LIKE TO DO WITH THE RESTRICTED   *
HCPPLD8345R *   PASSWORD FILE (RPWLST DATA) ???   PLEASE   *
HCPPLD8345R *   SELECT ONE OF THE FOLLOWING :                   *
HCPPLD8345R *
HCPPLD8345R *   1.) NOT USE                                           *
HCPPLD8345R *   2.) USE WITH DEFAULTS                               *
HCPPLD8345R *   3.) EDIT AND MAKE YOUR OWN CHANGES             *
HCPPLD8345R *   4.) EXIT POSTLOAD PROCESSING                       *
HCPPLD8345R *
HCPPLD8345R *****
```

choice

choice is one of the selections. Enter: **1, 2, 3,** or **4.**

```
HCPPLD8320R   PLEASE ENTER TAPE ADDRESS WHERE RSU TAPE
              VOLUME 1 IS MOUNTED
```

addr1

```
HCPPLD8313R RSU VOLUME 1 IS MOUNTED ON TAPE ADDRESS addr1
              IF THIS IS CORRECT PRESS ENTER TO CONTINUE
              OTHERWISE ENTER QUIT TO EXIT
```

ENTER

```
HCPPLD8320R   PLEASE ENTER TAPE ADDRESS WHERE RSU TAPE
              VOLUME 2 IS MOUNTED
```

addr2

```
HCPPLD8320R   PLEASE ENTER TAPE ADDRESS WHERE RSU TAPE
              VOLUME 3 IS MOUNTED
```

addr3

```
HCPPLD8313R RSU VOLUME 2 IS MOUNTED ON TAPE ADDRESS addr2
HCPPLD8313R RSU VOLUME 3 IS MOUNTED ON TAPE ADDRESS addr3
              IF THIS IS CORRECT PRESS ENTER TO CONTINUE
              OTHERWISE ENTER QUIT TO EXIT
```

ENTER

Note: The number of volumes of the RSU may change.

```
HCPWSR8409I Generating Software Inventory Files
```

```
HCPWSR8413I Generating Software Inventory Files completed
```

```
HCPPLD8338I NOW EXECUTING LOAD OF THE RECOMMENDED SERVICE
              UPGRADE (RSU)
```

```
HCPPLD8335I LOADING RSU VOLUME 1
```

```
HCPPLD8332I PROCESSING COMPONENT PPF ppfname component
```

```
HCPPLD8333I SERVICE LOADED FOR COMPONENT PPF ppfname component
```

```
:
:
```

Run POSTLOAD EXEC

HCPPLD8335I LOADING RSU VOLUME 2

If you are using a CD-ROM to load the RSU, when you receive the LOADING RSU VOLUME 2 message, you must mount RSU Volume 2.

HCPPLD8332I PROCESSING COMPONENT PPF *ppfname component*

HCPPLD8333I SERVICE LOADED FOR COMPONENT PPF *ppfname component*

:

HCPPLD8335I LOADING RSU VOLUME 3

If you are using a CD-ROM to load the RSU and you receive the LOADING RSU VOLUME 3 message, you must mount RSU Volume 3.

HCPPLD8332I PROCESSING COMPONENT PPF *ppfname component*

HCPPLD8333I SERVICE LOADED FOR COMPONENT PPF *ppfname component*

:

HCPPLD8338I NOW EXECUTING UPPERCASE OF LOADED ITEMS HELP FILES

HCPPLD8392I POSTLOAD EXEC ENDED SUCCESSFULLY

Ready; T=*n.nn/n.nn hh:mm:ss*

__ 8. IPL your System disk (190).

ipl 190 clear

Clear is necessary. Do not omit it.

z/VM V3.1.0 *yyyy-mm-dd hh:mm*

ENTER

Press **Enter** to complete CMS initialization.

Ready; T=*n.nn/n.nn hh:mm:ss*

Start the File Pools

Step 2. Start the File Pools

If you loaded either the FILEPOOL or the SMALL FILEPOOL item, continue with this step. Otherwise, go to “Step 3. Plan for Running INSTDEF EXEC” on page 80.

In this step you will:

- Start the VMSYS, VMSYSU, and VMSYSR file pools

- ___ 1. Log on to the MAINT user ID if you are not already logged on.

ENTER **logon maint**

The default password for MAINT is MAINT.

:

Ready; T=*n.nn/n.nn hh:mm:ss*

- ___ 2. Access the z/VM installation tools disk as E.

access 2c2 e

Ready; T=*n.nn/n.nn hh:mm:ss*

- ___ 3. Run INSTPOOL either to start or generate the file pools VMSYS, VMSYSU, and VMSYSR. INSTPOOL will determine whether the file pools are started or generated.

instpool

DMSACC724I 2C2 replaces E (2C2)

+ Messages received if file pools are started +

```
DMSACC724I 2C2 replaces E (2C2)
AUTO LOGON ***      VMSERVn USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVn: The IPL command is verified by the IPL
command processor.
VMSERVn : z/VM V3.1.0   yyyy-mm-dd hh:mm
VMSERVn : DMSACP723I B (193) R/O
VMSERVn : DMSWV1117I FILESERV processing begun at hh:mm:ss on dd month yyyy
VMSERVn : DMSWV1121I VMSERVn DMSPARMS A1 will be used for FILESERV processing
VMSERVn : DMSWV1121I VMSYS POOLDEF A1 will be used for FILESERV processing

AUTO LOGON ***      VMSERVU USERS = 4
HCPCLS6056I XAUTOLOG information for VMSERVn: The IPL command is verified by the IPL
command processor.
VMSERVn : z/VM V3.1.0   yyyy-mm-dd hh:mm
VMSERVn : DMSACP723I B (193) R/O
VMSERVn : DMSWV1117I FILESERV processing begun at hh:mm:ss on dd month yyyy
VMSERVn : DMSWV1121I VMSERVn DMSPARMS A1 will be used for FILESERV processing
VMSERVn : DMSWV1121I VMSYSn POOLDEF A1 will be used for FILESERV processing

AUTO LOGON ***      VMSERVn USERS = 5
VMSERVn : DMS5BB3045I Ready for operator communications
HCPCLS6056I XAUTOLOG information for VMSERVn: The IPL command is verified by the IPL
command processor.
VMSERVn : DMS5BB3045I Ready for operator communications
VMSERVn : z/VM V3.1.0   yyyy-mm-dd hh:mm
VMSERVn : DMSACP723I B (193) R/O
VMSERVn : DMSWV1117I FILESERV processing begun at hh:mm:ss on dd month yyyy
VMSERVn : DMSWV1121I VMSERVn DMSPARMS A1 will be used for FILESERV processing
VMSERVn : DMSWV1121I VMSYSn POOLDEF A1 will be used for FILESERV processing
VMSERVn : DMS6LG3335I CRR log recovery begins at mm-dd-yy hh:mm:ss
VMSERVn : DMS6LG3335I CRR log recovery completes at mm-dd-yy hh:mm:ss
VMSERVn : DMS5BB3045I Ready for operator communications
```

+ End of Messages received if file pools are started +

Messages received for each file pool if file pools are generated

```

DASD 0804 DETACHED
AUTO LOGON ***          VMSEVRn  USERS = n
HCPCLS6056I XAUTOLOG information for VMSEVRn: The IPL command is verified by the IPL
command processor.
VMSEVRn : DMSACC724I 19E replaces Y (19E)
VMSEVRn : DMSACP723I Y (19E) R/O
VMSEVRn : z/VM V3.1.0      yyyy-mm-dd hh:mm
VMSEVRn : DMSWSP100W Shared S-STAT not available
VMSEVRn : DMSWSP100W Shared Y-STAT not available
VMSEVRn : DMSACP723I B (193) R/O
VMSEVRn : DMSWV1117I FILESERV processing begun at hh:mm:ss on dd month yyyy
VMSEVRn : DMSWV1121I VMSEVRn DMSPARMS A1 will be used for FILESERV processing
VMSEVRn : DMS4PD3400I Initializing begins for DDNAME = CONTROL
VMSEVRn : DMS4PD3400I Initializing ends for DDNAME = CONTROL
VMSEVRn : DMS4PD3400I Initializing begins for DDNAME = MDK00001
VMSEVRn : DMS4PD3400I Initializing ends for DDNAME = MDK00001
VMSEVRn : DMS4PD3400I Initializing begins for DDNAME = MDK00002
VMSEVRn : DMS4PD3400I Initializing ends for DDNAME = MDK00002
VMSEVRn : DMS4PG3404W File pool limit of 2 minidisks has been reached
VMSEVRn : DMS4PD3400I Initializing begins for DDNAME = LOG1
VMSEVRn : DMS4PD3400I Initializing ends for DDNAME = LOG1
VMSEVRn : DMS4PD3400I Initializing begins for DDNAME = LOG2
VMSEVRn : DMS4PD3400I Initializing ends for DDNAME = LOG2
VMSEVRn : DMS6LB3336I Initialization begins for the CRR log minidisks
VMSEVRn : DMS6LB3336I Initialization completes for the CRR log minidisks
VMSEVRn : DMS5FD3032I File pool server has terminated
VMSEVRn : DMSWV1120I File VMSYSn POOLDEF A1 created or replaced
VMSEVRn : DMSWV1117I FILESERV processing ended at hh:mm:ss on dd month yyyy
RDR FILE 0010 SENT FROM VMSEVRn  PUN WAS 0001 RECS 0004 CPY 001 A NOHOLD NOKEEP
VMSEVRn : File FILESERV VALID A3 sent to MAINT at ZVMV3R10 on mm/dd/yy hh:mm:ss
VMSEVRn : Ready; T=n.nn/n.nn hh:mm:ss

HCPQCS150A User VMSEVRn has issued a VM read
VMSEVRn : CONNECT= hh:mm:ss VIRTCPU= 000:00.90 TOTCPU= 000:02.12
VMSEVRn : LOGOFF AT hh:mm:ss EDT WEDNESDAY mm/dd/yy BY MAINT
USER DSC LOGOFF AS VMSEVRn  USERS = 2      FORCED BY MAINT
DASD 0804 DETACHED

AUTO LOGON ***          VMSEVRn  USERS = 3
HCPCLS6056I XAUTOLOG information for VMSEVRn: The IPL command is verified by the IPL
command processor.
VMSEVRn : DMSACC724I 19E replaces Y (19E)
VMSEVRn : DMSACP723I Y (19E) R/O
VMSEVRn : z/VM V3.1.0      yyyy-mm-dd hh:mm
VMSEVRn : DMSWSP100W Shared S-STAT not available
VMSEVRn : DMSWSP100W Shared Y-STAT not available
VMSEVRn : DMSACP723I B (193) R/O
VMSEVRn : DMSWV1117I FILESERV processing begun at hh:mm:ss on dd month yyyy
VMSEVRn : DMSWV1121I VMSEVRn DMSPARMS A1 will be used for FILESERV processing
VMSEVRn : DMSWV1121I VMSYSn POOLDEF A1 will be used for FILESERV processing
VMSEVRn : DMS6LG3335I CRR log recovery begins at mm-dd-yy hh:mm:ss
VMSEVRn : DMS6LG3335I CRR log recovery completes at mm-dd-yy hh:mm:ss
VMSEVRn : DMS5BB3045I Ready for operator communications

```

End of Messages received for each file pool if file pools are generated

```

HCPIFP8392I INSTPOOL EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss

```

Step 3. Plan for Running INSTDEF EXEC

In this step you will:

- Select which items to move to SFS.
- Select the system default language.
- Customize the VERSION and INSTID fields.

The information you record in this step will be used to fill out the panel in “Step 4. Run INSTDEF EXEC” on page 81.

- ___ 1. When you installed the system, all items were loaded to minidisks. You may now select to move these items to Shared File System directories. If you want all items to remain on minidisks, skip to substep 2. Otherwise, record an S next to each item you selected to move to the SFS directories. If you selected to load the SMALL FILEPOOL item, VMSYS contains a smaller SFS area. DO NOT try to move items into SFS. After the item is moved into SFS, the minidisks are commented out in USER DIRECT to free up the DASD space.

☐ _ AVS	☐ _ GCS	☐ _ TSAF
☐ _ LE370	☐ _ RSCS	☐ _ TCP/IP
☐ _ OSA	☐ _ TSM	☐ _ ICKDSF

- ___ 2. At this time, you can also customize the VERSION and INSTID fields for the CMS nucleus. If you leave these blank, the default values are used.

VERSION defines the version identification that is displayed each time a user IPLs this CMS system. The default version heading is:

z/VM V3.1.0 yyyy-mm-dd hh:mm

To specify a different version heading, record 1 to 32 characters.

VERSION _____

INSTID specifies the heading that appears at the beginning of each output file. The default installation heading is:

VM Conversational Monitor System

To specify a different installation heading, record 1 to 47 characters.

INSTID _____

- ___ 3. Both CP and CMS were built with a System Default Language of mixed case English (AMENG). You may choose to leave the System Default Language as mixed case English (AMENG) or change it to Upper Case English (UCENG). Record either AMENG or UCENG. (You can select UCENG only if you loaded the UCENG Help item.)
- _____ (AMENG or UCENG)
- ___ 4. OpenExtensions Shell and Utilities is now shipped as part of CMS. If you do not want to use OpenExtensions Shell and Utilities or you want to move it into BFS directories other than the IBM defined default directories, record an N. If you want to move OpenExtensions Shell and Utilities into the IBM defined BFS directories, record a Y.
- _____ (Y/N)

Step 4. Run INSTDEF EXEC

In this step you will:

- Run INSTDEF EXEC to rebuild CMS, CP, and GCS
- Load the CMS and GCS nucleus.
- Move items to SFS
- Move OpenExtensions Shell and Utilities into BFS directories.

1. Access the 2C2 disk as C.

```
access 2c2 c
Ready; T=n.nn/n.nn hh:mm:ss
```

2. Invoke INSTDEF.

```
instdef

*** z/VM TAILOR CP, CMS, & GCS ***

Mark items selected to be moved into SFS with an S in the Move to SFS column
and those selected not to be moved into SFS with an N .

Move to SFS  Component  Move to SFS  Component  Move to SFS  Component
-----
      N      AVS           N      GCS           N      TSAF
      N      LE370        N      RSCS          N      TCPIP
      N      OSA           N      TSM           N      ICKDSF

You can input up to 32 characters in the Version field,
and up to 47 characters in the INSTID field.
Version      _____
INSTID       _____

System Default Language (AMENG or UCENG) _____

Move Shell & Utilities into the IBM default Byte File System? (Y/N) _____

PF1 = HELP   PF3/PF12 = QUIT   PF5 = Process   ENTER = Refresh
```

a. If you are moving items into SFS, modifying the default language, or customizing the Version or INSTID fields, fill in the panel and press **PF5** to process. If you are not moving items into SFS and you are using the default values, just press **PF5** to process.

Note: Please record the file number of the CMS nucleus and GCS nucleus.

```
HCPDFX8475I THE ITEMS YOU SELECTED TO MOVE TO SFS ARE:
AVS GCS TSAF LE370 RSCS TCPIP OSA TSM ICKDSF

THE ITEMS YOU SELECTED NOT TO MOVE TO SFS ARE:
NONE
```

Run INSTDEF EXEC

THE LANGUAGE IDENTIFIER IS:
AMENG

THE VERSION IDENTIFIER IS:
NONE SPECIFIED

THE INSTALLATION IDENTIFIER IS:
NONE SPECIFIED

MOVE SHELL & UTILITIES INTO IBM DEFAULT BFS:
YES

HCPDFX8338I NOW EXECUTING THE TAILORING CMS STEP
PRT FILE *nnnn* SENT FROM MAINT PRT WAS *nnnn* RECS 0203 CPY 001 A NOHOLD NOKEEP
HCPDFX8341I INSTDEF FUNCTION TAILORING CMS COMPLETED SUCCESSFULLY
HCPDFX8338I NOW EXECUTING THE REBUILDING CMS STEP
RDR FILE *nnnn* SENT FROM MAINT PUN WAS *nnnn* RECS 098K CPY 001 A NOHOLD NOKEEP
HCPDFX8341I THE CMS REBUILD COMPLETED SUCCESSFULLY
HCPDFX8355I THE SPOOLID FOR THE CMS NUCLEUS \$\$\$TLL\$\$ FILE IS: *fileno1*
HCPDFX8341I INSTDEF FUNCTION REBUILDING CMS COMPLETED SUCCESSFULLY

HCPDFX8338I NOW EXECUTING THE REBUILDING CP STEP
CPRELEASE request for disk A scheduled.
HCPZAC6730I CPRELEASE request for disk A completed.
DASD 0CF1 DETACHED
CPACCESS request for mode A scheduled.
HCPZAC6732I CPACCESS request for MAINT's 0CF1 in mode A completed.
HCPDFX8341I INSTDEF FUNCTION REBUILDING CP COMPLETED SUCCESSFULLY

HCPDFX8338I NOW EXECUTING THE REBUILDING GCS STEP
RDR FILE *nnnn* SENT FROM MAINT PUN WAS *nnnn* RECS 013K CPY 001 A NOHOLD NOKEEP
HCPDFX8341I THE GCS REBUILD COMPLETED SUCCESSFULLY
HCPDRX8355I THE SPOOLID FOR THE GCS NUCLEUS \$\$\$TLL\$\$ FILE IS: *fileno2*
HCPDFX8341I INSTDEF FUNCTION REBUILDING GCS COMPLETED SUCCESSFULLY

HCPDFX8338I NOW EXECUTING THE MOVE TO SFS STEP
HCPWMV8456I PROCESSING COMPONENT AVS
HCPWMV8453I MOVE OF AVS COMPONENT TO SFS COMPLETED SUCCESSFULLY
HCPWMV8467I BOTH AVS AND TSAF MUST BE MOVED TO SFS
BEFORE THE DISK SPACE CAN BE RECLAIMED
HCPDRX8357W THE COMMAND CMS MOVE2SFS AVS (RECLAIM COMPLETED WITH RC=4 PROCESSING CONTINUES

HCPWMV8456I PROCESSING COMPONENT GCS
HCPWMV8453I MOVE OF GCS COMPONENT TO SFS COMPLETED SUCCESSFULLY
HCPWMV8465I THE FOLLOWING MINIDISKS FOR USERID MAINT OF COMPONENT GCS
HAVE BEEN RECLAIMED:
6A6 6A4 6A2 6D2 6B2
HCPWMV8392I MOVE2SFS EXEC ENDED SUCCESSFULLY
HCPDFX8341I THE COMMAND CMS MOVE2SFS GCS (RECLAIM COMPLETED SUCCESSFULLY

HCPWMV8456I PROCESSING COMPONENT TSAF
HCPWMV8453I MOVE OF TSAF COMPONENT TO SFS COMPLETED SUCCESSFULLY
HCPWMV8465I THE FOLLOWING MINIDISKS FOR USERID MAINT OF COMPONENT TSAF
HAVE BEEN RECLAIMED:
7A6 7A4 7A2 7D2 7B2
HCPWMV8392I MOVE2SFS EXEC ENDED SUCCESSFULLY
HCPDFX8341I THE COMMAND CMS MOVE2SFS TSAF (RECLAIM COMPLETED SUCCESSFULLY

HCPWMV8456I PROCESSING COMPONENT LE370
HCPWMV8453I MOVE OF LE370 COMPONENT TO SFS COMPLETED SUCCESSFULLY
HCPWMV8465I THE FOLLOWING MINIDISKS FOR USERID P688198H OF COMPONENT LE370
HAVE BEEN RECLAIMED:
2B2 2C2 2D2 2A6 2A2
HCPWMV8392I MOVE2SFS EXEC ENDED SUCCESSFULLY
HCPDFX8341I THE COMMAND CMS MOVE2SFS LE370 (RECLAIM COMPLETED SUCCESSFULLY


```

HCPWMV8456I PROCESSING COMPONENT RSCS
HCPWMV8453I MOVE OF RSCS COMPONENT TO SFS COMPLETED SUCCESSFULLY
HCPWMV8465I THE FOLLOWING MINIDISKS FOR USERID P684096K OF COMPONENT RSCS
                HAVE BEEN RECLAIMED:
                2B2 2C2 2D2 2A6 2A2 29D 502 402 406 2B3
HCPWMV8392I MOVE2SFS EXEC ENDED SUCCESSFULLY
HCPDFX8341I THE COMMAND CMS MOVE2SFS RSCS (RECLAIM COMPLETED SUCCESSFULLY

HCPWMV8456I PROCESSING COMPONENT TCP/IP
HCPWMV8453I MOVE OF TCP/IP COMPONENT TO SFS COMPLETED SUCCESSFULLY
HCPWMV8465I THE FOLLOWING MINIDISKS FOR USERID 3TCP/PA0 OF COMPONENT TCP/IP
                HAVE BEEN RECLAIMED:
                2B2 2C4 2D2 2A6 2A2 2B3
HCPWMV8392I MOVE2SFS EXEC ENDED SUCCESSFULLY
HCPDFX8341I THE COMMAND CMS MOVE2SFS TCP/IP (RECLAIM COMPLETED SUCCESSFULLY

HCPWMV8456I PROCESSING COMPONENT OSA
HCPWMV8453I MOVE OF OSA COMPONENT TO SFS COMPLETED SUCCESSFULLY
HCPWMV8465I THE FOLLOWING MINIDISKS FOR USERID 2VMVMV20 OF COMPONENT OSA
                HAVE BEEN RECLAIMED:
                2B2 2C2 2D2 2A6 2A2 100 300
HCPWMV8465I THE FOLLOWING MINIDISKS FOR USERID OSASF OF COMPONENT OSA
                HAVE BEEN RECLAIMED:
                200 400
HCPWMV8392I MOVE2SFS EXEC ENDED SUCCESSFULLY
HCPDFX8341I THE COMMAND CMS MOVE2SFS OSA (RECLAIM COMPLETED SUCCESSFULLY

HCPWMV8456I PROCESSING COMPONENT TSM
HCPWMV8453I MOVE OF TSM COMPONENT TO SFS COMPLETED SUCCESSFULLY
HCPWMV8465I THE FOLLOWING MINIDISKS FOR USERID 5654A09A OF COMPONENT TSM
                HAVE BEEN RECLAIMED:
                2B2 2D2 2A6 2A2
HCPWMV8392I MOVE2SFS EXEC ENDED SUCCESSFULLY
HCPDFX8341I THE COMMAND CMS MOVE2SFS TSM (RECLAIM COMPLETED SUCCESSFULLY

HCPWMV8456I PROCESSING COMPONENT ICKDSF
HCPWMV8453I MOVE OF ICKDSF COMPONENT TO SFS COMPLETED SUCCESSFULLY
HCPWMV8465I THE FOLLOWING MINIDISKS FOR USERID P684042H OF COMPONENT ICKDSF
                HAVE BEEN RECLAIMED:
                2B2 2C2 2D2 2A6 2A2 29E 29D
HCPWMV8392I MOVE2SFS EXEC ENDED SUCCESSFULLY
HCPDFX8341I THE COMMAND CMS MOVE2SFS ICKDSF (RECLAIM COMPLETED SUCCESSFULLY

HCPDFX8341I INSTDEF FUNCTION MOVE TO SFS COMPLETED SUCCESSFULLY
HCPDFX8338I NOW EXECUTING 'MOVE SHELL & UTILITIES TO BFS' STEP
HCPDFX8341I INSTDEF FUNCTION 'MOVE SHELL & UTILITIES TO BFS' STEP COMPLETED SUCCESSFULLY
HCPDFX8338I NOW EXECUTING THE REGENERATION OF SERVICED OBJECTS STEP
HCPDFX8341I INSTDEF FUNCTION REGENERATING SERVICED OBJECTS
                COMPLETED SUCCESSFULLY
HCPDFX8355I THE SPOOLID FOR THE CMS NUCLEUS $$$TLL$$ FILE IS: fileno1
HCPDRX8355I THE SPOOLID FOR THE GCS NUCLEUS $$$TLL$$ FILE IS: fileno2
HCPINP8391I INSTDEF EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss

```

___ 3. Load the new CMS nucleus to disk

___ a. Order your reader so that the CMS nucleus (\$\$\$TLL\$\$ IPL) is the first file in your reader.

order rdr *fileno1*

fileno1 is the file number of the CMS nucleus noted in substep 2 on page 81.

0000001 FILE ORDERED

Ready; T=n.nn/n.nn hh:mm:ss

___ b. Change the nucleus reader file status to ensure it remains in the reader after you IPL.

change rdr *fileno1* keep

fileno1 is the file number of the CMS nucleus noted in substep 2 on page 81.

0000001 FILE CHANGED

Ready; T=n.nn/n.nn hh:mm:ss

Run INSTDEF EXEC

__ c. Redefine the 190 and 490 minidisks so the nucleus will be saved on the 490.

define 190 590

DASD 590 DEFINED
Ready; T=*n.nn/n.nn hh:mm:ss*

define 490 190

DASD 190 DEFINED
Ready; T=*n.nn/n.nn hh:mm:ss*

__ d. IPL MAINT's virtual reader to load the new CMS nucleus.

ipl 00c clear

Clear is necessary. Do not omit it.

DMSSLG283E THE NLSAMENG SAVED SEGMENT COULD NOT BE FOUND; RETURN CODE 44 FROM SEGMENT

The CP nucleus supplied with the Initial Installation System was built with mixed case American English. If you built your new CMS with uppercase English, you will see this message whenever you IPL 490, until you build an uppercase English CP nucleus. This is the default version identification. If you defined your own version identification, it appears here and each time that you IPL 490. Press **Enter** to complete CMS initialization.

z/VM V3.1.0 *yyyy-mm-dd hh:mm*

ENTER

Ready; T=*n.nn/n.nn hh:mm:ss*

define 190 490

DASD 490 DEFINED
Ready; T=*n.nn/n.nn hh:mm:ss*

define 590 190

DASD 190 DEFINED
Ready; T=*n.nn/n.nn hh:mm:ss*

__ e. Purge the CMS nucleus from your reader to free spool space.

purge rdr *fileno1*

fileno1 is the file identifier of the CMS nucleus identified in substep 2 on page 81.

0000001 FILE PURGED
Ready; T=*n.nn/n.nn hh:mm:ss*

__ f. IPL your System disk (190).

Note: Record the file number of the CMS load map (*mfileno*). It will be used in substep 3g.

Attention: You should not IPL your new CMS nucleus (490) until after the saved segments are rebuilt.

ipl 190 clear

Clear is necessary. Do not omit it.

RDR FILE *mfileno* SENT FROM MAINT PRT WAS
mfileno RECS *nnnn* CPY 001 A NOHOLD NOKEEP

The CMS load map has been sent to MAINT's virtual reader. If you do not get this message, it has already been sent there by a previous IPL 190.

z/VM V3.1.0 *yyyy-mm-dd hh:mm*

ENTER

Press **Enter** to complete CMS initialization.

Ready; T=*n.nn/n.nn hh:mm:ss*

___ g. Receive the file from the virtual reader to the alternate TOOLS disk (493).

access 493 e

Ready; T=*n.nn/n.nn hh:mm:ss*

receive *mfileno fn ft e* (replace

mfileno is the file identifier of the CMS load map you noted in substep 3f on page 84. You may give the CMS load map any file name and file type you like. The CMS load map on the System DDR is CMSNUC MAP. You may want to erase the old version to save space.

The CMS load map is loaded onto the alternate SYSTEM TOOLS disk.

DMSRDC738I Record length is *nnn* bytes
fn ft E1 created
 File *fn ft* E1 received from MAINT
 at * sent as (none) (none) A1
 Ready; T=*n.nn/n.nn hh:mm:ss*

___ h. If you wish, you can now print a copy of the CMS load map.

___ i. Examine the load map for unresolved symbols. Unresolved symbols may indicate an error. Make sure that you understand the reason for any unresolved symbols you find before going on.

xedit *fn ft e*

====> **locate /UNRESOLVED/**

DMSXDC546E Target not found

fn and *ft* is the name you gave to the CMS nucleus map in the previous receive command.

This response means that no unresolved symbols were found.

====> **qquit**

Ready; T=*n.nn/n.nn hh:mm:ss*

___ j. If you wish, you can now pack the CMS load map to save minidisk space.

copyfile *fn ft e* (olddate pack

Ready; T=*n.nn/n.nn hh:mm:ss*

___ k. Release the alternate TOOLS minidisk (493).

release e

Ready; T=*n.nn/n.nn hh:mm:ss*

___ 4. Save the new GCS nucleus to NSS

___ a. Order your reader so that the GCS nucleus is the first file in your reader.

order rdr *fileno2*

fileno2 is the file number of the GCS nucleus.

0000001 FILE ORDERED

Ready; T=*n.nn/n.nn hh:mm:ss*

___ b. Change the nucleus reader file status to ensure it remains in the reader after you IPL.

change rdr *fileno2* keep

0000001 FILE CHANGED

Ready; T=*n.nn/n.nn hh:mm:ss*

___ c. IPL MAINT's virtual reader to save the GCS new nucleus.

Make a note of the file number *mfileno*. It will be used in substep 4f on page 86.

ipl 00c clear

Clear is necessary. Do not omit it.

Run INSTDEF EXEC

```
HCPNSD440I The Named Saved System (NSS) systemname was successfully defined in fileid fileid
FILE FILENAME FILETYPE MINSIZE BEGPAG ENDPAG TYPE CL #USERS PARMREGS VMGROUP
nnnn systemname NSS      0000256K 00000 0000C EW R 00000 OMITTED YES
                                00400 0044E SR
                                0044F 0044F SW
                                00450 005FF SN
                                01000 0101A SR
                                0101B 011FF SN
nnnn systemname NSS      0000256K 00000 0000C EW S 00000 OMITTED YES
                                00400 0044E SR
                                0044F 0044F SW
                                00450 005FF SN
                                01000 0101A SR
                                0101B 011FF SN
HCPNSS440I Named Saved System (NSS) systemname was successfully saved in fileid fileid
RDR FILE mfileno SENT FROM MAINT PRT WAS mfileno
  RECS nnnn CPY 001 A NOHOLD NOKEEP
Storage cleared - system reset.
```

mfileno is the spool file number of the GCS load map.

___ d. IPL your System disk (190).

iopl 190 clear

Clear is necessary. Do not omit it.

z/VM V3.1.0 *yyyy-mm-dd hh:mm*

ENTER

Press **Enter** to complete CMS initialization.

Ready; T=*n.nn/n.nn hh:mm:ss*

___ e. Purge the GCS nucleus from your reader to save spool space.

purge rdr *fileno2*

fileno2 is the file number of the GCS nucleus.

0000001 FILE PURGED

Ready; T=*n.nn/n.nn hh:mm:ss*

___ f. Receive the GCS load map file from the virtual reader to the alternate TOOLS disk (493).

access 493 e

Ready; T=*n.nn/n.nn hh:mm:ss*

receive *mfileno* fn ft e (replace

mfileno is the file identifier of the GCS load map you noted in substep 4c on page 85. You may give the GCS load map any file name and file type you like. The GCS load map on the System DDR is GCSNUC MAP. You may want to erase the old version to save space.

DMSRDC738I Record length is *nnn* bytes
fn ft E1 created
 File *fn ft* E1 received from MAINT
 at * sent as (none) (none) A1
 Ready; T=*n.nn/n.nn hh:mm:ss*

The GCS load map is loaded onto the alternate SYSTEM TOOLS disk (493).

___ g. If you wish, you can now print a copy of the GCS load map.

___ h. Examine the load map for unresolved symbols. Unresolved symbols may indicate an error. Make sure that you understand the reason for any unresolved symbols you find before going on.

xedit *fn ft* e

====> locate /UNRESOLVED/

DMSXDC546E Target not found

This response means that no unresolved symbols were found.

====> **qquit**

Ready; T=*n.nn/n.nn hh:mm:ss*

__ i. If you wish, you can now pack the GCS load map to save minidisk space.

copyfile fn ft e (olddate pack

Ready; T=*n.nn/n.nn hh:mm:ss*

__ j. Release the alternate TOOLS minidisk (493).

release e

Ready; T=*n.nn/n.nn hh:mm:ss*

Step 5. Run INSTDEF2 EXEC

In this step you will:

Run INSTDEF2 EXEC to:

- Rebuild serviced segments
- Copy minidisks 490, 493, and 5E6 from test to production
- Comment out the remaining MAINT 800 LINK statements from the USER DIRECT file
- Run DIRECTXA on updated USER DIRECT file.

___ 1. Access the 2C2 minidisk as C.

```
access 2c2 c
```

```
Ready; T=n.nn/n.nn hh:mm:ss
```

___ 2. Invoke INSTDEF2.

```
instdef2
```

```
HCPDFE8338I REBUILDING SEGMENTS
HCPDFE8341I REBUILDING SEGMENTS COMPLETED SUCCESSFULLY
HCPDFE8338I BACKUP THE 490 MINIDISK STARTED
DMSFOR605R Enter disk label:
HCPDFE8341I BACKUP THE 490 COMPLETED SUCCESSFULLY
HCPDFE8338I BACKUP THE 493 MINIDISK STARTED
HCPDFE8341I BACKUP THE 493 COMPLETED SUCCESSFULLY
HCPDFE8338I BACKUP THE 5E6 MINIDISK STARTED
HCPDFE8341I BACKUP THE 5E6 COMPLETED SUCCESSFULLY
HCPDFE8338I UPDATE USER DIRECT STARTED
HCPDFE8341I UPDATE USER DIRECT COMPLETED SUCCESSFULLY
HCPDFE8391I INSTDEF2 EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss
```

Step 6. Resave the CMS Named Saved System

In this step you will:

- Resave the CMS named saved system.

1. Save CMS as a named saved system that can be IPLed in either XC, or XA mode, at default addresses.

Notes:

- a. For general information about CMS as a named saved system, see *z/VM: Planning and Administration*.
- b. **If you alter the 190 or 19E minidisk in any way after you do this step, you must resave CMS.**

2. Access the 193 minidisk in read/write mode.

access 193 z

Ready; T=*n.nn/n.nn hh:mm:ss*

3. Invoke SAMPNSS to define the CMS named saved system.

sampnss cms

SAMPNSS enters the DEFSYS command to define a skeleton system data file for CMS.

Users will receive the new level of CMS whenever they enter the command IPL CMS.

HCPNSD440I Named Saved System (NSS) *cmsname* was
successfully defined in fileid *fileno*
Ready; T=*n.nn/n.nn hh:mm:ss*

These messages tell you that the DEFSYS command was successful.

4. Save the CMS named saved system.

ipl 190 clear parm savesys cms

HCPNSD440I Named Saved System (NSS) *cmsname* was
successfully saved in fileid *fileno*

z/VM V3.1.0 *yyyy-mm-dd hh:mm*

ENTER

Ready; T=*n.nn/n.nn hh:mm:ss*

Load 190 with the option to save the system under the name CMS.

If you have changed the version heading, your own heading will appear.

Press **Enter** to complete CMS initialization.

From now on, whenever you are instructed to IPL 190, you can IPL CMS by name instead.

You can now update the directory to change the IPL 190 statements to IPL CMS.

5. IPL the new CMS named saved system.

ipl cms

z/VM V3.1.0 *yyyy-mm-dd hh:mm*

ENTER

Ready; T=*n.nn/n.nn hh:mm:ss*

Press **Enter** to complete CMS initialization.

Step 7. Shutdown and Re-IPL Your System

In this step you will:

- Shutdown your z/VM Version 3 Release 1.0 system.
- Re-IPL your z/VM Version 3 Release 1.0 system using the new CP nucleus.
- Back up the primary parm disk.

___ 1. Shutdown and re-IPL the z/VM Version 3 Release 1.0 system.

shutdown reipl

```
SYSTEM SHUTDOWN STARTED
Ready; T=n.nn/n.nn hh:mm:ss
```

This message is displayed on all enabled consoles.

+-----First-Level Only-----+

The real system console shows disabled PSW wait state.

+-----End of First-Level Only-----+

```
HCPWRP9277I SYSTEM TERMINATION COMPLETE,
          ATTEMPTING RESTART
```

This will appear on the operator's console.

___ 2. The IPL of your z/VM system continues:

```
hh:mm:ss HCPWRP9277I SYSTEM TERMINATION COMPLETE.
          ATTEMPTING RESTART
hh:mm:ss z/VM SYSTEM RESTART FROM SHUTDOWN REIPL
hh:mm:ss z/VM V3 R1.0
          SERVICE LEVEL nnnn (mode)
```

```
hh:mm:ss SYSTEM NUCLEUS CREATED ON yyyy-mm-dd AT hh:mm:ss,
          LOADED FROM 310RES
```

```
hh:mm:ss *****
hh:mm:ss * LICENSED MATERIALS - PROPERTY OF IBM*   *
hh:mm:ss * 5654-A17 (C) COPYRIGHT IBM CORP. 1983, *
hh:mm:ss * 2001. ALL RIGHTS RESERVED.             *
hh:mm:ss * US GOVERNMENT USERS RESTRICTED RIGHTS - *
hh:mm:ss * USE, DUPLICATION OR DISCLOSURE          *
hh:mm:ss * RESTRICTED BY GSA ADP SCHEDULE CONTRACT *
hh:mm:ss * WITH IBM CORP.                          *
hh:mm:ss *                                          *
hh:mm:ss * * TRADEMARK OF INTERNATIONAL BUSINESS *
hh:mm:ss *   MACHINES                             *
hh:mm:ss *****
```

```
hh:mm:ss HCPZC06718I Using parm disk 1 on volume valid (device xxxx).
hh:mm:ss HCPZC06718I Parm disk resides on cylinders/blocks xx through xx.
```

```
:
```

The parm disk will reside on either cylinders or blocks.

Attention: If you receive informational message HCPIIS954I, you have duplicate packs with the same label and must correct this error before continuing.

```
hh:mm:ss The directory on volume 310RES at address nnnn
          has been brought online.
hh:mm:ss HCPWRS2513I
hh:mm:ss HCPWRS2513I Spool files available {nnnn|none}
```


Shutdown and Re-IPL Your System

```
hh:mm:ss HCPWRS2512I Spooling initialization is complete.  
:
```

```
hh:mm:ss FILES:      nnn RDR,      nnn PRT,      nnn PUN  
hh:mm:ss LOGON AT hh:mm:ss {EST|EDT} weekday mm/dd/yy  
:
```

```
hh:mm:ss HCPIOP952I nnnnM system storage  
hh:mm:ss FILES: nnnnnnn RDR, nnnnnnn PRT,      NO PUN
```

This message tells you the amount of storage available.

The FILES message here refers to operator spool files.

CP automatically disconnects from the primary system operator (user ID OPERATOR).

```
hh:mm:ss HCPUS0967I Disconnect OPERATOR - system  
restarted SHUTDOWN and system console  
not VM operator console
```

```
hh:mm:ss DISCONNECT AT hh:mm:ss {EST|EDT} weekday mm/dd/yy
```

```
hh:mm:ss Press enter or clear key to continue Press enter or clear key to continue.
```

ENTER

___ 3. Log on to the MAINT user ID.

ENTER

The password for MAINT is MAINT.

logon maint

```
:  
:  
Ready; T=n.nn/n.nn hh:mm:ss
```

___ 4. Back up the primary parm disk.

access 2c2 c

```
Ready; T=n.nn/n.nn hh:mm:ss
```

instbppd

```
HCPZAC6730I CPRELEASE request for disk B completed.
```

```
DASD 0CF2 DETACHED
```

```
Ready; T=n.nn/n.nn hh:mm:ss
```

```
HCPZAC6732I CPACCESS request for MAINT's 0CF2 in mode B completed.
```

Step 8. Back Up the Named Saved Systems and Segments

In this step you will:

- Back up all the named saved systems/segments, including CMS, on tape.

___ 1. Follow the First-Level or Second-Level steps that follow to attach a tape drive.

+-----First-Level Only-----+

___ a. Attach a tape drive to MAINT.

+-----End of First-Level Only-----+

+-----Second-Level Only-----+

___ a. Attach the tape drive to the first-level system.

___ b. Attach the tape drive to MAINT on a second-level system.

+-----End of Second-Level Only-----+

___ 2. Mount a scratch tape in write mode.

___ 3. Spool the console.

spool console * start

___ 4. Enter the SPXTAPE command to dump the named saved systems and segments to tape.

spxtape dump devno sdf all run

SPXTAPE DUMP INITIATED ON VDEV *devno*

Substitute the address of the tape drive for the value *devno*. *devno* is the address you used to define the device. The operand RUN specifies that the SPXTAPE rewinds and unloads the tape after the operation.

Ready; T=*n.nn/n.nn hh:mm:ss*

DUMPING *devno* : *nnn* FILES, PAGES *nnnn nn%* COMPLETE

:

DUMPING *devno* : *nnn* FILES, PAGES *nnnn nn%* COMPLETE

RDR FILE *fileno1* SENT FROM MAINT CON WAS *fileno1* RECS *nnnn* CPY 001 T NOHOLD NOKEEP

SPXTAPE DUMP COMMAND COMPLETED ON VDEV *devno*

TIME STARTED: *hh:mm:ss*

TIME ENDED: *hh:mm:ss*

TAPE COUNT: *nnn*

FILES PROCESSED: *nnn*

SPOOL PAGES: *nnnn*

RDR FILE *fileno2* SENT FROM MAINT CON WAS *fileno2* RECS *nnnn* CPY 001 T NOHOLD NOKEEP

The messages from SPXTAPE tell you that the files are being dumped to tape.

fileno1 is the file number of the volume log file. The volume log file records information about the files processed by the SPXTAPE DUMP command that are associated with a particular tape volume.

fileno2 is the file number of the command summary log file. The command summary log file records the progress and status of the SPXTAPE DUMP operation.

___ 5. Store the tape for emergency use. If it is ever necessary, you can use this tape and the SPXTAPE command to restore the CMS system data file. For more information about the SPXTAPE command, see the *z/VM: CP Command and Utility Reference*. For information on how to restore this tape to your system, see "Appendix K. Restoring Your Named Saved Systems and Segments" on page 243.

Step 9. Store a Backup Copy of the z/VM System on Tape

In this step you will:

- Load the DDRXA utility to tape
- Use DDRXA to store a backup copy of the z/VM system on tape.

Attention: You must back up **all** your installation volumes in order to back up the z/VM system. You may wish to check your Directory Build Worksheet. This example requires a full pack minidisk be defined in the CP directory, USER DIRECT, for each volume you are dumping to tape.

1. Mount a scratch tape in write mode.
2. Attach the tape drive to MAINT at virtual device address 181.

```
attach devno * 181
TAPE      0181 ATTACHED
Ready; T=n.nn/n.nn hh:mm:ss
```

The ATTACH command attaches the device (*devno*) to MAINT's virtual machine at virtual device address 181.

3. Access the 193 minidisk in read/write mode.

```
access 193 z
Ready; T=n.nn/n.nn hh:mm:ss
```

4. Load the DDRXA utility to tape.

```
utility utiltape ddrxa
Rewind complete
HCPWUT8317I MOVING IPL DDRXA TO TAPE
HCPWUT8318I THE IPL DDRXA PROGRAM IS
              ON TAPE FILE NUMBER 1
Ready; T=n.nn/n.nn hh:mm:ss
```

5. Change MAINT's virtual machine mode to XA. Do **not** IPL CMS.

```
set machine xa
SYSTEM RESET
SYSTEM = XA
```

Setting the virtual machine to XA architecture causes a reset as if you entered SYSTEM CLEAR. If your machine is already in XA mode, you will not get a response.

6. Rewind the scratch tape on virtual device number 181.

```
rewind 181
Rewind complete
```

7. IPL the tape and answer the prompts from DDR. For information about DDRXA, see the *z/VM: CP Command and Utility Reference* and *z/VM: System Operation*.

```
ipl 181 clear
```

Clear is necessary. Do not omit it.

Wait a few moments for DDRXA to prompt you. If a prompt does not appear, press the **Enter** key.

```
VM/ENTERPRISE SYSTEMS ARCHITECTURE
  DASD DUMP/RESTORE PROGRAM
ENTER CARD READER ADDRESS OR CONTROL STATEMENTS
ENTER:
```

Store a Backup Copy of the z/VM System on Tape

sysprint cons

ENTER:

input *devno dasd valid*

ENTER:

This first control statement tells DDRXA that you want program messages sent to your console.

The second control statement is the input control statement.

devno is the full pack minidisk address of the volume you are backing up. You must back up **all** your installation volumes.

The fullpack minidisk address for the default packs are 123 (310RES), 124 (310W01), 125 (310W02), ...

By typing the word **dasd**, the device type is automatically identified by the DDR program, either 3380, 3390, 9345, or FBA (9336).

valid is the label of this volume, for example 310RES.

This control statement specifies the device to which you are dumping the system.

By typing the word **tape**, the tape device type is automatically identified by the DDR program, either 3422, 3424, 3430, 3480, 3490, or 9348.

This command dumps the specified volume to the tape.

These are informational messages that will vary according to your use of CKD or FBA device types. GMT means Greenwich Mean Time.

The exact cylinder extents vary according to the device type.

output 181 tape (compact)

ENTER:

dump all

DUMPING *valid*

DUMPING DATA *mm/dd/yy*

AT *hh.mm.ss* GMT FROM *valid*

```
INPUT CYLINDER/BLOCK EXTENTS      OUTPUT CYLINDER/BLOCK EXTENTS
      START      STOP                START      STOP
      nnnnnnnnn  nnnnnnnnn          nnnnnnnnn  nnnnnnnnn
      :
      :
      :
END OF DUMP
BYTES IN nnnnnnnnnnn BYTES OUT nnnnnnnnnnn
TRACKS NOT COMPACTED ON TAPE - nnnnnnnnnnn
ENTER:
```

When DDRXA finishes dumping the volume, it prompts you with ENTER.

Note: When DDR encounters the end of a tape, which is continued on the next tape, it prompts you to mount the next tape, if required. If you are using the same tape drive, mount the next tape and DDR will continue. If you are using a different tape drive, issue the INPUT control statement to identify the tape drive and the issue the RESTORE ALL statement to restore the whole tape to the output device.

- ___ 8. If you have any more DASD volumes to back up, repeat the INPUT, OUTPUT, and DUMP ALL statements for each volume.
- ___ 9. To end the program, press the **Enter** key.

ENTER

END OF JOB

Store a Backup Copy of the z/VM System on Tape

___ 10. Re-IPL CMS.

#cp ipl cms

z/VM V3.1.0 *yyyy-mm-dd hh:mm*

ENTER

Ready; T=*n.nn/n.nn hh:mm:ss*

If you have changed the version heading, your own heading will appear.

Press **Enter** to return to the command line.

For information on how to restore your system from tape, see “Appendix J. Restoring the z/VM System Backup Copy” on page 241.

What to Do Next

Go to “Chapter 7. System Default Information” on page 99.

Store a Backup Copy of the z/VM System on Tape

Part 3. Post System DDR Installation Information

This part covers the following information (after you have installed from the DDR):

- Default values used when building the z/VM System DDR
- Preinstalled licensed products and features information.

Note

Some of the preinstalled product and features require additional installation steps. You **must complete** these steps for the product or feature to be completely installed.

- Installation information for features not preinstalled on the System DDR
- Customization of national language HELP files.

Post System DDR Installation Information

Chapter 7. System Default Information

This chapter reviews the various default values used when building the z/VM System DDR. It presents build information for the CMS, CP, and GCS components as well as CMS's saved segments.

Step 1. CMS Defaults

In this step you will:

- Review the defaults used to build the CMS nucleus and named saved system.

This step is for your information only.

- The CMS nucleus was built with the system default language, either mixed case American English (AMENG) or Uppercase English (UCENG), which was selected in Step 3. Plan for Running INSTDEF EXEC substep 3 on page 80.
- The CMS named saved system was built with a system name of CMS and is loaded at storage location X'F00000'-X'13FFFF' (starting at 15MB and ending at 20MB).
- DMSNGP ASSEMBLE is a profile that contains CMS configuration defaults and responses to system prompts; these will become part of the CMS nucleus. Read the discussion of the DMSNGP profile in *z/VM: Planning and Administration*, within the chapter on tailoring CMS with the DEFNUC macro.
- The CMS nucleus shipped on the z/VM System DDR was built with the following definitions in the DMSNGP ASSEMBLE file:

```
DMSNGP  CSECT
        DEFNUC SYSDISK=190,      * S-disk address          *
          YDISK=19E,            * Y-disk address          *
          HELP=19D,            * Help disk address      *
          LANGID=AMENG,         * Default is American English *
          DBCS=NO,              * Default is not a DBCS lang *
          LANGLEV=S,            * Mult. lang. in saved seg.level ID*
          BUFFSIZ=20,           * SFS R/W cache buffer size *
          MDBUFSZ=8,            * Minidisk R/W cache buffer size *
          SAVESYS=NO,           * Save CMS as a named saved system *
          SYSNAME=CMS,          * Name given to named saved system *
          USEINST=YES,          * Use EXEC/XEDIT in a saved segment*
          INSTSEG=CMSINST,      * Name of above saved segment *
          USEMTSG=YES,          *** See Operation Section *
          MTSEG=VMMTLIB,        *** See Operation Section *
          REWRITE=YES,          * Write nucleus to disk      *
          IPLADDR=190,          * Address of where to write   *
          CYLADDR=nnnnnn,       * Cyl/Blk of where to write  *
          IPLCYL0=YES,          * Write IPL text on cyl 0     *
          VERSION=,             * Version Release nnnn       *
          INSTID=               * VM Conversational Monitor System
        END
```

Note: CYLADDR is the cylinder or block on the MAINT 190 minidisk at which the system will start writing the CMS nucleus. The appropriate starting location depends on the device type of the DASD where the MAINT 190 minidisk is defined. The CYLADDR value is defined using a local modification (DMSNGP ZL0001DS) for the z/VM System DDR according to the following table:

Device Type	Cylinder/Block Address
3380	120
3390	100
9345	120
FBA	144000

In Step 3. Plan for Running INSTDEF EXEC substep 2 on page 80, you were able to change the VERSION and INSTID fields for the CMS nucleus. If you did not select the default VERSION or INSTID values, the update is contained in the local modification (DMSNGP ZL0002DS).

- The GUI workstation agents, along with their help files, are not shipped with z/VM. They are available with limited support from the VM Download Library:

<http://www.ibm.com/s390/vm/download/>

6. Java and NetRexx reside on MAINT's 400 minidisk. The Java and NetRexx files are placeholders only. To receive the actual files, you must download them from the following website:
<http://www.ibm.com/s390/vm/java/>
7. OpenExtensions Shell and Utilities is now part of the CMS component.

Step 2. CP Defaults

In this step you will:

- Locate the sample files
- Locate the hardcopy sample file layouts
- Learn where to read more about the CP system configuration function
- Review the defaults used to build the CPLOAD module
- Review the contents of the CP directory file (USER DIRECT)
- Review information about the SYSTEM NETID file.

1. The LOGO CONFIG and SYSTEM CONFIG files are located on the primary parm disk (CF1). A shadow of these files resides on the secondary parm disk (CF2). These files contain the system configuration data used by CP.
2. For the hardcopy file layouts of LOGO CONFIG and SYSTEM CONFIG, see the *Installation and Service Sample Files* document packaged with the z/VM System DDR.
3. For detailed information about the CP system configuration function, CP nucleus options, and CP planning, see *z/VM: Planning and Administration*.
4. The CP nucleus on the z/VM System DDR is a module. The module resides on the primary and secondary parm disks (CF1 and CF2). The CP nucleus was built with the system default language, either mixed case American English (AMENG) or Uppercase English (UCENG), which was selected in Step 3. Plan for Running INSTDEF EXEC substep 3 on page 80.

Note: The ZVM and UCENG PPFs define that the CP nucleus is to be built as a module on the 493 minidisk.

5. The USER DIRECT file contains entries defining each virtual machine (user) permitted to log on to your system. A sample copy of the user directory file is located in the *z/VM Installation and Service Sample Files* document packaged with the z/VM System DDR.
The default machine mode definition for user IDs in the directory is XA. USER DIRECT no longer contains a GLOBALPTS statement that sets the default machine mode for all user IDs in USER DIRECT to 370. However, any SET MACHINE statement issued for a user ID overrides the default setting. The USER DIRECT file built during installation contains a SET MACH XA, SET MACH ESA, or SET MACH XC command for all user IDs except OLTSEP, which contains a SET MACH 370 command.
6. For details on the SYSTEM NETID file, see “Appendix E. The SYSTEM NETID File” on page 223.
7. For a list of available Product Parameter Files (PPFs) see the *Installation and Service Sample Files* document. This is an informal, hardcopy document packaged with your z/VM product order. You may also read detail information about PPFs in the *z/VM: VMSES/E Introduction and Reference*.
8. The z/VM System DDR contains system definition files with sample information and default parameters. You can modify the following files to define your system configuration.
 - The logo configuration file (LOGO CONFIG) defines both the logo that appears on your terminal screen when you log on your system and the logo that appears on separator pages for printers. This file also provides information to the system about status areas on the terminal screens.

Note: Status areas are normally in the lower right side of the terminal and contain such informational messages as RUNNING, VM READ, CP READ, MORE..., and HOLDING.

- The CP system control file (SYSTEM CONFIG) describes the system residence device (310RES) and various system parameters, defining the configuration of your system. Information that was found in the HCPRIO and HCPSYS files, in previous VM releases, now resides in the SYSTEM CONFIG file.
- The real I/O configuration file (HCPRIO ASSEMBLE) contains only the RIOGEN macro.

9. If you are generating a CP nucleus with a preferred virtual machine refer to *z/VM: Planning and Administration* to determine how to set up your IPL parameters for SALIPL.
10. The USER DIRECT file contains a common profile section, PROFILE IBMDFLT. An INCLUDE statement for this profile has been added to each user ID that previously linked to the AMENG HELP disk (19D). The PROFILE IBMDFLT section contains a link to each HELP disk that has been loaded from the System DDR. For each user you add to the directory that needs access to a HELP disk, you must add an INCLUDE statement to PROFILE IBMDFLT section.

Step 3. GCS Defaults

In this step you will:

- Review the defaults that went into building the GCS nucleus.

1. The GCS nucleus was built with mixed case American English (AMENG) as the system default language.
2. The GCS nucleus was built with a system name of GCS and is loaded at storage locations X'400'-X'5FF' and X'1000'-X'11FF'.
3. The GCS nucleus was also built with the following defaults:

Default Item	Description
Saved System Name	GCS
Authorized VM User IDs	VTAM GCS MAINT NETVIEW OPERATNS RSCS AVSVM PDMREM1 PDMGRP4 SNALNKA PVMG NVAS IHVOPER CMEOSI NPM VSCS
Saved System Information	Recovery machine user ID: GCS User ID to receive storage dumps: OPERATNS GCS Trace Table Size: 16KB Common storage above 16MB line (YES or NO): YES Single user environment: no Maximum number of VM machines: 14 System ID: GCS Name of the VSAM segment: CMSVSAM Name of the BAM segment: CMSBAM GCS saved system is restricted: yes Trace table in private storage: yes
Saved System links	VTAM NETVSG00
User IDs needing VSAM storage	NETVIEW NVAS CMEOSI

Step 4. Saved Segments on the z/VM System

In this step you will:

- View the saved segments that are installed on your system, and their addresses.

- CMS improves system performance and storage usage by placing heavily used execs in the CMS installation segment, CMSINST. CMSINST is a logical segment within the INSTSEG physical segment. If you want to add or delete an exec from CMSINST, you should identify the changes to VMSES/E using the procedure within the local modification example for CMSINST, found in the *z/VM: Service Guide*. A local modification allows VMSES/E to track the changes and to ensure the CMSINST segment is rebuilt when any of the execs in it are serviced.
- The QUERY NSS ALL MAP command shows you the saved segments and saved systems defined on your system.

query nss all map

Enter the QUERY NSS ALL MAP command to list all defined saved segments, and to show their addresses.

```

:
FILE FILENAME FILETYPE MINSIZE BEGPAG ENDPAG TYPE CL #USERS PARMREGS VMGROUP
nnnn CMS      NSS      0000256K 00000 0000D EW  A  00000  00-15  NO
                                00020 00023 EW
                                00F00 013FF SR
nnnn GCS      NSS      0000256K 00000 0000C EW  R  00000  OMITTED YES
                                00400 0044E SR
                                0044F 0044F SW
                                00450 005FF SN
                                01000 0101A SR
                                0101B 011FF SN
nnnn CMSDOS   DCSS-M    N/A      00B00 00B0C SR  A  00000  N/A    N/A
nnnn CMSBAM   DCSS-M    N/A      00B0D 00B37 SR  A  00000  N/A    N/A
nnnn DOSBAM   DCSS-S    N/A      00B00 00B37 --  A  00000  N/A    N/A
nnnn GUICSLIB DCSS      N/A      01F00 01FFF SR  A  00000  N/A    N/A
nnnn CMSFILES DCSS      N/A      01900 01BFF SR  A  00000  N/A    N/A
nnnn SVM      DCSS      N/A      01900 019FF SR  A  00000  N/A    N/A
nnnn CMSPIPES DCSS      N/A      01800 018FF SR  A  00001  N/A    N/A
nnnn CMSVMLIB DCSS      N/A      01700 017FF SR  A  00001  N/A    N/A
nnnn INSTSEG  DCSS      N/A      01400 016FF SR  A  00001  N/A    N/A
nnnn HELPSEG  DCSS      N/A      00C00 00CFF SR  A  00000  N/A    N/A
nnnn DOSINST  DCSS      N/A      00900 0090F SR  A  00000  N/A    N/A
nnnn SCEE     DCSS      N/A      00900 009FF SR  A  00000  N/A    N/A
nnnn SCEEX    DCSS      N/A      01A00 01EFF SR  A  00000  N/A    N/A
Ready; T=n.nn/n.nn hh:mm:ss

```

Step 5. VMSESVS, VMSESVU, and VMSESVR File Pool Defaults

If you did not load FILEPOOL or SMALL FILEPOOL as part of the base z/VM (you are moving your existing SFS servers from a previous VM system), refer to the *z/VM: Migration Guide* for information describing how to move your SFS servers from a previous VM system.

In this step you will:

- Review the defaults used to build the VMSESVS, VMSESVU, and VMSESVR.
- Refer to the *z/VM: CMS File Pool Planning, Administration, and Operation* manual for information describing the tailoring of SFS defaults.

The z/VM System DDR incorporates prebuilt file pools.

VMSYS

- Managed by the VMSESVS server machine
- If you chose to load FILEPOOL, the users enrolled are:
 - MAINT (for TSAF, AVS, and GCS)
 - P684096K (for RSCS)
 - XCHANGE (for RSCS)
 - 2VMVMV20 (for OSA/SF)
 - P688198H (for LE/370)
 - 3TCPIPA0 (for TCP/IP)
 - 5654A09A (for TSM)
 - P684042H (for ICKDSF)

If you chose to load SMALL FILEPOOL, the user enrolled is MAINT.

- If you chose to load FILEPOOL, you can move the following items to SFS:
 - GCS
 - TSAF
 - AVS
 - RSCS
 - TCP/IP
 - LE/370
 - OSA/SF
 - TSM
 - ICKDSF

If you chose to load SMALL FILEPOOL, you cannot move items into SFS because the VMSYS area is too small.

VMSYSU

- Managed by the VMSESVU server machine
- Enrolled MAINT in the VMSYSU file pool
- MAINT.SAMPLES directory exists with SFS sample files installed.

VMSYSR

- Managed by the VMSESVR server machine
- Coordinated Resource Recovery (CRR) file pool

Each of these file pools has two definition files associated with it:

VMSERVS, VMSEVRU, and VMSEVR File Pool Defaults

- *filename* POOLDEF, which defines the configuration of the file pool. *filename* is the name of the file pool.
- *filename* DMSPARMS, which contains start-up parameters for the file pool server machine. *filename* is the user ID of the server machine.

Read the *z/VM: CMS File Pool Planning, Administration, and Operation* book for information and examples on tailoring these files and for information on BFS root directory definitions.

VMSERVS, VMSEVRU, and VMSEVR File Pool Defaults

Chapter 8. Preinstalled Licensed Products and Features

In this chapter you are presented with information about licensed products and features that were preinstalled on your system.

Note

Some of the preinstalled product and features require additional installation steps. You must complete these steps for the product or feature to be completely installed.

The z/VM System DDR was built incorporating the following licensed products and features.

Table 9. Preinstalled Licensed Products and Features

Product Name	Release Level	Service Level	Production Minidisk	Program Number
EREP	3.5.0	SDO Dec 2000	MAINT 201	5654-260
ICKDSF	1.16.0	SDO Dec 2000	MAINT 19E	5684-042
RSCS	3.2.0	*	n/a	5684-096
LE	1.8.0	*	MAINT 19E	5654-A17
TCP/IP	L3A0	*	n/a	5654-A17
OSA/SF	FL220	*	n/a	5654-A17
Tivoli Storage Manager	3.1	*	n/a	5694-TSM
German NLS Feature	n/a	none	MAINT 405	5654-A17
Kanji NLS Feature	n/a	none	MAINT 401	5654-A17
3800 Printer Image Library	n/a	none	MAINT 194	5684-112

Refer to each licensed program's own documentation for detailed information.

- FL means function level.
- L means level.
- Service Level is the level of the product or feature on the z/VM System DDR. This is not the RSU as shipped with z/VM service level.
- * refers to the latest RSU level applied during installation.

Step 1. EREP

The Environmental Record Editing and Printing Program (EREP) is a diagnostic application program that runs under the MVS, VM, and VSE operating systems. The purpose of EREP is to help IBM service representatives maintain your data processing installations.

Introduction

EREP is preinstalled on the z/VM System DDR.

Review the following section in the *EREP Program Directory*.

- “2.0 Program Materials” identifies the basic and optional program materials and documentation for EREP.
- “3.0 Program Support” describes the IBM support available for EREP.
- “4.0 Program and Service Level Information” lists the program levels of the required licensed products and the service level of EREP.

Installation Requirements and Considerations

Review sections “5.1 Driving System Requirements” through “5.3 Programming Considerations” in the *EREP Program Directory*. EREP was installed on MAINT’s 201 minidisk.

Installation Instructions

No additional installation instructions are required.

Service Instructions

Service instructions for EREP are found in the *EREP Program Directory*.

Step 2. ICKDSF

ICKDSF is a program you can use to perform functions needed for the installation, use, and maintenance of IBM DASD. You can also use it to perform service functions, error detection, and media maintenance.

Introduction

ICKDSF is preinstalled on the z/VM System DDR.

Review the following section in the *ICKDSF Program Directory*:

- “2.0 Program Materials” identifies the basic and optional program materials and documentation for ICKDSF.
- “3.0 Program Support” describes the IBM support available for ICKDSF.
- “4.0 Program and Service Level Information” lists the program levels of the required licensed products and the service level of ICKDSF.

Installation Requirements and Considerations

Review sections “5.1 Hardware Requirements” through “5.3 DASD Storage and User ID Requirements” in the *ICKDSF Program Directory*. ICKDSF was installed using VMSES/E on the user IDs, default addresses, and default SFS directories listed in section “5.3 DASD Storage and User ID Requirements”.

Installation Instructions

No additional installation instructions are required.

Service Instructions

Service instructions for ICKDSF are found in the *ICKDSF Program Directory*.

Step 3. IBM Language Environment® VM

IBM Language Environment VM (LE) provides a common set of services in a single run-time environment while enhancing the run-time environment with additional support for emerging application development technologies, such as object-oriented, distributed client/server, and open standards.

Introduction

LE is preinstalled on the z/VM System DDR.

Review the following sections in the *IBM Language Environment VM Program Directory*:

- “2.0 Program Materials” identifies the basic and optional program materials and documentation for LE.
- “3.0 Program Support” describes the IBM support available for LE.
- “4.0 Program and Service Level Information” lists the program levels of the required licensed products and the service level of LE.

Installation Requirements and Considerations

Review sections “5.1 Hardware Requirements” through “5.3 DASD Storage and User ID Requirements” in the *IBM Language Environment VM Program Directory*. LE was installed using VMSES/E on the user IDs, default addresses, and default SFS directories listed in section “5.3 DASD Storage and User ID Requirements”.

Installation Instructions

The installation of LE is complete.

To customize LE, refer to section “6.0 Installation Instructions” in the *IBM Language Environment VM Program Directory*.

Service Instructions

Service instructions for LE are found in the *IBM Language Environment VM Program Directory*.

Step 4. RSCS

VM Remote Spooling Communications Subsystem Networking (RSCS) lets z/VM users send messages, files and mail to co-workers at other systems on their TCP/IP, SNA, or non-SNA network. They can also use RSCS to print documents and issue commands on other systems.

RSCS uses z/VM spooling facilities to store and retrieve data. RSCS can transfer data to other systems (such as z/VM, z/OS®, OS/400®, VSE/ESA™, UNIX, and AIX/ESA®) that support Network Job Entry (NJE) protocols. NJE connectivity options include TCP/IP, SNA, ESCON®, channel to channel, and Binary Synchronous Communication.

RSCS also supports secure data transfer between z/VM spool and a system that is a workstation that supports Remote Job Entry (RJE) or Multi-leaving RJE (MRJE) protocols. RJE/MRJE connectivity options include SNA, and Binary Synchronous Communication.

RSCS provides the full range of all possible print service connectivity options. Instead of LPSERVE, the RSCS server may be chosen to provide an enhanced level of TCP/IP print support, including LPR and LPD. These services allow for intranet and internet print delivery for a system, and also accept print output from those networks. The ability to print data at a workstation printer in a transparent manner is available to end users regardless of how the printer is accessed.

Introduction

Note

RSCS is not available for customer use unless you have a license for it. If you want to use RSCS, you must order RSCS as documented in the *RSCS Version 3 Release 2 Program Directory*.

If you have ordered RSCS, review the following sections in the *RSCS Version 3 Release 2 Program Directory*:

- “2.0 Program Materials” identifies the basic and optional program materials and documentation for RSCS.
- “3.0 Program Support” describes the IBM support available for RSCS.
- “4.0 Program and Service Level Information” lists the program levels of the required licensed products and the service level of RSCS.

Installation Requirements and Considerations

Review sections “5.1 Hardware Requirements” through “5.3 DASD Storage and User ID Requirements” in the *RSCS Version 3 Release 2 Program Directory*. RSCS was installed using VMSES/E on the user IDs, default addresses, and default SFS directories listed in section “5.3 DASD Storage and User ID Requirements”.

Installation Instructions

To **complete** the installation of RSCS, refer to section “6.0 Installation Instructions” in the *RSCS Version 3 Release 2 Program Directory*.

Service Instructions

Service instructions for RSCS are found in the *RSCS Version 3 Release 2 Program Directory*.

Step 5. TCP/IP

TCP/IP (Transmission Control Protocol/Internet Protocol) enables z/VM customers to participate in a multivendor, open networking environment using the TCP/IP protocol suite for communications and interoperability. The applications provided in TCP/IP include the ability to transfer files, send mail, log on a remote host, allow access from any other TCP/IP node in the network, and perform other network client and server functions.

Introduction

Note

TCP/IP is not available for customer use unless you ordered it when you ordered z/VM. If you want to use TCP/IP, you must order TCP/IP as documented in the *TCP/IP Level 3A0 Program Directory*.

If you have ordered TCP/IP, review the following sections in the *TCP/IP Level 3A0 Program Directory*:

- “2.0 Program Materials” identifies the basic and optional program materials and documentation for TCP/IP.
- “3.0 Program Support” describes the IBM support available for TCP/IP.
- “4.0 Program and Service Level Information” lists the program levels of the required licensed products and the service level of TCP/IP.

Installation Requirements and Considerations

Review sections “5.1 Hardware Requirements” through “5.3 DASD Storage and User ID Requirements” in the *TCP/IP Level 3A0 Program Directory*. TCP/IP was installed using VMSES/E on the user IDs, default addresses, and default SFS directories listed in section “5.3 DASD Storage and User ID Requirements”.

Installation Instructions

The installation of TCP/IP is complete.

To use TCP/IP, it must be enabled and configured. Refer to section “6.0 Installation Instructions” in the *TCP/IP Level 3A0 Program Directory*.

Service Instructions

Service instructions for TCP/IP are found in the *TCP/IP Level 3A0 Program Directory*.

Step 6. German NLS Feature

The German NLS Feature provides German HELP files.

Introduction

If you did not choose to install the German HELP files and you wish to install them, go to “Appendix C. Post Install Load of Optional Items” on page 193, then return here. If you did install the German HELP files, they were installed on the MAINT 405 minidisk.

Installation Instructions

To make the German HELP files available, see “Chapter 10. Customizing National Languages” on page 127.

Service Instructions

The German NLS Feature is not serviced.

Step 7. Kanji NLS Feature

The Kanji NLS Feature provides Kanji HELP files.

Introduction

If you did not choose to install the Kanji HELP files and you wish to install them, go to “Appendix C. Post Install Load of Optional Items” on page 193, then return here. If you did install the Kanji HELP files, they were installed on the MAINT 401 minidisk.

Installation Instructions

To make the Kanji HELP files available, see “Chapter 10. Customizing National Languages” on page 127.

Service Instructions

The Kanji NLS Feature is not serviced.

Step 8. OSA/SF

Open Systems Adapter Support Facility (OSA/SF) lets you customize the integrated Open Systems Adapter (OSA) hardware feature for the OSA modes, change the settable OSA port parameters, and obtain status about the OSA.

OSA/SF has an Operating System/2[®] (OS/2[®]) interface, which is called the OSA/SF Graphical User Interface (OSA/SF GUI).

Through the System Authorization Facility (SAF) interface of the system image on which it is running, OSA/SF lets you use the Resource Access Control Facility (RACF[®]), or equivalent, to authorize or deny access to OSA/SF commands.

Introduction

If you did not choose to install OSA/SF and you wish to install it, go to “Appendix C. Post Install Load of Optional Items” on page 193, then return here.

If you chose to install OSA/SF, it was loaded from the z/VM System DDR. Review the following sections in the *OSA/SF Program Directory*:

- “2.0 Program Materials” identifies the basic and optional program materials and documentation for OSA/SF.
- “3.0 Program Support” describes the IBM support available for OSA/SF.
- “4.0 Program and Service Level Information” lists the program levels of the required licensed products and the service level of OSA/SF.

Installation Requirements and Considerations

Review sections “5.1 Hardware Requirements” through “5.3 DASD Storage and User ID Requirements” in the *OSA/SF Program Directory*. OSA/SF was installed using VMSES/E on the user IDs, default addresses, and default SFS directories listed in section “5.3 DASD Storage and User ID Requirements”.

Installation Instructions

To **complete** the installation of OSA/SF, refer to section “6.0 Installation Instructions” in the *OSA/SF Program Directory* and follow the installation instructions.

Service Instructions

Service instructions for OSA/SF are found in the *OSA/SF Program Directory*.

Step 9. Tivoli Storage Manager

Tivoli Storage Manager is a client/server program that provides storage management to customers in a multivendor computer environment. Tivoli Storage Manager provides an automated centrally scheduled, policy-managed backup, archive, and space management facility for file servers and workstations.

Introduction

Note

Tivoli Storage Manager is not available for customer use unless you have a license for it. If you want to use Tivoli Storage Manager, you must order Tivoli Storage Manager as documented in the *Tivoli Storage Manager for VM Program Directory*.

If you did not choose to install Tivoli Storage Manager and you wish to install it, go to “Appendix C. Post Install Load of Optional Items” on page 193, then return here.

If you chose to install Tivoli Storage Manager, it was loaded from the z/VM System DDR. Review the following sections in the *Tivoli Storage Manager for VM Program Directory*:

- “2.0 Program Materials” identifies the basic and optional program materials and documentation for Tivoli Storage Manager.
- “3.0 Program Support” describes the IBM support available for Tivoli Storage Manager.
- “4.0 Program and Service Level Information” lists the program levels of the required licensed products and the service level of Tivoli Storage Manager.

Installation Requirements and Considerations

Review sections “5.1 Hardware Requirements” through “5.3 DASD Storage and User ID Requirements” in the *Tivoli Storage Manager for VM Program Directory*. Tivoli Storage Manager was installed using VMSES/E on the user IDs, default addresses, and default SFS directories listed in section “5.3 DASD Storage and User ID Requirements”.

Installation Instructions

The installation of Tivoli Storage Manager is complete.

Refer to *Tivoli ADSTAR Distributed Storage Manager for VM: QuickStart* for instructions on how to set up the Tivoli ADSM for VM servers and the CMS Admin Client on your system.

Service Instructions

Service instructions for Tivoli Storage Manager are found in the *Tivoli Storage Manager for VM Program Directory*.

Chapter 9. Installing z/VM Features

This chapter provides installation information for the z/VM features not shipped on the z/VM System DDR. You order some features separately to install on z/VM, and others are shipped directly with the z/VM product. For packaging and ordering information, see the *z/VM: General Information*.

Note: All z/VM features are optional. You only have to install the features you require.

- Restricted Source Annotated Assembler Listings for CP, CMS, REXX/VM, VMSES/E, GCS, and TSAF
- Programming Language/Cross Systems for System/370™ (PL/X-370) Source
- DFSMS/VM® Function Level 221
- CMS Utilities (CUF)
- REXX/EXEC Migration Tool for z/VM (ESAMIGR)
- LANRES/VM Host Code
- DCE
- TCP/IP for VM Source
- BookManager® Library.

Step 1. Installing the z/VM Restricted Source Feature

In this step you will:

- Learn details about what the Restricted Source Feature contains and how you install it.

The z/VM Restricted Source Feature is shipped as a separate feature tape or as part of the Optional Features CD-ROM.

The z/VM Restricted Source Feature contains Assembler source code generated from z/VM PL/X source modules for the following components:

- CP
- CMS
- REXX/VM
- VMSES/E
- GCS
- TSAF

You need to define a minidisk (xxx) to load these additional source files.

Use the **vmfplc2 load** command to receive these tape files in the order shown:

Table 10. Order of Source Feature Tapes Received

Component	Tape File	CD File	Minidisk Loaded To	# Cyl/Blk		
				3380 9345	3390	FB-512
Header (Volume 1)	1	1				
CP	2	2	minidisk xxx	195	162	234,000
Header (Volume 2)	1	3				
CMS	2	4	minidisk xxx	535	445	642,000
Header (Volume 3)	1	5				
CMS (cont.)*	2	6	minidisk xxx			
Header (Volume 4)	1	7				
CMS (cont.)*	2	8	minidisk xxx			
Header (Volume 5)	1	9				
REXX/VM	2	10	minidisk xxx	3	3	3,000
VMSES/E	3	11	minidisk xxx	2	2	2,000
GCS	4	12	minidisk xxx	30	25	30,000
TSAF	5	13	minidisk xxx	21	18	23,000

Note: * You need to include the CMS material from Volume 3 and Volume 4 on the same minidisk containing volume 2 material.

Installing the z/VM Restricted Source Feature

The feature on CD-ROM has one logical tape containing identical data to that included on the five restricted source tape volumes.

In Table 10 on page 120, the cylinders for the 3380, 9345, and 3390 DASD were figured with a 4KB block size. The blocks for the FB-512 DASD (FBA) were figured with a 1KB block size.

All source files are loaded in **packed** format.

The GCS file GCTOM \$EXEC and all the macros listed within GCTOM \$EXEC are for IBM use only. They are shipped on the Source Feature for reference purposes and are not supported.

Step 2. Installing the z/VM PL/X-370 Source Code Feature

In this step you will:

- Learn details about what the z/VM PL/X-370 source code feature contains and how you install it.

The z/VM PL/X-370 source code feature is shipped as a separate feature tape or as part of the Optional Features CD-ROM.

This tape contains z/VM PL/X-370 source code files, distributed as restricted material of IBM, for the CP, CMS, and REXX/VM components.

1. Increase the sizes of the following MAINT minidisks:

Table 11 shows how much to increase the minidisk size in cylinders or blocks in order to install the z/VM PL/X source code feature tape.

Table 11. Minidisk Cyl/Blk Size Increases Needed to Install PL/X-370 Source Code Feature Tape

Minidisk Address	3380 # Cylinders	3390 # Cylinders	9345 # Cylinders	FB-512 # Blocks
193/493	45	38	45	54720
194	14	12	14	16800
394	23	19	23	27360
3B2	17	14	17	20160
393	85	71	85	102200

Note:

- The 194 and 394 disks are for CP only.
- The 3B2 and 393 disks are for CMS and REXX/VM only.
- The 193/493 disks are used by CP, CMS and REXX/VM.
 - 50% is needed for CP
 - 50% is needed for CMS and REXX/VM.
 - In Table 11, the cylinders for the 3380, 3390, and 9345 DASD were figured with a 4KB block size. The blocks for the FB-512 DASD (FBA) were figured with a 1KB block size.

2. Attach the tape drive to your user ID at virtual device number 181.

If you are installing with CD-ROM, refer to the *Optical Media Attach/2 User's Guide* and the *Optical Media Attach/2 Technical Reference*.

attach tapeaddr * 181

TAPE tapeaddr ATTACHED TO userID 0181
Ready; T=n.nn/n.nn hh:mm:ss

The ATTACH command attaches the device (tapeaddr) to your user ID's virtual machine at virtual device number 181.

3. Mount the z/VM PL/X-370 source code feature tape on the 181 tape drive.

4. Choose the components you wish to load (CP, CMS, REXX/VM). Enter the VMFREC command to load from the z/VM PL/X-370 source code feature tape one component at a time. Reenter the VMFREC command if you choose to load more than one component.

You will see the following messages for each component as it is loaded.

vmfrec ppf zvm compname (ins setup

VMFINS2760I VMFREC processing started
VMFINS2760I VMFSETUP processing started
VMFUTL2205I Minidisk|Directory Assignments:

compname is CP, CMS, or REXX.

This block of messages is repeated for each component, noting that the minidisk assignments will change with each component.

Installing the z/VM PL/X-370 Source Code Feature

```
String  Mode Stat Vdev Label/Directory
:
:
VMFSET2760I VMFSETUP processing completed successfully
VMFREC1852I Volume n of n of INS TAPE nnnn
:
:
VMFREC2760I VMFREC processing completed successfully
Ready; T=n.nn/n.nn hh:mm:ss
```

- ___ 5. Use the DETACH command to rewind, unload, and detach the tape.

detach 181

```
TAPE 0181 DETACHED
Ready; T=n.nn/n.nn hh:mm:ss
```

Step 3. Installing the Remaining Features

In this step you will be presented with reference information about:

- How to install the following features:
 - DFSMS/VM
 - CMS Utilities (CUF)
 - REXX/EXEC Migration Tool for z/VM (ESAMIGR)
 - LANRES/VM 1.3.0
 - DCE
 - TCP/IP VM Source
 - BookManager Library.

DFSMS/VM Feature

DFSMS/VM is shipped as a separate feature tape or as part of the Optional Features CD-ROM.

For more information on installing and customizing DFSMS/VM, see the *DFSMS/VM Function Level 221 Program Directory*.

CMS Utilities (CUF) Feature

CMS Utilities is shipped as a separately priced feature tape or as a separately priced CD-ROM.

For more information on installing the CMS Utilities Feature, see the *VM/ESA CMS Utilities Feature* manual.

REXX/EXEC Migration Tool for z/VM Feature

The REXX/EXEC Migration Tool for z/VM is shipped as a separate feature tape or as part of the Optional Features CD-ROM.

For more information on installing this tool, see the *VM/ESA: REXX/EXEC Migration Tool for VM/ESA*.

LANRES/VM 1.3.0

The LANRES/VM Feature is shipped as a separate feature tape or as part of the Optional Features CD-ROM.

For more information, see the *LANRES/VM Feature Program Directory*.

DCE

DCE is shipped as a separate feature tape or as a separate CD-ROM.

For more information, see the *DCE Program Directory*.

TCP/IP VM Source

TCP/IP VM Source is shipped as a separately priced feature tape or as a separately priced CD-ROM.

For more information on installing TCP/IP VM Source, see the *TCP/IP Level 3A0 Program Directory*.

BookManager Library

The BookManager Library is shipped as a separate feature tape or as part of the Optional Features CD-ROM.

For more information, see the *BookManager Library Program Directory*.

Post System DDR Installation Information

Chapter 10. Customizing National Languages

This chapter describes how to customize national language HELP files on your z/VM system. There are two ways you can access the national language HELP files:

- Define a **system national language**. The system national language is the language automatically set for CP and all virtual machines on the system. As part of z/VM base installation, you install either American English (by default) or uppercase English as the system national language.
You can later change the system national language to any of the supported national languages.
- Place the national language HELP file information into a saved segment. This allows each user to override the system national language with the language placed in the saved segment by issuing the SET LANGUAGE command or using the OPTION LANG statement in USER DIRECT.

In this chapter you will:

- Update CMS translation tables
- Change the system national language
- Make national language files available in GCS
- Load an additional national language into a segment that you can make available to individual users
- Delete the segment containing national language information.

Notes:

1. The extent of the translated information could vary between national languages.
2. Some national languages have character sets that require special hardware. Be sure that the language selected for a user's session is the language supported by that user's terminal and control unit. If multiple languages are to be available to a single user, then those same languages need to be available in the hardware, and the control unit must be customized accordingly. You can customize the hardware for only one language at a time.

Introduction

The z/VM System DDR contains HELP files for mixed case American English (AMENG), uppercase English (UCENG), German (GER), and Kanji (KANJI).

AMENG was loaded with the z/VM system. If you did not load the UCENG, German, and Kanji Help disks during the installation, but now want to load one or more of the Help disks, refer to “Appendix C. Post Install Load of Optional Items” on page 193.

National Languages Supported

Each national language supported by z/VM has a unique 1-to-5 character language identifier (*langid*). The file names of national language object and source files have a one- or two-character country code (*cc*) to identify the national language, as shown in Table 12. These values are stored in the VMFNLS LANGLIST file, which many language-processing commands use as a cross reference.

Note: The American English versions of translatable national language files have six-character file names; they do not use the country code.

Table 12. National Language Identifiers and Country Codes

Language	<i>langid</i>	Country Code (<i>cc</i>)	DBCS (Double-byte Character Set)
American English (mixed case)	AMENG		No
Japanese	KANJI	A	Yes
Uppercase English	UCENG	B	No
German	GER	E	No

Step 1. Updating the CMS Translation Tables

If you are going to use a national language that has character sets that require special hardware, continue with this step. Otherwise, skip to “Step 2. Changing the System National Language” on page 131.

The DMSTRT cc ASSEMBLE file that you loaded from the z/VM System DDR contains read-only system translation tables used by other CMS modules for:

- Uppercase translation
- 327x workstation support (displayable characters, APL, TEXT, and so on).

In this step you will:

- Update the translation tables in DMSTRT cc ASSEMBLE to match the language customization generated for your 3174 or 3274 controllers. You should create a language saved segment or CMS named saved system for each national language you install that requires customization of your 3174 or 3274 controllers.

Make sure you have loaded the CMS source minidisk (393), as this was an optional step during your run of the INSTALL EXEC.

1. Establish the minidisk access order. **Make a note of the file mode of the CMS LOCALMOD disk (3C4).**

```
vmfsetup zvm cms
:
Ready; T=n.nn/n.nn hh:mm:ss
```

2. Edit the AUX file and add an entry for the update file.

```
xedit dmstrt $cc$  auxlcl
```

dmstrt cc is the name of the module being updated.
cc is the country code for the national language you are installing. Refer to Table 12 on page 128.

For information about control files and auxiliary control files, see *z/VM: VMSES/E Introduction and Reference*.

```
top
```

```
input
```

```
LL $nnnn$ DS LCL LCL $nnnn$  *updates for translation table
```

```
:
```

This entry should be at the top of the file. **LL $nnnn$ DS** is the file type of the update file, and **LCL $nnnn$** is the local tracking number. The rest of the line, beginning with the asterisk (*), is a comment explaining the purpose of this modification.

Press **Enter** to return to the command line.

Place the updated AUX file on the CMS LOCALMOD disk (3C4).

```
ENTER
```

```
file = = fm-3c4
```

```
Ready; T=n.nn/n.nn hh:mm:ss
```

Updating the CMS Translation Tables

- ___ 3. Edit the source file with the CTL option.

```
xedit dmstrtcc assemble (ctl dmsvm
```

```
:
```

```
file = = fm-3c4
```

```
Ready; T=n.nn/n.nn hh:mm:ss
```

dmstrtcc assemble is the file ID of the source file. The file name must be the same as the file name of the update file. *cc* is the country code for the national language you are installing. Refer to Table 12 on page 128. **dmsvm** is the file name of the control file.

Make your changes to the displayed source file. The original source file is **not** changed. When you enter the FILE command in XEDIT, all of your changes are placed in the update file **dmstrtcc LLnnnnDS**.

- ___ 4. Use the VMFNLS command to generate the associated object file, DMSTRT*cc* TEXT, that includes your changes. For information about the VMFNLS EXEC, see *z/VM: VMSES/E Introduction and Reference*.

```
vmfnls dmstrtcc assemble zvm cms (logmod outmode localmod
```

```
:
```

```
Ready; T=n.nn/n.nn hh:mm:ss
```

logmod updates the CMS Version Vector Table (VVTLCCL).

Step 2. Changing the System National Language

If you want to change the system national language from the system national language that was set during part of the base installation, continue with this step.

Otherwise, see “Step 3. Adding a National Language as a System Segment” on page 134 for detailed information to have language HELP files available in a segment as a system option. This allows each user to override the system national language with another language by issuing the SET LANGUAGE command or using the OPTION LANG *langid* statement in a user’s CP directory entry.

In this step you will:

- Tailor the system generation files to identify the new language.
- Build and save a new CMS nucleus containing the CMS language files.
- Build a new CP nucleus containing the CP language files.
- Rebuild the HELPSEG saved segment.
- Copy the 490 minidisk and relabel the 190 minidisk.
- Resave the CMS named saved system.
- Shutdown the system and do a warm start to bring the new CP nucleus online.
- Backup the primary parm disk.

Notes:

1. This procedure assumes you have already:
 - Loaded the national language files to your system. If you have not, see “Appendix C. Post Install Load of Optional Items” on page 193.
 - Updated the CMS translation tables to match the language customization of your controllers, if necessary. If you have not, see “Step 1. Updating the CMS Translation Tables” on page 129.
2. You must be logged on to the MAINT virtual machine.
3. Some languages have character sets that require special hardware. Be sure that all display devices in your configuration can properly display the character set of the new system national language.

___ 1. Tailor the CMS nucleus generation profile using the following steps.

___ a. Establish the correct minidisk access order. **Make a note of the file mode of the CMS LOCALMOD disk (3C4).**

```
vmfsetup zvm cms
:
Ready; T=n.nn/n.nn hh:mm:ss
```

___ b. Edit the AUX file and the CMS nucleus generation profile (DMSNGP ASSEMBLE).

```
xedit dmsngp auxlcl
top
input
LLnnnnDS LCL LCLnnnn *updates for NLS
:
:
```

ENTER

This entry should be at the top of the file. **LLnnnnDS** is the file type of the update file, and **LCLnnnn** is the local tracking number. The rest of the record, beginning with the asterisk (*), is a comment explaining the purpose of this modification. *nnnn* must be unique for each record.

Press **Enter** to return to the command line.

Changing the System National Language

file = *fm-3c4*

Ready; T=*n.nn/n.nn hh:mm:ss*

xedit dmsngp assemble (ctl dmsvm

:

:

file = *fm-3c4*

Ready; T=*n.nn/n.nn hh:mm:ss*

___ c. Reassemble DMSNGP.

vmfasn dmsngp zvm cms (logmod outmode localmod

:

:

Ready; T=*n.nn/n.nn hh:mm:ss*

Place the updated AUX file on the LOCALMOD disk (3C4).

Make the following changes to the file:

- 1) Change the **HELP=** statement to identify the new address (*mdiskaddr*) corresponding to the language you have loaded. See Table 13.
- 2) Change the **LANGID=** statement to identify the new system national language. See Table 12 on page 128 for the language identifier.
- 3) If the new language contains double-byte character set data (see Table 12 on page 128) or you want to have DBCS processing, change the **DBCS=** statement to YES.

File your changes on the LOCALMOD disk (3C4).

logmod updates the Version Vector Table.

The **outmode localmod** option places the updated text file on the CMS LOCALMOD minidisk (3C4).

___ d. If you changed the address in the **HELP=** statement in DMSNGP ASSEMBLE, you must also change the minidisk address and label in the **HELP LSEG** file.

Table 13. Recommended Minidisks and Labels for National Language HELP Files

Language	Minidisk	Minidisk
	<i>user mdiskaddr</i>	Label
American English (mixed case)	MAINT 19D	MNT19D
Uppercase English	MAINT 402	MNT402
Japanese (Kanji)	MAINT 401	MNT401
German	MAINT 405	MNT405

Attention: HELP files have the same file IDs for all languages. Therefore, the HELP files for each language installed on your system must reside on a different minidisk.

vmfrepl help lseg zvm cms (query nocopy setup

:

:

Ready; T=*n.nn/n.nn hh:mm:ss*

Determines the highest local modification. If the highest local modification displayed is NONE, specify any number for *nnnn* in the following VMFREPL command. If the highest local modification displayed is **SEGLmmmm**, specify any number higher than *mmmm* for *nnnn* in the following VMFREPL command.

vmfrepl help lseg zvm cms (logmod lnnnn outmode localmod \$select setup

Copy the highest level of the part, rename it to **SEGLnnnn**, update the local CMS Version Vector Table, and update the **\$SELECT** file.

Ready; T=*n.nn/n.nn hh:mm:ss*

Changing the System National Language

xedit help seglnnnn fm-3c4

:

====> file

Ready; T=*n.nn/n.nn hh:mm:ss*

vmfbld ppf zvm cms (serviced

:

access 493 e

Ready; T=*n.nn/n.nn hh:mm:ss*

access 193 f

Ready; T=*n.nn/n.nn hh:mm:ss*

copyfile help lseg e = f (olddate replace

Ready; T=*n.nn/n.nn hh:mm:ss*

Edit the file and change the minidisk address and minidisk label to the appropriate disk address and label. See Table 13 on page 132. This must be the same minidisk defined in the HELP= statement in DMSNGP. File the changes.

- ___ 2. To build your new CMS nucleus, refer to “Appendix O. Rebuild the CMS Nucleus” on page 265.

When you IPL 190 after building your new CMS nucleus, you may receive the following message because the CP language and the CMS language are not the same at this point in the procedure:

DMS5LG283E The *langid* saved segment could not be found; return code 44 from SEGMENT

Even though CP is built in the next substep, CP is not brought online until you shutdown your system and re-IPL your new system described in substep 5.

- ___ 3. To build your new CP nucleus and bring that nucleus into your system, refer to “Appendix P. Build the CP Nucleus” on page 271.
- ___ 4. If your HELP files are on a minidisk other than 19D, and you have updated DMSNGP ASSEMBLE and HELP LSEG to reflect the correct minidisk, you must rebuild the HELPSEG saved segment to pull in the correct HELP files.

ipl 190 clear parm nosprof instseg no

z/VM V3.1.0 *yyyy-mm-dd hh:mm*

ENTER

Ready; T=*n.nn/n.nn hh:mm:ss*

Clear is necessary. Do not omit it.

Press **Enter** to complete CMS initialization.

vmfbld ppf segbld esasegs segblist helpseg (serviced

:

Ready; T=*n.nn/n.nn hh:mm:ss*

segbld is the name of the saved segment PPF.
esasegs is the system name. **segblist** is the system build list for saved segments.

- ___ 5. To shutdown your system and re-IPL your system using the new CP nucleus, go to “Step 7. Shutdown and Re-IPL Your System” on page 90. Keep in mind that you are doing a **warm start** in place of a **cold drain** during this step.
- ___ 6. The GCS HELP files and messages are only available in AMENG and UCENG. There is no support for building GCS using the NLS PPF files. To build GCS in AMENG, use the PPF name ZVM. To build GCS in UCENG, use the PPF name UCENG. To build your new GCS nucleus, refer to “Step 2. Rebuild and Save the GCS Nucleus” on page 287.

Step 3. Adding a National Language as a System Segment

If you want to place the national language HELP file information into a saved segment, continue with this step. This allows each user to override the system national language with the language information placed in the saved segment by issuing the SET LANGUAGE command.

Note: You cannot use the system national language as the language you are adding as a system option. For example, if your system national language is Kanji, you cannot put Kanji into a segment.

In this step you will:

- Define a saved segment.
- Build a saved segment.
- Update users' CP directory entries.

Note: This procedure assumes you have already:

- Loaded the national language files to your system. If you have not loaded the national language files on your system, see “Appendix C. Post Install Load of Optional Items” on page 193.
- Updated the CMS translation tables to match the language customization of your controllers, if necessary. If you have not, see “Step 1. Updating the CMS Translation Tables” on page 129.

- ___ 1. Define the saved segment to be used for a national language segment.
 - ___ a. Use the saved segment mapping exec VMFSGMAP to define the saved segment in which you want to store the CMS language files.

vmfsgmap segbld esasegs segblist

```
VMFSGM2034I Building segment map
:
Ready; T=n.nn/n.nn hh:mm:ss
```

segbld is the name of the saved segment PPF.

esasegs is the system name. **segblist** is the system build list for saved segments.

VMFSGMAP displays the following panel, shown with the saved segments currently defined.

Note: Any saved segments and saved systems currently defined on your system will display in the segment map, otherwise the map is empty. For example, if you installed and built GCS, the GCS saved system information appears on the panel.

Adding a National Language as a System Segment

VMFSGMAP - Segment Map					More: +
					Lines nn to nn of nn
Meg		000-MB	001-MB	002-MB	003-MB
St Name	Typ	0123456789ABCDEF0123456789ABCDEF0123456789ABCDEF0123456789ABCDEF			
M CMS	SYS W-W	-----1	2	3	.....
M GCS	SYS W	-----1	2	3	.....
Meg		004-MB	005-MB	006-MB	007-MB
St Name	Typ	0123456789ABCDEF0123456789ABCDEF0123456789ABCDEF0123456789ABCDEF			
CMSPIPES	DCS 4	5	6	RRRRRRRR	-----
M GCS	SYS RRRRRRNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN	6	7	.....	.....
Meg		008-MB	009-MB	00A-MB	00B-MB
St Name	Typ	0123456789ABCDEF0123456789ABCDEF0123456789ABCDEF0123456789ABCDEF			
DOSBAM	SPA 8	9	A	=====	-----
CMSBAM	MEM 8	9	A	RRRR	.....
CMSDOS	MEM 8	9	A	R	.....
CMSVLIB	DCS RRRRRRRRRRRRRRRRRR	9	A	B	.....
DOSINST	DCS 8	R	-----A	B	.....
F1=Help F2=Chk Obj F3=Exit F4=Chg Obj F5=File F6=Save					
F7=Bkwd F8=Fwd F9=Retrieve F10=Add Obj F11=Del Obj F12=Class					
====>					

- ___ b. Locate the NLS segment information so that updates can be made.

Each of the NLS segments must be added one at a time.

- 1) Move your cursor to the command line (====>).
- 2) Press **PF10** to display the following Add Segment Definition panel:

PF10

Adding a National Language as a System Segment

Add Segment Definition

Lines *nn* to *nn* of *nn*

OBJNAME....: ????????

DEFPARMS...:

SPACE.....:

TYPE.....: SEG

OBJDESC....:

OBJINFO....:

GT_16MB....: NO

DISKS.....:

SEGREQ.....:

PRODID.....:

BLDPARMS....: UNKNOWN

F1=Help F2=Get Obj F3=Exit F4=Add Line F5=Map F6=Chk MEM
F7=Bkwd F8=Fwd F9=Retrieve F10=Seginfo F11=Adj MEM F12=Cancel
====>

- ___ c. Fill in the object name (OBJNAME) and product identifier (PRODID) fields. Change ???????? with one of the following:

nlsceng
nlscanji
nlsger

Type in **3VMVMA10 NLS** as PRODID.

- ___ d. Keep the cursor on the PRODID field and press **PF10** to pull in the default NLS saved segment information.

PF10

Note: You will see the message VMFSMD2760I “SEGINFO processing completed successfully.”

Adding a National Language as a System Segment

Add Segment Definition

Lines *n* to *nn* of *nn*

OBJNAME....: NLSGER
DEFPARMS...: 2000-20FF SR
SPACE.....:
TYPE.....: SEG
OBJDESC....: GER NLS SEGMENT
OBJINFO....:
GT_16MB....: YES
DISKS.....: 2C2 2C4 2A6 2A4 2A2 2D2 194
SEGREQ.....:
PRODID.....: 3VMVMA10 NLS
BLDPARMS...: PPF(ZVM CMS DMSSBGER)

VMFSMD2760I SEGINFO processing completed SUCCESSFULLY
F1=Help F2=Get Obj F3=Exit F4=Add Line F5=Map F6=Chk MEM
F7=Bkwd F8=Fwd F9=Retrieve F10=Seginfo F11=Adj MEM F12=Cancel
====>

- ___ e. The panel displays the refreshed NLS segment information.
- ___ f. Press **PF5** to return to the following refreshed Segment Map panel:

PF5

Adding a National Language as a System Segment

```

VMFSGMAP - Segment Map
More: + -
Lines nn to nn of nn

Meg          00C-MB          00D-MB          00E-MB          00F-MB
St Name      Typ 0123456789ABCDEF0123456789ABCDEF0123456789ABCDEF0123456789ABCDEF
HELPSEG      DCS RRRRRRRRRRRRRRRRD.....F.....
M CMS        SYS C.....D.....E.....RRRRRRRRRRRRRRR>

===== 16-MB Line =====

Meg          010-MB          011-MB          012-MB          013-MB
St Name      Typ 0123456789ABCDEF0123456789ABCDEF0123456789ABCDEF0123456789ABCDEF
M CMS        SYS >RRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRR
M GCS        SYS RNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN2.....3.....

Meg          014-MB          015-MB          016-MB          017-MB
St Name      Typ 0123456789ABCDEF0123456789ABCDEF0123456789ABCDEF0123456789ABCDEF
INSTSEG      DCS RRRRRRRRRRRRRRRRRRRRRRRRRRRRRRR6.....7.....
CMSVMLIB     DCS 4.....5.....6.....RRRRRRRRRRRRRRR
P NLSGER     DCS 4.....5.....RRRRRRRRRRRRRRR7.....
F1=Help      F2=Chk Obj  F3=Exit   F4=Chg Obj  F5=File   F6=Save
F7=Bkwd      F8=Fwd      F9=Retrieve F10=Add Obj F11=Del Obj F12=Class
=====

```

- g. The panel displays the refreshed NLS segment information.
- h. Press **PF6** to save the changes.

PF6

- ___ i. Repeat the procedures described in substeps (1b on page 135-1h) for each NLS segment you want to add.
- ___ j. Press **PF5** to file all the changes.

PF5

- ___ 2. Run the VMFBLD command to build the saved segment.
 - a. Create the NLS saved segment.

```
ipl 190 clear parm nosprof instseg no
```

z/VM V3.1.0 yyyy-mm-dd hh:mm

ENTER

Ready: T=n.nn/n.nn hh:mm:ss

Clear is necessary. Do not omit it.

Press **Enter** to complete CMS initialization.

vmfbld ppf seqbld esaseqs seqblist (serviced

$$\vdots$$

Ready; T=n.nn/n.nn hh:mm:ss

Create the segment. **segblid** is the name of the saved segment PPF. **esasegs** is the system name. **segblist** is the system build list for saved segments.

- ___ b. Copy the **SYSTEM LANGUAGE** file from the 490 disk to the 190 disk so the new NLS saved segment will be identified.

access 190 t

Ready; T=*n.nn/n.nn hh:mm:ss*

access 490 u

Ready: T=n.nn/n.nn hh:mm:ss

copyfile system language u = = t2 (olddate replace

Ready: T=n.nn/n.nn hh:mm:ss

Adding a National Language as a System Segment

ipl 190 clear

z/VM V3.1.0 *yyyy-mm-dd hh:mm*

ENTER

Ready; T=*n.nn/n.nn hh:mm:ss*

Clear is necessary. Do not omit it.

Press **Enter** to complete CMS initialization.

- ___ c. Access the 193 minidisk in read/write mode.

access 193 z

Ready; T=*n.nn/n.nn hh:mm:ss*

- ___ d. Invoke SAMPNSS to define the CMS named saved system.

sampnss cmsname

SAMPNSS enters the DEFSYS command to define a skeleton system data file for CMS.

cmsname is either the IBM supplied system name (CMS) or the name you defined in DMSNGP on the SYSNAME statement.

If you use "CMS" (the default name), then users will receive the new level of CMS whenever they enter the command IPL CMS. If you changed the name, you must change the IPL statements in the directory accordingly.

HCPNSD440I Named Saved System (NSS) *cmsname* was
successfully defined in fileid *fileno*
Ready; T=*n.nn/n.nn hh:mm:ss*

These messages tell you that the DEFSYS command was successful.

- ___ e. Save the CMS named saved system.

ipl 190 clear parm savesys cmsname

HCPNSD440I Named Saved System (NSS) *cmsname* was
successfully defined in fileid *fileno*

cmsname is either the IBM supplied system name (CMS) or the name you defined in DMSNGP on the SYSNAME statement.

Load 190 with the option to save the system under the name *cmsname*.

z/VM V3.1.0 *yyyy-mm-dd hh:mm*

ENTER

Ready; T=*n.nn/n.nn hh:mm:ss*

Press **Enter** to complete CMS initialization.

- ___ 3. A user can make an optional language available during a CMS session by entering a SET LANGUAGE command for that language. For more information about the SET LANGUAGE command, see the *z/VM: CMS Command Reference*.

Defining the optional language in an OPTION LANG *langid* statement in a user's CP directory entry automatically sets that language for the user's virtual machine when the user logs on:

- If the CP directory entry presently contains no such statement (which means the user's virtual machine is set to the system national language), add a statement for the new language.
- If the CP directory entry contains a statement that specifies a different optional language, change the *langid* on the statement to the new language.

For more information about the OPTION LANG statement, see *z/VM: Planning and Administration*.

Step 4. Deleting a National Language Segment

If you have a national language installed in a segment on your system, but decide that you no longer want the language available to users, use the following procedure to delete it.

In this step you will:

- Change the directory entry for a user ID
- Delete a language saved segment.

1. Edit the directory entry of each user who had this language as the logon default and delete the OPTION LANG statement for this language. If this is not done, the user receives the following error message when logging on:

```
HCPL0H365I Requested language langid1 is
unavailable. Language langid2 set. RC=rc
```

The user's virtual machine is now set to the system national language at logon.

For more information about the OPTION LANG statement, see *z/VM: Planning and Administration*.

2. Use the VMFSGMAP EXEC to display the saved segments currently defined.

vmfsgmap segbld esasegs segblist

```
VMFSGM2034I BUILDING SEGMENT MAP
:
:
Ready; T=n.nn/n.nn hh:mm:ss
```

segbld is the name of the saved segment PPF.

esasegs is the system name. **segblist** is the system build list for saved segments.

Note: Any saved segments and saved systems currently defined on your system will display in the segment map, otherwise the map is empty. For example, if you installed and built GCS, the GCS saved system information appears on the panel.

VMFSGMAP displays the following panel, shown with the saved segments currently defined.

Deleting a National Language Segment

[illegible]

- ___ 3. Locate the NLS segment you want to delete.

You can delete only one NLS segment at a time. Repeat the procedures in this substep for each NLS segment you want to delete.

 - ___ a. Move your cursor to the command line (====>).
 - ___ b. Type **top** on the command line to place yourself at the top of the segment map information.
 - ___ c. Type **locate /nlsname/** on the command line, where *nlsname* is one of the following NLS segments you want to find:
 - nlsuceng
 - nlskanji
 - nlsger
 - ___ d. Place the cursor on the NLS segment information you want to delete.
 - ___ e. Press **PF11** to delete the NLS segment. Pressing PF11 also places you at the bottom of the Segment Map panel showing a “D” in the first column next to the segment information you just deleted. See the Segment Map on page 142.

PF11

Deleting a National Language Segment

```

VMFSGMAP - Segment Map
More: -
Lines nn to nn of nn
Meg      014-MB      015-MB      016-MB      017-MB
St Name  Typ 0123456789ABCDEF0123456789ABCDEF0123456789ABCDEF0123456789ABCDEF
CMSFILES DCS -----RRRRRRRRRRRRRRRRRRRRRRRRRRRR6.....7.....
D NLSGER  DCS DELETED
===== End Segment Map =====

```

```

VMFSMD2046I Segment NLSGER has been deleted
F1=Help    F2=Chk Obj  F3=Exit    F4=Chg Obj  F5=File    F6=Save
F7=Bkwd    F8=Fwd     F9=Retrieve F10=Add Obj F11=Del Obj F12=Class
====>

```

- ___ 4. Press **PF5** to file all the changes.

PF5

- ___ 5. Rebuild the saved segments that have been serviced

- ___ a. IPL CMS without running the system profile (SYSPROF EXEC) and without loading the installation saved segment (CMSINST).

iopl 190 clear parm nosprof instseg no

Clear is necessary. Do not omit it.

z/VM V3.1.0 yyyy-mm-dd hh:mm

ENTER

Press **Enter** to complete CMS initialization.

Ready; T=n.nn/n.nn hh:mm:ss

- ___ b. Run the VMFBLD command to delete the saved segments.

vmfbld ppf segbld esasegs segblist (serviced

:

Ready; T=n.nn/n.nn hh:mm:ss

- ___ c. Edit the SYSTEM LANGUAGE file.

access 190 t

Access the 190 and 490 disks.

Ready; T=n.nn/n.nn hh:mm:ss

access 490 u

Ready; T=n.nn/n.nn hh:mm:ss

xedit system language u

:

:

file

Delete the language from the SYSTEM LANGUAGE file that you are deleting from the saved segment. File the change.

- ___ d. Copy the SYSTEM LANGUAGE file from the 490 disk to the 190 disk so the rebuilt NLS saved segment will be accessed.

Deleting a National Language Segment

copyfile system language u = = t2 (olddate replace

Ready; T=*n.nn/n.nn hh:mm:ss*

ipl 190 clear

z/VM V3.1.0 *yyyy-mm-dd hh:mm*

ENTER

Ready; T=*n.nn/n.nn hh:mm:ss*

Clear is necessary. Do not omit it.

Press **Enter** to complete CMS initialization.

___ e. Access the 193 minidisk in read/write mode.

access 193 z

Ready; T=*n.nn/n.nn hh:mm:ss*

___ f. Invoke SAMPNSS to define the CMS named saved system.

sampnss cmsname

SAMPNSS enters the DEFSYS command to define a skeleton system data file for CMS.

cmsname is either the IBM supplied system name (CMS) or the name you defined in DMSNGP on the SYSNAME statement.

If you use "CMS" (the default name), then users will receive the new level of CMS whenever they enter the command IPL CMS. If you changed the name, you must change the IPL statements in the directory accordingly.

HCPNSD440I Named Saved System (NSS) *cmsname* was
successfully defined in fileid *fileno*
Ready; T=*n.nn/n.nn hh:mm:ss*

These messages tell you that the DEFSYS command was successful.

___ g. Save the CMS named saved system.

ipl 190 clear parm savesys cmsname

HCPNSD440I Named Saved System (NSS) *cmsname* was
successfully defined in fileid *fileno*

cmsname is either the IBM supplied system name (CMS) or the name you defined in DMSNGP on the SYSNAME statement.

Load 190 with the option to save the system under the name *cmsname*.

z/VM V3.1.0 *yyyy-mm-dd hh:mm*

ENTER

Ready; T=*n.nn/n.nn hh:mm:ss*

Press **Enter** to complete CMS initialization.

Deleting a National Language Segment

Part 4. Reference

This section covers the tools (commands, execs, and modules) that are used during the installation procedures.

Reference

Chapter 11. Exec References

This section is a general reference for execs you may use during installation. The following execs are described in this section:

DIRONLIN
INSTALL
INSTDEF
INSTDEF2
INSTDIR
INSTIIS
INSTPLAN
INSTPOOL
MIGR51D
MOVE2SFS
POSTDDR
POSTLOAD

Exec Format Summaries

z/VM provides a number of tools to help you perform install, service, and system generation tasks.

Table 14 lists z/VM install, service, and system generation execs and the books describing each exec. Use the following key for this table.

Abbreviation	Title
VMSES/E I and R	<i>z/VM: VMSES/E Introduction and Reference</i>
Install	<i>z/VM: Installation Guide</i>
CMS Cmd Ref	<i>z/VM: CMS Command Reference</i>
CP Cmd Ref	<i>z/VM: CP Command and Utility Reference</i>
GCS Ref	<i>z/VM: Group Control System</i>

Table 14. z/VM Install, Service, and System Generation Tools

Tool	Task	Book
ASSEMBLE	Processes source statements in assembler language source files.	CMS Cmd Ref
CSLGEN	Builds a callable services library (CSL).	CMS Cmd Ref
DCSSGEN	Builds the CMS installation saved segment (CMSINST).	CMS Cmd Ref
DIRECTXA	Creates a user directory.	CP Cmd Ref
DIRONLIN	Brings the directory built by INSTDIR online.	Install
DISKMAP	Summarizes the MDISK statements in the user directory. The output shows gaps and overlaps between minidisk assignments.	CP Cmd Ref
DOSGEN	Builds the CMSDOS physical saved segment.	CMS Cmd Ref
EXECUPDT	Produces an updated version of a \$Source file.	CMS Cmd Ref
EXPAND	Adds space to a program in object deck form.	VMSES/E I and R
GENCPBLS	Updates the CP load list build list.	VMSES/E I and R
GENMOD	Generates CMS module files.	CMS Cmd Ref
GROUP	Builds a GCS configuration file.	GCS Ref

Exec Format Summaries

Table 14. z/VM Install, Service, and System Generation Tools (continued)

Tool	Task	Book
HCPLDR	Calls and controls the system loader.	CP Cmd Ref
INSTALL	Loads base and optional components to disks.	Install
INSTDEF	Customizes CMS, rebuilds CMS, CP, and GCS, and moves selected items to SFS.	Install
INSTDEF2	Performs clean-up and backup tasks after customizing and rebuilding the nucleus.	Install
INSTDIR	Builds a directory for your installation.	Install
INSTFPP	Installs optional products.	VMSES/E I and R
INSTIIS	Formats and labels your installation DASD and restores the IIS.	Install
INSTPLAN	Selects items to load and DASD type on which to install.	Install
INSTPOOL	Starts the file pool servers during installation procedures.	Install
ITNVTSTR	Processes install and service orders delivered by Advanced Digital Delivery.	VMSES/E I and R
LANGGEN	Loads national language text files into a saved segment.	CMS Cmd Ref
LANGMERG	Combines national language files for an application into a single text file.	CMS Cmd Ref
LOADLIB	Lists, copies, or compresses CMS load libraries.	CMS Cmd Ref
MIGR51D	Migrates and updates the System Software Inventory files.	Install
MOVE2SFS	Moves data for GCS, TSAF, and AVS from minidisks to Shared File System (SFS) servers.	Install
POSTDDR	Creates Software Inventory tables.	Install
POSTLOAD	Performs cleanup tasks depending on what you have loaded.	Install
PRELOAD	Collects multiple text files and reformats them into a single text file.	CMS Cmd Ref
SAMGEN	Builds the CMSBAM physical saved segment.	CMS Cmd Ref
SAMPNSS	Defines named saved systems.	CMS Cmd Ref
SAVEFD	Places file directory information for a shared, extended data format (EDF) R/O minidisk into a discontinuous shared segment (DCSS).	CMS Cmd Ref
SEGEN	Builds logical saved segments defined in a physical saved segment.	CMS Cmd Ref
SNTINFO	Gets discontinuous saved segment (DCSS) information directly from CP.	VMSES/E I and R
SPXTAPE	Saves standard spool files and system data files on tape and restores SPXTAPE-format files from tape to the spooling system.	CP Cmd Ref
UTILITY	Provides occasionally-used installation functions, such as, issuing DIAGNOSE code X'24' and X'210' for a virtual device and creating a stand-alone service utility tape for either or both ICKDSF and DDRXA.	CP Cmd Ref
VMFAPPLY	Updates the maintenance level of the specified product.	VMSES/E I and R
VMFASM	Updates an ASSEMBLE source file according to entries in a control file, then assembles the source file to produce an object file.	VMSES/E I and R
VMFBLD	Builds objects for the specified product.	VMSES/E I and R
VMFCNVT	Converts size and block size data into cylinders and displays the results.	VMSES/E I and R
VMFCOPY	Copies a file to a VMSES/E target minidisk or SFS directory and updates the parts catalog table on that target.	VMSES/E I and R

Table 14. z/VM Install, Service, and System Generation Tools (continued)

Tool	Task	Book
VMFERASE	Erases a file on a VMSES/E target minidisk or SFS directory and updates the parts catalog table on that target.	VMSES/E I and R
VMFEXUPD	Calls the EXECUPDT command to apply updates to a \$Source program.	VMSES/E I and R
VMFHASM	Updates an ASSEMBLE source file according to entries in a control file, then uses the H assembler to produce an object file.	VMSES/E I and R
VMFHLASM	Updates an ASSEMBLE source file according to entries in a control file, then uses the HL assembler to produce an object file.	VMSES/E I and R
VMFINFO	Queries the Software Inventory tables.	VMSES/E I and R
VMFINS	Installs, migrates, builds, and deletes products.	VMSES/E I and R
VMFLKED	Link edits modules into a load library (LOADLIB).	CMS Cmd Ref
VMFMAC	Builds macro libraries (MACLIBs) containing macro and copy files.	CMS Cmd Ref
VMFMERGE	Applies PTFs to Systems Network Architecture (SNA) products. VMFMERGE is used only to service SNA products.	VMSES/E I and R
VMFMRDSK	Consolidates the contents of minidisks/directories within a string.	VMSES/E I and R
VMFNLS	Applies updates to national language files and compiles the updated versions.	VMSES/E I and R
VMFOVER	Creates a temporary PPF by applying overrides to a source PPF.	VMSES/E I and R
VMFPLC	Provides a front end to routines that use VMFPLC2 when conversion to VMFPLCD or a dual path is desired.	CMS Cmd Ref
VMFPLCD	Loads files from an envelope, dumps files to an envelope, and controls various envelope operations.	CMS Cmd Ref
VMFPLC2	Loads files from tape, dumps files to tape, and controls various tape drive operations.	CMS Cmd Ref
VMFPPF	Compiles a source PPF into its usable form.	VMSES/E I and R
VMFPSU	Helps you choose which method to use when you install a Product Service Upgrade (PSU).	VMSES/E I and R
VMFQMDA	Displays the current VMSES/E access order.	VMSES/E I and R
VMFQOBJ	Returns information about objects defined in build lists.	VMSES/E I and R
VMFREC	Processes installation and service tapes.	VMSES/E I and R
VMFREPL	Supports the local modification of replacement maintained parts.	VMSES/E I and R
VMFREM	Removes PTFs received by the VMFREC exec and applied by the VMFAPPLY exec.	VMSES/E I and R
VMFREMOV	Removes PTFs from Systems Network Architecture (SNA) products. VMFREMOV is used only to service SNA products.	VMSES/E I and R
VMFSETUP	Sets up a minidisk and SFS directory access order, or detaches minidisks that were linked by previous invocations of VMFSETUP EXEC, depending on how it is invoked.	VMSES/E I and R
VMFSGMAP	Processes and displays the saved segment information defined in a saved segment configuration build list and save segment data file.	VMSES/E I and R
VMFSIM	Provides an interface to the Software Inventories.	VMSES/E I and R
VMFTXT	Builds a text library (TXTLIB) from text decks.	CMS Cmd Ref
VMFVIEW	Displays message logs using XEDIT with predefined PF keys.	VMSES/E I and R
VMFZAP	Applies ZAPs to Systems Network Architecture (SNA) products. VMFZAP is used only to service SNA products.	VMSES/E I and R

Exec Format Summaries

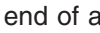
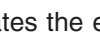
Table 14. z/VM Install, Service, and System Generation Tools (continued)

Tool	Task	Book
ZAP	Modifies or dumps MODULE, LOADLIB, or TXTLIB files.	CMS Cmd Ref
ZAPTEXT	Modifies or dumps individual text files.	VMSES/E I and R

Understanding Syntax Diagrams

This section describes how to read the syntax diagrams used in Exec Format Summaries. The diagrams show the format to use when invoking execs.

To read a syntax diagram, follow the path of the line. Read from left to right and top to bottom.

- The  symbol indicates the beginning of a syntax diagram.
- The  symbol, at the end of a line, indicates that the syntax diagram continues on the next line.
- The  symbol, at the beginning of a line, indicates that a syntax diagram continues from the previous line.
- The  symbol indicates the end of a syntax diagram.

Syntax items (for example, a keyword or variable) may be:

- Directly on the line (required)
- Above the line (default)
- Below the line (optional).

Syntax Diagram Descriptions

Abbreviations

Uppercase letters denote the shortest acceptable abbreviation. If an item appears entirely in uppercase letters, it cannot be abbreviated.

You can type the item in uppercase letters, lowercase letters, or any combination.

For example:



In this example, you can enter KEYWO, KEYWOR, or KEYWORD in any combination of uppercase and lowercase letters.

Symbols

You must code these symbols exactly as they appear in the syntax diagram.

For example:

* Asterisk
: Colon
, Comma
= Equal Sign
- Hyphen
() Parentheses
. Period

Variables

Highlighted lowercase items (*like this*) denote variables.

For example:



In this example, *var_name* represents a variable you must specify when you code the KEYWORD command.

Understanding Syntax Diagrams

Repetition

An arrow returning to the left means that the item can be repeated.

For example:



A character within the arrow means you must separate repeated items with that character.

For example:



A number, for example (1), by the arrow references a footnote that identifies how many times the item can be repeated.

For example:



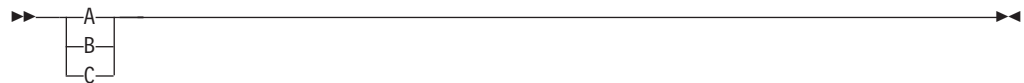
Notes:

1 Specify *repeat* up to 5 times.

Required Choices

When two or more items are in a stack and one of them is on the line, you *must* specify one item.

For example:



In this example, you must choose A, B, or C.

Optional Choices

When an item is below the line, the item is optional.

For example:



In this example, you can choose A or nothing at all

When two or more items are in a stack below the line, all of them are options.

For example:



In this example, you can choose A, B, C, or nothing at all.

Defaults

Defaults are above the line. The system uses the default unless you override it. You can override the default by coding an option from the stack below the line.

For example:

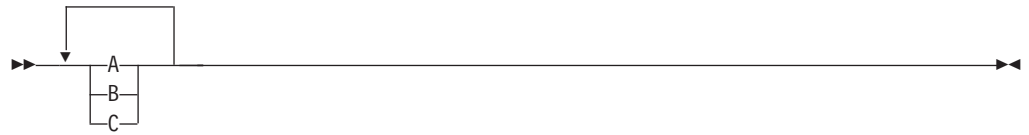


In this example, A is the default. You can override A by choosing B or C.

Repeatable Choices

A stack of items followed by an arrow returning to the left means that you can select more than one item or, in some cases, repeat a single item.

For example:

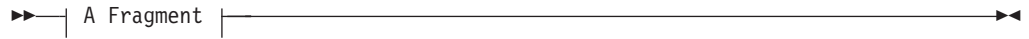


In this example, you can choose any combination of A, B, or C.

Syntax Fragments

Some diagrams, because of their length, must fragment the syntax. The fragment name appears between vertical bars in the diagram. The expanded fragment appears in the diagram after a heading with the same fragment name.

For example:



A Fragment:



In this example, the fragment is named "A Fragment."

DIRONLIN

DIRONLIN EXEC

▶▶—DIRONLIN—◀◀

Purpose

Use DIRONLIN to bring the directory built by INSTDIR online.

Messages and Return Codes

**HCP8342E THE COMMAND *command* FAILED
WITH RC=*rc***

User Response: Correct error and rerun DIRONLIN

Severity: 100

HCP8376E DIRONLIN EXEC ENDED IN ERROR

User Response: Correct error and rerun DIRONLIN

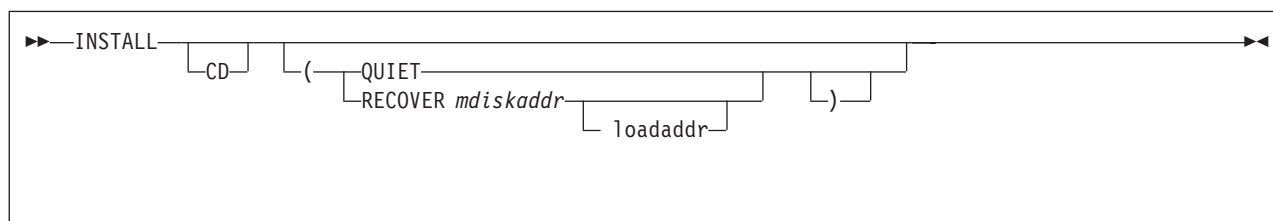
Severity: 100

**HCP8391I DIRONLIN EXEC ENDED
SUCCESSFULLY**

User Response: None.

Severity: 0

INSTALL EXEC



Purpose

The INSTALL EXEC lets you load the components provided on the z/VM System DDR tapes or CD-ROM. It also lets you recover the contents of a minidisk from the z/VM System DDR tapes or CD-ROM. The exec is automated and panel-driven to simplify and quicken the load process.

Operands

CD

Loads the components from the CD-ROM.

Options

QUIET

Changes your console setting to **noterm** so you will not receive system output messages to your console during the run of the exec. This suppresses all but the percent loaded, loading, and completion messages during the load from the z/VM System DDR tapes or CD-ROM. You will see these messages:

```

HCPWIN8428I  TOTAL PERCENT LOADED -> nn%
HCPWIN8371I  LOADING ...
HCPWIN8434I  compname HAS BEEN SUCCESSFULLY LOADED.
  
```

Note: If the INSTALL exec terminates before successful completion, you must manually return your console to the normal state of receiving system messages. Enter from the command line:

spool console term

You enter this command whether you have terminated the exec or the exec itself has abended because of an error.

As the INSTALL exec successfully completes, it automatically returns your console to the normal state of receiving system messages.

RECOVER

loads the contents of a minidisk from the z/VM System DDR tapes or CD-ROM.

mdiskaddr

is the address of the minidisk to be loaded from the z/VM System DDR tapes or CD-ROM.

When you recover a minidisk belonging to a user ID other than MAINT, you must specify the address MAINT links to instead of the actual minidisk address. See “MAINT LINKLIST” on page 261 for the “Linked by Maint as” address.

loadaddr

is the address to which you restore the minidisk. This disk must be the same DASD type as the z/VM System DDR you ordered and must be the same size as the minidisk address (*mdiskaddr*) being loaded from the z/VM System DDR tapes or CD-ROM.

INSTALL

If *loadaddr* is not specified the INSTALL EXEC defines a temporary disk (T-disk) and a message informs you of the address where the minidisk was loaded. When you are finished with this temporary disk (T-disk), you may want to detach it.

Usage Notes

1. The INSTALL EXEC is used with the z/VM System DDR to load z/VM.
2. The INSTALL EXEC uses preplanned data supplied by you or IBM-supplied default data and a user-friendly panel interface to install z/VM.
3. The INSTALL EXEC allows a selective load of source and component groups defined by you, enabling DASD conservation where appropriate.
4. If the RECOVER option is used with the INSTALL EXEC, and the *loadaddr* option is not specified, a temporary disk (T-disk) is created.
5. On all panels, CP and CMS commands can be issued from the panel command line. Line end characters, for example #, cannot be used.
6. Running the INSTALL EXEC requires a full screen terminal with at least 20 lines.
7. The INSTALL EXEC must be run from the 2C2 disk accessed as file mode 'A'.
8. When you need to restore a file and do not know what minidisk it is on, you can look at the MINIDISK MAP file on the 2C2 minidisk or in the second tape file on Volume 1 of the z/VM System DDR tape or CD-ROM. This file lists the minidisks on the z/VM System DDR, and the files contained on each minidisk.

Once you know the location, you can use the RECOVER option to help you restore the file from the z/VM System DDR. Recover the minidisk that contains the desired file from the z/VM System DDR to a minidisk with the same DASD type and size on your system. Then you can copy the desired file from this restored minidisk to any other desired location. See a detailed description in "Appendix L. Recovering a File or Minidisk" on page 245.

9. When you recover a minidisk belonging to a user ID other than MAINT, you must use the "Linked by Maint as" address as *mdiskaddr*. See "MAINT LINKLIST" on page 261 for details.
10. You cannot recover the 2C2 minidisk directly to the 2C2 minidisk. You can recover the 2C2 to a *loadaddr* other than 2C2 and copy the files you wish to recover to the 2C2 minidisk.

Examples

The following are samples of the z/VM LOAD MENU panel and the z/VM LOAD DEVICE MENU panel.

```
z/VM LOAD MENU

ENTER 'S' TO SELECT ('L' INDICATES ALREADY LOADED)

S      BASE
S      TSAF, AVS
S      FILEPOOL
S      SMALL FILEPOOL
S      CP, DV SOURCE
S      CMS, REXX SOURCE
S      VMSES/E SOURCE
S      RSCS SOURCE
S      UCENG HELP
S      GERMAN HELP
S      KANJI HELP
S      OSA/SF
S      TSM

====>

PF1 = HELP      PF3 = QUIT      PF4 = UNLOCK RELOAD      PF5 = NEXT
```

```
LOAD DEVICE MENU

MEDIA SELECTED IS: media

MOUNT VOLUME      VADDR
2
3
4
5
6
7
8

====>
PF1 = HELP      PF3 = QUIT      PF5 = LOAD      PF12 = RETURN
```

Messages and Return Codes

HCP8360A **WARNING: YOU SELECTED *item* FOR RELOAD. RELOADING OVERLAYS ANY CHANGES THAT MAY HAVE BEEN MADE TO THESE ITEMS. DO YOU REALLY WANT TO RELOAD? ENTER (Y)ES OR (N)O:**

User Response: Enter a 'YES' or 'NO'.

Severity: None.

HCP8361E **VADDR *vaddr* IS NOT A VALID CD DEVICE**

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8362E **VADDR *vaddr* IS NOT A VALID TAPE DEVICE**

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8363E **VADDR *vaddr* IS AN UNKNOWN TAPE DEVICE**

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8364E **NO *filename filetype* FILE FOUND ON THE 2C2 DISK**

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8365E **SYNTAX ERROR IN PRODUCT LAYOUT FILE REASON FOR FAILURE - *mdisk* IS A DUPLICATE**

User Response: Recover the PRODUCT LAYOUT file (see "Appendix L. Recovering a File or Minidisk" on page 245) and rerun INSTALL.

Severity: 8

HCP8366E **MINIDISK ERROR(S) FOR {Recover Operation|*item*}:**

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8367E **THE FOLLOWING MINIDISK(S) DO NOT EXIST: *mdisk mdisk...***

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8368E **THE FOLLOWING MINIDISK(S) HAVE DEVTYPES WHICH ARE UNSUPPORTED: *mdisk mdisk...***

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8369E **THE FOLLOWING MINIDISK(S) ARE THE INCORRECT SIZE: *mdisk mdisk...***

User Response: Correct error and rerun INSTALL.

Severity: 8

INSTALL

HCP8370E PLEASE CORRECT THE INDICATED PROBLEMS AND RERUN THE INSTALL EXEC. ERRORS HAVE BEEN LOGGED IN ERROR \$MSGLOG ON THE 2C2 DISK

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8371I LOADING *component* ...

User Response: None.

Severity: None.

HCP8372A PLEASE MOUNT VOLUME *volno* ON TAPE DRIVE *vaddr* THEN PRESS ENTER TO CONTINUE

User Response: Mount the indicated volume then press the Enter key.

Severity: None.

HCP8373E DDR HAS REPORTED A RETURN CODE OF 2 [CHECK DDR \$MSGLOG ON THE 2C2 DISK FOR MORE INFORMATION]

User Response: Refer to the *z/VM: CP Command and Utility Reference* for more information on the DDR command.

Severity: 8

HCP8374E DDR HAS REPORTED A RETURN CODE OF 3 (FLAGGED DASD TRACK) [CHECK DDR \$MSGLOG ON THE 2C2 DISK FOR MORE INFORMATION]

User Response: Refer to the *z/VM: CP Command and Utility Reference* for more information on the DDR command.

Severity: 8

HCP8375E DDR HAS REPORTED A RETURN CODE OF 4 (PERMANENT TAPE OR DASD I/O ERROR) [CHECK DDR \$MSGLOG ON THE 2C2 DISK FOR MORE INFORMATION]

User Response: Refer to the *z/VM: CP Command and Utility Reference* for more information on the DDR command.

Severity: 8

HCP8376I INSTALL EXEC ENDED IN ERROR

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8377E *addr* DOES NOT EXIST

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8378A TAPE *addr* IS NOT READY. PLEASE READY THE DRIVE THEN PRESS ENTER TO CONTINUE OR TYPE 'EXIT' TO END INSTALL

User Response: Ready the indicated drive, then press enter to continue. If you wish to exit at this time, enter 'exit'.

Severity: 0,8

HCP8379E DRIVE *vaddr* FAILED THE EXEC'S REWIND COMMAND WITH RC = *rc*

User Response: Check the tape drive and rerun INSTALL.

Severity: 8

HCP8380I RESTORING MINIDISK *mdisk* TO [*label*]MINDISK [*label*]

User Response: None.

Severity: None.

HCP8381I CHECKING TAPE VOLUME NUMBER FOR DRIVE *vaddr*

User Response: None.

Severity: None.

HCP8382E VOLUME *volno* IS NOT A DDR INSTALL TAPE

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8383A ERROR: WRONG TAPE MOUNTED ON DRIVE *addr* PLEASE MOUNT VOLUME *volno* ON DRIVE *addr* THEN PRESS ENTER TO CONTINUE OR TYPE 'EXIT' TO END INSTALL

User Response: Correct error and rerun INSTALL.

Severity: 0,8

HCP8384E THE FOLLOWING MINIDISK(S) MUST BE THE SAME DEVTYPE AS THE SYSTEM DDR: *mdisk mdisk ...*

User Response: Correct the error and rerun INSTALL.

Severity: 8

HCP8386E DDR OR DDRXA MODULE DOES NOT EXIST ON SYSTEM

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8387E INSTALL EXEC MUST BE EXECUTED FROM THE 2C2 DISK WHILE ACCESSED AS 'A' ACCESS 2C2 AS 'A' AND RERUN INSTALL EXEC

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8388I CHECKING STATUS OF DRIVES

User Response: None.

Severity: None.

HCP8393E THE FOLLOWING MINIDISK(S) ARE READ ONLY: *mdisk mdisk...*

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8395E A {TARGET MDISK|WORK DISK} WAS NOT PROVIDED. ATTEMPT TO DEFINE TDISK FOR {TARGET DISK|MIXED DASD LOAD} FAILED.

User Response: Define a work disk or obtain enough tdisk.

Severity: 8

HCP8396E THE WORK DISK *mdisk* IS TOO SMALL. IT MUST BE AT LEAST {CYLINDERS *cy* | BLOCKS *blk*}

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8397E THE WORK DISK IS OF THE WRONG DEVICE TYPE. IT MUST BE *devtype*

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8398E THE WORK DISK IS NOT R/W.

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8399E COPYFILE FROM THE WORK DISK TO *vaddr* FAILED WITH RC=*rc*

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8400I PROCESSING CONTINUES FOR MINIDISK *vaddr...*

User Response: None.

Severity: None.

HCP8401E INSTALL EXEC MUST BE RUN ON A FULL SCREEN TERMINAL WITH AT LEAST 20 LINES

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8406E SYNTAX ERROR IN PRODUCT LAYOUT FILE REASON FOR FAILURE - *mdisk* DOES NOT EXIST IN TAPE LAYOUT SECTION

User Response: Recover the PRODUCT LAYOUT file (see "Appendix L. Recovering a File or Minidisk" on page 245) and rerun INSTALL.

Severity: 8

HCP8428I TOTAL PERCENT LOADED -> *percent*

User Response: None.

Severity: None.

HCP8429E INVALID SYNTAX. OPTIONS {MUST FOLLOW A '(!MAY NOT FOLLOW A ')}

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8430E INVALID OPTION(S): *option(s)*

User Response: Correct error and rerun INSTALL.

Severity: 8

INSTALL

HCP8431E THE 2C2 DISK MUST BE IN R/W MODE
LINK THE 2C2 IN R/W MODE AND
RERUN INSTALL EXEC

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8432E PANEL XEDIT WAS NOT FOUND ON
THE 2C2 DISK

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8433I INSTALL PROCESSING CONTINUES

User Response: None.

Severity: None.

HCP8434I *comp* HAS BEEN SUCCESSFULLY
LOADED

User Response: None.

Severity: 0

HCP8435E 2C2 DISK IS FULL.

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8436E CONFLICTING OPTION(S): *options*

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8437E TOO MANY ARGUMENTS: *arg*

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8438E TOO FEW ARGUMENTS: *arg*

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8439E *mdisk* IS NOT ON THE DDR TAPE

User Response: You tried to recover a minidisk which is not on the z/VM System DDR tape. Correct error and rerun INSTALL.

Severity: 8

HCP8440E THE FOLLOWING MINIDISK(S) ARE
INVALID: *mdisk mdisk ...*

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8441I *mdisk* HAS BEEN RESTORED TO
MINIDISK *mdisk*

User Response: None.

Severity: 0

HCP8442E YOU CANNOT RESTORE THE 2C2
DIRECTLY TO THE 2C2 DISK

User Response: Restore the 2C2 files to a temporary disk and copy the files you need to your 2C2 minidisk.

Severity: None.

HCP8462E THE FOLLOWING MINIDISK(S) HAVE
INVALID DEVTYPES: *mdisk mdisk ...*

User Response: Correct error and rerun INSTALL.

Severity: 8

HCP8463E DDR HAS REPORTED AN ERROR
{CHECK DDR \$MSGLOG ON THE 2C2
DISK FOR MORE INFORMATION}

User Response: Refer to the z/VM: CP Command and Utility Reference for more information on the DDR command.

Severity: 8

HCP8464A WARNING: YOU HAVE SPECIFIED THE
SAME DISK FOR RECOVERY AS YOUR
TARGET. THIS WILL OVERLAY ANY
CHANGES THAT MAY HAVE BEEN
MADE TO THE DISK. DO YOU REALLY
WANT TO CONTINUE? ENTER (Y)ES
OR (N)O:

User Response: Enter "Yes" or "No".

Severity: None.

INSTDEF EXEC

▶▶—INSTDEF—◀◀

Purpose

The INSTDEF EXEC customizes CMS, rebuilds CMS, CP, and GCS, and moves selected items to SFS.

Messages and Return Codes

HCP8300E FILE *fn* NOT FOUND

User Response: None.

Severity: 28

HCP8306E HELPFILE *fn* MUST CONTAIN AT LEAST 5 LINES

User Response: None.

Severity: 101

HCP8307E HELPFILE *fn* MUST NOT CONTAIN MORE THAN 100,003 LINES

User Response: None.

Severity: 102

HCP8308E HELPFILE *fn* MUST HAVE A LRECL OF 80

User Response: None.

Severity: 103

HCP8309E HELPFILE *fn* DOES NOT CONTAIN A HELP FILE HEADER

User Response: None.

Severity: 104

HCP8310E LINE *x* OF HELPFILE *fn* IS NOT BLANK

User Response: None.

Severity: 105, 106

HCP8312E ERROR DISPLAYING HELPFILE *fn*

User Response: None.

Severity: None.

HCP8338I NOW EXECUTING *function*

User Response: None.

Severity: 0

HCP8339I BYPASSING FUNCTION *function* DUE TO *condition*

User Response: A INSTDEF function requested by the user is being bypassed due to the condition specified in the message. Processing continues.

Severity: 99, 0

HCP8340E THE INSTDEF FUNCTION *function* HAS FAILED WITH RETURN CODE *rc*. PLEASE CORRECT THE PROBLEM AND RERUN INSTDEF. ERRORS HAVE BEEN LOGGED IN INSTDEF \$MSGLOG ON THE 2C2 DISK

User Response: A INSTDEF function requested by the user failed with the return code specified in the message. Previous messages describe the error in greater detail. Correct the error and rerun INSTDEF.

Severity: 100

HCP8341I {INSTDEF FUNCTION *function*} THE COMMAND *command* COMPLETED SUCCESSFULLY

User Response: None.

Severity: 0

HCP8342E THE COMMAND *command* FAILED WITH RC=*rc*

User Response: A command issued by INSTDEF failed with the return code specified in the message. Check the command return codes to determine the cause of the error.

Severity: 8, 100

INSTDEF

HCP8353W UNDEFINED PFKEY

User Response: Enter correct input.

Severity: None.

HCP8355I THE SPOOLID FOR THE {CMSIGCS} NUCLEUS \$\$\$TLL\$\$ FILE IS: *spoolid*

User Response: None.

Severity: None.

HCP8356E THE COMMAND *cmd* FINISHED, BUT UNRESOLVED REFERENCES WERE FOUND. PLEASE CHECK AND CORRECT BEFORE PROCEEDING.

User Response: Correct the error and rerun INSTDEF.

Severity: None.

HCP8357W THE COMMAND *cmd* {FAILED|COMPLETED} WITH RC= *rc*. PROCESSING CONTINUES

User Response: None.

Severity: None.

HCP8358W QUOTES OR THE FOLLOWING SPECIAL CHARACTERS *¢, #, @, !, %* NOT ALLOWED IN {VERSION|INSTALL ID}

User Response: Enter correct input.

Severity: None.

HCP8359W INVALID LANGUAGE ID *string* ENTERED

User Response: Enter correct input.

Severity: None.

HCP8376E INSTDEF EXEC ENDED IN ERROR

User Response: Previous messages describe the error in detail. Correct the error and rerun INSTDEF.

Severity: 100

HCP8392I INSTDEF EXEC ENDED SUCCESSFULLY

User Response: None.

Severity: None.

HCP8401E INSTDEF EXEC MUST BE RUN ON A FULL SCREEN TERMINAL WITH AT LEAST 20 LINES

User Response: Correct the error and rerun INSTDEF.

Severity: 100

HCP8411I COULD NOT WRITE TO *log_file* BECAUSE YOUR 'C' DISK IS FULL. MESSAGE LOGGING HAS BEEN SUSPENDED.

User Response: Correct the disk full condition and rerun INSTDEF, if necessary.

Severity: 8

HCP8415W CMS TAILORING COMPLETED, {INSTALL ID|LANGUAGE ID|VERSION ID} CAN NO LONGER BE CHANGED

User Response: Proceed without changing this field.

Severity: None.

HCP8416W MOVE2SFS COMPLETED, {RECLAIM OPTION|SFS CHOICES} CAN NO LONGER BE CHANGED

User Response: Proceed without changing this field.

Severity: None.

HCP8430E INVALID OPTION(S): *options(s)*

User Response: Correct error and rerun INSTDEF.

Severity: 100

HCP8444E THE 51D DISK MUST BE ACCESSED AS D IN R/W MODE

User Response: Correct the error and rerun INSTDEF.

Severity: 100

HCP8469W INVALID STATUS *status* ENTERED FOR ITEM *item* — STATUS MUST BE "N" or "S"

User Response: None.

Severity: None.

HCP8475I ITEMS SELECTED TO BE LOADED
ARE: *items*
DASD TYPE SELECTED IS: *dasdtype*
PACKS NEEDED TO LOAD THESE
ARE: *packlabels*

User Response: None.

Severity: None.

HCP8498W YOUR 2C2 DISK IS TOO FULL TO
HOLD AN INSTDEF MESSAGE LOG.
MESSAGES WILL BE DISPLAYED TO
THE CONSOLE.

User Response: None.

Severity: None.

INSTDEF2 EXEC

▶▶—INSTDEF2—▶▶

Purpose

The INSTDEF2 EXEC performs clean-up and back-up tasks after you have customized and rebuilt the nucleus.

Messages and Return Codes

HCP8338I **NOW EXECUTING** *function*

User Response: None.

Severity: 0

HCP8341I **INSTDEF2 FUNCTION** *function*
COMPLETED SUCCESSFULLY

User Response: None.

Severity: 0

HCP8342E **THE COMMAND** *command* **FAILED**
WITH RC=*rc*

User Response: A command issued by INSTDEF2 failed with the return code specified in the message. Check the command return codes to determine the cause of the error and rerun INSTDEF2.

Severity: 8, 100

HCP8392I **INSTDEF2 EXEC ENDED**
SUCCESSFULLY

User Response: None.

Severity: None.

HCP8430E **INVALID OPTIONS(S):** *options(s)*

User Response: Correct error and rerun INSTDEF2.

Severity: 100

INSTDIR EXEC

▶▶—INSTDIR—◀◀

Purpose

Use INSTDIR to dynamically create a user directory for your installation using the items selected to be loaded.

Messages and Return Codes

HCP8300E FILE *fn* NOT FOUND

User Response: Correct error and rerun INSTDIR

Severity: 28

HCP8306E HELPFILE *fn* MUST CONTAIN AT LEAST 5 LINES

User Response: None.

Severity: None.

HCP8307E HELPFILE *fn* CANNOT CONTAIN MORE THAN 100,003 LINES

User Response: None.

Severity: None.

HCP8308E HELPFILE *fn* MUST HAVE A LRECL OF 80

User Response: None.

Severity: None.

HCP8309E HELPFILE *fn* DOES NOT CONTAIN A HELP FILE HEADER

User Response: None.

Severity: None.

HCP8310E LINE 2 OF HELPFILE *fn* IS NOT BLANK

User Response: None.

Severity: None.

HCP8310E LINE 4 OF HELPFILE *fn* IS NOT BLANK

User Response: None.

Severity: None.

HCP8311I [BEGINNING|END] OF HELP FILE DISPLAYED

User Response: None

Severity: None

HCP8312E ERROR DISPLAYING HELPFILE *fn*.

User Response: None.

Severity: None.

HCP8342E THE COMMAND *command* FAILED WITH RC=*rc*

User Response: Correct error and rerun INSTDIR

Severity: 100

HCP8349W INVALID ENTRY, PLEASE REENTER

User Response: Enter correct data

Severity: None.

HCP8353W UNDEFINED PFKEY

User Response: Enter the correct input

Severity: None

HCP8354W ENTER KEY NOT SUPPORTED FROM THIS PANEL

User Response: None

Severity: None

HCP8376E INSTDIR EXEC ENDED IN ERROR

User Response: Correct error and rerun INSTDIR

Severity: 100

INSTDIR

HCP8392I INSTDIR EXEC ENDED SUCCESFULLY

User Response: None

Severity: 0

HCP8401E INSTDIR EXEC MUST BE RUN ON A
FULL SCREEN TERMINAL WITH AT
LEAST 20 LINES

User Response: Correct error and rerun INSTDIR

Severity: 100

HCP8472I YOU MUST INPUT ALL *fields* BEFORE
PRESSING PF5 TO PROCESS

User Response: Fill in all the fields specified

Severity: None

HCP8473E DISK 2C2 NOT ATTACHED

User Response: Access 2C2 disk and rerun INSTDIR

Severity: 100

HCP8474E DASDTYPE OF *insttype* FOUND IN
\$INST\$ \$FILE\$ DOES NOT MATCH THE
DASDTYPE OF THE 2C2 DISK WHICH
IS *actual_dasdtype*

User Response: Correct error and rerun INSTDIR

Severity: 100

HCP8484R YOU HAVE SELECT TO CUSTOMIZE
PLACE OF ITEMS.
ENTER A IF YOU WOULD LIKE
AUTOMATIC PLACEMENT OF ITEMS
ENTER U IF YOU WOULD LIKE USER
DEFINED PLACEMENT OF ITEMS
ENTER Q TO QUIT

User Response: Enter "A", "U", or "Q"

Severity: None

HCP8485I INVALID DASD TYPE ENTERED. VALID
TYPES ARE 3380, 3390, 9345, FBA

User Response: Correct the entry

Severity: None

HCP8486I STARTING EXTENT MUST BE
SMALLER THAN THE ENDING EXTENT

User Response: Correct the entry

Severity: None

HCP8487I FREE EXTENTS ON PACK *respack*
START AT *type restart*

User Response: Correct the entry

Severity: None

HCP8488I THIS IS THE FIRST PANEL

User Response: You cannot go backwards from the
first page of extents

Severity: None

HCP8489I *type starting/ending* EXTENT MUST BE
LESS THAN 5 CHARACTERS.

User Response: Correct the entry

Severity: None

HCP8490I *type* STARTING EXTENT MUST BEGIN
ON A PAGE BOUNDARY.

User Response: Correct the entry

Severity: None

HCP8491I MINIMUM OF *size type* ARE NEEDED
FOR ITEM *item*

User Response: Correct entry

Severity: None

HCP8492W NOT ENOUGH DISK SPACE DEFINED
TO LOAD THE SELECTED ITEMS.

User Response: Correct the entry

Severity: None

HCP8497W FIRST DEFINED EXTENT MUST BE
LARGE ENOUGH TO LOAD THE
FILEPOOL

User Response: Because the entire filepool must be
loaded to the same DASD type, it is loaded into the first
extent specified. You must ensure this first extent is
large enough.

Severity: None

INSTIIS EXEC

▶▶—INSTIIS—◀◀

Purpose

Use INSTIIS to format and label your installation DASD and to restore the IIS.

Messages and Return Codes

HCP8300E FILE *datafile* NOT FOUND

User Response: Correct error and rerun INSTIIS

Severity: 28

HCP8306E HELPFILE *fn* MUST CONTAIN AT LEAST 5 LINES

User Response: None.

Severity: None.

HCP8307E HELPFILE *fn* CANNOT CONTAIN MORE THAN 100,003 LINES

User Response: None.

Severity: None.

HCP8308E HELPFILE *fn* MUST HAVE A LRECL OF 80

User Response: None.

Severity: None.

HCP8309E HELPFILE *fn* DOES NOT CONTAIN A HELP FILE HEADER

User Response: None.

Severity: None.

HCP8310E LINE 2 OF HELPFILE *fn* IS NOT BLANK

User Response: None.

Severity: None.

HCP8310E LINE 4 OF HELPFILE *fn* IS NOT BLANK

User Response: None.

Severity: None.

HCP8312E ERROR DISPLAYING HELPFILE *fn*

User Response: None.

Severity: None.

HCP8342E THE COMMAND *command* FAILED WITH RC=*rc*

User Response: Correct error and rerun INSTIIS

Severity: 100

HCP8349W INVALID ENTRY, PLEASE REENTER

User Response: Enter correct input

Severity: None.

HCP8353W UNDEFINED PFKEY

User Response: Enter correct input

Severity: None.

HCP8376E INSTIIS EXEC ENDED IN ERROR

User Response: Correct error and rerun INSTIIS

Severity: 100

HCP8378R TAPE *tdrvaddr* IS NOT READY. PLEASE READY THE DRIVE, THEN PRESS ENTER TO CONTINUE OR TYPE EXIT TO END INSTIIS

User Response: Ready the drive and press Enter or type "exit"

Severity: None.

HCP8380I Restoring IIS to 310RES

User Response: None.

Severity: None.

INSTIIS

HCP8383R **WRONG TAPE MOUNTED ON DRIVE**
tdrvaddr. PLEASE MOUNT VOLUME
volume ON DRIVE *tdrvaddr* THEN
PRESS ENTER TO CONTINUE OR
TYPE 'EXIT' TO END INSTIIS

User Response: Mount correct tape and press Enter
or type "exit"

Severity: None.

HCP8391I **INSTIIS EXEC ENDED SUCCESSFULLY**

User Response: None.

Severity: None.

HCP8401E **INSTIIS EXEC MUST BE RUN ON A**
FULL SCREEN TERMINAL WITH AT
LEAST 20 LINES

User Response: Correct error and rerun INSTIIS

Severity: 100

HCP8454W **ENTER KEY NOT SUPPORTED FROM**
THIS PANEL

User Response: Enter correct input

Severity: None.

HCP8472I **YOU MUST *action* BEFORE PRESSING**
PF5 TO PROCESS

User Response: Enter correct input

Severity: None.

HCP8473E **DASD/TAPE DRIVE *disk/drive* NOT**
ATTACHED

User Response: Correct error and rerun INSTIIS

Severity: 100

HCP8477R **YOU HAVE SELECTED TO FORMAT**
THE FOLLOWING PACKS:
packnames
ALL DATA ON THESE PACKS WILL BE
LOST.
DO YOU WANT TO CONTINUE ? (Y/N)

User Response: Input Response

Severity: None.

HCP8479I **EXITING INSTIIS AT USER REQUEST**

User Response: None.

Severity: 99

HCP8480I **NOW FORMATTING PACK *packaddr***

User Response: None.

Severity: None.

HCP8481E **NOW TERMINATING INSTIIS**
PROCESSING DUE TO AN ERROR *error*

User Response: Correct error and rerun INSTIIS

Severity: 100

HCP8482E **THE FIRST PACK LABEL IS *label*. IT**
MUST BE A RES PACK.

User Response: Correct error and rerun INSTIIS

Severity: 100

HCP8483R **YOU HAVE SELECTED NOT TO**
FORMAT YOUR DASD. THIS ASSUMES
YOU HAVE DONE THIS PRIOR TO
ENTERING THIS EXEC. ANY
PROCESSING WHICH FOLLOWS THIS
PROMPT COULD RESULT IN ERRORS
IF YOU HAVE NOT MANUALLY
FORMATTED AND LABELED YOUR
DASD. DO YOU WANT TO CONTINUE ?
(Y/N)

User Response: Input Response

Severity: None.

INSTPLAN EXEC

▶▶—INSTPLAN—◀◀

Purpose

Use INSTPLAN to select items to load and the DASD type on which to install.

Messages and Return Codes

HCP8300E FILE *datafile* NOT FOUND

User Response: Correct error and rerun INSTPLAN

Severity: 28

HCP8306E HELPFILE *fn* MUST CONTAIN AT LEAST 5 LINES

User Response: None.

Severity: None.

HCP8307E HELPFILE *fn* CANNOT CONTAIN MORE THAN 100,003 LINES

User Response: None.

Severity: None.

HCP8308E HELPFILE *fn* MUST HAVE A LRECL OF 80

User Response: None.

Severity: None.

HCP8309E HELPFILE *fn* DOES NOT CONTAIN A HELP FILE HEADER

User Response: None.

Severity: None.

HCP8310E LINE 2 OF HELPFILE *fn* IS NOT BLANK

User Response: None.

Severity: None.

HCP8310E LINE 4 OF HELPFILE *fn* IS NOT BLANK

User Response: None.

Severity: None.

HCP8312E ERROR DISPLAYING HELPFILE *fn*.

User Response: None.

Severity: None.

HCP8342E THE COMMAND *command* FAILED WITH RC=*rc*

User Response: Correct error and rerun INSTPLAN

Severity: 100

HCP8353W UNDEFINED PFKEY

User Response: Enter correct input

Severity: None.

HCP8376E INSTPLAN EXEC ENDED IN ERROR

User Response: Correct error and rerun INSTPLAN

Severity: 100

HCP8391I INSTPLAN EXEC ENDED SUCCESSFULLY

User Response: None.

Severity: 0

HCP8401E INSTPLAN EXEC MUST BE RUN ON A FULL SCREEN TERMINAL [WITH AT LEAST 20 LINES | WITH AT LEAST 80 COLUMNS]

User Response: Correct error and rerun INSTPLAN

Severity: 100

HCP8430E INVALID OPTION(S): *input*

User Response: Rerun INSTPLAN with correct options

Severity: 100

INSTPLAN

HCP8454W ENTER KEY NOT SUPPORTED FROM THIS PANEL

User Response: Enter correct input

Severity: None.

HCP8468W BASE CODE MUST BE LOADED

User Response: Enter correct input

Severity: None.

HCP8469W INVALID STATUS *status* ENTERED FOR ITEM *item*

User Response: Enter correct input

Severity: None.

HCP8471W ONLY ONE TYPE OF DASD MAY BE SELECTED

User Response: Enter correct input

Severity: None.

HCP8472I YOU MUST SELECT A DASD TYPE BEFORE PRESSING PF5 TO PROCESS

User Response: Enter correct input

Severity: None.

HCP8475I THE ITEMS YOU SELECTED TO BE LOADED ARE:
items
THE ITEMS YOU SELECTED NOT TO BE LOADED ARE:
items
THE DASD TYPE YOU SELECTED TO LOAD ON IS:
dasdtype
THE PACKS NEEDED TO LOAD THESE ITEMS ARE:
packnames

User Response: None.

Severity: None.

HCP8476E You cannot select both the FILEPOOL and the SMALL FILEPOOL items

User Response: Enter correct input

Severity: None.

INSTPOOL EXEC

▶▶—INSTPOOL—◀◀

Purpose

Use INSTPOOL to start the file pool servers during installation procedures.

Messages and Return Codes

**HCP8324E ERROR OCCURED DURING BUILD OF
FILEPOOL *filepool***

User Response: Correct error and rerun INSTPOOL

Severity: 100

**HCP8342E THE COMMAND *cmd* FAILED WITH
RC=*rc***

User Response: Correct error and rerun INSTPOOL

Severity: 100

HCP8376I INSTPOOL EXEC ENDED IN ERROR

User Response: Correct error and rerun INSTPOOL

Severity: 100

**HCP8392I INSTPOOL EXEC ENDED
SUCCESSFULLY**

User Response: None

Severity: 0

HCP8494I SHARED FILE NOT LOADED

User Response: Shared file not loaded. Exec not needed.

Severity: 0

HCP8495E SERVER *server* NOT RESPONDING

User Response: Correct error and rerun INSTPOOL

Severity: 100

**HCP8496E SERVER *server* DID NOT RETURN A
READER FILE**

User Response: Correct error and rerun INSTPOOL

Severity: 100

MIGR51D EXEC

►►—MIGR51D—◄◄

Purpose

Use MIGR51D to update the System Software Inventory files of z/VM Version 3 Release 1.0 from the inventory files of your previous VM release. MIGR51D displays panels that allow you to select which products and segments to migrate and not to migrate.

Messages and Return Codes

HCP8342E THE COMMAND *cmd* FAILED WITH RC=*rc*.

User Response: Correct the error and rerun MIGR51D

Severity: 99 or 100 (If you received RC=99, an error occurred, but the new, current 51D disk has been restored to its original condition.)

HCP8444E THE 51D DISK MUST BE ACCESSED AS D IN R/W MODE

User Response: Correct the error and rerun MIGR51D.

Severity: 8

HCP8300E FILE *datafile* NOT FOUND

User Response: Correct error and rerun MIGR51D

Severity: 28

HCP8306E HELPFILE *fn* MUST CONTAIN AT LEAST 5 LINES

User Response: None.

Severity: None.

HCP8307E HELPFILE *fn* CANNOT CONTAIN MORE THAN 100,003 LINES

User Response: None.

Severity: None.

HCP8308E HELPFILE *fn* MUST HAVE A LRECL OF 80

User Response: None.

Severity: None.

HCP8309E HELPFILE *fn* DOES NOT CONTAIN A HELP FILE HEADER

User Response: None.

Severity: None.

HCP8310E LINE *x* OF HELPFILE *fn* IS NOT BLANK

User Response: None.

Severity: None.

HCP8312E ERROR DISPLAYING HELPFILE *fn*.

User Response: None.

Severity: None.

HCP8353W UNDEFINED PFKEY

User Response: Enter correct input

Severity: None.

HCP8385W CANNOT MIGRATE SEGMENT *name*. SEGMENT NAME MUST BE CHANGED

User Response: Enter correct input.

Severity: None.

HCP8401E MIGR51D EXEC MUST BE RUN ON A FULL SCREEN TERMINAL [WITH AT LEAST 22 LINES | WITH AT LEAST 80 COLUMNS]

User Response: Correct error and rerun MIGR51D

Severity: 99 (An error occurred, but the new, current 51D disk has been restored to its original condition.)

HCP8423W CANNOT MIGRATE SEGMENT *name*.
SEGMENT NAME IS ALREADY IN USE.

User Response: Enter correct input.

Severity: None.

HCP8469W INVALID [STATUS *status* |
SYSTEMNAME *name* | OPTION *option*]
ENTERED FOR [ITEM *item* | PRODID
segment]

User Response: Enter correct input

Severity: None.

HCP8472W SEGMENT NAME *name* ENTERED FOR
SEGMENT *name* IS ALREADY IN USE.

User Response: Enter correct input.

Severity: None.

HCP8477E A temporary MIGR51D file has been
found on the previous release's
Software Inventory Disk (51D). This
disk must be restored prior to
restarting MIGR51D.

User Response: A previous run of MIGR51D ended
abnormally. Using your backups, restore the previous
release's 51D disk to its original condition and rerun
MIGR51D.

Severity: 8

HCP8478R Please enter filemode letter of the
Software Inventory Disk (51D) from the
previous release. Press enter to exit.

User Response: Enter the file mode or press the
Enter key.

Severity: 0

HCP8479E Invalid filemode entered: *fmode*

User Response: Enter the correct file mode.

Severity: 99 (An error occurred, but the new, current
51D disk has been restored to its original condition.)

HCP8480E Previous release's Software Inventory
Disk (51D) did not pass validity check.
Please correct and reissue MIGR51D.

User Response: Correct error and rerun MIGR51D

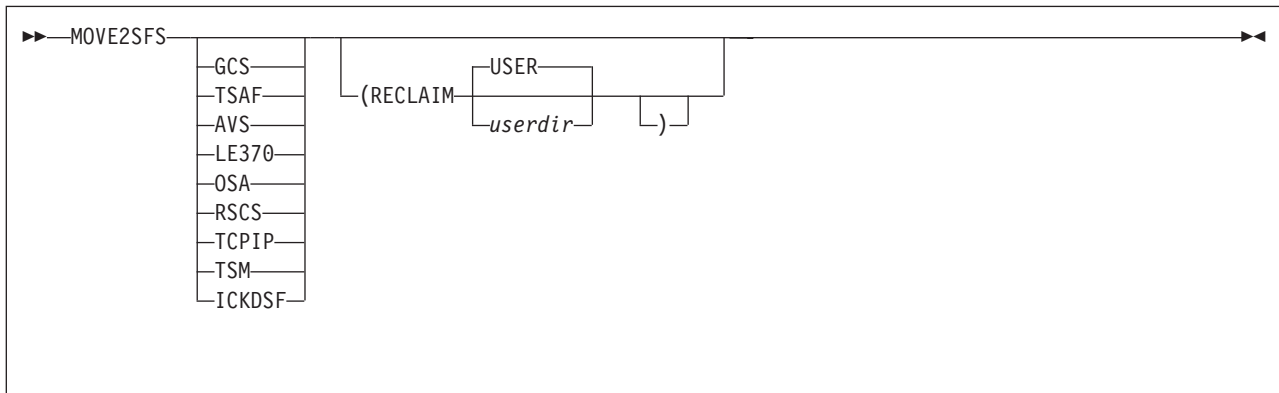
Severity: 99 (An error occurred, but the new, current
51D disk has been restored to its original condition.)

HCP8499E The *fn ft fm* table contains the following
duplicate key entries: *data*

User Response: Correct the table and rerun
MIGR51D.

Severity: 99

MOVE2SFS EXEC



Purpose

The MOVE2SFS EXEC moves data from minidisks to the Shared File System servers (SFS) and then reclaims the unused minidisk space. MOVE2SFS creates the subdirectories on the VMSYS file pool that each component needs and then copies the data from the minidisks to the correct subdirectories. The System-Level Software Inventory tables VM SYSRECS and VM SYSAPPS are updated.

Operands

GCS

If GCS is chosen, then the data for GCS will be copied from minidisks to SFS.

TSAF

If TSAF is chosen, then the data for TSAF will be copied from minidisks to SFS.

AVS

If AVS is chosen, then the data for AVS will be copied from minidisks to SFS.

LE370

If LE370 is chosen, then the data for LE370 will be copied from minidisks to SFS.

OSA

If OSA is chosen, then the data for OSA will be copied from minidisks to SFS.

RSCS

If RSCS is chosen, then the data for RSCS will be copied from minidisks to SFS.

TCPIP

If TCPIP is chosen, then the data for TCPIP will be copied from minidisks to SFS.

TSM

If TSM is chosen, then the data for TSM will be copied from minidisks to SFS.

ICKDSF

If ICKDSF is chosen, then the data for ICKDSF will be copied from minidisks to SFS.

Options

RECLAIM

reclaims minidisks of moved items by commenting out their entries in the directory specified, bringing the directory online, and detaching the minidisks.

userdir

is the file name of the directory file. USER is the DEFAULT.

Usage Notes

1. The 2C2 minidisk must be accessed in R/W mode.
2. The Software Inventory minidisk (usually 51D) must be accessed as the file mode defined in VMFINS DEFAULT and it must be accessed in R/W mode. By default, the Software Inventory minidisk is 51D and is accessed as D.
3. The 193 minidisk must be accessed.
4. The VMSYS file pool must be active.
5. If you want to reclaim minidisks for either TSAF or AVS, you must move both TSAF and AVS because they share minidisks.

Messages and Return Codes

HCP8342E THE COMMAND *command* FAILED WITH RC=*rc*

User Response: Check the command return codes to determine the cause of the error.

Severity: 8

HCP8352E INVALID {OPERAND *operand* | OPTION *option*} SPECIFIED ON THE MOVE2SFS COMMAND. PLEASE CORRECT AND REENTER

User Response: Correct error and rerun MOVE2SFS.

Severity: 8

HCP8366E MINIDISK ERROR(S) FOR *component*

User Response: Correct error and rerun MOVE2SFS.

Severity: 8

HCP8367E THE FOLLOWING MINIDISKS DO NOT EXIST: *mdisk mdisk ...*

User Response: Correct error and rerun MOVE2SFS.

Severity: 8

HCP8376I MOVE2SFS EXEC ENDED IN ERROR

User Response: Correct error and rerun MOVE2SFS.

Severity: 8, 28

HCP8392I MOVE2SFS EXEC ENDED SUCCESSFULLY.

User Response: None.

Severity: 0

HCP8399E COPYFILE FROM THE MINIDISK *mdisk* TO *subdirectory_name* FAILED WITH RC=*rc*

User Response: Correct error and rerun MOVE2SFS.

Severity: 8

HCP8411E COULD NOT WRITE TO *file* BECAUSE YOUR '2C2' DISK IS FULL

User Response: Correct error and rerun MOVE2SFS.

Severity: 8

HCP8412E VMFINS DEFAULTS FILE NOT FOUND ON ANY ACCESSED DISK.

User Response: Correct error and rerun MOVE2SFS.

Severity: 28

HCP8422E ATTEMPT TO QUERY DISK FAILED WITH RC=*rc*

User Response: Correct error and rerun MOVE2SFS.

Severity: 8

HCP8431E THE 2C2 DISK MUST BE ACCESSED IN R/W MODE

User Response: Correct error and rerun MOVE2SFS.

Severity: 8

HCP8437E TOO MANY {OPERANDS: *operands* | OPTIONS: *options*}

User Response: Correct error and rerun MOVE2SFS.

Severity: 8

MOVE2SFS

HCP8444E THE 51D DISK MUST BE ACCESSED AS D AND IN R/W MODE

User Response: Correct error and rerun MOVE2SFS.

Severity: 8

HCP8445E THE {FILEPOOLIDIRECTORY} *filepool_name* IS NOT AVAILABLE

User Response: Start up the VMSEVS file pool and rerun MOVE2SFS.

Severity: 8

HCP8446I THE FOLLOWING COMPONENT(S) WERE ALREADY MOVED TO SFS: *component component ...*

User Response: None.

Severity: None.

HCP8447E NO LINES IN \$LOAD\$ LOG

User Response: Check that the INSTALL EXEC was run prior to running MOVE2SFS.

Severity: 8

HCP8448E THE FOLLOWING COMPONENTS HAVE NOT BEEN LOADED FROM THE SYSTEM DDR: *component component ...*

User Response: Check that the INSTALL EXEC was run and the components you are moving to SFS were loaded prior to running MOVE2SFS.

Severity: 8

HCP8449E THE SUBDIRECTORY *subdirectory_name* COULD NOT BE CREATED

User Response: Correct error and rerun MOVE2SFS.

Severity: 8

HCP8450E ACCESS OF {*mdisksubdirectory_name*} AT FILEMODE *filemode* FAILED WITH RC=*rc***

User Response: Correct error and rerun MOVE2SFS.

Severity: 8

HCP8451W VMFERASE FAILED ON SUBDIRECTORY: *subdirectory_name* WITH RC=*rc*

User Response: Issue the following commands to update the subdirectory:

1. ACCESS *subdirectory-name fm*

2. If the warning occurred when processing AVS, enter:
VMFERASE PROD 3VMVD10%AVS FROM *fm*
3. If the warning when processing TSAF, enter:
VMFERASE PROD 3VMVMH10%TSAF FROM *fm*

Severity: 4

HCP8452W VM SYSRECS TABLE WAS NOT UPDATED FOR THE FOLLOWING COMPONENT: *component*

User Response: Issue the following command to update the VM SYSRECS table:

PIPE < VM SYSRECS D|CHANGE /ZVM *component*/ZVM *component*SFS/| > VM SYSRECS D

Severity: 4

HCP8453I MOVE OF *component* COMPONENT TO SFS COMPLETED SUCCESSFULLY

User Response: None.

Severity: 0

HCP8454E THERE ARE NOT ENOUGH FREE FILEMODES AVAILABLE. TWO ARE REQUIRED

User Response: Correct error and rerun MOVE2SFS.

Severity: 8

HCP8455W MOVE2SFS EXEC COMPLETED WITH WARNINGS.

User Response: Check the warning messages for each component.

Severity: 4

HCP8456I PROCESSING COMPONENT *component*

User Response: None.

Severity: None.

HCP8457W VM SYSRECS TABLE WAS ALREADY UPDATED FOR *component*

User Response: None.

Severity: 4

HCP8458W *component* IS NOT IN THE VM SYSRECS TABLE

User Response: Check that the components you are moving to SFS were loaded from the System DDR (with the INSTALL EXEC) and that the POSTDDR EXEC was run prior to running MOVE2SFS.

Severity: 4

HCP8459W **MOVE OF *component* COMPONENT COMPLETED TO SFS WITH WARNINGS**

User Response: Check the warning messages for the component listed.

Severity: 4

HCP8460E **WRITE TO *file* FAILED WITH RC=*rc***

User Response: Correct error and rerun MOVE2SFS.

Severity: 8

HCP8461E ***filename filetype* FILE NOT FOUND ON *mdisk* DISK.**

User Response: Correct error and rerun MOVE2SFS.

Severity: 8

HCP8465I **THE FOLLOWING MINIDISKS FOR COMPONENTS(S): *complist* HAVE BEEN RECLAIMED: *disk disk ...***

User Response: None.

Severity: 0

HCP8466I ***fn* DIRECT HAS BEEN UPDATED TO COMMENT OUT RECLAIMED MINIDISKS FOR THE MAINT USER ID**

User Response: The user specified the RECLAIM option on the MOVE2SFS command. RECLAIM comments out the reclaimed disks in the directory file, but this directory has not been activated due to some failure. The user must put the directory online manually for the changes to go into effect.

Severity: 8

HCP8467I **BOTH AVS AND TSAF MUST BE MOVED TO SFS BEFORE THE DISK SPACE CAN BE RECLAIMED**

User Response: None.

Severity: None.

HCP8470W **DETACH OF MINIDISK *mdisk* FAILED WITH RC=*rc***

User Response: Manually detach the disk to finish reclaiming unused minidisk space. MOVE2SFS processing continues

Severity: 4

POSTDDR EXEC

»—POSTDDR—«

Purpose

The POSTDDR EXEC creates the system-level Software Inventory tables:

- VM SYSRECS
- VM SYSDESCT
- VM SYSREQT
- VM SYSBLDS
- VM SYSAPPS.

It also builds the POSTDDR PRODLIST that loads the RSU during the installation procedures.

Usage Notes

1. The POSTDDR exec is to be run only once, unless additional components are loaded using the INSTALL exec.

Messages and Return Codes

HCP8342E THE COMMAND *command* FAILED WITH RC=*rc*

User Response: Check command return codes to determine the cause of the error.

Severity: 8

HCP8408E BASE COMPONENTS ARE NOT LOADED

User Response: INSTALL EXEC must be run prior to running POSTDDR.

Severity: 8

HCP8409I Generating Software Inventory files

User Response: None.

Severity: 0

HCP8410E NO DISK IS ACCESSED AS *fm*

User Response: Access 191 as your 'A' disk and rerun POSTDDR.

Severity: 8

HCP8411I COULD NOT WRITE TO *filename filetype* BECAUSE YOUR 'A' DISK IS FULL

User Response: Correct the full disk condition and rerun POSTDDR.

Severity: 8

HCP8412E \$LOAD\$ LOG FILE NOT FOUND ON ANY ACCESSED DISK.

User Response: Correct error and rerun POSTDDR.

Severity: 28

HCP8413I Generating Software Inventory files Completed

User Response: None.

Severity: 0

HCP8418I THE SOFTWARE INVENTORY TABLES ARE ALREADY UPDATED

User Response: None.

Severity: 0

HCP8419E *vdev* IS NOT R/W

User Response: Correct error and rerun POSTDDR.

Severity: 8

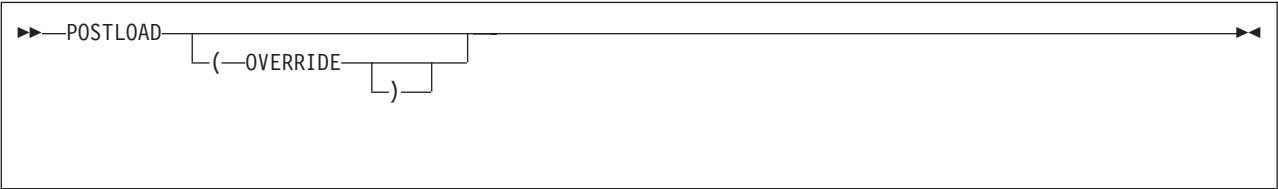
HCP8422E ATTEMPT TO QUERY DISK *filemode*
FAILED WITH RETURN CODE *rc*

User Response: Access 191 as your 'A' disk and
rerun POSTDDR.

Severity: 8

POSTLOAD

POSTLOAD EXEC



Purpose

The POSTLOAD EXEC performs clean-up tasks depending on the items you have loaded.

Options

OVERRIDE

displays the following menu, which allows you to choose what postload installation tasks you want to bypass.

Attention: Bypassing tasks may result in problems.

z/VM POSTLOAD OVERRIDE MENU

Indicate which procedure(s) you INTEND TO BYPASS by
entering a NONBLANK CHARACTER next to the function
and press ENTER to process

- Allocate the System Residence Pack
- Format Skeleton Source Minidisk
- Remove Server Autolog Statements
- Edit the Restricted Password List (RPWLIST DATA)
- Cleanup USER DIRECT and add links to help disks
- Bring the updated USER DIRECT online
- Create the Software Inventory Tables
- Load the Recommended Service Upgrade (RSU)
- Convert Serviced HELP files to UPPERCASE

PF1 = HELP PF3/PF12 = QUIT PF5 = Process

Messages and Return Codes

HCP8335I Loading RSU Volume x [completed]

User Response: None.

Severity: 0

HCP8338I NOW EXECUTING function

User Response: None.

Severity: 0

HCP8339I BYPASSING function DUE TO condition

User Response: A POSTLOAD function requested by the user is being bypassed due to the condition

specified in the message. Processing continues.

Severity: 99, 0

**HCP8340E THE POSTLOAD FUNCTION function
FAILED WITH RETURN CODE rc.
PLEASE CORRECT THE PROBLEM
AND RERUN POSTLOAD. ERRORS
HAVE BEEN LOGGED IN POSTLOAD
\$MSGLOG ON THE 2C2 DISK**

User Response: A POSTLOAD function requested by the user failed with the return code specified in the message. Previous messages describe the error in greater detail. Correct the error and rerun POSTLOAD.

Severity: 100

HCP8341I POSTLOAD FUNCTION *function* COMPLETED SUCCESSFULLY

User Response: None.

Severity: 0

HCP8342E THE COMMAND *command* FAILED WITH RC=*rc*

User Response: A command issued by POSTLOAD failed with the return code specified in the message. Check the command return codes to determine the cause of the error.

Severity: 8, 100

HCP8343E ADDRESS 80A IS NOT AUTOLOG1'S 191 DISK

User Response: The address accessed as virtual address 80A does not belong to user AUTOLOG1. Link to AUTOLOG1's 191 as 80A and rerun POSTLOAD.

Severity: 100

HCP8344E TAPE DRIVE IS NOT ATTACHED AS VIRTUAL 181 FOR RSU LOAD

User Response: The tape drive being used for RSU load is not attached as virtual address 181. Attach the tape drive as virtual 181 and rerun POSTLOAD.

Severity: 100

HCP8345R WHAT WOULD YOU LIKE TO DO WITH THE RESTRICTED PASSWORD FILE (RPWLIST DATA) ??? PLEASE SELECT ONE OF THE FOLLOWING:
 1.) NOT USE
 2.) USE WITH DEFAULTS
 3.) EDIT AND MAKE YOUR OWN CHANGES
 4.) EXIT POSTLOAD PROCESSING

User Response: Select 1, 2, 3, or 4 and press Enter.

Severity: 0, 99

HCP8346I SOURCE MINIDISK *mdisk* FOR COMPONENT *component* FORMATTED SUCCESSFULLY

User Response: None.

Severity: 0

HCP8347I RPWLIST DATA WILL BE USED WITH IBM SUPPLIED DEFAULTS

User Response: None.

Severity: 99

HCP8348I SOFTWARE INVENTORY FILES VM SYSRECS, VM SYSDESCT, VM SYSREQT, VM SYSBLDS, AND VM SYSAPPS HAVE BEEN CREATED

User Response: None.

Severity: 0

HCP8349W INVALID ENTRY, PLEASE REENTER

User Response: Enter correct entry.

Severity: None

HCP8350R PRESS THE ENTER KEY TO PROCEED WITH XEDIT OF RPWLIST DATA E. REMEMBER TO FILE YOUR CHANGES

User Response: Press enter to proceed to the XEDIT session for RPWLIST DATA E.

Severity: None

HCP8351E YOU MUST HAVE A R/W DISK ACCESSED AS "A" TO RUN POSTLOAD

User Response: Correct the error and rerun POSTLOAD.

Severity: 8

HCP8352E INVALID {OPERAND(S) *operand*OPTION(S) *option*} SPECIFIED ON THE POSTLOAD COMMAND. PLEASE CORRECT AND REENTER

User Response: Correct the error and rerun POSTLOAD.

Severity: 8

HCP8353W UNDEFINED PFKEY

User Response: Enter correct input

Severity: None

HCP8354W ENTER KEY NOT SUPPORTED FROM THIS PANEL

User Response: Enter correct input

Severity: None

POSTLOAD

**HCP8392I POSTLOAD EXEC ENDED
SUCCESSFULLY**

User Response: None.

Severity: None.

**HCP8401E POSTLOAD EXEC MUST BE RUN ON A
FULL SCREEN TERMINAL WITH AT
LEAST 16 LINES**

User Response: Correct the error and rerun
POSTLOAD

Severity: 100

**HCP8411I COUND NOT WRITE TO *log_file*
BECAUSE YOUR 'E' DISK IS FULL.
MESSAGE LOGGING HAS BEEN
SUSPENDED.**

User Response: Correct disk full condition after the
command completes. Processing continues without

messages written to the log.

Severity: None.

**HCP8444E THE 51D DISK MUST BE ACCESSED
AS D IN R/W MODE**

User Response: Correct the error and rerun
POSTLOAD.

Severity: 100

**HCP8498W YOUR 2C2 DISK IS TOO FULL TO
HOLD A POSTLOAD MESSAGE LOG.
MESSAGES WILL BE DISPLAYED TO
THE CONSOLE.**

User Response: Correct disk full condition after
command completes. Processing continues without
messages written to the log.

Severity: None.

Part 5. Appendixes

Appendix A. Moving Components to SFS Directories

This appendix describes how to move GCS, TSAF, AVS, LE/370, RSCS, OSA/SF, TCP/IP, TSM, or ICKDSF from minidisks to Shared File System directories.

Note: Once the components are moved to SFS directories, you **must** use the following components names with VMSES/E commands:

GCSSFS instead of GCS
TSAFSFS instead of TSAF
AVSSFS instead of AVS
LE370SFS instead of LE370
RSCSSFS instead of RSCS
TCPIPSFS instead of TCPIP
OSASFS instead of OSA
ADSMSFS instead of ADSM (for TSM)
ICKDSFSFS instead of ICKDSF

In this appendix, you will:

- Be logged on to the MAINT user ID on your new z/VM Version 3 Release 1.0 system
- Add MAINT links to the USER DIRECT file
- Ensure the VMSYS file pool is active
- Invoke MOVE2SFS to:
 - Create the SFS directories
 - Access the component's minidisks
 - Copy the minidisk files to the new SFS directory
 - Reclaim minidisks no longer needed.

1. Choose the components you now wish to move to SFS directories.
2. Log on to the MAINT user ID if you are not already logged on.

ENTER

The default password for MAINT is MAINT.

logon maint

...

Ready; T=*n.nn/n.nn hh:mm:ss*

3. IPL your System disk to release any previously accessed minidisks.

ipl 190 clear

⋮
z/VM V3.1.0 *yyyy-mm-dd hh:mm*

ENTER

Ready; T=*n.nn/n.nn hh:mm:ss*

Clear is necessary. Do not omit it.

If you have changed the version heading, your own heading will appear.

Press **Enter** to return to the command line.

Moving Components to SFS Directories

- ___ 4. Edit USER DIRECT and add links for USERID MAINT.

access 2c2 e

Ready; T=*n.nn/n.nn hh:mm:ss*

xedit user direct e

Uncomment the following links to the USER MAINT for each component you are moving to SFS:

GCS: None

TSAF: None

AVS: None

LE370:

```
LINK P688198H 191 82A WR
LINK P688198H 2A2 82B WR
LINK P688198H 2A6 82C WR
LINK P688198H 2B2 82D WR
LINK P688198H 2C2 82E WR
LINK P688198H 2D2 82F WR
```

RSCS:

```
LINK P684096K 2B2 850 WR
LINK P684096K 2C2 851 WR
LINK P684096K 2D2 852 WR
LINK P684096K 2A6 853 WR
LINK P684096K 2A2 854 WR
LINK P684096K 29D 855 WR
LINK P684096K 402 858 WR
LINK P684096K 406 859 WR
LINK P684096K 191 85A WR
LINK P684096K 502 85C WR
```

If you loaded RSCS Source, uncomment:

```
LINK P684096K 2B3 85D WR
```

OSA:

```
LINK 2VMVMV20 2B2 840 WR
LINK 2VMVMV20 2C2 841 WR
LINK 2VMVMV20 2D2 842 WR
LINK 2VMVMV20 2A6 843 WR
LINK 2VMVMV20 2A2 844 WR
LINK 2VMVMV20 100 845 WR
LINK 2VMVMV20 300 846 WR
LINK 2VMVMV20 191 848 WR
LINK OSASF 200 849 WR
LINK OSASF 400 84A WR
```

TCPIP:

```
LINK 3TCPIPA0 191 865 WR
LINK 3TCPIPA0 2C4 866 WR
LINK 3TCPIPA0 2D2 868 WR
LINK 3TCPIPA0 2A6 869 WR
LINK 3TCPIPA0 2A2 86A WR
LINK 3TCPIPA0 2B2 86E WR
LINK 3TCPIPA0 2B3 86F WR
```


TSM:

```
LINK 5654A09A 191 838 WR
LINK 5654A09A 2B2 83A WR
LINK 5654A09A 2D2 83B WR
LINK 5654A09A 2A6 83C WR
LINK 5654A09A 2A2 83D WR
```

ICKDSF:

```
LINK P684042H 191 822 WR
LINK P684042H 2A2 823 WR
LINK P684042H 2A6 824 WR
LINK P684042H 2B2 825 WR
LINK P684042H 2C2 826 WR
LINK P684042H 2D2 827 WR
LINK P684042H 29D 828 WR
LINK P684042H 29E 829 WR
```

- ___ 5. Bring the directory online.

directxa user direct

Ready; T=*n.nn/n.nn hh:mm:ss*

- ___ 6. Log off of the MAINT user ID.

logoff

This is required to pick up the new or changed directory links.

CONNECT= *nn:nn:nn* VIRTCPU= *nnn:nn.nn* TOTCPU= *nnn:nn.nn*
LOGOFF AT *hh:mm:ss {EST|EDT} weekday mm/dd/yy*

Press enter or clear key to continue

ENTER

- ___ 7. Log on to the MAINT user ID.

ENTER

The default password for MAINT is MAINT.

logon maint

:

z/VM V3.1.0 yyyy-mm-dd hh:mm

ENTER

Ready; T=*n.nn/n.nn hh:mm:ss*

- ___ 8. Verify that the VMSYS file pool is active.

query vmserve

VMSERVS - DSC

If active, the system responds saying the server is running in a disconnected state. Otherwise you receive a message about VMSERVS not being logged on.

- ___ 9. If VMSERVS is not logged on, log on the user ID.

xautolog vmserve

COMMAND ACCEPTED

:

Ready; T=*n.nn/n.nn hh:mm:ss*

:

DMSSBB3045I Ready for operator communications

Moving Components to SFS Directories

- ___ 10. Access the 2C2 minidisk as your E-disk.

access 2c2 e

Ready; T=n.nn/n.nn hh:mm:ss

- ___ 11. Access the 193 minidisk as your Z disk.

access 193 z

Ready; T=n.nn/n.nn hh:mm:ss

- ___ 12. Move data for the components selected from minidisks to the Shared File System servers (SFS).

move2sfs component (reclaim

HCPWMV8456I PROCESSING COMPONENT *component*
:

component can be **GCS, TSAF, AVS, LE370, OSA, RSCS, TCPIP, TSM** or **ICKDSF**. (See "MOVE2SFS EXEC" on page 174 for details.)

reclaim removes the minidisks no longer needed from the directory. (The minidisks entries are commented out in the directory.)

HCPWMV8392I MOVE2SFS EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss

- ___ 13. Access the 191 disk as your A-disk.

access 191 a

Ready; T=n.nn/n.nn hh:mm:ss

- ___ 14. Edit the USER DIRECT file.

xedit user direct e

- ___ 15. Comment out all MAINT's LINK statements from the USER DIRECT file that were added in "Step 1. Prepare the USER DIRECT File for New Loads" on page 194. These links were only used for install and should be removed to prevent errors.

====> **top**
====> **locate /user maint/**
====> **locate /link/ & /801/**
====> **change /*:MDISK**

Locate the USER MAINT statement. Next locate the LINK statements for minidisks starting with 801. The change command comments out all MAINT LINK statements up to statements beginning with **MDISK**. These statements were only used during z/VM Version 3 Release 1.0 installation.

Note: This directory was shipped with all LINK statements coming before the MDISK statements. Make sure no other statements are between the LINK statements.

- ___ 16. Save all changes in the USER DIRECT file.

====> **file**

Ready; T=n.nn/n.nn hh:mm:ss

For more information about the directory, see *z/VM: Planning and Administration*. A reference copy of the directory format is contained in the *Installation and Service Sample Files* document packaged with the z/VM System DDR.

- ___ 17. Use the DIRECTXA command to update and place the user directory online.

directxa user direct

z/VM USER DIRECTORY CREATION PROGRAM - V3 R1.0

EOJ DIRECTORY UPDATED AND ON LINE

Ready; T=*n.nn/n.nn hh:mm:ss*

You are completely done with this appendix.

Reference

Appendix B. Adding a Work Disk

If you are increasing the size of any minidisk or moving any minidisk to DASD different than the DASD type of your System DDR, you will need a work disk. This appendix helps you determine if you must create a work disk or if the T-disk space on the system can accommodate the work disk.

In this appendix, you will:

- Determine the size of the work disk needed.
- Determine if the T-disk space can accommodate the work disk.
- If the T-disk space cannot accommodate the size required, define a work disk.

- ___ 1. Determine the disk size. Using "ITEMMD TABLE" on page 252, determine the largest disk you will be increasing in size or moving to a DASD type different than that of your z/VM System DDR. Locate that disk in the ITEMMD TABLE file and make a note of the size located under the column that matches the DASD type of the z/VM System DDR. This is the size of the work disk needed.
- ___ 2. Compare the work disk size to the T-disk sizes available according to the appropriate DASD in the following table:

DASD Type	maxsize
3380	60 3380 cyls
3390	50 3390 cyls
9345	60 9345 cyls
FB-512	72000 FB-512 blocks

- ___ 3. If the T-disk space cannot accommodate the size required for a work disk, continue with the next substep to define a work disk. Otherwise, refer to the What To Do Next box.
- ___ 4. If you do not have enough T-disk space, you must define a work disk for user ID MAINT in the USER DIRECT file.

The work disk **must** reside on the **same** DASD device type as your z/VM System DDR and be of a size equal to, or greater than, the work disk size determined in substep 1.

- ___ a. Generate a disk map of the USER DIRECT file, then edit the USER DISKMAP file and locate a gap large enough to define the work disk.

diskmap user direct

USER is the file name of the directory to be mapped.

File USER DISKMAP A has been created.
Ready; T=n.nn/n.nn hh:mm:ss

- ___ b. Update the USER DIRECT file and add the work disk. The INSTALL exec uses the 111 minidisk if it is available. If the 111 minidisk cannot be found, the INSTALL exec uses the 222 minidisk.

```
xedit user direct a
====> top
```

```
====> locate /mdisk cf1/
```

Locate mdisk cf1.

```
====> input mdisk vaddr devtype startloc size dasdlabel mr
```

Adding a Work Disk

Insert a minidisk statement for 111 or 222.

vaddr can be 111 or 222.

devtype must be the same as your DDR system tape (3380, 3390, 9345, or FB-512).

startloc is the cylinder/block location of the minidisk.

size is the work disk size determined in substep 1 on page 191.

dasdlabel is the label of the DASD where your minidisk resides.

====> **file**

Ready; T=*n.nn/n.nn hh:mm:ss*

What To Do Next

Return to Appendix C. Post Install Load of Optional Items, Step 1. Prepare the USER DIRECT File for New Loads, substep 7 on page 199.

Appendix C. Post Install Load of Optional Items

When you go through the initial installation procedures of z/VM Version 3 Release 1.0, there are optional items you may have chosen not to install. Once your z/VM system is installed, you may choose to add the optional items to your base z/VM system. This appendix is a guide to installing the optional items.

In this appendix, you will:

- Prepare the USER DIRECT file for the new items to be loaded
- Run the INSTALL EXEC to load the new items
- Run the necessary post installation steps.

Note: All the steps in this appendix are done while logged onto the MAINT user ID on your new z/VM Version 3 Release 1.0 system.

Prepare the USER DIRECT File for New Loads

Step 1. Prepare the USER DIRECT File for New Loads

- ___ 1. Choose the items you now wish to install.
- ___ 2. Log on to the MAINT user ID.

ENTER

The default password for MAINT is MAINT.

logon maint

:

Ready; T=n.nn/n.nn hh:mm:ss

- ___ 3. Access the 2C2 disk as your A-disk.

access 2c2 a

DMSACC724I 2C2 replaces A(191)

Ready; T=n.nn/n.nn hh:mm:ss

- ___ 4. Make a copy of USER DIRECT.

copyfile user direct a userback = = (olddate

Ready; T=n.nn/n.nn hh:mm:ss

- ___ 5. Edit the USER DIRECT file and define the following user IDs/minidisks and links required to load each item:

xedit user direct a

Make the necessary updates.

:

- ___ a. For each of the following items you are loading, define the user IDs listed. The user entry can be uncommented from the USER DIRECT file on the 2C2 disk. Do not uncomment the &MDISK statements.

TSAF/AVS:

TSAFVM
AVSVM

FILEPOOL:

VMSERVS
VMSERVU
VMSERV

SMALL FILEPOOL:

VMSERVS
VMSERVU
VMSERV

OSA/SF:

2VMVMV20
OSASF
OSAMAIN
OSADMIN1
OSADMIN2
OSADMIN3

TSM:

5654A09A

- ___ b. For the following items, define the minidisk listed. Refer to "ITEMMD TABLE" on page 252 for the required sizes. It contains a list of all minidisks and their associated cylinder or block sizes for each DASD type supported in installation (3380, 3390, 9345, and FBA). Use these sizes as a reference as you update the USER DIRECT file to add minidisks. The minidisk sizes you define must be equal to or greater than the IBM default values. You must not define any minidisk to be smaller.

Note: There must be one, and only one, blank character before MDISK, between MDISK and the address, between the address and the DASD type, and between the DASD type and the start cylinder.

Note: Do not change the minidisk passwords until after you have completed this appendix.

Note: If you are loading source, replace the 1 cyl/1200 block source minidisk statement defined in the directory with a full size source minidisk statement.

CMS REXX SOURCE

for user MAINT, replace the current 393 MDISK statement with the following:

```
MDISK 393 dasdtype startcyl size label MR ALL      WRITE      MULTIPLE
*
```

CP DV SOURCE

for user MAINT, replace the current 394 MDISK statement with the following:

```
MDISK 394 dasdtype startcyl size label MR ALL      WRITE      MULTIPLE
*
```

VMSES SOURCE

for user MAINT, replace the current 5B4 MDISK statement with the following:

```
MDISK 5B4 dasdtype startcyl size label MR READ     WRITE      MULTIPLE
*
```

RSCS SOURCE

for user P684096K, replace an *&MDISK statement with the following:

```
MDISK 2B3 dasdtype startcyl size label MR READ     WRITE      MULTIPLE
*
```

UCENG HELP

for user MAINT, replace an *&MDISK statement with the following:

```
MDISK 402 dasdtype startcyl size label MR ALL      WRITE      MULTIPLE
*
```

GERMAN HELP

for user MAINT, replace an *&MDISK statement with the following:

```
MDISK 405 dasdtype startcyl size label MR ALL      WRITE      MULTIPLE
```

for user P684096K, replace an *&MDISK statement with the following:

```
MDISK 505 dasdtype startcyl size label MR READ     WRITE      MULTIPLE
*
```

KANJI HELP

for user MAINT, replace an *&MDISK statement with the following:

```
MDISK 401 dasdtype startcyl size label MR ALL      WRITE      MULTIPLE
```

for user P684096K, replace an *&MDISK statement with the following:

Prepare the USER DIRECT File for New Loads

MDISK 501 *dasdtype startcyl size label* MR READ WRITE MULTIPLE
*

FILEPOOL

for user VMSERVS, replace the *&MDISK statements with the following:
(You must replace them in order, and the MINIOPT NOMDC statement must follow the 301, 302, and 303 MDISK statements.)

```
MDISK 191 dasdtype startcyl size label MR RSERVER WSERVER
MDISK 301 dasdtype startcyl size label WR RCONTROL WCONTROL
MDISK 302 dasdtype startcyl size label WR RLOG1 WLOG1
MDISK 303 dasdtype startcyl size label WR RLOG2 WLOG2
MDISK 304 dasdtype startcyl size label WR RCATALOG WCATALOG
MDISK 305 dasdtype startcyl size label WR RDATA WDATA
MDISK 306 dasdtype startcyl size label WR RDATA WDATA
MDISK 308 dasdtype startcyl size label WR RDATA WDATA
MDISK 309 dasdtype startcyl size label WR RDATA WDATA
```

for user VMSERVU, replace the *&MDISK statements with the following:
(You must replace them in order, and the MINIOPT NOMDC statement must follow the 301, 302, and 303 MDISK statements.)

```
MDISK 191 dasdtype startcyl size label MR RSERVER WSERVER
MDISK 301 dasdtype startcyl size label WR RCONTROL WCONTROL
MDISK 302 dasdtype startcyl size label WR RLOG1 WLOG1
MDISK 303 dasdtype startcyl size label WR RLOG2 WLOG2
MDISK 304 dasdtype startcyl size label WR RCATALOG WCATALOG
MDISK 305 dasdtype startcyl size label WR RDATA WDATA
```

for user VMSERVER, replace the *&MDISK statements with the following:
(You must replace them in order, and the MINIOPT NOMDC statement must follow the 301, 302, 303, 304, 305, 306, and 307 MDISK statements.)

```
MDISK 191 dasdtype startcyl size label MR RSERVER WSERVER
MDISK 301 dasdtype startcyl size label WR RCONTROL WCONTROL
MDISK 302 dasdtype startcyl size label WR RLOG1 WLOG1
MDISK 303 dasdtype startcyl size label WR RLOG2 WLOG2
MDISK 304 dasdtype startcyl size label WR RCATALOG WCATALOG
MDISK 305 dasdtype startcyl size label WR RDATA WDATA
MDISK 306 dasdtype startcyl size label WR RCRRLLOG1 WCRRLLOG1
MDISK 307 dasdtype startcyl size label WR RCRRLLOG2 WCRRLLOG2
```

*

SMALL FILEPOOL

for user VMSERVS, replace the *&MDISK statements with the following:
(You must replace them in order, and the MINIOPT NOMDC statement must follow the 301, 302, and 303 MDISK statements.)

```
MDISK 191 dasdtype startcyl size label MR RSERVER WSERVER
MDISK 301 dasdtype startcyl size label WR RCONTROL WCONTROL
MDISK 302 dasdtype startcyl size label WR RLOG1 WLOG1
MDISK 303 dasdtype startcyl size label WR RLOG2 WLOG2
MDISK 304 dasdtype startcyl size label WR RCATALOG WCATALOG
MDISK 305 dasdtype startcyl size label WR RDATA WDATA
```

for user VMSERVU, replace the *&MDISK statements with the following:
(You must replace them in order, and the MINIOPT NOMDC statement must follow the 301, 302, and 303 MDISK statements.)

```
MDISK 191 dasdtype startcyl size label MR RSERVER WSERVER
MDISK 301 dasdtype startcyl size label WR RCONTROL WCONTROL
MDISK 302 dasdtype startcyl size label WR RLOG1 WLOG1
MDISK 303 dasdtype startcyl size label WR RLOG2 WLOG2
MDISK 304 dasdtype startcyl size label WR RCATALOG WCATALOG
MDISK 305 dasdtype startcyl size label WR RDATA WDATA
```

Prepare the USER DIRECT File for New Loads

for user VMSEVR, replace the *&MDISK statements with the following:
(You must replace them in order, and the MINIOPT NOMDC statement must follow the 301, 302, 303, 304, 305, 306, and 307 MDISK statements.)

```
MDISK 191 dasdtype startcyl size label MR RSERVER WSERVER
MDISK 301 dasdtype startcyl size label WR RCONTROL WCONTROL
MDISK 302 dasdtype startcyl size label WR RLOG1 WLOG1
MDISK 303 dasdtype startcyl size label WR RLOG2 WLOG2
MDISK 304 dasdtype startcyl size label WR RCATALOG WCATALOG
MDISK 305 dasdtype startcyl size label WR RDATA WDATA
MDISK 306 dasdtype startcyl size label WR RCRRLOG1 WCRRLOG1
MDISK 307 dasdtype startcyl size label WR RCRRLOG2 WCRRLOG2
```

*

TSAF/AVS

for user TSAFVM, replace an *&MDISK statement with the following:

```
MDISK 191 dasdtype startcyl size label MR RTSAFOBJ WTSAFOBJ MTSAFOBJ
```

for user AVSVM, replace an *&MDISK statement with the following:

```
MDISK 191 dasdtype startcyl size label MR RAVSOBJ WAVSOBJ MAVSOBJ
```

for user MAINT, replace an *&MDISK statement with the following:

```
MDISK 7A2 dasdtype startcyl size label MR READ WRITE MULTIPLE
MDISK 7A4 dasdtype startcyl size label MR READ WRITE MULTIPLE
MDISK 7A6 dasdtype startcyl size label MR READ WRITE MULTIPLE
MDISK 7B2 dasdtype startcyl size label MR READ WRITE MULTIPLE
MDISK 7C2 dasdtype startcyl size label MR READ WRITE MULTIPLE
MDISK 7C4 dasdtype startcyl size label MR READ WRITE MULTIPLE
MDISK 7D2 dasdtype startcyl size label MR READ WRITE MULTIPLE
```

*

OSA/SF

for user 2VMVMV20, replace an *&MDISK statement with the following:

```
MDISK 2B2 dasdtype startcyl size label MR READ WRITE MULTIPLE
MDISK 2C2 dasdtype startcyl size label MR READ WRITE MULTIPLE
MDISK 2D2 dasdtype startcyl size label MR READ WRITE MULTIPLE
MDISK 2A6 dasdtype startcyl size label MR READ WRITE MULTIPLE
MDISK 2A2 dasdtype startcyl size label MR READ WRITE MULTIPLE
MDISK 100 dasdtype startcyl size label MR READ WRITE MULTIPLE
MDISK 300 dasdtype startcyl size label MR READ WRITE MULTIPLE
MDISK 7F00 dasdtype startcyl size label MR READ WRITE MULTIPLE
MDISK 191 dasdtype startcyl size label MR READ WRITE MULTIPLE
```

for user OSASF, replace an *&MDISK statement with the following:

```
MDISK 200 dasdtype startcyl size label MR READ WRITE MULTIPLE
MDISK 400 dasdtype startcyl size label MR READ WRITE MULTIPLE
MDISK 191 dasdtype startcyl size label MR READ WRITE MULTIPLE
```

for user OSAMAIN, replace an *&MDISK statement with the following:

```
MDISK 191 dasdtype startcyl size label MR READ WRITE MULTIPLE
```

for user OSADMIN1, replace an *&MDISK statement with the following:

```
MDISK 191 dasdtype startcyl size label MR READ WRITE MULTIPLE
```

for user OSADMIN2, replace an *&MDISK statement with the following:

```
MDISK 191 dasdtype startcyl size label MR READ WRITE MULTIPLE
```

for user OSADMIN3, replace an *&MDISK statement with the following:

```
MDISK 191 dasdtype startcyl size label MR READ WRITE MULTIPLE
```

*

Prepare the USER DIRECT File for New Loads

TSM

for user 5654A09A, replace an *&MDISK statement with the following:

```
MDISK 191 dasdtype startcyl size label MR ALL      WRITE      MULTIPLE
MDISK 2B2 dasdtype startcyl size label MR ALL      WRITE      MULTIPLE
MDISK 2D2 dasdtype startcyl size label MR ALL      WRITE      MULTIPLE
MDISK 2A6 dasdtype startcyl size label MR ALL      WRITE      MULTIPLE
MDISK 2A2 dasdtype startcyl size label MR ALL      WRITE      MULTIPLE
MDISK 491 dasdtype startcyl size label MR ALL      WRITE      MULTIPLE
MDISK 4E2 dasdtype startcyl size label MR ALL      WRITE      MULTIPLE
```

- ___ c. For each of the following items to be loaded, uncomment the following LINK statements in the MAINT user ID:

TSAF/AVS:

```
LINK  AVSVM      191 802 WR
LINK  TSAFVM     191 803 WR
```

RSCS SOURCE:

```
LINK  P684096K  2B3 85D WR
```

GERMAN HELP:

```
LINK  P684096K  505 85F WR
```

KANJI HELP:

```
LINK  P684096K  501 85E WR
```

FILEPOOL:

```
LINK  VMSERVS   191 804 WR
LINK  VMSERVU   191 805 WR
LINK  VMSERVER  191 806 WR
LINK  VMSERVS   302 811 WR
LINK  VMSERVS   301 812 WR
LINK  VMSERVS   303 813 WR
LINK  VMSERVS   304 814 WR
LINK  VMSERVS   305 815 WR
LINK  VMSERVS   306 834 WR
LINK  VMSERVS   307 835 WR
LINK  VMSERVS   308 836 WR
LINK  VMSERVS   309 837 WR
LINK  VMSERVU   302 816 WR
LINK  VMSERVU   301 817 WR
LINK  VMSERVU   303 818 WR
LINK  VMSERVU   304 819 WR
LINK  VMSERVU   305 81A WR
LINK  VMSERVER  302 81B WR
LINK  VMSERVER  301 81C WR
LINK  VMSERVER  303 81D WR
LINK  VMSERVER  304 81E WR
LINK  VMSERVER  305 81F WR
LINK  VMSERVER  306 820 WR
LINK  VMSERVER  307 821 WR
```

SMALL FILEPOOL:

```
LINK  VMSERVS   191 804 WR
LINK  VMSERVU   191 805 WR
LINK  VMSERVER  191 806 WR
LINK  VMSERVS   302 811 WR
LINK  VMSERVS   301 812 WR
LINK  VMSERVS   303 813 WR
LINK  VMSERVS   304 814 WR
LINK  VMSERVS   305 815 WR
LINK  VMSERVU   302 816 WR
LINK  VMSERVU   301 817 WR
```

Prepare the USER DIRECT File for New Loads

```
LINK VMSERVU 303 818 WR
LINK VMSERVU 304 819 WR
LINK VMSERVU 305 81A WR
LINK VMSERVER 302 81B WR
LINK VMSERVER 301 81C WR
LINK VMSERVER 303 81D WR
LINK VMSERVER 304 81E WR
LINK VMSERVER 305 81F WR
LINK VMSERVER 306 820 WR
LINK VMSERVER 307 821 WR
```

OSA/SF:

```
LINK 2VMVMV20 2B2 840 WR
LINK 2VMVMV20 2C2 841 WR
LINK 2VMVMV20 2D2 842 WR
LINK 2VMVMV20 2A6 843 WR
LINK 2VMVMV20 2A2 844 WR
LINK 2VMVMV20 100 845 WR
LINK 2VMVMV20 300 846 WR
LINK 2VMVMV20 7F00 847 WR
LINK 2VMVMV20 191 848 WR
LINK OSASF 200 849 WR
LINK OSASF 400 84A WR
LINK OSASF 191 84B WR
LINK OSAMAIN1 191 839 WR
LINK OSAMAIN1 7F00 84C WR
LINK OSADMIN1 191 84D WR
LINK OSADMIN2 191 84E WR
LINK OSADMIN3 191 84F WR
```

TSM:

```
LINK 5654A09A 191 838 WR
LINK 5654A09A 2B2 83A WR
LINK 5654A09A 2D2 83B WR
LINK 5654A09A 2A6 83C WR
LINK 5654A09A 2A2 83D WR
LINK 5654A09A 491 83E WR
LINK 5654A09A 4E2 83F WR
```

====> file

File your changes.

Ready; T=n.nn/n.nn hh:mm:ss

- ___ 6. If any of the minidisks required for the optional items you are **now** loading (identified in substep 5 on page 194) are being moved to a DASD type other than that of your System DDR or have been increased in size, proceed to "Appendix B. Adding a Work Disk" on page 191.
- ___ 7. Run the DISKMAP tool to check for errors.

diskmap user

File USER DISKMAP A has been created.
Ready; T=n.nn/n.nn hh:mm:ss

USER is the file name of the directory to be mapped.
The file type defaults to DIRECT.

If errors appear in the USER DISKMAP file, correct all mistakes by updating the USER DIRECT file with changes. Repeat the DISKMAP command until all errors are corrected.

- ___ 8. Bring this updated directory online by entering the DIRECTXA command.

directxa user direct

The DIRECTXA command brings the directory online.

EOJ DIRECTORY UPDATED AND ON LINE
Ready; T=n.nn/n.nn hh:mm:ss

Prepare the USER DIRECT File for New Loads

___ 9. Log off of the MAINT user ID.

logoff

This is required to pick up the new or changed directory links.

```
CONNECT= nn:nn:nn VIRTCPU= nnn:nn.nn TOTCPU= nnn:nn.nn  
LOGOFF AT hh:mm:ss {EST|EDT} weekday mm/dd/yy
```

Press enter or clear key to continue

Step 2. Run INSTALL EXEC

In this step you will:

- Log on to the MAINT user ID
- Run INSTALL to load the optional items you chose.

Notes:

1. On all panels, CP and CMS commands can be issued from the panel command line. Line end characters, for example #, cannot be used.
2. Running the INSTALL EXEC requires a full screen terminal with at least 16 lines.
3. Run INSTALL from the 2C2 disk accessed as file mode 'A'.

1. Log on to the MAINT user ID.

ENTER

The default password for MAINT is MAINT.

logon maint

:

z/VM V3.1.0 yyyy-mm-dd hh:mm

ENTER

Ready; T=n.nn/n.nn hh:mm:ss

2. You **must** access the 2C2 disk as your A-disk. The INSTALL EXEC will only run when the 2C2 disk is accessed as your A-disk.

access 2c2 a

Ready; T=n.nn/n.nn hh:mm:ss

3. Choose the addresses of your tape drives.

If you are using CD-ROMs, all optional items are on Volume 2. Otherwise, Volume 6 contains TSAF/AVS, FILEPOOL, and OSA/SF. Volume 7 contains CMS/REXX Source and CP/DV Source. Volume 8 contains UCENG Help, German Help, Kanji Help, VMSES/E Source, RSCS Source, and TSM.

Note: If you use a unique tape drive for each volume, or use a tape stacker in automatic mode, the tapes will be loaded without interruption. If you must use one tape drive for multiple volumes, you will be prompted by the INSTALL EXEC when a tape volume needs to be changed.

4. Attach the tape drives by **repeating** this step for **each** tape drive needed.
You can attach additional tape drives from the INSTALL panel command line.

attach *tapeaddr* * *vtapeaddr*

TAPE *tapeaddr* ATTACHED TO MAINT *vtapeaddr*

Ready; T=n.nn/n.nn hh:mm:ss

tapeaddr is the tape drive address.

vtapeaddr is the virtual address where the tape drive will be attached. *vtapeaddr* must be attached at virtual addresses within the following ranges: 180 to 187 or 288 to 28F.

5. Run INSTALL to display the z/VM LOAD MENU panel.

Run INSTALL EXEC

If installing from CD-ROM, enter:

install cd (quiet

If installing from tape, enter:

install (quiet

Using the QUIET option of the INSTALL EXEC changes your console setting to SPOOL NOTERM so you will not receive system output messages to your console while the exec is running. This suppresses all messages except the percent loaded, loading, and completion messages.

Attention: If you used the QUIET option and the INSTALL exec terminates before successful completion, you must manually return your console to the normal state of receiving system messages. Enter the command `spool console term` whether you have terminated the exec or the exec itself has abended because of error. As the INSTALL exec successfully completes, it automatically returns your console to the normal state of receiving system messages.

The z/VM LOAD MENU panel displays after issuing the INSTALL command.


```

z/VM LOAD MENU

ENTER 'S' TO SELECT ('L' INDICATES ALREADY LOADED)

      L      BASE
      _      TSAF, AVS
      _      FILEPOOL
      _      SMALL FILEPOOL
      _      CP, DV SOURCE
      _      CMS, REXX SOURCE
      _      VMSES/E SOURCE
      _      RSCS SOURCE
      _      UCENG HELP
      _      GERMAN HELP
      _      KANJI HELP
      _      OSA/SF
      _      TSM

====>

PF1 = HELP      PF3 = QUIT      PF4 = UNLOCK RELOAD      PF5 = NEXT

```

- ___ 6. The “L” in the z/VM LOAD MENU panel shows all items you loaded during installation. Change the “_” to an “S” for each item you are now loading.
- ___ 7. **Press PF5** to proceed to the following LOAD DEVICE MENU.

PF5

```

LOAD DEVICE MENU

MEDIA SELECTED IS: media

MOUNT VOLUME      VADDR
      6            _____
      7            _____
      8            _____

====>

PF1 = HELP      PF3 = QUIT      PF5 = LOAD      PF12 = RETURN

```

- ___ 8. Complete the LOAD DEVICE MENU panel.

Note: The INSTALL EXEC shows you on this screen which tape volumes you need to mount based on your load choices from the z/VM LOAD MENU panel. The INSTALL EXEC prompts you when a tape volume needs changing.

- ___ a. Check the **MEDIA SELECTED IS:** field. This is a required field that will contain either TAPE or CD depending on the parameter used to invoke the INSTALL exec. If the *media* specified is not correct, press **PF3** to quit and run the INSTALL exec with the correct parameter.
- ___ b. **Attach additional tape drive(s), if needed, from the panel’s command line.**

Note: Tape drives must be attached at virtual addresses within the following ranges: 180 to 187 or 288 to 28F.

- ___ c. **Type in the tape drive addresses.**

Each volume must have an associated tape drive. If you use one tape drive or tape stacker for multiple volumes, you must enter that tape drive address next to each volume for which it will be used.

Run INSTALL EXEC

Note: If you use a unique tape drive for each volume, or use a tape stacker in automatic mode, the tapes will be loaded without interruption. If you must use one tape drive for multiple volumes, you will be prompted by the INSTALL EXEC when a tape volume needs to be changed.

- ___ 9. **Mount the z/VM System DDR tape(s) or CD-ROM on the corresponding tape drive(s).**

Note: Only mount the tape volumes listed on your screen.

- ___ 10. **Press PF5 to load.**

PF5

The load starts with the following system messages:

Note: You will not see the optional items messages if you chose not to load those items.

HCPWIN8388I CHECKING STATUS OF DRIVES

HCPWIN8381I CHECKING TAPE VOLUME NUMBER FOR DRIVE *vaddr*

You will receive this message for each tape drive you need to mount. The screen will clear after these messages are displayed.

HCPWIN8371I LOADING TSAF, AVS ...

HCPWIN8371I LOADING FILEPOOL ...

HCPWIN8371I LOADING CP, DV SOURCE ...

HCPWIN8371I LOADING CMS, REXX SOURCE ...

HCPWIN8371I LOADING VMSES/E SOURCE ...

HCPWIN8371I LOADING RSCS SOURCE ...

HCPWIN8371I LOADING UCENG HELP ...

HCPWIN8371I LOADING GERMAN HELP ...

HCPWIN8371I LOADING KANJI HELP ...

HCPWIN8371I LOADING OSA/SF ...

HCPWIN8371I LOADING TSM ...

The screen will clear for a few seconds after these messages are displayed.

valid is the volume identifier.

HCPWIN8428I TOTAL PERCENT LOADED -> *nn%*

HCPWIN8380I RESTORING MINIDISK *nnn* TO *valid*

+-----Additional messages-----+

:

HCPWIN8433I INSTALL PROCESSING CONTINUES

HCPWIN8372A PLEASE MOUNT VOLUME *n* ON TAPE DRIVE

vaddr THEN PRESS ENTER TO CONTINUE

HCPWIN8381I CHECKING TAPE VOLUME NUMBER FOR DRIVE

vaddr

:

:

Depending on the tape devices you are using for installation, you may receive these tape device management messages.

+-----End of Additional messages-----+

HCPWIN8434I *item* HAS BEEN SUCCESSFULLY LOADED.

This message is repeated for each item loaded.

:

Ready; T=*n.nn/n.nn hh:mm:ss*

__ 11. Reaccess the 191 minidisk as your A-disk.

access 191 a

DMSACC724I 191 replaces A(2C2)
Ready; T=*n.nn/n.nn hh:mm:ss*

What to Do Next

If you loaded only the following:

- CP, DV Source
- CMS, REXX Source
- VMSES/E Source
- UCENG Help

no additional steps are required and you have now completed this appendix.

To put the UCENG Help files into production, refer to “Chapter 10. Customizing National Languages” on page 127.

If you loaded OSA/SF, TSM, RSCS Source, German Help, Kanji Help, TSAF, AVS, FILEPOOL, or SMALL FILEPOOL, refer to “Step 3. Update System Tables” on page 206.

Step 3. Update System Tables

If you just finished loading TSAF and AVS, OSA/SF, or TSM, continue with this step. Otherwise, skip to “Step 6. Start the File Pools” on page 211.

In this step you will:

- Update the system-level Software Inventory Tables.

- ___ 1. Access the 2C2 and 193 minidisks.

access 2c2 e

Ready; T=*n.nn/n.nn hh:mm:ss*

access 193 z

Ready; T=*n.nn/n.nn hh:mm:ss*

- ___ 2. Run the POSTDDR EXEC to build POSTDDR PRODLIST (used in “Step 4. Load RSU for TSAF, AVS, OSA/SF, TSM” on page 207) and to update the following system-level Software Inventory Tables:

VM SYSRECS

VM SYSDSCT

VM SYSREQT

VM SYSBLDS

VM SYSAPPS

postddr

HCPWSR8409I POSTDDR STARTED *mm/dd/yy hh:mm*

HCPWSR8413I POSTDDR COMPLETED *mm/dd/yy hh:mm*

Ready; T=*n.nn/n.nn hh:mm:ss*

- ___ 3. Release the 2C2 and 193 minidisks.

release e

Ready; T=*n.nn/n.nn hh:mm:ss*

release z

Ready; T=*n.nn/n.nn hh:mm:ss*

Step 4. Load RSU for TSAF, AVS, OSA/SF, TSM

If you just loaded TSAF and AVS, OSA/SF, or TSM, you must load service from the RSU for these components.

Included in the z/VM package is a separate tape or CD-ROM referred to as the IBM Recommended Service Upgrade z/VM (RSU). This RSU includes service that **must** be installed on your new z/VM system.

In this step you will:

- Load the service files for any or all of the loaded TSAF, AVS, OSA/SF, and TSM components from the Recommended Service Upgrade (RSU).

1. Attach a tape drive as virtual device 181. You must use 181.

attach devno 181

```
TAPE devno ATTACHED TO MAINT AS 181
Ready; T=n.nn/n.nn hh:mm:ss
```

2. Mount the RSU on the tape drive.

If you are installing with CD-ROM, refer to the *Optical Media Attach/2 User's Guide* and the *Optical Media Attach/2 Technical Reference*.

Note: Make sure that the tape is write-protected.

3. Load the first tape file. This tape file contains the RSU memos.

```
vmfins install info (nomemo
:
Ready; T=n.nn/n.nn hh:mm:ss
```

The **nomemo** option suppresses the screen prompt for printing the Memo-To-Users.

4. View or print the RSU memos. There is one memo for each component. The MEMO is found on the 51D disk.

5. Enter the VMFINS command to load the contents of the RSU.

vmfins install list postddr prodlist (nomemo link

POSTDDR PRODLIST identifies each component to be loaded. You will see these messages for each component as it is loaded.

```
VMFINS2767I Reading VMFINS DEFAULTS B for additional options
VMFINS2767I Reading POSTDDR PRODLIST A for list
of products to process
VMFREQ2805I Product :PPF ZVM compname :PRODID prodid.%compname
has passed requisite checking
```

This message is repeated for each component.

```
Do you want to create an override for :PPF ZVM compname
:PRODID prodid.%compname
Enter 0 (No), 1 (Yes) or 2 (Exit)
0
```

Load RSU for TSAF, AVS, OSA/SF, TSM

Type a 0 here. IBM does not recommend changing a product parameter file (PPF) in the middle of an installation procedure. Chances of error increase as PPF changes must be duplicated in many files. See *z/VM: Service Guide* for an explanation of PPF overrides. A response of 1 will bring up a panel interface for changing a PPF. Typing 2 will exit the VMFINS command completely.

An override prompt is repeated for each component.

:
:

This block of messages is repeated for each component.

```
VMFINS2603I Processing product :PPF ZVM compname
:PRODID prodid%compname
VMFREQ2805I Product :PPF ZVM compname
:PRODID prodid%compname
has passed requisite checking
VMFINS2603I Installing product :PPF ZVM compname
:PRODID prodid%compname
VMFSET2760I VMFSETUP processing started
VMFUTL2205I Minidisk|Directory Assignments:
:
VMFSET2760I VMFSETUP processing completed successfully
VMFREC2760I VMFREC processing started
:
VMFREC2760I VMFREC processing completed successfully
:

VMFINS2760I VMFINS processing completed successfully
Ready; T=n.nn/n.nn hh:mm:ss
```

___ 6. Use the DETACH command to rewind, unload, and detach the tape.

detach 181

```
TAPE 0181 DETACHED
Ready; T=n.nn/n.nn hh:mm:ss
```

Step 5. Generate Serviced Uppercase HELP Files for TSAF and AVS

If you did not load the uppercase English (UCENG) HELP disk (402), skip this step and go to “Step 6. Start the File Pools” on page 211. Otherwise, continue with this step.

In this step you will:

- Convert the new serviced TSAF and AVS HELP files to uppercase English (UCENG) HELP files on the HELP file minidisk (402):
 - VMSES/E keeps a record by component of which HELP files have been serviced and need to be converted to uppercase. The VMSES/E build function must be invoked for each component that received service to HELP files from the RSU tape.

Note: Each VMFINS command will take approximately 2-3 minutes.

Convert Using VMFINS

1. Invoke the VMSES/E build function once for each component (*compname*) that you just loaded. This step generates uppercase English HELP files for any HELP loaded with the RSU service.

vmfins build ppf uceng compname bldlistname (serviced nolinek

where *compname* *bldlistname* are:

compname *bldlistname*

TSAF ATSBHLHP

AVS AGWBLHLP

This command will only copy serviced files.

```

:
:
VMFBLD2760I VMFBLD processing started
:
:

```

+ ————— If you receive message VMFBLD2185R ————— +

VMFBLD2185R The following source product parameter files have been serviced:

VMFBLD2185R 3VMVMn10 \$PPF

This message indicates that the \$PPF file has been serviced.

3VMVMn10 is the component ID. *n* is the unique component identifier, which corresponds to the following components:

H TSAF

D AVS

VMFBLD2185R When source product parameter files are serviced, all product parameter files built from them must be recompiled using VMFPPF before VMFBLD can be run

VMFBLD2185R Enter zero (0) to have the serviced source product parameter files built to your A-disk and exit VMFBLD so you can recompile your product parameter files with VMFPPF

VMFBLD2185R Enter one (1) to continue only if you have already recompiled your product parameter files with VMFPPF

0

Enter **0** to have the serviced product parameter files built.

Ready; T=n.nn/n.nn hh:mm:ss

Generate Uppercase HELP for TSAF and AVS

vmfppf uceng compname

Ready; T=*n.nn/n.nn hh:mm:ss*

This builds the UCENG PPF that will be used to regenerate the uppercase English HELP files.

compname is **TSAF** or **AVS**.

copyfile 3VMVM*n*10 \$ppf a = fm-51d (olddate replace

3VMVM*n*10 is the component ID displayed in the previous VMFBLD2185R message. *n* is the unique component identifier from the list in substep 1 on page 209.

fm-51d is the file mode of the Software Inventory minidisk (51D).

Ready; T=*n.nn/n.nn hh:mm:ss*

erase 3VMVM*n*10 \$ppf a

Ready; T=*n.nn/n.nn hh:mm:ss*

vmfsetup uceng compname

:

Ready; T=*n.nn/n.nn hh:mm:ss*

vmfins build ppf uceng compname buildlistname (serviced nolink

Reissue the VMFINS BUILD command to build the serviced uppercase English HELP files.

:

VMFBLD2185R Enter zero (0) to have the serviced source product parameter files built to your A-disk and exit VMFBLD so you can recompile your product parameter files with VMFPPF

VMFBLD2185R Enter one (1) to continue only if you have already recompiled your product parameter files with VMFPPF

1 Enter **1** to continue.

+-----End of If you receive message VMFBLD2185R -----+

:

Ready; T=*n.nn/n.nn hh:mm:ss*

Step 6. Start the File Pools

If you loaded the FILEPOOL or SMALL FILEPOOL item **using the substeps in “Step 2. Run INSTALL EXEC” on page 201**, continue with this step. Otherwise, go to “Step 7. Move TSAF, AVS, OSA/SF, or TSM to SFS” on page 214.

In this step you will:

- Start the VMSYS, VMSYSU, and VMSYSR file pools

1. Access the z/VM installation tools disk as E.

access 2c2 e

Ready; T=*n.nn/n.nn hh:mm:ss*

2. Run INSTPOOL either to start or generate the file pools VMSYS, VMSYSU, and VMSYSR. INSTPOOL will determine whether the file pools are started or generated.

instpool

DMSACC724I 2C2 replaces E (2C2)

+ Messages received if file pools are started +

```
DMSACC724I 2C2 replaces E (2C2)
AUTO LOGON ***          VMSERVn USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVn: The IPL command is verified by the IPL
command processor.
VMSERVn : z/VM V3.1.0    yyyy-mm-dd hh:mm
VMSERVn : DMSACP723I B (193) R/O
VMSERVn : DMSWV1117I FILESERV processing begun at hh:mm:ss on dd month yyyy
VMSERVn : DMSWV1121I VMSERVn DMSPARMS A1 will be used for FILESERV processing
VMSERVn : DMSWV1121I VMSYS POOLDEF A1 will be used for FILESERV processing

AUTO LOGON ***          VMSERVU USERS = 4
HCPCLS6056I XAUTOLOG information for VMSERVn: The IPL command is verified by the IPL
command processor.
VMSERVn : z/VM V3.1.0    yyyy-mm-dd hh:mm
VMSERVn : DMSACP723I B (193) R/O
VMSERVn : DMSWV1117I FILESERV processing begun at hh:mm:ss on dd month yyyy
VMSERVn : DMSWV1121I VMSERVn DMSPARMS A1 will be used for FILESERV processing
VMSERVn : DMSWV1121I VMSYSn POOLDEF A1 will be used for FILESERV processing

AUTO LOGON ***          VMSERVn USERS = 5
VMSERVn : DMS5BB3045I Ready for operator communications
HCPCLS6056I XAUTOLOG information for VMSERVn: The IPL command is verified by the IPL
command processor.
VMSERVn : DMS5BB3045I Ready for operator communications
VMSERVn : z/VM V3.1.0    yyyy-mm-dd hh:mm
VMSERVn : DMSACP723I B (193) R/O
VMSERVn : DMSWV1117I FILESERV processing begun at hh:mm:ss on dd month yyyy
VMSERVn : DMSWV1121I VMSERVn DMSPARMS A1 will be used for FILESERV processing
VMSERVn : DMSWV1121I VMSYSn POOLDEF A1 will be used for FILESERV processing
VMSERVn : DMS6LG3335I CRR log recovery begins at mm-dd-yy hh:mm:ss
VMSERVn : DMS6LG3335I CRR log recovery completes at mm-dd-yy hh:mm:ss
VMSERVn : DMS5BB3045I Ready for operator communications
```

+ End of Messages received if file pools are started +

+ Messages received for each file pool if file pools are generated +

```
DASD 0804 DETACHED
AUTO LOGON ***          VMSERVn USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVn: The IPL command is verified by the IPL
```

Start the File Pools

```
command processor.
VMSERVn : DMSACC724I 19E replaces Y (19E)
VMSERVn : DMSACP723I Y (19E) R/O
VMSERVn : z/VM V3.1.0      yyyy-mm-dd hh:mm
VMSERVn : DMSWSP100W Shared S-STAT not available
VMSERVn : DMSWSP100W Shared Y-STAT not available
VMSERVn : DMSACP723I B (193) R/O
VMSERVn : DMSWV1117I FILESERV processing begun at hh:mm:ss on dd month yyyy
VMSERVn : DMSWV1121I VMSERVn DMSPARMS A1 will be used for FILESERV processing
VMSERVn : DMS4PD3400I Initializing begins for DDNAME = CONTROL
VMSERVn : DMS4PD3400I Initializing ends for DDNAME = CONTROL
VMSERVn : DMS4PD3400I Initializing begins for DDNAME = MDK00001
VMSERVn : DMS4PD3400I Initializing ends for DDNAME = MDK00001
VMSERVn : DMS4PD3400I Initializing begins for DDNAME = MDK00002
VMSERVn : DMS4PD3400I Initializing ends for DDNAME = MDK00002
VMSERVn : DMS4PG3404W File pool limit of 2 minidisks has been reached
VMSERVn : DMS4PD3400I Initializing begins for DDNAME = LOG1
VMSERVn : DMS4PD3400I Initializing ends for DDNAME = LOG1
VMSERVn : DMS4PD3400I Initializing begins for DDNAME = LOG2
VMSERVn : DMS4PD3400I Initializing ends for DDNAME = LOG2
VMSERVn : DMS6LB3336I Initialization begins for the CRR log minidisks
VMSERVn : DMS6LB3336I Initialization completes for the CRR log minidisks
VMSERVn : DMS5FD3032I File pool server has terminated
VMSERVn : DMSWV1120I File VMSYSn POOLDEF A1 created or replaced
VMSERVn : DMSWV1117I FILESERV processing ended at hh:mm:ss on dd month yyyy
RDR FILE 0010 SENT FROM VMSERVn PUN WAS 0001 RECS 0004 CPY 001 A NOHOLD NOKEEP
VMSERVn : File FILESERV VALID A3 sent to MAINT at ZVMV3R10 on mm/dd/yy hh:mm:ss
VMSERVn : Ready; T=n.nn/n.nn hh:mm:ss
```

```
HCPQCS150A User VMSERVn has issued a VM read
VMSERVn : CONNECT= hh:mm:ss VIRTCPU= 000:00.90 TOTCPU= 000:02.12
VMSERVn : LOGOFF AT hh:mm:ss EDT WEDNESDAY mm/dd/yy BY MAINT
USER DSC LOGOFF AS VMSERVn USERS = 2 FORCED BY MAINT
DASD 0804 DETACHED

AUTO LOGON *** VMSERVn USERS = 3
HCPCLS6056I XAUTOLOG information for VMSERVn: The IPL command is verified by the IPL
command processor.
VMSERVn : DMSACC724I 19E replaces Y (19E)
VMSERVn : DMSACP723I Y (19E) R/O
VMSERVn : z/VM V3.1.0      yyyy-mm-dd hh:mm
VMSERVn : DMSWSP100W Shared S-STAT not available
VMSERVn : DMSWSP100W Shared Y-STAT not available
VMSERVn : DMSACP723I B (193) R/O
VMSERVn : DMSWV1117I FILESERV processing begun at hh:mm:ss on dd month yyyy
VMSERVn : DMSWV1121I VMSERVn DMSPARMS A1 will be used for FILESERV processing
VMSERVn : DMSWV1121I VMSYSn POOLDEF A1 will be used for FILESERV processing
VMSERVn : DMS6LG3335I CRR log recovery begins at mm-dd-yy hh:mm:ss
VMSERVn : DMS6LG3335I CRR log recovery completes at mm-dd-yy hh:mm:ss
VMSERVn : DMS5BB3045I Ready for operator communications
```

+-----End of Messages received for each file pool if file pools are generated-----+

```
HCPIFP8392I INSTPOOL EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss
```

___ 3. Copy Autolog1's PROFILE EXEC to its A-disk.

link autolog1 191 999 mw maulog

access 999 z

DASD 0999 LINKED R/W; R/W BY MAINT

Ready; T=*n.nn/n.nn hh:mm:ss*

rename profsave execsave z profile exec z

Ready; T=*n.nn/n.nn hh:mm:ss*

What to Do Next

Go to "Step 7. Move TSAF, AVS, OSA/SF, or TSM to SFS" on page 214.

Step 7. Move TSAF, AVS, OSA/SF, or TSM to SFS

If you loaded the TSAF, AVS, OSA/SF, or TSM item and you want to move any of them to SFS, continue with this step. Otherwise, skip to “Step 8. Update the Directory” on page 215.

In this step you will:

- Optionally copy TSAF, AVS, OSA/SF, or TSM to SFS.

__ 1. Access the 2C2 minidisk as your E-disk.

access 2c2 e

Ready; T=*n.nn/n.nn hh:mm:ss*

__ 2. Access the 193 minidisk as your Z disk.

access 193 z

Ready; T=*n.nn/n.nn hh:mm:ss*

__ 3. Move data for the components selected from minidisks to the Shared File System servers (SFS).

move2sfs component (reclaim

HCPWMV8456I PROCESSING COMPONENT *component*

⋮

HCPWMV8392I MOVE2SFS EXEC ENDED SUCCESSFULLY

Ready; T=*n.nn/n.nn hh:mm:ss*

component can be **TSAF**, **AVS**, **OSA**, or **TSM**. (See “MOVE2SFS EXEC” on page 174 for details.)

reclaim removes the minidisks no longer needed from the directory. (The minidisks entries are commented out in the directory.)

Step 8. Update the Directory

In this step you will:

- Comment out MAINT's LINK statements that were added or uncommented in the directory (USER DIRECT) in Step 1. Prepare the USER DIRECT File for New Loads substep 5 on page 194.

- ___ 1. Access the 2C2 disk as your E-disk.

access 2c2 e

Ready; T=n.nn/n.nn hh:mm:ss

- ___ 2. Access the 191 disk as your A-disk.

access 191 a

Ready; T=n.nn/n.nn hh:mm:ss

- ___ 3. Edit the USER DIRECT file.

xedit user direct e

- ___ 4. Comment out all MAINT's LINK statements from the USER DIRECT file that were added in "Step 1. Prepare the USER DIRECT File for New Loads" on page 194. These links were only used for install and should be removed to prevent errors.

```
====> top
====> locate /user maint/
====> locate /link/ & /801/
====> change /*:MDISK
```

Locate the USER MAINT statement. Next locate the LINK statements for minidisks starting with 801. The change command comments out all MAINT LINK statements up to statements beginning with **MDISK**. These statements were only used during z/VM Version 3 Release 1.0 installation.

Note: This directory was shipped with all LINK statements coming before the MDISK statements. Make sure no other statements are between the LINK statements.

- ___ 5. If you just finished loading UCENG HELP, KANJI HELP, or GERMAN HELP, update the PROFILE IBMDFLT section in the USER DIRECT file. Remove the comment (*) in front of the LINK statement for the HELP disk you just loaded.

```
====> top
====> locate /PROFILE IBMDFLT
```

Remove the * from the appropriate LINK statement:

For UCENG HELP:

* LINK MAINT 0402 0402 RR

For KANJI HELP:

* LINK MAINT 0401 0401 RR

For GERMAN HELP:

* LINK MAINT 0405 0405 RR

Update the Directory

___ 6. Save all changes in the USER DIRECT file.

====> file

Ready; T=n.nn/n.nn hh:mm:ss

For more information about the directory, see *z/VM: Planning and Administration*. A reference copy of the directory format is contained in the *Installation and Service Sample Files* document packaged with the z/VM System DDR.

Step 9. Bring the Changed Directory Online

In this step you will:

- Use the DIRECTXA command to bring the changed directory online

1. Use the DIRECTXA command to update and place the user directory online.

directxa user direct

```
z/VM USER DIRECTORY CREATION PROGRAM - V3 R1.0
EOJ DIRECTORY UPDATED AND ON LINE
Ready; T=n.nn/n.nn hh:mm:ss
```

2. Log off of the MAINT user ID.

logoff

This is required to pick up the new or changed directory links.

```
CONNECT= nn:nn:nn VIRTCPU= nnn:nn.nn TOTCPU= nnn:nn.nn
LOGOFF AT hh:mm:ss {EST|EDT} weekday mm/dd/yy
```

Press enter or clear key to continue

ENTER

3. Log on to the MAINT user ID.

ENTER **logon maint**

The default password for MAINT is MAINT.

:

```
z/VM V3.1.0 yyyy-mm-dd hh:mm
```

ENTER

4. If you just finished loading any of the following:

- UCENG Help
- Kanji Help
- German Help
- OSA/SF
- TSM

refer to “Chapter 8. Preinstalled Licensed Products and Features” on page 109. Some of the preinstalled products and features require additional steps to complete the installation process.

You are completely done with this appendix.

Reference

Appendix D. Migrate 51D from Old System

In this appendix, you will:

- Migrate your 51D disk from your old system.

Note: Your old system must be a supported VM/ESA release.

- ___ 1. Backup the z/VM Version 3 Release 1.0 System Software Inventory files (the 51D minidisk).
- ___ 2. Obtain access to the System Software Inventory Files (51D) from your old system. For information on how to obtain access to these files, see your System Programmer.
- ___ 3. Access the minidisk or SFS directory containing the System Software Inventory files from your old system as file mode Z.

access old51d z

Ready; T=n.nn/n.nn hh:mm:ss

old51d is the minidisk address or the SFS directory ID containing the old System Software Inventory files.

- ___ 4. Access the 51D minidisk as file mode D.

access 51D d

Ready; T=n.nn/n.nn hh:mm:ss

- ___ 5. Access the 493 minidisk as file mode W.

access 493 w

Ready; T=n.nn/n.nn hh:mm:ss

- ___ 6. Use the MIGR51D EXEC to update the System Software Inventory files.

migr51d

HCPMIX8478R Please enter filemode letter of the
Software Inventory Disk (51D) from
the previous release. Press enter
to Exit.

Z

After issuing the MIGR51D command, the following VM Software Inventory Disk (51D) Product and Segment Migration panels display:

Migrate 51D from Old System

*** VM Software Inventory Disk (51D) Product Migration ***

Set action code AC to **D** = **Do Not Migrate** or to **M** = **Migrate** product. Action code **I** means product is already installed on new 51D and cannot be migrated.

AC	Compname	ProdId	Status	Description
D	SHELL	2VMVMZ30	APPLIED	Shell and Utilities for VM/ESA 2.3.0
M	DITTO	5654029C	NONE	DITTO/ESA VM 1.2.0
D		5735NFSQ	ENABLED	
D	CMS	2VMVMA30	BUILT	CMS component for VM/ESA 2.3.0
D	CP	2VMVMB30	BUILT	CP component for VM/ESA 2.3.0
D	TCP/IP	5735FALQ	BUILT	TCP/IP LEVEL 310 - TCP/IP FEATURE (BASE)
I	ICKDSF	5684042H	BUILT	ICKDSF DEVICE SUPPORT FACILITIES R16 for CMS

Page 1 of 1

PF1=HELP PF3/PF12=Quit PF5=Process PF8=Forward

- ___ a. Enter an action code for each product listed. For information about the panel and action codes, press **PF1** for HELP.

Notes:

- 1) Products that are preselected as **D** (Do Not Migrate) should not be changed.
 - 2) If a product is not supported on the new z/VM release, you should enter **D** (Do Not Migrate) for that product.
 - 3) Before you delete any product, you must determine whether any product that you intend to migrate is dependent on this product. You can use VMFINFO or VMFSIM SYSDEP to determine the dependents of a product.
 - 4) This Product Migration panel is only a sample. Your panels will not list the same products, action codes, status, and description.
- ___ b. Press **PF5** to display the Segment Migration panel. Depending on the size of your software inventory files, it may take several minutes to process.

```

*** VM Software Inventory Disk (51D) Segment Migration ***

Set action code AC to D = Do Not Migrate or to M = Migrate segment. Action
code P means segment will be migrated due to product migration. If =====
or ***** appears under Segname, enter a new name to change the segment
name upon migration ( ===== Must be changed, ***** May be changed ).

AC Segname      Prodid  Compname      Defparms      Bldparms
-----
D  CMSBAM      Old-> 2VMVMA30 CMS      B0D-B37 SR      PPF(ESA
      New-> 3VMVMA10 CMS      B0D-B37 SR      PPF(ZVM
      ***** Mig-> 3VMVMA10 CMS      B0D-B37 SR      PPF(ZVM
D  CMSDOS      Old-> 2VMVMA30 CMS      B0D-B0C SR      PPF(ESA
      New-> 3VMVMA10 CMS      B0D-B0C SR      PPF(ZVM
      ***** Mig-> 3VMVMA10 CMS      B0D-B0C SR      PPF(ZVM
D  CMSFILES    Old-> 2VMVMA30 CMS      1900-1BFF SR     PPF(ESA
      New-> 3VMVMA10 CMS      1900-1BFF SR     PPF(ZVM
      ***** Mig-> 3VMVMA10 CMS      1900-1BFF SR     PPF(ZVM
D  CMSPIPES    Old-> 2VMVMA30 CMS      1800-18FF SR     PPF(ESA
      New-> 3VMVMA10 CMS      1800-18FF SR     PPF(ZVM
      ***** Mig-> 3VMVMA10 CMS      1800-18FF SR     PPF(ZVM
                                           Page 1 of 4

PF1=HELP PF3/PF12=Quit PF5=Process PF8=Forward

```

- ___ c. Enter an action code for each segment listed. For information about the panel and action codes, press **PF1** for HELP.
This Segment Migration panel is only a sample. Your panels will not list the same segments, action codes, status, and description.
- ___ d. Press **PF5** to process. Depending on the size of your software inventory files, it may take several minutes to process.
- ___ 7. MIGR51D updated the z/VM Version 3 Release 1.0 VMSES/E System Software Inventory files to reflect the licensed products installed on your old system that you chose to migrate. You must now migrate all code, user IDs, minidisks, and segments associated with each licensed product reflected in the new System Software Inventory files. Refer to the documentation for each licensed product for information on the code, user IDs, minidisks, and segments required.

If the licensed product segments are built by VMSES/E, you must sign on as any one of the licensed product installation user IDs, this includes MAINT. Then, do the following to update some of the other segment files on the System Software Inventory disk:

- ___ a. Enter:
vmfsgmap segbld esasegs segblist
At this time, you can make further changes to any segment.
- ___ b. On the first panel, enter:
segmerge
- ___ c. Press the PF5 key to exit from VMFSGMAP.

These three steps only need to be done once from one user ID. At this point, the appropriate files on the System Software Inventory disk are updated. Now, you can build the licensed product segments, if necessary, from the corresponding licensed product installation user IDs. When following the information in the licensed product program directories or the *z/VM: Service Guide*, use the ALL option instead of the SERVICED option on the VMFBLD command for the segment.

For example,

vmfblld ppf segbld esasegs segblist myseg (all

Note: You need to rebuild the segments on the new system to get the SYSTEM SEGID file updated.

Migrate 51D from Old System

Appendix E. The SYSTEM NETID File

This appendix contains:

- Reference material for the SYSTEM NETID file.

The SYSTEM NETID file is referenced when you use CMS commands to communicate across the network. CMS uses the CPUIDs in the SYSTEM NETID file to verify that it is running on a valid network system.

Record Format

The records in the SYSTEM NETID file have the following two formats:

cpuid nodeid netid

**comment*

Operands

cpuid

is the processor (CPU) serial number found in CPUID positions 3-8. If this is an LPAR, the CPU serial number is preceded by the LPAR numbers.

nodeid

is the local node ID of the RSCS virtual machine (when installing RSCS)

netid

is the user ID of the RSCS virtual machine, as defined in the CP directory.

**comment*

is a comment line. In a comment, each line must begin with an asterisk in column one.

Usage

When you enter commands to communicate across the network, the SYSTEM NETID file is referenced as follows:

1. To transmit notes, files, and messages, the NOTE, SENDFILE, TELL, and RDRLIST commands enter the IDENTIFY command.
2. The IDENTIFY command:
 - a. Issues the QUERY CPUID command to retrieve the processor's serial number, and searches the SYSTEM NETID file for a matching serial number.
 - b. Issues the QUERY USERID command to retrieve the node identification, and compares it to the node in the SYSTEM NETID record.

If there is a conflict in nodes between the SYSTEM NETID file and the response from QUERY USERID, the node in SYSTEM NETID takes precedence.

Separate CPUIDs are generated for each processor in a multiprocessor configuration, and for each logical processor in an LPAR configuration. If you plan to run this system on multiple processors, or in an LPAR environment, you must do one of these two steps:

- Create a record in the SYSTEM NETID file with the CPUID for each processor that you want to be able to IPL.

The SYSTEM NETID File

- **OR** update each user's directory to include an OPTION control statement containing the CPUID parameter, and place that CPUID parameter value into a record in the SYSTEM NETID file.
The value specified on the CPUID parameter overrides all of the actual processor CPUIDs, and allows CMS network communications to function independently of the real processor configuration.

Appendix F. Enlarging CMS Nucleus to Contain the Minidisk Directory (Y-STAT)

In this appendix, you will:

- Enlarge the CMS nucleus if you need more space to contain the Y-disk directory.

Because CMS is designed to run as a shared system, performance is generally improved when the S and Y minidisk directories (also called the file status tables, or S-STAT and Y-STAT) are included in the CMS nucleus.

When you IPL the CMS saved segment by name (**ipl cms**),

- If you receive these two messages:

```
DMSACC723I Y (19E) R/O
DMSWSP100W Shared Y-STAT not available
```

the 19E disk has changed. You should resave the CMS segment. To resave the CMS segment, go to “Step 6. Resave the CMS Named Saved System” on page 89 and then return here.

- If you receive this message alone:

```
DMSACC723I Y (19E) R/O
```

the Y-STAT could not fit within the CMS nucleus at the time the system was saved. In that case, every user who IPLs CMS gets the Y minidisk accessed in nonshared user free storage, which is less efficient. If you wish to enlarge the CMS nucleus to contain the Y-STAT, you must expand the CMS nucleus segment by 1M.

To enlarge the CMS nucleus to contain the Y-STAT, go to “Appendix G. Example of Alternate CMS Nucleus Placement” on page 227.

Enlarging the CMS Nucleus

Appendix G. Example of Alternate CMS Nucleus Placement

In this appendix, you will:

Save your CMS system at a storage location other than the one provided on your System DDR. You might want such an alternative for users with low storage requirements, or when a high nucleus location will cause real storage constraints in the construction of segment tables.

The sample CMS saved system is contained in storage location X'F00000'-X'13FFFF'. Before you relocate the nucleus, you should evaluate the trade-off between real storage availability and CMS usage. In addition, when you decide on the optimal CMS location for your user mix, you should consider the size of the page tables that CP builds for the addressable memory for a given machine.

To relocate your CMS saved system, you need to:

- Log on to the MAINT user ID and access the CMS minidisks
- Tailor the CMSLOAD EXEC (the CMS loadlist) by creating and applying update files
- Create SLC files to contain the new load address locations
- Modify the page numbers in SAMPNSS
- Build and save the CMS nucleus.

Make sure you have loaded the CMS source minidisk (393), as this was an optional step during your run of the INSTALL EXEC.

- ___ 1. Log on to the MAINT user ID and access the CMS minidisks:

ENTER

The default password for MAINT is MAINT.

logon maint

:

Ready; T=n.nn/n.nn hh:mm:ss

vmfsetup zvm cms

:

Ready; T=n.nn/n.nn hh:mm:ss

Note the file mode of the CMS LOCALMOD minidisk (3C4), the alternate tools disk (493), the production tools disk (193), and the base disk (3B2). You will use it in the next substeps.

- ___ 2. Tailor the CMSLOAD EXEC by creating and applying update files for local modifications. The procedures for applying updates with AUX files are fully discussed in the *z/VM: Service Guide*. An example of this method appears next.

- ___ 3. Create an auxiliary control file for CMSLOAD EXEC.

xedit cmsload auxlcl

You will add your local modifications at the top of the file.

====> input ZL0001DS LCL LCL0001 *UPDATE CMSLOAD EXEC

In this example, **ZL0001DS** is the file type of the update file, and **LCL0001** is the local tracking number. The rest of the line, beginning with the asterisk (*), is a comment explaining the purpose of this modification.

====> file = fm-3c4

fm-3c4 is the file mode of the CMS LOCALMOD minidisk (3C4).

Ready; T=n.nn/n.nn hh:mm:ss

- ___ 4. The shared portion of the CMS nucleus must reside in a contiguous, 5MB space. The sample CMS saved system is contained in storage location X'F00000'-X'13FFFF'. The code from DMSALP to

Example of Alternate CMS Nucleus Placement

DMSSIG must remain below the 16MB line. The other 4MB of the CMS nucleus may reside either above or below the 16MB line, but the 5MB of CMS nucleus must remain contiguous.

The storage locations where the CMS nucleus is loaded are determined by the SLC (Set Location Counter) statements in the CMS loadlist.

The SLC statement preceding the DMSALP entry defines the starting location of the CMS nucleus. The IBM supplied loadlist statement is SLC LF00000.

The minidisk directories for the S-disk and the Y-disk are saved between DMSSIG and DMSPHI and must remain below the 16MB line. In the IBM supplied loadlist, DMSPHI is placed at the 16MB mark (X'1000000'). The IBM supplied loadlist statement is SLC L1000000. If you are moving all or part of the CMS nucleus below the 16MB line, you must leave enough space between DMSSIG and DMSPHI to contain these minidisk directories. Leaving DMSPHI on a megabyte boundary should leave enough space to save these minidisk directories.

The SLC statement preceding the DMSOME entry defines the end of the CMS nucleus. The IBM supplied loadlist statement is SLC L1400000.

- ___ a. Edit the CMS loadlist and change the SLC statements to tailor the location of the CMS nucleus.

```
xedit cmsload $exec (ctl dmsvm
```

```
DMSXUP178I Applying CMSLOAD ZLnnnnDS
```

```
DMSXUP180W Missing PTF file CMSLOAD ZL0001DS A
```

```
====> set case upper
```

```
====> top
```

```
====> locate /&3 DMSALP/
```

```
====> up 2
```

```
====> change / SLC LF00000 / SLC Ln /
```

You will see these messages only if there are updates for the CMSLOAD file you are editing.

Your update file cannot be found because you have not created it yet.

The SLC statement that precedes the DMSALP entry in the loadlist contains the address of the starting location for loading the main part of the CMS nucleus.

n is the address of the starting location for the main part of the CMS nucleus.

Change the existing SLC statement (SLC LF00000) to the new starting statement (SLC *Ln*).

```
====> top
```

```
====> locate /&3 DMSPHI/
```

```
====> up 2
```

```
====> change / SLC L1000000 / SLC Ln /
```

The SLC statement that precedes the DMSPHI entry in the loadlist marks the start of the high part of the nucleus.

n is the address of the starting location for the high part of the CMS nucleus.

```
====> top
```

```
====> locate /&3 DMSOME/
```

```
====> up 2
```

Example of Alternate CMS Nucleus Placement

```
====> change / SLC L1400000 / SLC Ln /
```

The SLC statement that precedes the DMSOME entry in the loadlist marks the end of the nucleus.

n is the address of the end location of the CMS nucleus.

```
====> file = fm-3c4
```

```
Ready; T=n.nn/n.nn hh:mm:ss
```

- ___ 5. Invoke the VMFEXUPD command to update the CMS loadlist (CMSLOAD).

```
vmfexupd cmsload exec {zvmluceng} cms (logmod filetype excl0001 outmode localmod sid nohist
```

logmod updates the CMS local Version Vector Table. The **outmode localmod** options place the updated text file on the CMS LOCALMOD minidisk (3C4).

```

:
Ready; T=n.nn/n.nn hh:mm:ss
```

- ___ 6. Create the new SLC files to match the new loadlist. Repeat this step for each new SLC value you added to the loadlist.

```
xedit SLC Ln fm-3b2
```

n is the address of the starting main location, starting high location, or end location of the CMS nucleus.

fm-3b2 is the file mode of the CMS OBJECT minidisk (3B2).

```
====> input $SLC n
```

There must be two blanks between SLC and the address.

```
====> set hex on
```

```
====> change$/X'02'/
```

X'02' is an unprintable loader control character.

```
====> fm mode2
```

mode2 is the file mode of the 3B2 concatenated with the number 2. For example, N2, if N is the file mode of the 3B2 disk.

```
====> file
```

```
Ready; T=n.nn/n.nn hh:mm:ss
```

- ___ 7. Calculate the new page numbers for the DEFSYS entry for CMS in SAMPNSS.

- ___ a. To calculate the hexadecimal page numbers where the CMS named saved system begins, take the starting address location and drop the three low-order zeros. This is the new *strtcms* value to use when updating SAMPNSS. For example, X'F00000' becomes X'F00'.
- ___ b. To calculate the hexadecimal page numbers where the CMS named saved system ends, take the ending address location, subtract one, and drop the low-order 12 bits. This is the new *endcms* value to use when updating SAMPNSS. For example, X'1400000' becomes X'13FF'.

- ___ 8. Modify SAMPNSS to show the new page numbers.

Tailor SAMPNSS by creating and applying update files for local modifications. The procedures for applying updates with AUX files are fully discussed in the *z/VM: Service Guide*. An example of this method appears next:

- ___ a. Create an auxiliary control file for SAMPNSS.

```
xedit sampnss auxlcl
```

You will add your local modifications at the top of the file.

```
====> input ZL0001DS LCL LCL0001 *UPDATE SAMPNSS
```

Example of Alternate CMS Nucleus Placement

```
====> file = fm-3c4
Ready; T=n.nn/n.nn hh:mm:ss
```

In this example, **ZL0001DS** is the file type of the update file, and **LCL0001** is the local tracking number. The rest of the line, beginning with the asterisk (*), is a comment explaining the purpose of this modification.

fm-3c4 is the file mode of the CMS LOCALMOD minidisk (3C4).

- ___ b. Create the update file and apply the updates.

```
xedit sampnss $exec (ctl dmsvm
DMSXUP178I Applying SAMPNSS VnnnnnDS

DMSXUP180W Missing PTF file SAMPNSS ZL0001DS A

====> locate /DEFSYS/
====> change /F00-13FF SR/strtcms-endcms SR/

====> file = fm-3c4
Ready; T=n.nn/n.nn hh:mm:ss
```

You will see these messages only if there are updates for the SAMPNSS file you are editing.

Your update file cannot be found because you have not created it yet.

Change the old starting and ending page numbers to the numbers you calculated in step 7 on page 229. File the update file on the CMS LOCALMOD disk (3C4).

- ___ c. Invoke the VMFEXUPD command to update SAMPNSS.

```
vmfexupd sampnss exec zvm cms (logmod outmode localmod sid $select
```

logmod updates the CMS local Version Vector Table. The **outmode localmod** options place the updated text file on the CMS LOCALMOD minidisk (3C4).

```
      :
Ready; T=n.nn/n.nn hh:mm:ss
```

- ___ d. Copy the updated SAMPNSS file to the alternate and production TOOLS disks.

```
vmfbld ppf zvm cms dmsbl493 sampnss.exec (serviced setup
```

Copy **sampnss** to the alternate TOOLS disk (493).

```
Ready; T=n.nn/n.nn hh:mm:ss
```

```
vmfcopy sampnss exec fm-493 = fm-193 (prodid 3vmvma10%cms replace olddate
```

Copy **sampnss exec** to the production TOOLS disk (*fm-193*).

```
Ready; T=n.nn/n.nn hh:mm:ss
```

What To Do Next

Refer to “Appendix O. Rebuild the CMS Nucleus” on page 265 to rebuild the CMS nucleus.

Appendix H. Updating SAMPNSS to Change the CMS System Name

In this appendix, you will:

- Update SAMPNSS to change the name of the CMS saved system.

Make sure you have loaded the CMS source minidisk (393), as this was an optional step during your run of the INSTALL EXEC.

Tailor SAMPNSS by creating and applying update files for local modifications. The procedures for applying updates with AUX files are fully discussed in the *z/VM: Service Guide*. An example of this method appears next:

1. Access the necessary CMS minidisks and create an auxiliary control file for SAMPNSS. Note the file mode of the CMS LOCALMOD disk (3C4), the alternate TOOLS disk (493), and the production TOOLS disk (193).

```
vmfsetup zvm cms
```

```
:
```

```
Ready; T=n.nn/n.nn hh:mm:ss
```

```
xedit sampnss auxicl
```

You will add your local modifications at the top of the file.

```
====> input ZLnnnnDS LCL LCLnnnn *UPDATE SAMPNSS
```

In this example, **ZLnnnnDS** is the file type of the update file, and **LCLnnnn** is the local tracking number. The rest of the line, beginning with the asterisk (*), is a comment explaining the purpose of this modification.

```
====> file = fm-3c4
```

fm-3c4 is the file mode of the CMS LOCALMOD minidisk (3C4).

```
Ready; T=n.nn/n.nn hh:mm:ss
```

2. Create the update file and apply the updates.

```
xedit sampnss $exec (ctl dmsvm
```

```
DMSXUP178I Applying SAMPNSS VnnnnnDS
```

```
DMSXUP180W Missing PTF file SAMPNSS ZLnnnnDS A
```

You will see these messages only if there are updates for the SAMPNSS file you are editing.

Your update file cannot be found because you have not created it yet.

```
====> change /CMS/cmsname!* *
```

Change the CMS named saved system name.

cmsname is either the IBM supplied system name (CMS) or the name you defined in DMSNGP on the SYSNAME statement.

```
====> file = fm-3c4
```

File the update file on the CMS LOCALMOD disk (3C4).

```
Ready; T=n.nn/n.nn hh:mm:ss
```

3. Invoke the VMFEXUPD command to update SAMPNSS.

```
vmfexupd sampnss exec zvm cms (logmod outmode localmod sid $select
```

Updating SAMPNSS to Change the CMS System Name

logmod updates the CMS local Version Vector Table.

The **outmode localmod** options place the updated text file on the CMS LOCALMOD minidisk (3C4).

```
⋮  
Ready; T=n.nn/n.nn hh:mm:ss
```

- ___ 4. Copy the updated SAMPNSS file to the alternate and production TOOLS disks.

vmfbld ppf zvm cms dmsbl493 sampnss.exec (serviced setup

```
Ready; T=n.nn/n.nn hh:mm:ss
```

Copy **sampnss** to the alternate TOOLS disk (493).

vmfcopy sampnss exec fm-493 = = fm-193 (prodid 3vmvma10%cms replace olddate

```
Ready; T=n.nn/n.nn hh:mm:ss
```

Copy **sampnss exec** to the production TOOLS disk (fm-193).

What To Do Next

Refer to “Appendix O. Rebuild the CMS Nucleus” on page 265 to rebuild the CMS nucleus.

Appendix I. Changing GCS Nucleus Options

In this appendix, you will:

- Change the GCS nucleus options. A GCS nucleus build list can be altered to accommodate optional changes such as relocating your GCS named saved system, changing its size, or changing its name.

IBM supplies a single GCS nucleus build list with a name of GCTLOAD EXEC. An IBM-shipped service file for GCTLOAD would have a file type EXCnnnnn, where *nnnnn* is the five digit PTF number used by service.

The default name for the configuration file is GCS ASSEMBLE. The name of the configuration file must be the same as the name of the saved system.

The following are possible reasons for making modifications to GCTLOAD:

- Change the name of your GCS system. The IBM-supplied GCS nucleus build list, GCTLOAD, has the file name of the configuration file coded as GCS. To use another file name, you must change the file name in the GCS nucleus build list to match the file name of the configuration file you wish to use.
- Add multiple GCS systems. For each additional GCS system, you must:
 1. Follow this appendix to create a new build list, update the build list with the new GCS system name, and create a PPF override to make any new build lists known to VMSES/E.
 2. Refer to “Appendix Q. Build the GCS Nucleus” on page 277 to create a unique configuration file with the GROUP exec and to rebuild the GCS nucleus with the new PPF you created. Remember the file name of the configuration file must match the new GCS system name specified in the new build list created.
- Change the size or location of your GCS system. Accomplish this by changing the Set Location Counter (SLC) values in the GCS nucleus build list and creating SLC Lnnnnnn files for these new values.

IBM recommends that you do not make modifications directly to GCTLOAD because IBM may provide service for it. Instead, you can create a new build list(s) by copying the latest IBM-supplied version of GCTLOAD. Choose any file name for your new build list or lists. In addition, create a PPF override to make any new build list(s) known to VMSES/E.

The following is an example of how to create a new GCS nucleus build list:

- ___ 1. Log on to the MAINT user ID.

ENTER

The default password for MAINT is MAINT.

logon maint

:

Ready; T=n.nn/n.nn hh:mm:ss

- ___ 2. Establish the correct minidisk access order. Use the GCS operand if you loaded GCS to minidisks, the GCSSFS operand if you moved it to SFS directories. **Make a note of the file mode assigned to the 6C4 and 51D minidisks.**

Attention: If you loaded GCS to minidisks, you must also build and save GCS on minidisks. You **must** continue to access and service GCS on minidisks. If you moved GCS to Shared File System directories, you **must** continue to access and service GCS on the Shared File System directories.

Changing GCS Nucleus Options

```
vmfsetup zvm {gcslgcssfs}  
:  
Ready; T=n.nn/n.nn hh:mm:ss
```

- ___ 3. Determine the latest IBM-supplied service level for GCTLOAD. Use that level to make local modifications.

```
vmfsim getlvl zvm {gcslgcssfs} tdata :part gctload exc  
GCTLOAD EXC00000 BASE-FILETYPE or GCTLOAD EXCnnnnn  
Ready; T=n.nn/n.nn hh:mm:ss
```

If BASE-FILETYPE is returned in the system response, then it has not been serviced and the file type will be EXEC.

- ___ 4. Identify the file mode (*fm*) of the disk containing the latest IBM-supplied service level of GCTLOAD. Copy that version of GCTLOAD to the GCS LOCALMOD disk (6C4) in preparation for modification.

```
listfile gctload {execlexcnnnnn} * (date  
:  
Ready; T=n.nn/n.nn hh:mm:ss  
copyfile gctload {execlexcnnnnn} fm buildlistname excl0001 fm-6c4  
Ready; T=n.nn/n.nn hh:mm:ss
```

fm is the file mode returned from the previous LISTFILE command.

buildlistname is the build list name of your choice. GCTLOAD is the default.

fm-6C4 is the file mode of the GCS LOCALMOD disk.

- ___ 5. Update the local Version Vector Table enabling VMSES/E to identify the local modification file.

```
vmfsim logmod 3vmvml10 vvtlgct fm-6c4 tdata :part buildlistname exc :mod lcl0001  
Ready; T=n.nn/n.nn hh:mm:ss
```

3vmvml10 vvtlgct is the file name and type of the GCS local Version Vector Table.

fm-6c4 is the file mode of the GCS LOCALMOD disk (6C4).

lcl0001 is the local modification ID.

- ___ 6. If you wish to change the name of your GCS saved system, you must change the file name of the configuration file in the new GCS nucleus build list so the two names match.

```
xedit buildlistname excl0001 fm-6c4  
====> locate /&3 GCS/
```

buildlistname is the name you chose for the new GCS nucleus build list.

Changing GCS Nucleus Options

====> **change /GCS/systemname/**

systemname is the file name of the saved system and the configuration file. If you plan to use the GROUP EXEC to create the configuration file, use the same system name with which you invoke the GROUP EXEC.

====> **file**

Ready; T=n.nn/n.nn hh:mm:ss

Note: Now you are ready to substitute your GCS system name whenever you see *systemname* in the installation procedures. You must also substitute the name of your new build list whenever you see *loadlistname* or *buildlistname* in the installation procedures.

- ___ 7. If you wish to change the location where the low common storage portion of GCS is loaded into virtual storage change the SLC values in the new build list.

Note: SLC values must be on megabyte boundaries. Valid SLC values for low common storage are 1MB to 16MB (address location X'100000' to X'1000000').

- ___ a. The following sample procedure shows how to increase the size of a GCS named saved system from 2MB to 3MB and how to move the named saved system from X'400000' to X'800000'.

xedit buildlistname excl0001 fm-6c4

GCTLOAD EXEC is the name of the GCS build list. *fm-6c4* is the file mode of the LOCALMOD disk (6C4).

====> **set case upper**

====> **top**

====> **locate /** GCTALP/**

====> **up 1**

====> **change /SLC L400000/SLC L800000/1 1**

SLC L400000 is the CMS file containing the IBM default starting address of GCS low common storage. Note that the file type contains the address.

SLC L800000 is a CMS file containing the new starting address of low common storage. You will create this file next.

====> **top**

====> **locate /GCTZET/**

====> **up 1**

====> **change /SLC L600000/SLC LB00000/1 1**

SLC L600000 is the CMS file containing the IBM default ending address of GCS low common storage. Note that the file type contains the address.

SLC LB00000 is a CMS file containing the new ending address. You will create this file next.

====> **file**

Ready; T=n.nn/n.nn hh:mm:ss

- ___ b. Create two new SLC files to match the new loadlist:

xedit SLC L800000 fm-6c4

fm-6c4 is the GCS local modification minidisk.

Changing GCS Nucleus Options

====> input \$SLC 800000

There must be two blanks between SLC and the address.

====> set hex on

====> change /\$/X'02'/

X'02' is an unprintable loader control character.

====> file

Ready; T=*n.nn/n.nn hh:mm:ss*

xedit SLC LB00000 *fm-6c4*

fm-6c4 is the GCS local modification minidisk.

====> input \$SLC B00000

There must be two blanks between SLC and the address.

====> set hex on

====> change /\$/X'02'/

X'02' is an unprintable loader control character.

====> file

Ready; T=*n.nn/n.nn hh:mm:ss*

- ___ 8. If you wish to change the location where the high common storage portion of GCS is loaded into virtual storage change the SLC values in the new build list.

Note: SLC values must be on megabyte boundaries. The default SLC values for high common storage are 16MB to 18MB (address location X'1000000' to X'1200000').

- ___ a. The following sample procedure shows how to move the named saved system from X'1000000' to X'1300000'.

xedit *buildlistname* excl0001 *fm-6c4*

GCTLOAD EXEC is the name of the GCS build list.
fm-6c4 is the file mode of the LOCALMOD disk (6C4).

====> set case upper

====> top

====> locate /GCTBHC/

====> up 1

====> change /SLC L1000000/SLC L1300000/1 1

SLC L1000000 is the CMS file containing the IBM default starting address of GCS high common storage. Note that the file type contains the address.

SLC L1300000 is a CMS file containing the new starting address of high common storage. You will create this file next.

====> top

====> locate /*** GCTEHC/

====> up 1

====> change /SLC L1200000/SLC L1500000/1 1

Changing GCS Nucleus Options

SLC L1200000 is the CMS file containing the IBM default ending address of GCS high common storage. Note that the file type contains the address.

SLC L1500000 is a CMS file containing the new ending address. You will create this file next.

====> file

Ready; T=n.nn/n.nn hh:mm:ss

__ b. Create two new SLC files to match the new loadlist:

xedit SLC L1300000 fm-6c4

fm-6c4 is the GCS local modification minidisk.

====> input \$SLC 1300000

There must be two blanks between SLC and the address.

====> set hex on

====> change /\$X'02'/

X'02' is an unprintable loader control character.

====> file

Ready; T=n.nn/n.nn hh:mm:ss

xedit SLC L1500000 fm-6c4

fm-6c4 is the GCS local modification minidisk.

====> input \$SLC 1500000

There must be two blanks between SLC and the address.

====> set hex on

====> change /\$X'02'/

X'02' is an unprintable loader control character.

====> file

Ready; T=n.nn/n.nn hh:mm:ss

- __ 9. If you changed the build list name or added a new build list, create a PPF override file to add your build list name to the PPF build section (:BLD.). The GCSPPF SAMPLE file is shipped on the 6B2 minidisk or VMSYS:MAINT.GCS.OBJECT. Copy GCSPPF SAMPLE from the 6B2 minidisk to the 51D minidisk, then make the appropriate changes.

__ a. The following is the contents of GCSPPF SAMPLE:

```
*****
*
*   Override $PPF to use modified GCS nucleus build lists.
*
*****
=====
* Start of Product Header
*=====
:OVERLST. GCS GCSSFS
*=====
* End of Product Header
*=====
:GCS. GCS 3VMVML10
:BLD. UPDATE
./INSERT GCTLOAD AFTER
buildlistname VMFBDNUC BUILD7 TXT TXS * Build modified GCS nucleus
./END
:END.
:GCSSFS. GCSSFS 3VMVML10
```

Changing GCS Nucleus Options

```
:BLD. UPDATE
./INSERT GCTLOAD AFTER
buildlistname VMFBDNUC BUILD7 TXT TXS * Build modified GCS nucleus
./END
:END.
```

buildlistname is the changed name of the build list or the name of the new build list.

- ___ b. Copy the sample file over to the 51D disk using the new file name you selected for your PPF override file and the file type of \$PPF.

copyfile gcsppf sample fm-6b2 ppfovername \$ppf fm-51d

Ready; T=*n.nn/n.nn hh:mm:ss*

Copy the GCSPPF SAMPLE file so you can add or replace the build list name. *ppfovername* is the name you chose for your PPF override file, and *fm-51d* is the minidisk (51D) where PPF files reside.

- ___ c. Edit the PPF override file you just created.

xedit ppfovername \$ppf fm-51d

ppfovername is the name you chose for your PPF override file, and *fm-51D* is the minidisk (51D) where PPF files reside.

- ___ d. Change the two occurrences of *buildlistname* shown in GCSPPF SAMPLE to the name of your new build list.
- ___ e. If you do not want to use the GCTLOAD build list, add the following statement **before** both *./INSERT GCTLOAD AFTER* statements shown in GCSPPF SAMPLE:

GCTLOAD -VMFBDNUC BUILD7 TXT TXS * Build GCS nucleus

- ___ f. To add another build list, then for each new build list, add the following three lines **after** the two *./END* statements shown in GCSPPF SAMPLE, and change the two occurrences of *buildlistname* to the name of your new build list.

./INSERT GCTLOAD AFTER

***buildlistname* VMFBDNUC BUILD7 TXT TXS * Build modified GCS nucleus**

./END

- ___ 10. File the information you just typed in, and finish creating the PPF override file.

ENTER

File the change on your A-disk.

====> file

Ready; T=*n.nn/n.nn hh:mm:ss*

vmfppf ppfovername {gcs|gcssf}

Use **gcs** as the component name if you loaded GCS to minidisks, and **gcssf** if you moved GCS to SFS directories.

```
VMFPPF2760I VMFPPF processing started for ppfovername GCS
VMFOVE2760I VMFOVER processing started
VMFOVE1954I Locating GCS tag in file ppfovername $PPF on disk D1
VMFOVE1954I Locating GCS tag in file 3VMVML10 $PPF on disk D2
VMFOVE1954I Applying override GCS from file ppfovername $PPF
VMFOVE2760I VMFOVER processing completed successfully
VMFPPF2760I VMFPPF processing completed successfully for ppfovername GCS
VMFPPF2760I VMFPPF processing completed successfully
```

Ready; T=*n.nn/n.nn hh:mm:ss*

copyfile *ppfovername* **ppf a = d2 (olddate**

Ready; T=*n.nn/n.nn hh:mm:ss*

erase *ppfovername* **ppf a**

Ready; T=*n.nn/n.nn hh:mm:ss*

Note: You will use this PPF override file when you rebuild the GCS nucleus.

- ___ 11. If you are building this system as a restricted system, you need to update the directory file in this substep. A single user environment is **never** restricted. (If you want to look at the GROUP EXEC panel default values, refer back to the panels shown at substep 4 on page 277.)

To IPL your GCS system, you need to add an entry to the user directory for each authorized user. When a system is restricted, only those users whose directory entries contain a NAMESAVE statement specifying the GCS system name are allowed to IPL the named saved system. The IBM supplied directory contains an NAMESAVE GCS entry for the user IDs AVSVM, GCS, and MAINT.

vmfsetup **zvm cp**

Establish the required minidisk order.

:

Ready; T=*n.nn/n.nn hh:mm:ss*

xedit **user direct** *fm-2c2*

====> **locate** **/USER** *userid*

Locate each user ID, *userid*, you want to authorize and add the NAMESAVE statement, NAMESAVE *systemname*.

====> **file**

Ready; T=*n.nn/n.nn hh:mm:ss*

directxa **user direct**

Bring the new directory online, and reestablish the correct minidisk order.

z/VM USER DIRECTORY CREATION
PROGRAM – V3 R1.0

Ready; T=*n.nn/n.nn hh:mm:ss*

What To Do Next

Refer to “Appendix Q. Build the GCS Nucleus” on page 277 to rebuild the GCS nucleus.

Changing GCS Nucleus Options

Appendix J. Restoring the z/VM System Backup Copy

In this appendix you will:

- Restore the backup copy of your new z/VM system from tape. This example requires a full pack minidisk be defined in the CP directory, USER DIRECT, for each volume you are restoring.

1. Mount the backup tape on a tape drive.
2. Perform an IPL of the tape device.

ipl *devno* **clear**

devno is the address of the tape drive.

3. Use DDRXA to restore the system to disk. Repeat this substep for each DASD volume you are restoring.

```
VM/ENTERPRISE SYSTEMS ARCHITECTURE
  DASD DUMP/RESTORE PROGRAM
ENTER CARD READER ADDRESS OR CONTROL STATEMENTS
ENTER:
```

sysprint **cons**

ENTER:

input *devno* **tape**

ENTER:

output *devaddr* **dasd** *valid*

ENTER:

restore **all**

```
RESTORING valid
DATA DUMPED mm/dd/yy
  AT hh.mm.ss GMT FROM valid
  RESTORED TO valid
INPUT CYLINDER EXTENTS      OUTPUT CYLINDER EXTENTS
  START      STOP          START      STOP
  nnnnnnnn  nnnnnnnn    nnnnnnnn  nnnnnnnn
  ⋮
END OF RESTORE
BYTES RESTORED nnnnnnnnnn
```

ENTER:
⋮

This first control statement tells DDRXA that you want program messages sent to your console.

The second control statement is the input control statement. Identify the device number (*devno*) where the backup tape is mounted. By typing the word **tape**, the tape device type is automatically identified by the DDR program, either 3430, 3480, 3490, or 9348.

This output statement specifies the DASD device to which you are restoring the system. *devaddr* identifies the full pack minidisk address for the DASD to which you are restoring this tape. By typing the word **dasd**, the device type is automatically identified by the DDR program, either 3380, 3390, 9345, or 9336.

The RESTORE ALL statement tells DDRXA to restore the whole tape to the output device.

Informational messages: GMT means Greenwich Mean Time.

The exact cylinder extents vary according to the device type.

Repeat **input**, **output**, and **restore** statements for each DASD you are restoring.

Restoring the z/VM System Backup Copy

ENTER:

ENTER

END OF JOB

When DDRXA finishes, it prompts you with ENTER.
To end the program, press the **Enter** key.

Note: When DDR encounters the end of a tape, which is continued on the next tape, it prompts you to mount the next tape, if required. If you are using the same tape drive, mount the next tape and DDR will continue. If you are using a different tape drive, issue the INPUT control statement to identify the tape drive and then issue the RESTORE ALL statement to restore the whole tape to the output device.

Appendix K. Restoring Your Named Saved Systems and Segments

In this appendix, you will:

- Restore the CMS Named Saved System and saved segments.

You should have a loadable tape of the Named Saved System and segments. If you need to use this backup copy to restore your Named Saved System or segments, perform these steps:

___ 1. Log on to the MAINT user ID.

ENTER

The default password for MAINT is MAINT.

logon maint

:

Ready; T=n.nn/n.nn hh:mm:ss

___ 2. Attach a tape drive to MAINT.

attach devno *

devno is the device address of the tape drive.

Ready; T=n.nn/n.nn hh:mm:ss

___ 3. Mount the backup tape on the attached tape drive (*devno*).

___ 4. Spool the console.

spool console *

___ 5. Enter the SPXTAPE command to load the system data files.

spxtape load devno sdf all run

devno is the address you used to define the tape drive.

SPXTAPE LOAD INITIATED ON VDEV *devno*
Ready; T=n.nn/n.nn hh:mm:ss

LOADING *devno* : *nnn* FILES, PAGES *nnnn*
:

LOADING *devno* : *nnn* FILES, PAGES *nnnn*

SPXTAPE LOAD END-OF-TAPE ON VDEV *devno*;

MOUNT NEXT TAPE

TAPE NUMBER: *devno-001*

FILES PROCESSED: *nnn*

SPOOL PAGES: *nnnn*

LOADING *devno* : *nnn* FILES, PAGES *nnnn*
:

LOADING *devno* : *nnn* FILES, PAGES *nnnn*

RDR FILE *fileno1* SENT FROM MAINT CON WAS *fileno* RECS *nnnn* CPY 001 T NOHOLD NOKEEP

fileno1 is the file number of the volume log file. The volume log file records information about the files processed by the SPXTAPE LOAD command that are associated with a particular tape volume.

Restoring Your Named Saved Systems and Segments

- ___ 6. When all volumes have been loaded, use the SPXTAPE END command to end the SPXTAPE load.

spxtape end *devno*

```
SPXTAPE END      INITIATED ON VDEV devno
SPXTAPE LOAD COMMAND ENDED      ON VDEV devno
TIME STARTED:      hh:mm:ss
TIME ENDED:        hh:mm:ss
TAPE COUNT:        nnn
FILES PROCESSED:    nnn
SPOOL PAGES:       nnnn
```

Ready; T=*n.nn/n.nn hh:mm:ss*

The SPXTAPE END command ends the SPXTAPE LOAD operation at the completion of the current file.

The CMS ready message may occur between the messages.

RDR FILE *fileno2* SENT FROM MAINT CON WAS *fileno* RECS *nnnn* CPY 001 T NOHOLD NOKEEP

fileno2 is the file number of the command summary log file. The command summary log file records the progress and status of the SPXTAPE LOAD operation.

For more information on the SPXTAPE command, see the *z/VM: CP Command and Utility Reference*.

- ___ 7. IPL the CMS named saved system.

ipl *cmsname*

:

z/VM V3.1.0 *yyyy-mm-dd hh:mm*

cmsname is either the IBM supplied system name (CMS) or the name you defined in DMSNGP on the SYSNAME statement.

If you have changed the version heading, your own heading will appear.

Press **Enter** to return to the command line.

ENTER

Ready; T=*n.nn/n.nn hh:mm:ss*

Appendix L. Recovering a File or Minidisk

In this appendix, you will:

- Restore a minidisk. To restore a minidisk, you may either overlay the existing disk or restore the minidisk to a temporary disk and copy the files to the target disk.
- Recover an individual file from the z/VM System DDR. To recover an individual file, you must first determine on which minidisk the file is located, restore the entire minidisk to a temporary disk, and copy the file from the temporary disk.

Note: The INSTALL EXEC requires a fullscreen terminal with at least 16 lines.

- ___ 1. Log on to the MAINT user ID.
- ___ 2. Attach tape drive (*devno*) to the MAINT user ID at device address 181.

```
attach devno * 181  
devno attached to MAINT  
Ready; T=n.nn/n.nn hh:mm:ss
```

- ___ 3. If you want to restore an entire minidisk, skip this step and go to substep 4.

To recover an individual file, you must first determine on which minidisk the file is located. If you already know on which minidisk the file is located, go to substep 4. Otherwise, continue by mounting Volume 1 of the z/VM System DDR on tape drive 181.

```
rewind 181  
Rewind complete  
Ready; T=n.nn/n.nn hh:mm:ss  
vmfplc2 fsf 1  
Ready; T=n.nn/n.nn hh:mm:ss  
vmfplc2 load minidisk map a  
Loading ...  
MINIDISK MAP      A1  
Ready; T=n.nn/n.nn hh:mm:ss  
xedit minidisk map  
:  
:  
quit  
Ready; T=n.nn/n.nn hh:mm:ss
```

Position the tape at the beginning.

Forward space file past the first tape file.

Load the MINIDISK MAP file to your A-disk.

The MINIDISK MAP file lists the minidisks on the z/VM System DDR and the files contained on each minidisk. Look at MINIDISK MAP to determine which minidisk contains the file you want to recover.

- ___ 4. If you want to recover an individual file or restore the entire minidisk to a temporary disk, you need to define a temporary disk. This temporary disk must be the same type as your z/VM System DDR and the same size as the minidisk you want to recover. (See "ITEMMD TABLE" on page 252 for the size of the minidisk you want to recover.)

```
define tdasdtype loadaddr mdisksize  
DASD loadaddr DEFINED  
Ready; T=n.nn/n.nn hh:mm:ss
```

dasdtype is 3380, 3390, 9345, or FB-512.

loadaddr is the address of the temporary disk.

mdisksize is the size of the minidisk you want to restore.

Recovering a File or Minidisk

If you receive the following message:

```
HCPLNM091E DASD loadaddr not defined; temp space not available
```

you must add additional temporary disk space to your system or define a minidisk with the address *loadaddr*. If you define a minidisk, it must be the same type as your z/VM System DDR and the same size as the minidisk you want to recover.

- ___ 5. Access the 2C2 disk as your A-disk. The INSTALL EXEC will only run when the 2C2 disk is accessed as your A-disk.

access 2c2 a

Access the 2c2 disk as your A-disk.

```
DMSACC724I 2C2 replaces A (nnn)  
Ready; T=n.nn/n.nn hh:mm:ss
```

- ___ 6. To restore the chosen minidisk, enter the INSTALL EXEC with the RECOVER option.
If installing from CD-ROM, enter:

install cd (recover *mdiskaddr loadaddr*

If installing from tape, enter:

install (recover *mdiskaddr loadaddr*

mdiskaddr is the address of the minidisk to be loaded from the z/VM System DDR.

loadaddr is the address to which you restore the minidisk.

Notes:

- a. *mdiskaddr* is the address of the minidisk to be loaded from the z/VM System DDR. Refer to "MAINT LINKLIST" on page 261 to determine if the minidisk you have chosen to restore is linked by MAINT at a different address. If it is, *mdiskaddr* is the address linked by MAINT. If it does not have a link, *mdiskaddr* is the actual minidisk address.
 - b. To recover a minidisk directly to the address linked to by MAINT, you must link the minidisk in write mode. See "MAINT LINKLIST" on page 261. For example, to recover 801 to 801, you can enter the LINK CMSBATCH 195 801 WR command.
 - c. *loadaddr* is the address to which you restore the minidisk. If you want to restore an entire minidisk directly to the same minidisk address, *loadaddr* is the same as *mdiskaddr* when issuing the INSTALL EXEC.
If the load address (*loadaddr*) is not specified, a temporary disk (T-disk) is created.
 - d. You cannot recover the 2C2 minidisk directly to the 2C2 minidisk. You can recover the 2C2 to an address other than 2C2 and copy the files you wish to recover to the 2C2 minidisk.
- ___ 7. The following LOAD DEVICE MENU panel displays when you enter the INSTALL EXEC with the RECOVER option.

LOAD DEVICE MENU

MEDIA SELECTED IS: *media*

MOUNT	VOLUME	VADDR
	<i>n</i>	_____

====>

PF1 = HELP PF3 = QUIT PF5 = LOAD PF12 = RETURN

- ___ 8. Complete the z/VM LOAD DEVICE MENU panel.

Note: This LOAD DEVICE MENU panel shows you the volume you need to mount based on the minidisk you want to restore.

- ___ a. Check the **MEDIA SELECTED IS:** field. This is a required field that will contain either TAPE or CD depending on the parameter used to invoke the INSTALL exec. If the *media* specified is not correct, press **PF3** to quit and run the INSTALL exec with the correct parameter.
- ___ b. **Type 181** for the tape drive virtual address (VADDR).
- ___ c. **Mount the volume (*n*) of the z/VM System DDR tape or z/VM CD-ROM** on tape drive 181.
- ___ d. **Press PF5** to load.

PF5

The load starts with the following system messages:

```
HCPWIN8388I  CHECKING STATUS OF DRIVES

HCPWIN8381I  CHECKING TAPE VOLUME NUMBER FOR DRIVE 181

HCPWIN8380I  RESTORING MINIDISK mdiskaddr TO MINIDISK loadaddr

HCPDDR725D  SOURCE DASD DEVICE WAS (IS) LARGER THAN OUTPUT DEVICE
RESTORING 310xxx
DATA DUMPED  mm/dd/yy at hh.mm.ss  GMT FROM 310xxx RESTORED TO SYSTEM
INPUT CYLINDER/BLOCK EXTENTS      OUTPUT CYLINDER/BLOCK EXTENTS
  START          STOP              START          STOP
  nnnnnnnn      nnnnnnnn          nnnnnnnn      nnnnnnnn
END OF RESTORE
BYTES RESTORED nnnnnnnnnn

END OF JOB

HCPWIN8441I  mdiskaddr HAS BEEN RESTORED TO MINIDISK loadaddr
Ready; T=n.nn/n.nn hh:mm:ss
```

- ___ 9. If you restored the minidisk to a temporary disk, copy the file or files that you want to recover from the temporary disk to the target disk.

Recovering a File or Minidisk

access *loadaddr fm-1*

Ready; T=*n.nn/n.nn hh:mm:ss*

access *mdiskaddr fm-2*

Ready; T=*n.nn/n.nn hh:mm:ss*

copyfile *fn ft fm-1 == fm-2 (olddate*

Ready; T=*n.nn/n.nn hh:mm:ss*

loadaddr is the address of the temporary disk.

fm-1 is any available file mode.

mdiskaddr is the address of the target minidisk.

fm-2 is any available file mode.

fn is the file name of the file you want to recover.

ft is the file type of the file you want to recover.

Repeat the COPYFILE command for each file you want to recover.

Appendix M. Stopping or Restarting the Installation Procedure

In this appendix, you will:

- Stop an installation procedure and restart the procedure.

Stopping the Installation Procedure

Each of the two installation procedures is divided into chapters consisting of steps. You can interrupt a procedure at the end of any chapter.

Procedure 1

- __ 1. Shutdown your z/VM Version 3 Release 1.0 system.

Procedure 2

- __ 1. Shutdown your z/VM Version 3 Release 1.0 system.
- __ 2. Enter #CP DISCONNECT to disconnect from your **first-level** user ID.

Restarting the Installation Procedures

Use these steps only if you stopped your installation at the end of a chapter. When you are ready to begin again, follow these steps to restart the installation procedures:

Procedure 1

- __ 1. IPL and do a Force Drain Noautolog of the z/VM Version 3 Release 1.0 system.
- __ 2. Disconnect from the OPERATOR user ID and log on to the MAINT user ID.
- __ 3. Spool the console.
- __ 4. Attach tape drives (if needed).
- __ 5. Resume at the chapter where you left off.

Procedure 2

- __ 1. Log on to your **first-level** user ID.
- __ 2. If you logged off your first level virtual machine at the end of a chapter, you must reestablish the second level environment before you can re-IPL your second level system. You must also make sure that your I/O devices are attached to your second level system and varied on.
 - __ a. Attach all DASD.
 - __ b. Attach tapes drives (if needed).
 - __ c. Enter TERMINAL CONMODE 3270, define 64MB of storage, and set your virtual machine to XA mode.
 - __ d. IPL and do a Force Drain Noautolog of the z/VM Version 3 Release 1.0 system.
 - __ e. Disconnect from the OPERATOR user ID and log on to the MAINT user ID.
 - __ f. Spool the console.
 - __ g. Attach tape drives (if needed).
 - __ h. Resume at the chapter where you left off.
- __ 3. If you disconnected from your first level virtual machine at the end of a chapter, your second level environment should still be established.
 - __ a. IPL and do a Force Drain Noautolog of the z/VM Version 3 Release 1.0 system.
 - __ b. Disconnect from the OPERATOR user ID and log on to the MAINT user ID.

Stopping or Restarting the Installation Procedure

- ___ c. Spool the console.
- ___ d. Attach tape drives (if needed).
- ___ e. Resume at the chapter where you left off.

Appendix N. ITEMMD TABLE and MAINT LINKLIST

This appendix contains ITEMMD TABLE and MAINT LINKLIST you use during the planning and installing of your z/VM system.

ITEMMD TABLE

ITEMMD TABLE

```
* Userid Mdisk 3380 9345 3390 FB-512
*****
* COPYRIGHT -
*****
* USERID  VADDR ALIAS 3380 9345 3390 FBA  MODE RPW      WPW      MPW
*****
:ITEMS.
:BASE.
MAINT      2D2  2D2  125  125  105  150000 MR READ      WRITE  MULTIPLE
MAINT      3B2  3B2  175  175  146  210000 MR ALL      WRITE  MULTIPLE
MAINT      194  194  150  150  125  180000 MR ALL      WRITE  MULTIPLE
MAINT      193  193  200  200  167  240000 MR ALL      WRITE  MULTIPLE
MAINT      493  493  200  200  167  240000 MR ALL      WRITE  MULTIPLE
MAINT      19D  19D  108  108  102  129600 MR ALL      WRITE  MULTIPLE
MAINT      3D2  3D2  250  250  208  300000 MR READ     WRITE  MULTIPLE
MAINT      191  191  066  066  055  079200 MR ALL      WRITE  MULTIPLE
MAINT      19E  19E  120  120  100  144000 MR ALL      WRITE  MULTIPLE
MAINT      5D2  5D2  035  035  030  042000 MR READ     WRITE  MULTIPLE
MAINT      201  201  026  026  022  031200 MR RMAINT   WMAINT  MMAINT
MAINT      51D  51D  015  015  013  018000 MR READ     WRITE  MULTIPLE
MAINT      3C4  3C4  010  010  009  012000 MR READ     WRITE  MULTIPLE
MAINT      5E5  5E5  010  010  009  012000 MR READ     WRITE  MULTIPLE
MAINT      5E6  5E6  010  010  009  012000 MR READ     WRITE  MULTIPLE
MAINT      319  319  010  010  009  012000 MR READ     WRITE  MULTIPLE
MAINT      5B2  5B2  010  010  009  012000 MR READ     WRITE  MULTIPLE
MAINT      376  376  006  006  005  007200 MR ALL      WRITE  MULTIPLE
MAINT      2A2  2A2  007  007  006  006000 MR READ     WRITE  MULTIPLE
MAINT      2A4  2A4  007  007  006  006000 MR READ     WRITE  MULTIPLE
MAINT      2A6  2A6  007  007  006  006000 MR READ     WRITE  MULTIPLE
MAINT      3A2  3A2  007  007  006  006000 MR READ     WRITE  MULTIPLE
MAINT      3A4  3A4  007  007  006  006000 MR READ     WRITE  MULTIPLE
MAINT      3A6  3A6  007  007  006  006000 MR READ     WRITE  MULTIPLE
MAINT      5A2  5A2  007  007  006  006000 MR READ     WRITE  MULTIPLE
MAINT      5A4  5A4  007  007  006  006000 MR READ     WRITE  MULTIPLE
MAINT      5A6  5A6  007  007  006  006000 MR READ     WRITE  MULTIPLE
MAINT      2C4  2C4  005  005  005  006000 MR READ     WRITE  MULTIPLE
MAINT      3C2  3C2  005  005  005  006000 MR READ     WRITE  MULTIPLE
MAINT      5C2  5C2  005  005  005  006000 MR READ     WRITE  MULTIPLE
MAINT      5C4  5C4  005  005  005  006000 MR READ     WRITE  MULTIPLE
MAINT      400  400  090  090  075  108000 MR READ     WRITE  MULTIPLE
OPERATNS  191  80F  017  017  015  020400 MR RDVF     WDVF   MDVF
OPERSYMP  191  80C  005  005  005  006000 MR READ     WRITE  MULTIPLE
OPERATOR  191  80D  005  005  005  006000 MR READ     WRITE  MULTIPLE
CMSBATCH  195  801  002  002  002  002400 MR RBATCH   WBATCH  MBATCH
EREP      191  809  002  002  002  002400 MR READ     WRITE  MULTIPLE
AUTOLOG1  191  80A  001  001  001  001200 MR RAUTOLOG WAUTOLOG MAUTOLOG
DISKACNT  191  80B  001  001  001  001200 MR READ     WRITE  MULTIPLE
OP1       191  80E  001  001  001  001200 MR READ     WRITE
LGLOPR    191  810  001  001  001  001200 MR READ     WRITE
P688198H  191  82A  045  045  038  054000 MR READ     WRITE  MULTIPLE
P688198H  2A2  82B  003  003  003  003600 MR READ     WRITE  MULTIPLE
P688198H  2A6  82C  003  003  003  003600 MR READ     WRITE  MULTIPLE
P688198H  2B2  82D  080  080  067  096000 MR READ     WRITE  MULTIPLE
P688198H  2C2  82E  006  006  005  007200 MR READ     WRITE  MULTIPLE
P688198H  2D2  82F  120  120  100  144000 MR READ     WRITE  MULTIPLE
P688198H  29E  830  093  093  078  111600 MR READ     WRITE  MULTIPLE
P684042H  191  822  010  010  009  012000 MR READ     WRITE  MULTIPLE
P684042H  2A2  823  002  002  002  002400 MR READ     WRITE  MULTIPLE
P684042H  2A6  824  002  002  002  002400 MR READ     WRITE  MULTIPLE
P684042H  2B2  825  009  009  008  010800 MR READ     WRITE  MULTIPLE
P684042H  2C2  826  002  002  002  002400 MR READ     WRITE  MULTIPLE
P684042H  2D2  827  030  030  025  036000 MR READ     WRITE  MULTIPLE
P684042H  29D  828  002  002  002  002400 MR READ     WRITE  MULTIPLE
P684042H  29E  829  030  030  025  036000 MR READ     WRITE  MULTIPLE
P684096K  2B2  850  015  015  013  018000 MR READ     WRITE  MULTIPLE
```

ITEMMD TABLE

P684096K	2C2	851	001	001	001	001200	MR	READ	WRITE	MULTIPLE
P684096K	2D2	852	060	060	050	072000	MR	READ	WRITE	MULTIPLE
P684096K	2A6	853	002	002	002	002400	MR	READ	WRITE	MULTIPLE
P684096K	2A2	854	002	002	002	002400	MR	READ	WRITE	MULTIPLE
P684096K	29D	855	008	008	008	009600	MR	READ	WRITE	MULTIPLE
P684096K	400	856	015	015	013	018000	MR	READ	WRITE	MULTIPLE
P684096K	401	857	010	010	009	012000	MR	READ	WRITE	MULTIPLE
P684096K	402	858	003	003	003	003600	MR	READ	WRITE	MULTIPLE
P684096K	406	859	008	008	008	009600	MR	READ	WRITE	MULTIPLE
P684096K	191	85A	010	010	009	012000	MR	READ	WRITE	MULTIPLE
P684096K	403	85B	003	003	003	003600	MR	READ	WRITE	MULTIPLE
P684096K	502	85C	008	008	008	009600	MR	READ	WRITE	MULTIPLE
XCHANGE	5BF	860	003	003	003	003600	MR	READ	WRITE	MULTIPLE
GCS	191	807	004	004	004	004800	MR	RGCS	WGCS	MGCS
GCSXA	191	808	004	004	004	004800	MR	RGCS	WGCS	MGCS
MAINT	6A2	6A2	003	003	003	003600	MR	READ	WRITE	MULTIPLE
MAINT	6A4	6A4	003	003	003	003600	MR	READ	WRITE	MULTIPLE
MAINT	6A6	6A6	003	003	003	003600	MR	READ	WRITE	MULTIPLE
MAINT	6B2	6B2	010	010	009	012000	MR	READ	WRITE	MULTIPLE
MAINT	6C2	6C2	003	003	003	003600	MR	READ	WRITE	MULTIPLE
MAINT	6C4	6C4	003	003	003	003600	MR	READ	WRITE	MULTIPLE
MAINT	6D2	6D2	010	010	009	012000	MR	READ	WRITE	MULTIPLE
TCPMAINT	591	861	045	045	038	053600	MR	RTCPMAIN	WTCPMAN	MTCPMAN
TCPMAINT	592	862	080	080	067	096000	MR	ALL	WTCPMAN	MTCPMAN
TCPMAINT	198	863	010	010	009	012000	MR	RTCPMAIN	WTCPMAN	MTCPMAN
TCPMAINT	191	864	008	008	007	009600	MR	RTCPMAIN	WTCPMAN	MTCPMAN
3TCPIPA0	191	865	264	264	220	316000	MR	R3TCPIP	W3TCPIP	M3TCPIP
3TCPIPA0	2C4	866	005	005	005	006000	MR	R3TCPIP	W3TCPIP	M3TCPIP
3TCPIPA0	2D2	868	540	540	450	648000	MR	R3TCPIP	W3TCPIP	M3TCPIP
3TCPIPA0	2A6	869	005	005	005	006000	MR	R3TCPIP	W3TCPIP	M3TCPIP
3TCPIPA0	2A2	86A	005	005	005	006000	MR	R3TCPIP	W3TCPIP	M3TCPIP
3TCPIPA0	491	86B	045	045	038	053600	MR	R3TCPIP	W3TCPIP	M3TCPIP
3TCPIPA0	492	86C	080	080	067	096000	MR	R3TCPIP	W3TCPIP	M3TCPIP
3TCPIPA0	2B2	86E	094	094	078	112000	MR	R3TCPIP	W3TCPIP	M3TCPIP
3TCPIPA0	2B3	86F	002	002	002	002400	MR	R3TCPIP	W3TCPIP	M3TCPIP
TCPIP	191	870	005	005	005	006000	MR	RTCPIP	WTCPIP	MTCPIP
BOOTPD	191	885	002	002	002	002400	MR	RBOOTPD	WBOOTPD	MBOOTPD
TFTPD	191	886	002	002	002	002400	MR	RTFTPD	WTFTPD	MTFTPD
DHCPD	191	887	002	002	002	002400	MR	RDHCPD	WDHCPD	MDHCPD
FTPSERVE	191	871	010	010	009	012000	MR	RFTPSERV	WFTPSERV	MFTPSERV
SMTP	191	872	030	030	025	036000	MR	RSMTP	WSMTP	MSMTP
NAMESRV	191	873	002	002	002	002400	MR	RNAMESRV	WNAMESRV	MNAMESRV
REXEC	191	874	002	002	002	002400	MR	RREXEC	WREXEC	MREXEC
X25IPI	191	875	002	002	002	002400	MR	RX25IPI	WX25IPI	MX25IPI
PORTMAP	191	876	002	002	002	002400	MR	RPORTMAP	WPORTMAP	MPORTMAP
NDBPMGR	191	877	001	001	001	001200	MR	RNDBPMGR	WNDBPMGR	MNDBPMGR
NDBSRV01	191	878	001	001	001	001200	MR	RNDBSRV0	WNDBSRV0	MNDBSRV0
SNMPQE	191	879	002	002	002	002400	MR	RSNMPQE	WSNMPQE	MSNMPQE
SNMPD	191	87A	002	002	002	002400	MR	RSNMPD	WSNMPD	MSNMPD
ROUTED	191	87F	002	002	002	002400	MR	RROUTED	WROUTED	MROUTED
LPSEVER	191	880	002	002	002	002400	MR	RLPSEVER	WLPSEVER	MLPSEVER
SNALNKA	191	881	003	003	003	003600	MR	RSNALNKA	WSNALNKA	MSNALNKA
VMNFS	191	882	010	010	009	012000	MR	RVMNFS	WVMNFS	MVMNFS
VMKERB	191	883	007	007	006	008400	MR	RVMKERB	WVMKERB	MVMKERB
ADMSERV	191	884	005	005	005	006000	MR	RADMSERV	WADMSERV	MADMSERV
RSCSDNS	191	831	001	001	001	001200	MR	READ	WRITE	MULTIPLE
UFTD	191	832	002	002	002	002400	MR	RUFTD	WUFTD	MUFTD
MROUTE	191	888	002	002	002	002400	MR	RMROUTE	WMROUTE	MMROUTE
SSLSERV	191	88A	001	001	001	001200	MR	RSSLSERV	WSSLSERV	MSSLSERV
SSLSERV	201	889	300	300	250	360000	MR	RSSLSERV	WSSLSERV	MSSLSERV
SSLSERV	202	88B	036	036	030	043200	MR	RSSLSERV	WSSLSERV	MSSLSERV
SSLSERV	203	88C	002	002	001	002400	MR	RSSLSERV	WSSLSERV	MSSLSERV
SSLSERV	204	88D	018	018	015	021600	MR	RSSLSERV	WSSLSERV	MSSLSERV
SSLSERV	205	88E	168	168	140	201600	MR	RSSLSERV	WSSLSERV	MSSLSERV

:EBASE.

*

:GCS.

ITEMMD TABLE

GCS	191	807	004	004	004	004800	MR	RGCS	WGCS	MGCS
GCSXA	191	808	004	004	004	004800	MR	RGCS	WGCS	MGCS
MAINT	6A2	6A2	003	003	003	003600	MR	READ	WRITE	MULTIPLE
MAINT	6A4	6A4	003	003	003	003600	MR	READ	WRITE	MULTIPLE
MAINT	6A6	6A6	003	003	003	003600	MR	READ	WRITE	MULTIPLE
MAINT	6B2	6B2	010	010	009	012000	MR	READ	WRITE	MULTIPLE
MAINT	6C2	6C2	003	003	003	003600	MR	READ	WRITE	MULTIPLE
MAINT	6C4	6C4	003	003	003	003600	MR	READ	WRITE	MULTIPLE
MAINT	6D2	6D2	010	010	009	012000	MR	READ	WRITE	MULTIPLE
:EGCS.										
*										
:RSCS.										
P684096K	2B2	850	015	015	013	018000	MR	READ	WRITE	MULTIPLE
P684096K	2C2	851	001	001	001	001200	MR	READ	WRITE	MULTIPLE
P684096K	2D2	852	060	060	050	072000	MR	READ	WRITE	MULTIPLE
P684096K	2A6	853	002	002	002	002400	MR	READ	WRITE	MULTIPLE
P684096K	2A2	854	002	002	002	002400	MR	READ	WRITE	MULTIPLE
P684096K	29D	855	008	008	008	009600	MR	READ	WRITE	MULTIPLE
P684096K	400	856	015	015	013	018000	MR	READ	WRITE	MULTIPLE
P684096K	401	857	010	010	009	012000	MR	READ	WRITE	MULTIPLE
P684096K	402	858	003	003	003	003600	MR	READ	WRITE	MULTIPLE
P684096K	406	859	008	008	008	009600	MR	READ	WRITE	MULTIPLE
P684096K	191	85A	010	010	009	012000	MR	READ	WRITE	MULTIPLE
P684096K	403	85B	003	003	003	003600	MR	READ	WRITE	MULTIPLE
P684096K	502	85C	008	008	008	009600	MR	READ	WRITE	MULTIPLE
XCHANGE	5BF	860	003	003	003	003600	MR	READ	WRITE	MULTIPLE
RSCSDNS	191	831	001	001	001	001200	MR	READ	WRITE	MULTIPLE
:ERSCS.										
*										
:TCP_IP.										
TCPMAINT	591	861	045	045	038	053600	MR	RTCPMAIN	WTCPMAN	MTCPMAN
TCPMAINT	592	862	080	080	067	096000	MR	ALL	WTCPMAN	MTCPMAN
TCPMAINT	198	863	010	010	009	012000	MR	RTCPMAIN	WTCPMAN	MTCPMAN
TCPMAINT	191	864	008	008	007	009600	MR	RTCPMAIN	WTCPMAN	MTCPMAN
3TCPIPA0	191	865	264	264	220	316000	MR	R3TCPIP	W3TCPIP	M3TCPIP
3TCPIPA0	2C4	866	005	005	005	006000	MR	R3TCPIP	W3TCPIP	M3TCPIP
3TCPIPA0	2D2	868	540	540	450	648000	MR	R3TCPIP	W3TCPIP	M3TCPIP
3TCPIPA0	2A6	869	005	005	005	006000	MR	R3TCPIP	W3TCPIP	M3TCPIP
3TCPIPA0	2A2	86A	005	005	005	006000	MR	R3TCPIP	W3TCPIP	M3TCPIP
3TCPIPA0	491	86B	045	045	038	053600	MR	R3TCPIP	W3TCPIP	M3TCPIP
3TCPIPA0	492	86C	080	080	067	096000	MR	R3TCPIP	W3TCPIP	M3TCPIP
3TCPIPA0	2B2	86E	094	094	078	112000	MR	R3TCPIP	W3TCPIP	M3TCPIP
3TCPIPA0	2B3	86F	002	002	002	002400	MR	R3TCPIP	W3TCPIP	M3TCPIP
TCPIP	191	870	005	005	005	006000	MR	RTCPIP	WTCPIP	MTCPIP
BOOTPD	191	885	002	002	002	002400	MR	RBOOTPD	WBPTPD	MBOOTPD
TFTPD	191	886	002	002	002	002400	MR	RTFTPD	WTFTPD	MTFTPD
DHCPD	191	887	002	002	002	002400	MR	RDHCPD	WDHCPD	MDHCPD
FTPSERVE	191	871	010	010	009	012000	MR	RFTPSERV	WFTPSERV	MFTPSERV
SMTP	191	872	030	030	025	036000	MR	RSMTTP	WSMTTP	MSMTTP
NAMESRV	191	873	002	002	002	002400	MR	RNAMESRV	WNAMESRV	MNAMESRV
REXECD	191	874	002	002	002	002400	MR	RREXECD	WREXECD	MREXECD
X25IPI	191	875	002	002	002	002400	MR	RX25IPI	WX25IPI	MX25IPI
PORTMAP	191	876	002	002	002	002400	MR	RPORTMAP	WPORTMAP	MPORTMAP
NDBPMGR	191	877	001	001	001	001200	MR	RNDBPMGR	WNDBPMGR	MNDBPMGR
NDBSRV01	191	878	001	001	001	001200	MR	RNDBSRV0	WNDBSRV0	MNDBSRV0
SNMPQE	191	879	002	002	002	002400	MR	RSNMPQE	WSNMPQE	MSNMPQE
SNMPD	191	87A	002	002	002	002400	MR	RSNMPD	WSNMPD	MSNMPD
ROUTED	191	87F	002	002	002	002400	MR	RROUTED	WROUTED	MROUTED
LPSERVE	191	880	002	002	002	002400	MR	RLPSERVE	WLPSERVE	MLPSERVE
SNALNKA	191	881	003	003	003	003600	MR	RSNALNKA	WSNALNKA	MSNALNKA
VMNFS	191	882	010	010	009	012000	MR	RVMNFS	WVMNFS	MVMNFS
VMKERB	191	883	007	007	006	008400	MR	RVMKERB	WVMKERB	MVMKERB
ADMSERV	191	884	005	005	005	006000	MR	RADMSERV	WADMSERV	MADMSERV
UFTD	191	832	002	002	002	002400	MR	RUFTD	WUFTD	MUFTD
MROUTE	191	888	002	002	002	002400	MR	RMROUTE	WMROUTE	MMROUTE
SSLSERV	191	88A	001	001	001	001200	MR	RSSLSERV	WSSLSERV	MSSLSERV
SSLSERV	201	889	300	300	250	360000	MR	RSSLSERV	WSSLSERV	MSSLSERV

ITEMMD TABLE

```

SSLSERV 202 88B 036 036 030 043200 MR RSSLSERV WSSLSERV MSSLSERV
SSLSERV 203 88C 002 002 001 002400 MR RSSLSERV WSSLSERV MSSLSERV
SSLSERV 204 88D 018 018 015 021600 MR RSSLSERV WSSLSERV MSSLSERV
SSLSERV 205 88E 168 168 140 201600 MR RSSLSERV WSSLSERV MSSLSERV
:ETCP_IP.
*
:TCP_IP1.
TCPMAINT 591 861 045 045 038 053600 MR RTCPMAIN WTCPMAIN MTCPMAIN
TCPMAINT 592 862 080 080 067 096000 MR ALL WTCPMAIN MTCPMAIN
TCPMAINT 198 863 010 010 009 012000 MR RTCPMAIN WTCPMAIN MTCPMAIN
TCPMAINT 191 864 008 008 007 009600 MR RTCPMAIN WTCPMAIN MTCPMAIN
3TCPIPA0 191 865 264 264 220 316000 MR R3TCPIP W3TCPIP M3TCPIP
3TCPIPA0 2C4 866 005 005 005 006000 MR R3TCPIP W3TCPIP M3TCPIP
3TCPIPA0 2A6 869 005 005 005 006000 MR R3TCPIP W3TCPIP M3TCPIP
3TCPIPA0 2A2 86A 005 005 005 006000 MR R3TCPIP W3TCPIP M3TCPIP
3TCPIPA0 491 86B 045 045 038 053600 MR R3TCPIP W3TCPIP M3TCPIP
3TCPIPA0 492 86C 080 080 067 096000 MR R3TCPIP W3TCPIP M3TCPIP
3TCPIPA0 2B2 86E 094 094 078 112000 MR R3TCPIP W3TCPIP M3TCPIP
3TCPIPA0 2B3 86F 002 002 002 002400 MR R3TCPIP W3TCPIP M3TCPIP
:ETCP_IP1.
*
:TCP_IP2.
3TCPIPA0 2D2 868 540 540 450 648000 MR R3TCPIP W3TCPIP M3TCPIP
TCPIP 191 870 005 005 005 006000 MR RTCPPIP WTCPIP MTCPIP
BOOTPD 191 885 002 002 002 002400 MR RBOOTPD WBPPTPD MBOOTPD
TFTPD 191 886 002 002 002 002400 MR RTFTPD WTFTPD MTFTPD
DHCPD 191 887 002 002 002 002400 MR RDHCPD WDHCPD MDHCPD
FTPSERVE 191 871 010 010 009 012000 MR RFTPSERV WFTPSERV MFTPSERV
SMTP 191 872 030 030 025 036000 MR RSMTP WSMTP MSMT
NAMESRV 191 873 002 002 002 002400 MR RNAMESRV WNAMESRV MNAMESRV
REXEC 191 874 002 002 002 002400 MR RREXEC WREXEC MREXEC
X25IPI 191 875 002 002 002 002400 MR RX25IPI WX25IPI MX25IPI
PORTMAP 191 876 002 002 002 002400 MR RPORTMAP WPORTMAP MPORTMAP
NDBPMGR 191 877 001 001 001 001200 MR RNDBPMGR WNDBPMGR MNDBPMGR
NDBSRV01 191 878 001 001 001 001200 MR RNDBSRV0 WNDBSRV0 MNDBSRV0
SNMPQE 191 879 002 002 002 002400 MR RSNMPQE WSNMPQE MSNMPQE
SNMPD 191 87A 002 002 002 002400 MR RSNMPD WSNMPD MSNMPD
ROUTED 191 87F 002 002 002 002400 MR RROUTED WROUTED MROUTED
LPSEVER 191 880 002 002 002 002400 MR RLPSEVER WLPSEVER MLPSEVER
SNALNKA 191 881 003 003 003 003600 MR RSNALNKA WSNALNKA MSNALNKA
VMNFS 191 882 010 010 009 012000 MR RVMNFS WVMNFS MVMNFS
VMKERB 191 883 007 007 006 008400 MR RVMKERB WVMKERB MVMKERB
ADMSERV 191 884 005 005 005 006000 MR RADMSERV WADMSERV MADMSERV
UFTD 191 832 002 002 002 002400 MR RUFTD WUFTD MUFTD
MPROUTE 191 888 002 002 002 002400 MR RMPROUTE WMPROUTE MMPROUTE
:ETCP_IP2.
*
:TCP_IP3.
SSLSERV 191 88A 001 001 001 001200 MR RSSLSERV WSSLSERV MSSLSERV
SSLSERV 201 889 300 300 250 360000 MR RSSLSERV WSSLSERV MSSLSERV
SSLSERV 202 88B 036 036 030 043200 MR RSSLSERV WSSLSERV MSSLSERV
SSLSERV 203 88C 002 002 001 002400 MR RSSLSERV WSSLSERV MSSLSERV
SSLSERV 204 88D 018 018 015 021600 MR RSSLSERV WSSLSERV MSSLSERV
SSLSERV 205 88E 168 168 140 201600 MR RSSLSERV WSSLSERV MSSLSERV
:ETCP_IP3.
*
:CMS_REXX.
MAINT 3A2 3A2 007 007 006 006000 MR READ WRITE MULTIPLE
MAINT 3A4 3A4 007 007 006 006000 MR READ WRITE MULTIPLE
MAINT 3A6 3A6 007 007 006 006000 MR READ WRITE MULTIPLE
MAINT 3B2 3B2 175 175 146 210000 MR ALL WRITE MULTIPLE
MAINT 3C2 3C2 005 005 005 006000 MR READ WRITE MULTIPLE
MAINT 3C4 3C4 010 010 009 012000 MR READ WRITE MULTIPLE
MAINT 3D2 3D2 250 250 208 300000 MR READ WRITE MULTIPLE
MAINT 400 400 090 090 075 108000 MR READ WRITE MULTIPLE
:ECMS_REXX.
*
```

ITEMMD TABLE

```

:CP_DV.
  MAINT    194  194  150  150  125  180000 MR ALL      WRITE  MULTIPLE
  MAINT    2A2  2A2  007  007  006  006000 MR READ    WRITE  MULTIPLE
  MAINT    2A4  2A4  007  007  006  006000 MR READ    WRITE  MULTIPLE
  MAINT    2A6  2A6  007  007  006  006000 MR READ    WRITE  MULTIPLE
  MAINT    2C4  2C4  005  005  005  006000 MR READ    WRITE  MULTIPLE
  MAINT    2D2  2D2  125  125  105  150000 MR READ    WRITE  MULTIPLE
:ECP_DV.
*
:VMSES.
  MAINT    5A2  5A2  007  007  006  006000 MR READ    WRITE  MULTIPLE
  MAINT    5A4  5A4  007  007  006  006000 MR READ    WRITE  MULTIPLE
  MAINT    5A6  5A6  007  007  006  006000 MR READ    WRITE  MULTIPLE
  MAINT    5B2  5B2  010  010  009  012000 MR READ    WRITE  MULTIPLE
  MAINT    5C2  5C2  005  005  005  006000 MR READ    WRITE  MULTIPLE
  MAINT    5C4  5C4  005  005  005  006000 MR READ    WRITE  MULTIPLE
  MAINT    5D2  5D2  035  035  030  042000 MR READ    WRITE  MULTIPLE
  MAINT    5E5  5E5  010  010  009  012000 MR READ    WRITE  MULTIPLE
  MAINT    5E6  5E6  010  010  009  012000 MR READ    WRITE  MULTIPLE
:EVMSES.
*
:SYSTOOLS.
  MAINT    193  193  200  200  167  240000 MR ALL      WRITE  MULTIPLE
  MAINT    493  493  200  200  167  240000 MR ALL      WRITE  MULTIPLE
:ESYSTOOLS.
*
:SYSTEM.
  MAINT    19D  19D  108  108  102  129600 MR ALL      WRITE  MULTIPLE
  MAINT    19E  19E  120  120  100  144000 MR ALL      WRITE  MULTIPLE
  MAINT    191  191  066  066  055  079200 MR ALL      WRITE  MULTIPLE
  MAINT    201  201  026  026  022  031200 MR RMAINT  WMAINT  MMAINT
  MAINT    319  319  010  010  009  012000 MR READ    WRITE  MULTIPLE
  MAINT    376  376  006  006  005  007200 MR ALL      WRITE  MULTIPLE
  MAINT    51D  51D  015  015  013  018000 MR READ    WRITE  MULTIPLE
:ESYSTEM.
*
:SYSUSERS.
  CMSBATCH 195  801  002  002  002  002400 MR RBATCH  WBatch  MBatch
  EREP     191  809  002  002  002  002400 MR READ    WRITE  MULTIPLE
  AUTOLOG1 191  80A  001  001  001  001200 MR RAUTOLOG WAUTOLOG MAUTOLOG
  DISKACNT 191  80B  001  001  001  001200 MR READ    WRITE  MULTIPLE
  OPERSYMP  191  80C  005  005  005  006000 MR READ    WRITE  MULTIPLE
  OPERATOR  191  80D  005  005  005  006000 MR READ    WRITE  MULTIPLE
  OP1       191  80E  001  001  001  001200 MR READ    WRITE
  OPERATNS  191  80F  017  017  015  020400 MR RDVF   WDFV   MDVF
  LGLOPR    191  810  001  001  001  001200 MR READ    WRITE
:ESYSUSERS.
*
:ICKDSF.
  P684042H 191  822  010  010  009  012000 MR READ    WRITE  MULTIPLE
  P684042H 2A2  823  002  002  002  002400 MR READ    WRITE  MULTIPLE
  P684042H 2A6  824  002  002  002  002400 MR READ    WRITE  MULTIPLE
  P684042H 2B2  825  009  009  008  010800 MR READ    WRITE  MULTIPLE
  P684042H 2C2  826  002  002  002  002400 MR READ    WRITE  MULTIPLE
  P684042H 2D2  827  030  030  025  036000 MR READ    WRITE  MULTIPLE
  P684042H 29D  828  002  002  002  002400 MR READ    WRITE  MULTIPLE
  P684042H 29E  829  030  030  025  036000 MR READ    WRITE  MULTIPLE
:EICKDSF.
*
:LE_370.
  P688198H 191  82A  045  045  038  054000 MR READ    WRITE  MULTIPLE
  P688198H 2A2  82B  003  003  003  003600 MR READ    WRITE  MULTIPLE
  P688198H 2A6  82C  003  003  003  003600 MR READ    WRITE  MULTIPLE
  P688198H 2B2  82D  080  080  067  096000 MR READ    WRITE  MULTIPLE
  P688198H 2C2  82E  006  006  005  007200 MR READ    WRITE  MULTIPLE
  P688198H 2D2  82F  120  120  100  144000 MR READ    WRITE  MULTIPLE
  P688198H 29E  830  093  093  078  111600 MR READ    WRITE  MULTIPLE

```

ITEMMD TABLE

```

:ELE_370.
*
:CMS_REXX_SOURCE.
  MAINT 393 393 095 095 080 114000 MR ALL WRITE MULTIPLE
:ECMS_REXX_SOURCE.
*
:CMS_REXX_NOSOURCE.
  MAINT 393 393 001 001 001 001200 MR ALL WRITE MULTIPLE
:ECMS_REXX_NOSOURCE.
*
:CP_DV_SOURCE.
  MAINT 394 394 250 250 208 300000 MR ALL WRITE MULTIPLE
:ECP_DV_SOURCE.
*
:CP_DV_NOSOURCE.
  MAINT 394 394 001 001 001 001200 MR ALL WRITE MULTIPLE
:ECP_DV_NOSOURCE.
*
:VMSES_SOURCE.
  MAINT 5B4 5B4 028 028 024 033600 MR READ WRITE MULTIPLE
:EVMSES_SOURCE.
*
:VMSES_NOSOURCE.
  MAINT 5B4 5B4 001 001 001 001200 MR READ WRITE MULTIPLE
:EVMSES_NOSOURCE.
*
:RSCS_SOURCE.
  P684096K 2B3 85D 023 023 020 027600 MR READ WRITE MULTIPLE
:ERSCS_SOURCE.
*
:UCENG_HELP.
  MAINT 402 402 108 108 102 129600 MR ALL WRITE MULTIPLE
:EUCENG_HELP.
*
:GERMAN_HELP.
  MAINT 405 405 108 129 102 129600 MR ALL WRITE MULTIPLE
  P684096K 505 85F 008 008 008 009600 MR READ WRITE MULTIPLE
:EGERMAN_HELP.
*
:KANJI_HELP.
  MAINT 401 401 108 108 102 129600 MR ALL WRITE MULTIPLE
  P684096K 501 85E 008 008 008 009600 MR READ WRITE MULTIPLE
:EKANJI_HELP.
*
:FILEPOOL.
  VMSERVS 191 804 003 003 003 003600 MR RSERVER WSERVER
  VMSERVU 191 805 003 003 003 003600 MR RSERVER WSERVER
  VMSERVV 191 806 002 002 002 002400 MR RSERVER WSERVER
  VMSERVU 301 817 010 010 009 012000 WR RCONTROL WCONTROL
  VMSERVU 302 816 016 016 014 019200 WR RLOG1 WLOG1
  VMSERVU 303 818 016 016 014 019200 WR RLOG2 WLOG2
  VMSERVU 304 819 003 003 003 003600 WR RCATALOG WCATALOG
  VMSERVU 305 81A 007 007 006 008400 WR RDATA WDATA
  VMSERVV 301 81C 002 002 002 002400 WR RCONTROL WCONTROL
  VMSERVV 302 81B 001 001 001 001200 WR RLOG1 WLOG1
  VMSERVV 303 81D 001 001 001 001200 WR RLOG2 WLOG2
  VMSERVV 304 81E 002 002 002 002400 WR RCATALOG WCATALOG
  VMSERVV 305 81F 001 001 001 001200 WR RDATA WDATA
  VMSERVV 306 820 002 002 002 002400 WR RCRRL0G1 WCRRL0G1
  VMSERVV 307 821 002 002 002 002400 WR RCRRL0G2 WCRRL0G2
  VMSERVS 301 812 005 005 005 006000 WR RCONTROL WCONTROL
  VMSERVS 302 811 005 005 005 006000 WR RLOG1 WLOG1
  VMSERVS 303 813 005 005 005 006000 WR RLOG2 WLOG2
  VMSERVS 304 814 030 030 025 036000 WR RCATALOG WCATALOG
  VMSERVS 305 815 200 200 167 240000 WR RDATA WDATA

```

ITEMMD TABLE

VMSEVS	306	834	200	200	167	240000	WR	RDATA	WDATA
VMSEVS	307	835	200	200	167	240000	WR	RDATA	WDATA
VMSEVS	308	836	200	200	167	240000	WR	RDATA	WDATA
VMSEVS	309	837	200	200	167	240000	WR	RDATA	WDATA

:EFILEPOOL.

*

:SMALL_FILEPOOL.

VMSEVS	191	804	003	003	003	003600	MR	RSERVER	WSERVER
VMSEVU	191	805	003	003	003	003600	MR	RSERVER	WSERVER
VMSEVR	191	806	002	002	002	002400	MR	RSERVER	WSERVER
VMSEVS	301	812	005	005	005	006000	WR	RCONTROL	WCONTROL
VMSEVS	302	811	005	005	005	006000	WR	RLOG1	WLOG1
VMSEVS	303	813	005	005	005	006000	WR	RLOG2	WLOG2
VMSEVS	304	814	030	030	025	036000	WR	RCATALOG	WCATALOG
VMSEVS	305	815	200	200	167	240000	WR	RDATA	WDATA
VMSEVU	301	817	010	010	009	012000	WR	RCONTROL	WCONTROL
VMSEVU	302	816	016	016	014	019200	WR	RLOG1	WLOG1
VMSEVU	303	818	016	016	014	019200	WR	RLOG2	WLOG2
VMSEVU	304	819	003	003	003	003600	WR	RCATALOG	WCATALOG
VMSEVU	305	81A	007	007	006	008400	WR	RDATA	WDATA
VMSEVR	301	81C	002	002	002	002400	WR	RCONTROL	WCONTROL
VMSEVR	302	81B	001	001	001	001200	WR	RLOG1	WLOG1
VMSEVR	303	81D	001	001	001	001200	WR	RLOG2	WLOG2
VMSEVR	304	81E	002	002	002	002400	WR	RCATALOG	WCATALOG
VMSEVR	305	81F	001	001	001	001200	WR	RDATA	WDATA
VMSEVR	306	820	002	002	002	002400	WR	RCRRLOG1	WCRRLOG1
VMSEVR	307	821	002	002	002	002400	WR	RCRRLOG2	WCRRLOG2

:ESMALL_FILEPOOL.

*

:VMSEVR.

VMSEVR	191	806	002	002	002	002400	MR	RSERVER	WSERVER
VMSEVR	301	81C	002	002	002	002400	WR	RCONTROL	WCONTROL
VMSEVR	302	81B	001	001	001	001200	WR	RLOG1	WLOG1
VMSEVR	303	81D	001	001	001	001200	WR	RLOG2	WLOG2
VMSEVR	304	81E	002	002	002	002400	WR	RCATALOG	WCATALOG
VMSEVR	305	81F	001	001	001	001200	WR	RDATA	WDATA
VMSEVR	306	820	002	002	002	002400	WR	RCRRLOG1	WCRRLOG1
VMSEVR	307	821	002	002	002	002400	WR	RCRRLOG2	WCRRLOG2

:EVMSEVR.

*

:VMSEVS1.

VMSEVS	191	804	003	003	003	003600	MR	RSERVER	WSERVER
VMSEVS	301	812	005	005	005	006000	WR	RCONTROL	WCONTROL
VMSEVS	302	811	005	005	005	006000	WR	RLOG1	WLOG1
VMSEVS	303	813	005	005	005	006000	WR	RLOG2	WLOG2
VMSEVS	304	814	030	030	025	036000	WR	RCATALOG	WCATALOG
VMSEVS	305	815	200	200	167	240000	WR	RDATA	WDATA
VMSEVS	306	834	200	200	167	240000	WR	RDATA	WDATA

:EVMSEVS1.

*

:VMSEVS2.

VMSEVS	307	835	200	200	167	240000	WR	RDATA	WDATA
VMSEVS	308	836	200	200	167	240000	WR	RDATA	WDATA
VMSEVS	309	837	200	200	167	240000	WR	RDATA	WDATA

:EVMSEVS2.

*

:VMSEVU.

VMSEVU	191	805	003	003	003	003600	MR	RSERVER	WSERVER
VMSEVU	301	817	010	010	009	012000	WR	RCONTROL	WCONTROL
VMSEVU	302	816	016	016	014	019200	WR	RLOG1	WLOG1
VMSEVU	303	818	016	016	014	019200	WR	RLOG2	WLOG2
VMSEVU	304	819	003	003	003	003600	WR	RCATALOG	WCATALOG
VMSEVU	305	81A	007	007	006	008400	WR	RDATA	WDATA

:EVMSEVU.

*

:TSAF_AVS.

TSAFVM	191	803	002	002	002	002400	MR	RTSAFOBJ	WTSFAOBJ	MTSAFOBJ
--------	-----	-----	-----	-----	-----	--------	----	----------	----------	----------

ITEMMD TABLE

```

AVSVM      191 802 003 003 003 003600 MR RAVSOBJ WAVSOBJ MAVSOBJ
MAINT      7A2 7A2 003 003 003 003600 MR READ  WRITE  MULTIPLE
MAINT      7A4 7A4 003 003 003 003600 MR READ  WRITE  MULTIPLE
MAINT      7A6 7A6 003 003 003 003600 MR READ  WRITE  MULTIPLE
MAINT      7B2 7B2 010 010 009 012000 MR READ  WRITE  MULTIPLE
MAINT      7C2 7C2 003 003 003 003600 MR READ  WRITE  MULTIPLE
MAINT      7C4 7C4 003 003 003 003600 MR READ  WRITE  MULTIPLE
MAINT      7D2 7D2 010 010 009 012000 MR READ  WRITE  MULTIPLE
:ETSAF_AVS.
*
:OSA_SF.
2VMVMV20 2B2 840 018 018 015 021600 MR ALL  WRITE  MULTIPLE
2VMVMV20 2C2 841 004 004 004 004800 MR ALL  WRITE  MULTIPLE
2VMVMV20 2D2 842 240 240 200 288000 MR ALL  WRITE  MULTIPLE
2VMVMV20 2A6 843 006 006 005 007200 MR ALL  WRITE  MULTIPLE
2VMVMV20 2A2 844 006 006 005 007200 MR ALL  WRITE  MULTIPLE
2VMVMV20 100 845 060 060 050 072000 MR ALL  WRITE  MULTIPLE
2VMVMV20 300 846 027 027 023 032400 MR ALL  WRITE  MULTIPLE
2VMVMV20 7F00 847 012 012 010 014400 MR ALL  WRITE  MULTIPLE
2VMVMV20 191 848 012 012 010 014400 MR ALL  WRITE  MULTIPLE
OSASF      200 849 060 060 050 072000 MR ALL  WRITE  MULTIPLE
OSASF      400 84A 027 027 023 032400 MR ALL  WRITE  MULTIPLE
OSASF      191 84B 012 012 010 014400 MR ALL  WRITE  MULTIPLE
OSAMAIN1   191 839 012 012 010 014400 MR ALL  WRITE  MULTIPLE
OSAMAIN1   7F00 84C 012 012 010 014400 MR ALL  WRITE  MULTIPLE
OSADMIN1   191 84D 012 012 010 014400 MR ALL  WRITE  MULTIPLE
OSADMIN2   191 84E 012 012 010 014400 MR ALL  WRITE  MULTIPLE
OSADMIN3   191 84F 012 012 010 014400 MR ALL  WRITE  MULTIPLE
:EOSA_SF.
:TSM.
5654A09A 191 838 001 001 001 001200 MR ALL  WRITE  MULTIPLE
5654A09A 2B2 83A 030 030 025 036000 MR ALL  WRITE  MULTIPLE
5654A09A 2D2 83B 108 108 090 129600 MR ALL  WRITE  MULTIPLE
5654A09A 2A6 83C 002 002 002 002400 MR ALL  WRITE  MULTIPLE
5654A09A 2A2 83D 002 002 002 002400 MR ALL  WRITE  MULTIPLE
5654A09A 491 83E 054 054 045 064800 MR ALL  WRITE  MULTIPLE
5654A09A 4E2 83F 054 054 045 064800 MR ALL  WRITE  MULTIPLE
:ETSM.
:EITEMS.
*
* ITEM              3380 9345 3390  FBA
:TOTALS.
BASE              4169 4169 3533 4978800
TCP_IP            1806 1806 1518 2164800
TCP_IP1           643  643  541  769200
TCP_IP2           638  638  540  765600
TCP_IP3           525  525  437  630000
GCS               43   43   41   51600
RSCS              149  149  133  178800
CMS_REXX          551  551  461  654000
CP_DV             301  301  253  354000
VMSES             96   96   85  108000
SYSTEM            351  351  306  421200
SYSTOOLS          400  400  334  480000
SYSUSERS          35   35   33   42000
ICKDSF            87   87   75  104400
LE_370            350  350  294  420000
CMS_REXX_SOURCE   95   95   80  114000
CMS_REXX_NOSOURCE 001  001  001  001200
CP_DV_SOURCE      250  250  208  300000
CP_DV_NOSOURCE    001  001  001  001200
VMSES_SOURCE      028  028  024  033600
VMSES_NOSOURCE    001  001  001  001200
RSCS_SOURCE       023  023  020  027600
UCENG_HELP        108  108  102  129600
GERMAN_HELP       116  116  110  139200
KANJI_HELP        116  116  110  139200

```

ITEMMD TABLE

FILEPOOL	1116	1116	940	1339200
FPOOL_SAMEDASD	116	116	105	139200
SMALL_FILEPOOL	316	316	272	379200
VMSEVS1	448	448	377	537600
VMSEVS2	600	600	501	720000
VMSEVU	55	55	49	66000
VMSEVR	13	13	13	15600
TSAF_AVS	40	40	38	48000
OSA_SF	544	544	455	652800
TSM	251	251	210	301200

:ETOTALS.

* These are the starting addresses for free space on the RES pack

:RESSTART.

3380 717

9345 717

3390 605

FB_512 860400

:ERESSTART.

*

:DASDSIZE.

3380 884

338E 1769

3383 2654

3391 1112

3392 2225

3393 3338

9345M1 1439

9345M2 2155

9336M1 920115

9336M2 1672881

:EDASDSIZE.

MAINT LINKLIST

USERID	MINIDISK	Linked By MAINT as
-----	-----	-----
CMSBATCH	195	801
AVSVM	191	802
TSAFVM	191	803
VMSERVS	191	804
VMSERVU	191	805
VMSEVR	191	806
GCS	191	807
GCSXA	191	808
EREP	191	809
AUTOLOG1	191	80A
DISKACNT	191	80B
OPERSYMP	191	80C
OPERATOR	191	80D
OP1	191	80E
OPERATNS	191	80F
LGLOPR	191	810
VMSERVS	302	811
VMSERVS	301	812
VMSERVS	303	813
VMSERVS	304	814
VMSERVS	305	815
VMSERVS	306	834
VMSERVS	307	835
VMSERVS	308	836
VMSERVS	309	837
VMSERVU	302	816
VMSERVU	301	817
VMSERVU	303	818
VMSERVU	304	819
VMSERVU	305	81A
VMSEVR	302	81B
VMSEVR	301	81C
VMSEVR	303	81D
VMSEVR	304	81E
VMSEVR	305	81F
VMSEVR	306	820
VMSEVR	307	821
P684042H	191	822
P684042H	2A2	823
P684042H	2A6	824
P684042H	2B2	825
P684042H	2C2	826
P684042H	2D2	827
P684042H	29D	828
P684042H	29E	829
P688198H	191	82A
P688198H	2A2	82B
P688198H	2A6	82C
P688198H	2B2	82D
P688198H	2C2	82E
P688198H	2D2	82F
P688198H	29E	830
RSCSDNS	191	831
UFTD	191	832
2VMVMV20	2B2	840
2VMVMV20	2C2	841
2VMVMV20	2D2	842
2VMVMV20	2A6	843
2VMVMV20	2A2	844
2VMVMV20	100	845
2VMVMV20	300	846

MAINT LINKLIST

2VMVMV20	7F00	847
2VMVMV20	191	848
OSASF	200	849
OSASF	400	84A
OSASF	191	84B
OSAMAIN	191	839
OSAMAIN	7F00	84C
OSADMIN1	191	84D
OSADMIN2	191	84E
OSADMIN3	191	84F
TCPMAINT	591	861
TCPMAINT	592	862
TCPMAINT	198	863
TCPMAINT	191	864
3TCPIPA0	191	865
3TCPIPA0	2C4	866
3TCPIPA0	2D2	868
3TCPIPA0	2A6	869
3TCPIPA0	2A2	86A
3TCPIPA0	491	86B
3TCPIPA0	492	86C
3TCPIPA0	2B2	86E
3TCPIPA0	2B3	86F
TCPIP	191	870
FTPSERVE	191	871
SMTP	191	872
NAMESRV	191	873
REXECD	191	874
X25IPI	191	875
PORTMAP	191	876
NDBPMGR	191	877
NDBSRV01	191	878
SNMPQE	191	879
SNMPD	191	87A
ROUTED	191	87F
LPSEVERE	191	880
SNALNKA	191	881
VMNFS	191	882
VMKERB	191	883
ADMSERV	191	884
BOOTPD	191	885
TFTPD	191	886
DHCPD	191	887
P684096K	2B2	850
P684096K	2C2	851
P684096K	2D2	852
P684096K	2A6	853
P684096K	2A2	854
P684096K	29D	855
P684096K	400	856
P684096K	401	857
P684096K	402	858
P684096K	406	859
P684096K	191	85A
P684096K	403	85B
P684096K	502	85C
P684096K	2B3	85D
P684096K	501	85E
P684096K	505	85F
XCHANGE	5BF	860
5654A09A	191	838
5654A09A	2B2	83A
5654A09A	2D2	83B
5654A09A	2A6	83C

MAINT LINKLIST

5654A09A	2A2	83D
5654A09A	491	83E
5654A09A	4E2	83F
MPROUTE	191	888
SSLSERV	201	889
SSLSERV	191	88A
SSLSERV	202	88B
SSLSERV	203	88C
SSLSERV	204	88D
SSLSERV	205	88E

MAINT LINKLIST

Appendix O. Rebuild the CMS Nucleus

In this appendix, you will:

- Rebuild the CMS nucleus.

Use this procedure for rebuilding the CMS nucleus during initial installation only. To rebuild the CMS nucleus any other time, see the steps on servicing CMS and rebuilding CMS in the *z/VM: Service Guide*.

1. Spool the output of your virtual punch and your virtual printer to your virtual reader.

spool punch *

Ready; T=*n.nn/n.nn hh:mm:ss*

spool print *

Ready; T=*n.nn/n.nn hh:mm:ss*

2. Enter the VMFBLD command to create the CMS nucleus. By issuing VMFBLD, you will incorporate updated CMS text files into a new CMS nucleus.

vmfblld ppf {zvmlucenglgerlkanji} cms cmsload (all setup

Build the nucleus with the appropriate system default language by using the PPF name corresponding to the LANGID parameter in the DMSNGP profile. Use **zvm** for mixed case English (AMENG), **uceng** for uppercase English (UCENG), **ger** for German, or **kanji** for Japanese.

+—————If you receive message VMFBLD2185R—————+

VMFBLD2185R The following source product parameter files have been serviced:

This message indicates that the \$PPF file has been serviced.

VMFBLD2185R 3VMVMA10 \$PPF

VMFBLD2185R When source product parameter files are serviced, all product parameter files built from them must be recompiled using VMFPPF before VMFBLD can be run

VMFBLD2185R Enter zero (0) to have the serviced source product parameter files built to your A-disk and exit VMFBLD so you can recompile your product parameter files with VMFPPF

VMFBLD2185R Enter one (1) to continue only if you have already recompiled your product parameter files with VMFPPF

0

Enter **0** to have the serviced product parameter files built.

Ready; T=*n.nn/n.nn hh:mm:ss*

Rebuild the CMS Nucleus

vmfppf {zvmlucenglgerlkanji} cms

Ready; T=n.nn/n.nn hh:mm:ss

copyfile 3vmvma10 \$ppf a = fm-51d (olddate replace

Ready; T=n.nn/n.nn hh:mm:ss

erase 3vmvma10 \$ppf a

Ready; T=n.nn/n.nn hh:mm:ss

vmfsetup {zvmlucenglgerlkanji} cms

:

Ready; T=n.nn/n.nn hh:mm:ss

vmfbld ppf {zvmlucenglgerlkanji} cms cmsload (all setup

Reissue the VMFBLD command to build the CMS nucleus.

:

VMFBLD2185R Enter zero (0) to have the serviced source product parameter files built to your A-disk and exit VMFBLD so you can recompile your product parameter files with VMFPPF

VMFBLD2185R Enter one (1) to continue only if you have already recompiled your product parameter files with VMFPPF

1 Enter 1 to continue.

+-----End of If you receive message VMFBLD2185R-----+

VMFBLD2760I VMFBLD processing started

VMFSET2760I VMFSETUP processing started for ZVM CMS

VMFUTL2205I Minidisk|Directory Assignments:

	String	Mode	Stat	Vdev	Label/Directory
VMFUTL2205I	LOCALMOD	E	R/W	3C4	MNT3C4
VMFUTL2205I	LOCALSAM	F	R/W	3C2	MNT3C2
VMFUTL2205I	APPLY	G	R/W	3A6	MNT3A6
VMFUTL2205I		H	R/W	3A4	MNT3A4
VMFUTL2205I		I	R/W	3A2	MNT3A2
VMFUTL2205I	DELTA	J	R/W	3D2	MNT3D2
VMFUTL2205I	BUILD7	K	R/W	493	MNT493
VMFUTL2205I	BUILD6	L	R/W	490	MNT490

VMFUTL2205I BUILD5 M R/W 19D MNT19D

VMFUTL2205I BUILD2 N R/W 193 MNT193

VMFUTL2205I BASE2 O R/W 3B2 MNT3B2

VMFUTL2205I BASE3 P R/W 393 MNT393

VMFUTL2205I ----- A R/W 191 MNT191

VMFUTL2205I ----- B R/W 5E5 MNT5E5

VMFUTL2205I ----- D R/W 51D MNT51D

VMFUTL2205I ----- S R/O 190 MNT190

VMFUTL2205I ----- Y/S R/O 19E MNT19E

When your system default national language is uppercase English, 402 will appear here in place of 19D. If your system default national language is Kanji, 401 will appear. If your system default national language is German, 405 will appear.

VMFSET2760I VMFSETUP processing completed successfully

VMFBLD1851I Reading build lists

VMFBLD2182I Identifying new build requirements

VMFBLD2182I New build requirements identified

VMFBLD1851I (1 OF 1) VMFBDNUC processing CMSLOAD {EXEC|EXCnnnnn}, target is BUILD6 490 (L)

A temporary load list is created and the system loader is invoked.

LOAD LIST: \$\$\$TLL\$\$ EXEC A1 mm/dd/yy hh:mm (MNT191)

Rebuild the CMS Nucleus

RDR FILE *fileno* SENT FROM MAINT PUN WAS The CMS nucleus has been sent to your reader.
fileno RECS *nnnn* CPY 001 A NOHOLD NOKEEP
VMFBLD1851I (1 OF 1) VMFBDNUC completed with return code 0
VMFBLD2180I There are *n* build requirements
remaining
VMFBLD2760I VMFBLD processing completed
successfully
Ready; T=*n.nn/n.nn hh:mm:ss*

- ___ 3. Verify that the CMS nucleus is in MAINT's virtual reader. Note the file number (*fileno*) of the CMS nucleus file \$\$\$TLL\$\$ IPL.

query rdr * all

The asterisk automatically substitutes your user ID (MAINT). The ALL operand asks for a display of all information about the reader files.

```
ORIGINID FILE CLASS RECORDS CPY HOLD DATE TIME NAME TYPE DIST
:
MAINT fileno A PUN nnnnnnnn 001 NONE mm/dd hh:mm:ss $$$TLL$$ IPL SYSPROG
Ready; T=n.nn/n.nn hh:mm:ss
```

- ___ 4. If the CMS nucleus (\$\$\$TLL\$\$ IPL) is not the first file in your reader, order your reader so that the CMS nucleus will be processed first.

order rdr *fileno*

fileno is the file number of the CMS nucleus.

```
0000001 FILE ORDERED
Ready; T=n.nn/n.nn hh:mm:ss
```

- ___ 5. Change the nucleus reader file status to ensure it remains in the reader after you IPL.

change rdr *fileno* keep

fileno is the file number of the CMS nucleus noted in substep 3.

```
0000001 FILE CHANGED
Ready; T=n.nn/n.nn hh:mm:ss
```

- ___ 6. Redefine the 190 and 490 minidisks so the nucleus will be saved on the 490.

define 190 590

```
DASD 590 DEFINED
Ready; T=n.nn/n.nn hh:mm:ss
```

define 490 190

```
DASD 190 DEFINED
Ready; T=n.nn/n.nn hh:mm:ss
```

- ___ 7. IPL MAINT's virtual reader to load the new CMS nucleus.

Note: Your virtual machine **must** have at least **21MB** of storage.

ipl 00c clear

Clear is necessary. Do not omit it.

```
DMSSLG283E THE NLSAMENG SAVED SEGMENT COULD NOT BE FOUND; RETURN CODE 44 FROM SEGMENT
```

Rebuild the CMS Nucleus

The CP nucleus supplied with the Initial Installation System was built with mixed case American English. If you built your new CMS with uppercase English, you will see this message whenever you IPL 490, until you build an uppercase English CP nucleus.

HCPNSS446E The Named Saved System (NSS) CMS was not previously defined and cannot be saved.

If you changed the SAVESYS operand in DMSNGP to SAVESYS=YES, you will receive message HCPNSS446E. The named saved segment does not need to be saved here. It will be saved in substeps 17 on page 270 and 18 on page 270.

This is the default version identification. If you defined your own version identification, it appears here and each time that you IPL 490.

Press **Enter** to complete CMS initialization.

z/VM V3.1.0 yyyy-mm-dd hh:mm

ENTER

Ready; T=n.nn/n.nn hh:mm:ss

define 190 490

DASD 490 DEFINED

Ready; T=n.nn/n.nn hh:mm:ss

define 590 190

DASD 190 DEFINED

Ready; T=n.nn/n.nn hh:mm:ss

- ___ 8. Purge the CMS nucleus from your reader to free spool space.

purge rdr *fileno*

0000001 FILE PURGED

Ready; T=n.nn/n.nn hh:mm:ss

fileno is the file identifier of the CMS nucleus identified in substep 3 on page 267.

- ___ 9. IPL your System disk (190). Note the file number of the CMS load map (*mfileno*). It will be used in substep 10.

Attention: You should not IPL your new CMS nucleus (490) until after the saved segments are rebuilt.

ipl 190 clear

RDR FILE *mfileno* SENT FROM MAINT PRT WAS
mfileno RECS nnnn CPY 001 A NOHOLD NOKEEP

z/VM V3.1.0 yyyy-mm-dd hh:mm

ENTER

Ready; T=n.nn/n.nn hh:mm:ss

Clear is necessary. Do not omit it.

The CMS load map has been sent to MAINT's virtual reader. If you do not get this message, it has already been sent there by a previous IPL 190.

Press **Enter** to complete CMS initialization.

- ___ 10. Receive the file from the virtual reader to the alternate TOOLS disk (493).

access 493 e

Ready; T=n.nn/n.nn hh:mm:ss

receive *mfileno* fn ft e (replace

mfileno is the file identifier of the CMS load map you noted in substep 9. You may give the CMS load map any file name and file type you like. The CMS load map on the System DDR is CMSNUC MAP. You may want to erase the old version to save space.

Rebuild the CMS Nucleus

```
DMSRDC738I Record length is nnn bytes
fn ft E1 created
File fn ft E1 received from MAINT
  at * sent as (none) (none) A1
Ready; T=n.nn/n.nn hh:mm:ss
```

The CMS load map is loaded onto the alternate SYSTEM TOOLS disk.

- __ 11. If you wish, you can now print a copy of the CMS load map.
- __ 12. Examine the load map for unresolved symbols. Unresolved symbols may indicate an error. Make sure that you understand the reason for any unresolved symbols you find before going on.

```
xedit fn ft e
```

fn and *ft* is the name you gave to the CMS nucleus map in the previous receive command.

```
====> locate /UNRESOLVED/
```

```
DMSXDC546E Target not found
```

This response means that no unresolved symbols were found.

```
====> qquit
```

```
Ready; T=n.nn/n.nn hh:mm:ss
```

- __ 13. If you wish, you can now pack the CMS load map to save minidisk space.

```
copyfile fn ft e (olddate pack
```

```
Ready; T=n.nn/n.nn hh:mm:ss
```

- __ 14. Copy the CMS load map to the production tools disk (193).

```
access 193 f
```

```
Ready; T=n.nn/n.nn hh:mm:ss
```

```
copyfile fn ft e = f (olddate replace
```

```
Ready; T=n.nn/n.nn hh:mm:ss
```

- __ 15. Now copy the serviced 490 minidisk to the production minidisk (190).

```
ddr
```

```
VM/ENTERPRISE SYSTEMS ARCHITECTURE
  DASD DUMP/RESTORE PROGRAM
ENTER:
```

```
sysprint cons
```

```
ENTER:
```

```
input 490 dasd mnt490
```

```
ENTER:
```

```
output 190 dasd mnt190
```

Rebuild the CMS Nucleus

ENTER:

copy all

COPYING MNT490
:
END OF COPY
ENTER:

ENTER

END OF JOB
Ready; T=*n.nn/n.nn hh:mm:ss*

- ___ 16. When you copied the 490 minidisk to the 190 minidisk, the DDR program copied the minidisk label. You must relabel the 190 minidisk as MNT190.

access 190 r

Access the 190 minidisk in read/write mode.

DMSACP725I 190 also = S disk
Ready; T=*n.nn/n.nn hh:mm:ss*

format 190 r (label

DMSFOR605R Enter disk label:

mnt190

Ready; T=*n.nn/n.nn hh:mm:ss*

- ___ 17. After you copy the 490 disk to the 190 disk, invoke SAMPNSS to define the CMS named saved system.

access 493 z

Ready; T=*n.nn/n.nn hh:mm:ss*

sampnss cmsname

SAMPNSS enters the DEFSYS command to define a skeleton system data file for CMS.

Users will receive the new level of CMS whenever they enter the command IPL *cmsname*.

HCPNSD440I Named Saved System (NSS) *cmsname* was
successfully defined in fileid *fileno*
Ready; T=*n.nn/n.nn hh:mm:ss*

These messages tell you that the DEFSYS command was successful.

- ___ 18. Save the CMS named saved system.

ipl 190 clear parm savesys cmsname

Load 190 with the option to save the system under the name *cmsname*.

HCPNSD440I Named Saved System (NSS) *cmsname* was
successfully saved in fileid *fileno*

z/VM V3.1.0 *yyyy-mm-dd hh:mm*

If you have changed the version heading, your own heading will appear.

Press **Enter** to complete CMS initialization.

ENTER

Ready; T=*n.nn/n.nn hh:mm:ss*

Appendix P. Build the CP Nucleus

In this appendix, you will:

- Rebuild the CPLOAD32, CPLOAD64, and CPLOAD modules.

Use this procedure for rebuilding the CPLOAD32, CPLOAD64, and CPLOAD modules during initial installation only. To rebuild these modules any other time, see the steps on servicing CP and rebuilding CP in the *z/VM: Service Guide*.

1. Enter the VMFBLD commands to build the CPLOAD32, CPLOAD64, and CPLOAD modules.

vmfbld ppf {zvmlucenglgerlkanji} cp cpload32 (all setup

Build the CPLOAD32 module with the appropriate system default language by using the PPF name corresponding to the LANGID parameter in the DMSNGP profile. Use **zvm** for mixed case English (AMENG), **uceng** for uppercase English (UCENG), **ger** for German, or **kanji** for Japanese.

The CPLOAD32 module is built to the 493 disk.

+—————If you receive message VMFBLD2185R—————+

VMFBLD2185R The following source product parameter files have been serviced:

This message indicates that the \$PPF file has been serviced.

VMFBLD2185R 3VMVMB10 \$PPF

VMFBLD2185R When source product parameter files are serviced, all product parameter files built from them must be recompiled using VMFPPF before VMFBLD can be run

VMFBLD2185R Enter zero (0) to have the serviced source product parameter files built to your A-disk and exit VMFBLD so you can recompile your product parameter files with VMFPPF

VMFBLD2185R Enter one (1) to continue only if you have already recompiled your product parameter files with VMFPPF

0 Enter **0** to have the serviced product parameter files built.

Ready; T=n.nn/n.nn hh:mm:ss

vmfppf {zvmlucenglgerlkanji} cp

Ready; T=n.nn/n.nn hh:mm:ss

copyfile 3VMVMB10 \$ppf a = fm-51d (olddate replace

Ready; T=n.nn/n.nn hh:mm:ss

erase 3VMVMB10 \$ppf a

Ready; T=n.nn/n.nn hh:mm:ss

vmfsetup {zvmlucenglgerlkanji} cp

:

Ready; T=n.nn/n.nn hh:mm:ss

vmfbld ppf {zvmlucenglgerlkanji} cp cpload32 (all setup

Build the CP Nucleus

Reissue the VMFBLD command to build the CP nucleus.

```

:
VMFBLD2185R Enter zero (0) to have the serviced source product
              parameter files built to your A-disk and exit VMFBLD
              so you can recompile your product parameter files
              with VMFPPF
VMFBLD2185R Enter one (1) to continue only if you have already
              recompiled your product parameter files with VMFPPF
1
Enter 1 to continue.

```

+-----End of If you receive message VMFBLD2185R-----+

```

VMFBLD2760I VMFBLD processing started
VMFSET2760I VMFSETUP processing started for ZVM CP
VMFUTL2205I Minidisk|Directory Assignments:
              String      Mode  Stat  Vdev  Label/Directory
VMFUTL2205I LOCALMOD     E     R/W   2C4   MNT2C4
VMFUTL2205I LOCALSAM     F     R/W   2C2   MNT2C2
VMFUTL2205I APPLY        G     R/W   2A6   MNT2A6
VMFUTL2205I              H     R/W   2A4   MNT2A4
VMFUTL2205I              I     R/W   2A2   MNT2A2
VMFUTL2205I DELTA        J     R/W   2D2   MNT2D2
VMFUTL2205I BUILD7       K     R/W   493   MNT493
VMFUTL2205I BUILD6       L     R/W   490   MNT490
VMFUTL2205I BUILD5       M     R/W   19D   MNT19D
VMFUTL2205I BUILD2       N     R/W   193   MNT193
VMFUTL2205I BASE2        O     R/W   194   MNT194
VMFUTL2205I BASE3        P     R/W   394   MNT394
VMFUTL2205I -----     A     R/W   191   MNT191
VMFUTL2205I -----     B     R/W   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
VMFBLD1851I Reading build lists
VMFBLD2182I Identifying new build requirements
VMFBLD2182I New build requirements identified
VMFBLD1851I (1 OF 1) VMFBDNUC processing CLOAD32 {EXEC|EXCnnnnn} 0, target is BUILD7 493 (K)
LOAD LIST: $$$TLL$$ EXEC      A1 mm/dd/yy hh:mm (MNT191)
CSECT'S WITH SIZE GREATER THAN CONDITIONAL PAGE BOUNDARY

@MAPSTRT nnnnnn  HCPGEN  nnnnnn  HCPZSC  nnnnnn
VMFBLD1851I (1 of 1) VMFBDNUC completed
              with return code 0
VMFBLD2180I There are n build requirements
              remaining
VMFBLD2760I VMFBLD processing completed successfully
Ready; T=n.nn/n.nn hh:mm:ss

```

When your system default national language is uppercase English, 402 will appear here in place of 19D.

The MAPSTRT CSECT is being loaded and is larger than 4096 bytes. This is normal.

This build processing creates a CP loadmap on your 493 disk with a file identifier of CLOAD32 MAP.

This is an informational message only and does not indicate a problem.

vmfbld ppf {zvm|lucenglger|kanji} cp cpload64 (all setup

Build the CP Nucleus

Build the CPLOAD64 module with the appropriate system default language by using the PPF name corresponding to the LANGID parameter in the DMSNGP profile. Use **zvm** for mixed case English (AMENG), **uceng** for uppercase English (UCENG), **ger** for German, or **kanji** for Japanese.

The CPLOAD64 module is built to the 493 disk.

```
VMFBLD2760I VMFBLD processing started
VMFSET2760I VMFSETUP processing started for ZVM CP
```

```
VMFUTL2205I Minidisk|Directory Assignments:
              String   Mode  Stat  Vdev  Label/Directory
VMFUTL2205I LOCALMOD   E     R/W  2C4   MNT2C4
VMFUTL2205I LOCALSAM   F     R/W  2C2   MNT2C2
VMFUTL2205I APPLY      G     R/W  2A6   MNT2A6
VMFUTL2205I             H     R/W  2A4   MNT2A4
VMFUTL2205I             I     R/W  2A2   MNT2A2
VMFUTL2205I DELTA      J     R/W  2D2   MNT2D2
VMFUTL2205I BUILD7     K     R/W  493   MNT493
VMFUTL2205I BUILD6     L     R/W  490   MNT490

VMFUTL2205I BUILD5     M     R/W  19D   MNT19D
VMFUTL2205I BUILD2     N     R/W  193   MNT193
VMFUTL2205I BASE2      O     R/W  194   MNT194
VMFUTL2205I BASE3      P     R/W  394   MNT394
VMFUTL2205I -----   A     R/W  191   MNT191
VMFUTL2205I -----   B     R/W  5E5   MNT5E5
VMFUTL2205I -----   D     R/W  51D   MNT51D
VMFUTL2205I -----   S     R/O  190   MNT190
VMFUTL2205I -----   Y/S    R/O  19E   MNT19E
```

When your system default national language is uppercase English, 402 will appear here in place of 19D.

```
VMFSET2760I VMFSETUP processing completed successfully
VMFBLD1851I Reading build lists
VMFBLD2182I Identifying new build requirements
VMFBLD2182I New build requirements identified
VMFBLD1851I (1 OF 1) VMFBDNUC processing CPLOAD64 {EXEC|EXCnnnnn} 0, target is BUILD7 493 (K)
LOAD LIST: $$$TLL$$ EXEC      A1 mm/dd/yy hh:mm (MNT191)
```

CSECT'S WITH SIZE GREATER THAN CONDITIONAL PAGE BOUNDARY

```
@MAPSTRT nnnnnn  HCPIST  nnnnnn  HCPZSC  nnnnnn
```

The MAPSTRT CSECT is being loaded and is larger than 4096 bytes. This is normal.

```
VMFBLD1851I (1 of 1) VMFBDNUC completed
              with return code 0
```

This build processing creates a CP loadmap on your 493 disk with a file identifier of CPLOAD64 MAP.

```
VMFBLD2180I There are n build requirements
              remaining
```

This is an informational message only and does not indicate a problem.

```
VMFBLD2760I VMFBLD processing completed successfully
```

```
Ready; T=n.nn/n.nn hh:mm:ss
```

vmfbld ppf {zvmlucenglgerlkanji} cp hcpblnuc (all setup

Build the CPLOAD module with the appropriate system default language by using the PPF name corresponding to the LANGID parameter in the DMSNGP profile. Use **zvm** for mixed case English (AMENG), **uceng** for uppercase English (UCENG), **ger** for German, or **kanji** for Japanese.

The CPLOAD module is built to the 493 disk.

Build the CP Nucleus

```

VMFBLD2760I VMFBLD processing started
VMFSET2760I VMFSETUP processing started for ZVM CP
VMFUTL2205I Minidisk|Directory Assignments:
              String  Mode  Stat  Vdev  Label/Directory
VMFUTL2205I LOCALMOD  E     R/W  2C4   MNT2C4
VMFUTL2205I LOCALSAM  F     R/W  2C2   MNT2C2
VMFUTL2205I APPLY     G     R/W  2A6   MNT2A6
VMFUTL2205I           H     R/W  2A4   MNT2A4
VMFUTL2205I           I     R/W  2A2   MNT2A2
VMFUTL2205I DELTA     J     R/W  2D2   MNT2D2
VMFUTL2205I BUILD7    K     R/W  493   MNT493
VMFUTL2205I BUILD6    L     R/W  490   MNT490
VMFUTL2205I BUILD5    M     R/W  19D   MNT19D
VMFUTL2205I BUILD2    N     R/W  193   MNT193
VMFUTL2205I BASE2     O     R/W  194   MNT194
VMFUTL2205I BASE3     P     R/W  394   MNT394
VMFUTL2205I -----   A     R/W  191   MNT191
VMFUTL2205I -----   B     R/W  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
VMFBLD1851I Reading build lists
VMFBLD2182I Identifying new build requirements
VMFBLD2182I New build requirements identified
VMFBLD1851I (1 OF 1) VMFBDCOM processing HCPBLNUC {EXEC|EXCnnnnn} 0, target is BUILD7 493 (K)
LOAD LIST: $$$TLL$$ EXEC    A1 mm/dd/yy hh:mm (MNT191)
VMFBDC2219I Processing Object CPLOAD.MODULE
VMFBLD1851I (1 of 1) VMFBDCOM completed
              with return code 0
VMFBLD2180I There are n build requirements          This is an informational message only and does not
              remaining                             indicate a problem.
VMFBLD2760I VMFBLD processing completed successfully
Ready; T=n.nn/n.nn hh:mm:ss

```

- ___ 2. If you are generating a CP module with a preferred virtual machine refer to *z/VM: Planning and Administration* to determine how to set up your IPL parameters for SALIPL.
- ___ 3. The CPLOAD32 MAP and CPLOAD64 MAP files were created on your 493 disk. If you wish, you can now print a copy of the maps.
- ___ 4. Examine the load map for unresolved symbols. Unresolved symbols may indicate an error. Make sure that you understand the reason for any unresolved symbols you find before going on.

access 493 e

```

DMSACC724I 493 replaces E(2C4)
DMSACP726I 493 K released
Ready; T=n.nn/n.nn hh:mm:ss

```

xedit cpload32 map e

```
====> locate /UNRESOLVED/
```

```
DMSXDC546E Target not found
```

This response means that no unresolved symbols were found.

```
====> qquit
```

```
Ready; T=n.nn/n.nn hh:mm:ss
```


xedit cpload64 map e

====> locate /UNRESOLVED/

DMSXDC546E Target not found

This response means that no unresolved symbols were found.

====> qquit

Ready; T=*n.nn/n.nn hh:mm:ss*

access 193 f

Ready; T=*n.nn/n.nn hh:mm:ss*

copyfile cpload32 map e = f (olddate replace

Ready; T=*n.nn/n.nn hh:mm:ss*

copyfile cpload64 map e = f (olddate replace

Ready; T=*n.nn/n.nn hh:mm:ss*

___ 5. Copy the CPLOAD module to the primary parm disk.

query cpdisk

Label	Userid	Vdev	Mode	Stat	Vol-ID	Rdev	Type	StartLoc	EndLoc
MNTCF1	MAINT	0CF1	A	R/O	310RES	nnnn	nnnn	<i>nn</i>	<i>nn</i>
MNTCF2	MAINT	0CF2	B	R/O	310RES	nnnn	nnnn	<i>nn</i>	<i>nn</i>

Ready; T=*n.nn/n.nn hh:mm:ss*

If the primary parm disk (CF1) is not accessed, skip the CPRELEASE A command and continue with the LINK command.

cprelease a

CPRELEASE request for disk A scheduled.
HCPZAC6730I CPRELEASE request for disk A completed.
Ready; T=*n.nn/n.nn hh:mm:ss*

Release the primary parm disk from CP.

link maint cf1 cf1 mr

Ready; T=*n.nn/n.nn hh:mm:ss*

Link the primary parm disk with a multiread mode.

access cf1 z

Ready; T=*n.nn/n.nn hh:mm:ss*

Access the primary parm disk.

erase cplold module z

Ready; T=*n.nn/n.nn hh:mm:ss*

If you have more than one CPLOAD MODULE on the CF1 disk, erase all but the latest CPLOAD MODULE.

rename cpload module z cplold =

Ready; T=*n.nn/n.nn hh:mm:ss*

Rename your CP nucleus file currently residing on the primary parm disk to maintain a backup copy.

copyfile cpload module e = z (olddate

Ready; T=*n.nn/n.nn hh:mm:ss*

Copy the new CPLOAD MODULE, which is your CP nucleus, to the primary parm disk (CF1).

erase cpload module e

Ready; T=*n.nn/n.nn hh:mm:ss*

Build the CP Nucleus

- ___ 6. Release the CF1 disk from the CMS access order and reaccess it for CP.

release z (detach

DASD CF1 DETACHED
Ready; T=*n.nn/n.nn hh:mm:ss*

This command releases and detaches the CF1 disk from your access search order.

cpaccess maint cf1 a sr

CPACCESS request for mode A scheduled.
Ready; T=*n.nn/n.nn hh:mm:ss*
HCPZAC6732I CPACCESS request for MAINT's 0CF1
in mode A completed.

- ___ 7. Release the TOOLS minidisks (493 and 193).

release e

Ready; T=*n.nn/n.nn hh:mm:ss*

release f

Ready; T=*n.nn/n.nn hh:mm:ss*

Appendix Q. Build the GCS Nucleus

Step 1. Tailor GCS

In this step you will:

- Change the GCS defaults.

1. If you wish to install GCS with an alternate name or change the GCS nucleus placement or add multiple GCS systems, refer to “Appendix I. Changing GCS Nucleus Options” on page 233.
2. If you wish to change the GCS default definitions supplied by IBM you must follow the rest of this step. It involves running the GROUP command to redefine your GCS System through the configuration file, and then reassembling the GCS configuration file.
3. Establish the correct minidisk order. Use the GCS operand if you left GCS on minidisks, or the GCSSFS operand if you moved GCS to SFS directories. **Make a note of the file mode assigned to the LOCALMOD disk (6C4).**

Attention: If you left GCS on minidisks, you must also build and save GCS on minidisks. You **must** continue to access and service GCS on minidisks. If you moved GCS to Shared File System directories, you **must** continue to access and service GCS on the Shared File System.

```
vmfsetup zvm {gcs|gcssf}
```

The following console is for VMFSETUP ZVM GCS only. If you install on Shared File System directories, the minidisk names below will be substituted with directory addresses.

```
VMFSET2760I VMFSETUP processing started
VMFUTL2205I Minidisk|Directory Assignments:
          String  Mode  Stat  Vdev  Label/Directory
VMFUTL2205I LOCALMOD  E    R/W   6C4   MNT6C4
VMFUTL2205I LOCALMD2  F    R/W   3C4   MNT3C4
VMFUTL2205I LOCALSAM  G    R/W   6C2   MNT6C2
VMFUTL2205I APPLY    H    R/W   6A6   MNT6A6
VMFUTL2205I          I    R/W   6A4   MNT6A4
VMFUTL2205I          J    R/W   6A2   MNT6A2
VMFUTL2205I APPLY2   K    R/W   3A6   MNT3A6
VMFUTL2205I          L    R/W   3A4   MNT3A4
VMFUTL2205I          M    R/W   3A2   MNT3A2
VMFUTL2205I DELTA    N    R/W   6D2   MNT6D2
VMFUTL2205I DELTA2   O    R/W   3D2   MNT3D2
VMFUTL2205I BUILD7   P    R/W   493   MNT493
VMFUTL2205I BUILD5   Q    R/W   19D   MNT19D
VMFUTL2205I BUILD2   R    R/W   193   MNT193
VMFUTL2205I BASE2    T    R/W   6B2   MNT6B2
VMFUTL2205I BASE4    U    R/W   3B2   MNT3B2
VMFUTL2205I -----  A    R/W   191   MNT191
VMFUTL2205I -----  B    R/W   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
Ready; T=n.nn/n.nn hh:mm:ss
```

4. Enter the GROUP command using the GROUP command to display the configuration panels.

Tailor GCS

Notes:

- If you are using a printer-keyboard (“line-mode”) terminal instead of a full-screen display device, you cannot use the GROUP command, because you cannot display the panels. You must build the configuration file manually, using the build macros described in *z/VM: Group Control System*.
- GROUP uses a GCS message repository that is available only in American mixed case English (AMENG) and uppercase English (UCENG). If your system default national language is other than AMENG, GROUP uses the UCENG message repository.
- The IBM default name for the GCS configuration file is GCS, and the file type is ASSEMBLE. Therefore *systemname* is GCS, and the defaults listed at the beginning of this step display on the GROUP panels (unless the GCS GROUP file is erased).
- If you are changing the *systemname*, you should have already completed “Appendix I. Changing GCS Nucleus Options” on page 233.

Refer to Table 15 for guidance on PF key functions as you move through the panels.

group *systemname*

Ready; T=*n.nn/n.nn hh:mm:ss*

This command assigns *systemname* as the file name of the GCS configuration file that you are creating and invokes the Primary Option Menu.

systemname is either the IBM-supplied system name (GCS) or the changed name you specified.

If you specify a system name here, the Primary Option Menu appears with the system name filled in. If you do not specify a system name here, then the Primary Option Menu panel appears with the SYSTEM NAME field filled in with the IBM-supplied default name of **GCS**.

Table 15. Function Keys Used With the GROUP Panels

Key	Function	Explanation
PF1	HELP	Shows information about the panel you are looking at.
PF2	CLEAR/MORE	Clears the input areas where you enter information. - On panels where multiple values are accepted, pressing PF2 gives you an additional screen that lets you enter more values. - Information from the previous panel does not need to be saved until you are ready to exit that panel's function.
PF3	END/RETURN	Leaves the present panel and returns you to a previous one. - If you press PF3 on the Primary Option Menu, you return to CMS. - If you press PF3 on any other screen, you return to the Primary Option Menu.
PF4	Not Used	
PF5	REFRESH	Fills in the panel's input areas with the values you last saved there.
PF6	SAVE	Saves information you've entered on the panel or panels (for the configuration file <i>systemname</i> GROUP).
PF7	PREVIOUS	Returns to the previous panel, if there is one.
PF8	NEXT	Moves ahead to the next panel, if there is one.
PF9	VERIFY	This PF key validates the user IDs or the saved segments entered on the panel.
PF10	VEROVER	Checks to see if segments you have entered on the panel overlap each other.

Table 15. Function Keys Used With the GROUP Panels (continued)

Key	Function	Explanation
PF11	Not Used	
PF12	CURSOR	Moves the cursor to the panel's command line.
Enter	PROCESS	Saves information you've entered and processes any valid CP or CMS command typed on the command line. A specific command you can enter is CANCEL, entered on any panel, to return you to CMS.

Tailor GCS

On the GROUP Primary Option Menu panel, check the system name and select the next panel you want to display.

GRP1	GCS GROUP - PRIMARY OPTION MENU	Primary
------	---------------------------------	---------

Fill in the blanks with the required information and then press the ENTER key.

Type/change the name of the saved system that is being defined.

SYSTEM NAME : GCS.....

Type one number from the list below to display/update the:

1. Authorized VM Userids.
2. Saved System Information.
3. Saved Segment Links.
4. VM Userids requiring reserved storage for VSAM.

Type your choice here: _

PF: 1	HELP	2	CLEAR	3	END	4	...	5	...	6	...
PF: 7	...	8	...	9	...	10	...	11	...	12	CURSOR

====>

On the GROUP Authorized VM User IDs panel, enter the user IDs of the virtual machines allowed to use GCS functions.

GRP11 AUTHORIZED VM USERIDS FOR < > PAGE 1 OF 1

To ADD, fill in the blanks with the authorized VM userids.
 To CHANGE, type a new userid over the userid to be changed.
 To DELETE, type blanks on the line.
 To SAVE, press the ENTER key or PF6.

VTAM....	GCS.....	MAINT...	NETVIEW.	OPERATNS
RSCS....	AVSVM...	PDMREM1.	PDMGRP4.	SNALNKA.
PVMG....	NVAS....	IHVOPER.	CMEOSI..	NPM.....
VSCS....	.....	.....	.....	.....

PF: 1 HELP 2 MORE 3 RETURN 4 ... 5 REFRESH 6 SAVE
 PF: 7 PREVIOUS 8 NEXT 9 VERIFY 10 ... 11 ... 12 CURSOR

====>

Tailor GCS

On the first page of the GROUP Saved System Information panel, enter information about the saved system for the GCS nucleus.

GRP121 SAVED SYSTEM INFORMATION FOR < > PAGE 1 OF 2

To ADD, fill in the blanks with the information.
 To CHANGE, type the information over the displayed value.
 To DELETE, type blanks on the line.
 To SAVE, press the ENTER key or PF6.

RECOVERY MACHINE USERID (required) : GCS.....

USERID to RECEIVE STORAGE DUMPS. : OPERATNS

GCS TRACE TABLE SIZE (minimum 4K). : ____16 K

Common storage above 16M line (YES or NO):: YES.

Single user environment (YES or NO). . . . : NO.

Saved system information is continued on the next screen.

PF: 1 HELP 2 CLEAR 3 RETURN 4 ... 5 REFRESH 6 SAVE

PF: 7 ... 8 NEXT 9 VERIFY 10 ... 11 ... 12 CURSOR

====>

Note: If you want to change the start and end addresses of common storage above the 16MB line, refer to “Appendix I. Changing GCS Nucleus Options” on page 233.

On the second page of the GROUP Saved System Information panel, enter additional information about the saved system.

GRP122	SAVED SYSTEM INFORMATION FOR	<	>	PAGE 2 OF 2

To ADD, fill in the blanks with the information. To CHANGE, type the information over the displayed value. To DELETE, type blanks on the line. To SAVE, press the ENTER key or PF6.				
MAXIMUM NUMBER of VIRTUAL MACHINES (required). ..		14		
SYSTEM ID (maximum 130 characters)		GCS_____		

NAME of the VSAM SEGMENT		CMSVSAM.		
NAME of the BAM SEGMENT		CMSBAM..		
GCS saved system is restricted (YES or NO) . . .		YES		
TRACE TABLE in private storage (YES or NO) . . .		YES		

PF: 1	HELP	2	CLEAR	3
PF: 7	PREVIOUS	8	...	9
				10
				11
				12
				CURSOR
====>				

Note: If the names of the VSAM and BAM segments are CMSVSAM and CMSBAM, respectively, no changes are required. For installation of the CMSVSAM and CMSBAM segments, refer to the VSE/VSAM for VM Program Directory.

Tailor GCS

On the GROUP Automatic Saved Segment Links panel, enter the names of the saved segments to be automatically linked when the saved system is IPLed.

GRP13 AUTOMATIC SAVED SEGMENT LINKS FOR < > PAGE 1 OF 1

To ADD, fill in the blanks with the saved segment names
 that will be linked automatically during
 initialization of this virtual machine group.

To CHANGE, type a new saved segment name over the saved
 segment name to be changed.

To DELETE, type blanks on the line.

To SAVE, press the ENTER key or PF6.

VTAM....	NETVSG00	.....	.....	.....
.....				
.....				
.....				

PF: 1 HELP 2 MORE 3 RETURN 4 ... 5 REFRESH 6 SAVE
PF: 7 PREVIOUS 8 NEXT 9 VERIFY 10 VEROVER 11 ... 12 CURSOR

====>

On the GROUP User IDs Requiring Reserved Storage for VSAM panel, enter the user IDs that require reserved storage for VSAM.

GRP14		USERIDS REQUIRING RESERVED STORAGE FOR VSAM		PAGE 1 OF 1	

To ADD, fill in the blanks with the VM userids for VSAM. To CHANGE, type a new userid over the userid to be changed. To DELETE, type blanks on the line. To SAVE, press the ENTER key or PF6.					
NETVIEW.	NVAS....	CMEOSI..	.....	.....	
.....					
.....					
.....					

PF: 1	HELP	2	MORE	3	RETURN
PF: 7	PREVIOUS	8	NEXT	9	VERIFY
				10	...
				11	...
				12	CURSOR
=====>					

Tailor GCS

- ___ 5. Prepare the file for assembly and copy the file to the GCS LOCALMOD minidisk (6C4).

copyfile *systemname* **group a = assemble** *fm-6c4* (**replace olddate**

Ready; T=*n.nn/n.nn hh:mm:ss*

systemname is either the IBM-supplied system name (GCS), or the changed name you specified.

copyfile *systemname* **group a = =** *fm-6c4* (**replace olddate**

Ready; T=*n.nn/n.nn hh:mm:ss*

erase *systemname* **group a**

Ready; T=*n.nn/n.nn hh:mm:ss*

- ___ 6. Assemble the GCS configuration file.

vmfasm *systemname* **zvm {gcs|gcssf}** (**outmode localmod**

systemname is either the IBM-supplied system name (GCS), or the changed name you specified.

The **outmode localmod** options place the updated text file on the GCS LOCALMOD minidisk (6C4).

Use the **gcs** operand if you loaded GCS to minidisks, the **gcssf** operand if you moved GCS to SFS directories.

These system messages will vary depending upon the assembler used.

VMFASM2760I VMFASM processing started
DMSUPD181E No update files were found
VMFASM1907I Assembling *systemname*
ASSEMBLER(XF) DONE
NO STATEMENTS FLAGGED IN THIS ASSEMBLY

VMFASM2507I *systemname* TXT00000 created on your E-disk
for use in a VMSES/E environment
VMFASM2760I VMFASM processing completed successfully
RDR FILE *fileno* SENT FROM MAINT PRT WAS *fileno*
RECS *nnnn* CPY 001 A NOHOLD NOKEEP
Ready; T=*n.nn/n.nn hh:mm:ss*

Note: If you recreate the configuration file, you must enter the GROUP command with the same system name, and change the information brought up on those panels to the correct values. Then perform steps 5 and 6 to prepare the file for assembly and to reassemble the configuration file.

Step 2. Rebuild and Save the GCS Nucleus

In this step you will:

- Rebuild and save the GCS nucleus.

Use this procedure for rebuilding the GCS nucleus during initial installation only. To rebuild the GCS nucleus any other time, see the steps on servicing GCS and rebuilding GCS in the *z/VM: Service Guide*.

- Spool the output of your virtual punch and printer to your own virtual reader.

spool punch *

Ready; T=*n.nn/n.nn hh:mm:ss*

spool print *

Ready; T=*n.nn/n.nn hh:mm:ss*

- Ensure that your virtual storage is defined at least 1MB larger than the value you defined for HIGH COMMON END in the procedure defined in Appendix I. Changing GCS Nucleus Options, substep 7 on page 235. If you did not change the default, high common end storage is 18MB.

query virtual storage

STORAGE = *nnnnM*

define storage 20m

Storage cleared - system reset

ipl 190 clear

Issue the DEFINE command **only** if you have less than 20MB of storage.

Clear is necessary. Do not omit it.

z/VM V3.1.0 *yyyy-mm-dd hh:mm*

ENTER

Press **Enter** to complete CMS initialization.

Ready; T=*n.nn/n.nn hh:mm:ss*

- Build and save the GCS nucleus.

Attention: If you left GCS on minidisks, you must also build and save GCS on minidisks. You **must** continue to access and service GCS on minidisks. If you moved GCS to Shared File System directories, you **must** continue to access and service GCS on a Shared File System.

vmfbld ppf ppfname compname buildlistname (all setup

Rebuild and Save the GCS Nucleus

ppfname:

zvm	To build GCS in mixed-case English (AMENG)
uceng	To build GCS in uppercase English (UCENG)
<i>ppfovername</i>	The PPF name created in “Appendix I. Changing GCS Nucleus Options” on page 233.

compname:

gcs	GCS is loaded on minidisks
gcssf	GCS was moved to SFS directories.

buildlistname:

gctload	If you did not change your system name
<i>name</i>	If you did change your system name, the name of the new build list you created in “Appendix I. Changing GCS Nucleus Options” on page 233.

+—————If you receive message VMFBLD2185R—————+

VMFBLD2185R The following source product parameter files have been serviced:

This message indicates that the \$PPF file has been serviced.

VMFBLD2185R 3VMVML10 \$PPF

VMFBLD2185R When source product parameter files are serviced, all product parameter files built from them must be recompiled using VMFPPF before VMFBLD can be run

VMFBLD2185R Enter zero (0) to have the serviced source product parameter files built to your A-disk and exit VMFBLD so you can recompile your product parameter files with VMFPPF

VMFBLD2185R Enter one (1) to continue only if you have already recompiled your product parameter files with VMFPPF

0 Enter **0** to have the serviced product parameter files built.

Ready; T=n.nn/n.nn hh:mm:ss

vmfppf *ppfname compname*

Ready; T=*n.nn/n.nn hh:mm:ss*

copyfile 3vmvml10 \$ppf a = = fm-51d (olddate replace

Ready; T=*n.nn/n.nn hh:mm:ss*

erase 3vmvml10 \$ppf a

Ready; T=*n.nn/n.nn hh:mm:ss*

vmfsetup *ppfname compname*

:

Ready; T=*n.nn/n.nn hh:mm:ss*

vmfblld *ppf ppfname compname buildlistname (all setup*

Reissue the VMFBLD command to build the GCS nucleus.

:

VMFBLD2185R Enter zero (0) to have the serviced source product parameter files built to your A-disk and exit VMFBLD so you can recompile your product parameter files with VMFPPF

VMFBLD2185R Enter one (1) to continue only if you have already recompiled your product parameter files with VMFPPF

1

Enter 1 to continue.

+-----End of If you receive message VMFBLD2185R -----+

VMFBLD2760I VMFBLD processing started

VMFSET2760I VMFSETUP processing started for *ppfname compname*

VMFUTL2205I Minidisk|Directory Assignments:

	String	Mode	Stat	Vdev	Label/Directory
VMFUTL2205I	LOCALMOD	E	R/W	6C4	MNT6C4
VMFUTL2205I	LOCALMD2	F	R/W	3C4	MNT3C4
VMFUTL2205I	LOCALSAM	G	R/W	6C2	MNT6C2
VMFUTL2205I	APPLY	H	R/W	6A6	MNT6A6
VMFUTL2205I		I	R/W	6A4	MNT6A4
VMFUTL2205I		J	R/W	6A2	MNT6A2
VMFUTL2205I	APPLY2	K	R/W	3A6	MNT3A6
VMFUTL2205I		L	R/W	3A4	MNT3A4
VMFUTL2205I		M	R/W	3A2	MNT3A2
VMFUTL2205I	DELTA	N	R/W	6D2	MNT6D2
VMFUTL2205I	DELTA2	O	R/W	3D2	MNT3D2
VMFUTL2205I	BUILD7	P	R/W	493	MNT493
VMFUTL2205I	BUILD5	Q	R/W	19D	MNT19D
VMFUTL2205I	BUILD2	R	R/W	193	MNT193
VMFUTL2205I	BASE2	T	R/W	6B2	MNT6B2
VMFUTL2205I	BASE4	U	R/W	3B2	MNT3B2
VMFUTL2205I	-----	A	R/W	191	MNT191
VMFUTL2205I	-----	B	R/W	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

VMFBLD1851I Reading build lists

VMFBLD2182I Identifying new build requirements

VMFBLD2182I New build requirements identified

VMFBLD1851I (1 OF 1) VMFBDNUC processing *buildlistname* {EXEC|EXCnnnnn}, target is BUILD7 493 (P)

LOAD LIST: \$\$\$TLL\$\$ EXEC A1 *mm/dd/yy hh:mm* (MNT191)

Rebuild and Save the GCS Nucleus

```
RDR FILE fileno SENT FROM MAINT    PUN WAS fileno
RECS nnnn CPY   001 A NOHOLD NOKEEP
```

The GCS nucleus has been sent to MAINT's virtual reader.

```
VMFBLD1851I (1 of 1) VMFBDNUC completed with return code 0
VMFBLD2180I There are n build requirements remaining
VMFBLD2760I VMFBLD processing completed successfully
Ready; T=n.nn/n.nn hh:mm:ss
```

- Verify that the GCS nucleus is in MAINT's virtual reader. **Make a note of the file number (*fileno*) of the GCS nucleus file (\$\$\$TLL\$\$ IPL) that you will IPL in substep 7.**

query rdr * all

The asterisk substitutes your user ID (MAINT). The ALL operand asks for a display of all information about the reader files.

```
ORIGINID FILE   CLASS RECORDS  CPY HOLD DATE  TIME      NAME      TYPE      DIST
:
MAINT   fileno A PUN  nnnnnnnn 001 USER mm/dd hh:mm:ss $$$TLL$$ IPL    SYSPROG
Ready; T=n.nn/n.nn hh:mm:ss
```

- If the GCS nucleus is not the first file in your reader, order your reader so that the GCS nucleus will be processed first.

order rdr *fileno*

fileno is the file number of the GCS nucleus.

```
0000001 FILE ORDERED
Ready; T=n.nn/n.nn hh:mm:ss
```

- Change the nucleus reader file status to ensure it remains in the reader after you IPL.

change rdr *fileno* keep

```
0000001 FILE CHANGED
Ready; T=n.nn/n.nn hh:mm:ss
```

- IPL MAINT's virtual reader to save the GCS new nucleus.

Note: If you try to save the GCS nucleus in a 370 virtual machine, you will receive message HCPLDR8028W.

ipl 00c clear

Clear is necessary. Do not omit it.

```
HCPNSD440I The Named Saved System (NSS) systemname was successfully defined in fileid fileid
FILE FILENAME FILETYPE MINSIZE  BEGPAG  ENDPAG  TYPE  CL  #USERS  PARMREGS  VMGROUP
nnnn systemname NSS      0000256K 00000  0000C   EW  R  00000   OMITTED   YES
                                00400  0044D   SR
                                0044E  0044E   SW
                                0044F  005FF   SN
                                01000  0101A   SR
                                0101B  011FF   SN
nnnn systemname NSS      0000256K 00000  0000C   EW  S  00000   OMITTED   YES
                                00400  0044D   SR
                                0044E  0044E   SW
                                0044F  005FF   SN
                                01000  0101A   SR
                                0101B  011FF   SN
HCPNSS440I Named Saved System (NSS) systemname was successfully saved in fileid fileid
```


Rebuild and Save the GCS Nucleus

RDR FILE *mfileno* SENT FROM MAINT PRT WAS *mfileno* *mfileno* is the spool file number of the GCS load map.
RECS *nnnn* CPY 001 A NOHOLD NOKEEP
Storage cleared - system reset.

8. IPL your System disk (190).

iplt 190 clear

Clear is necessary. Do not omit it.

z/VM V3.1.0 *yyyy-mm-dd hh:mm*

ENTER

Press **Enter** to complete CMS initialization.

Ready; T=*n.nn/n.nn hh:mm:ss*

9. Purge the GCS nucleus from your reader to save spool space.

purge rdr fileno

fileno is the file number of the GCS nucleus identified in substep 4 on page 290.

0000001 FILE PURGED

Ready; T=*n.nn/n.nn hh:mm:ss*

10. Receive the GCS load map file from the virtual reader to the alternate TOOLS disk (493).

access 493 e

DMSACC724I 493 replaces E (*devno*)

Ready; T=*n.nn/n.nn hh:mm:ss*

receive mfileno fn ft e (replace)

You will see this message if the E disk was previously accessed.

mfileno is the file identifier of the GCS load map you noted in substep 7 on page 290. You may give the GCS load map any file name and file type you like. The GCS load map on the System DDR is GCSNUC MAP. You may want to erase the old version to save space.

The GCS load map is loaded onto the alternate SYSTEM TOOLS disk (493).

DMSRDC738I Record length is *nnn* bytes

fn ft E1 created

File *fn ft* E1 received from MAINT

at * sent as (none) (none) A1

Ready; T=*n.nn/n.nn hh:mm:ss*

11. If you wish, you can now print a copy of the GCS load map.
12. Examine the load map for unresolved symbols. Unresolved symbols may indicate an error. Make sure that you understand the reason for any unresolved symbols you find before going on.

xedit fn ft e

====> **locate /UNRESOLVED/**

DMSXDC546E Target not found

This response means that no unresolved symbols were found.

====> **qquit**

Ready; T=*n.nn/n.nn hh:mm:ss*

13. If you wish, you can now pack the GCS load map to save minidisk space.

copyfile fn ft e (olddate pack)

Ready; T=*n.nn/n.nn hh:mm:ss*

Rebuild and Save the GCS Nucleus

14. Copy the GCS load map to the production tools disk (193).

access 193 f

Ready; T=*n.nn/n.nn hh:mm:ss*

copyfile *fn ft e = = f* (olddate replace

Ready; T=*n.nn/n.nn hh:mm:ss*

15. Release the TOOLS minidisks (493 and 193).

release e

Ready; T=*n.nn/n.nn hh:mm:ss*

release f

Ready; T=*n.nn/n.nn hh:mm:ss*

Notices

IBM may not offer the products, services, or features discussed in this document in all countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10594-1785
U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

IBM World Trade Asia Corporation
Licensing
2-31 Roppongi 3-chome, Minato-ku
Tokyo 106, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law: INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation
Mail Station P300
2455 South Road
Poughkeepsie, NY 12601-5400
U.S.A.
Attention: Information Request

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this information and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement, or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurement may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements, or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility, or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information may contain examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

COPYRIGHT LICENSE:

This information may contain sample application programs in source language, which illustrates programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing, or distributing application programs conforming to IBM's application programming interfaces. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs.

Trademarks

The following terms are trademarks of International Business Machines Corporation in the United States, or other countries, or both:

AIX/ESA
DFSMS/VM
ES/9000
IBM
Multiprise
OpenEdition
Operating System/2
OS/390
RACF
S/390
System/370
VSE/ESA
z/VM

BookManager
ECKD
ESCON
Language Environment
NetRexx
OpenExtensions
OS/2
OS/400
RISC System/6000
S/390 Parallel Enterprise Server
VM/ESA
VTAM

Java and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Other company, product, and service names may be trademarks or service marks of others.

Glossary

The list of VM terms and their definitions is available through the online HELP Facility. For example, to display the definition of "cms", enter:

```
help glossary cms
```

You will enter the HELP Facility's online glossary file and the definition of "cms" will be displayed as the current line. When you are in the glossary file, you can also search for the other terms.

If you are unfamiliar with the HELP Facility, you can enter:

```
help
```

to display the main HELP Menu, or enter:

```
help cms help
```

for information about the HELP command.

For more information about the HELP Facility, see the *z/VM: CMS User's Guide*. For more information about the HELP command, see the *z/VM: CMS Command Reference*.

You can find additional information about IBM terminology in the *Dictionary of Computing*, New York: McGraw-Hill, 1994.

A

access mode. A method VM uses to control user access to data files. Access modes let the user read and write data to a file, or only read data from a file. See *file mode*.

alias. the address (800-series) of a minidisk owned by another user ID and linked for installation purposes by the MAINT user ID. A pointer to an SFS base file. An alias can be in the same directory as the base file or in a different directory. There must always be a base file for the alias to point to. The alias references the same data as the base file. Data is not moved or duplicated.

alphanumeric. A character set that contains letters, digits, and usually other characters, such as punctuation marks.

APAR. Authorized program analysis report.

APAR number. The number that IBM assigns to an APAR and to the change resulting from it.

application program. A program written for or by a user that applies to the user's work, such as a program that does inventory control or payroll.

APPLIED. This status, listed in the apply status table, indicates a product or program temporary fix has been APPLIED to the system.

apply. When servicing a product or component, to generate an auxiliary control structure from a PTF.

Apply disk. In VMSES/E, a minidisk or SFS directory containing the files that describe the maintenance levels: the apply status table, AUX files, version vector tables, the select data file, and the build status table.

apply list. A file listing PTFs applied to a product or component.

apply status table. The Software Inventory table that identifies what PTFs have been applied to the product. The system level of the table identifies what product or component has been applied to the system. The file type of the system level inventory table is SYSAPPS and the file type of the service level inventory table is SRVAPPS.

Apply string. In VMSES/E, the set of Apply disks.

area. A term acceptable for DASD space when there is no need to differentiate between space on count-key-data devices and FB-512 devices. See *DASD space*.

architected segment. A 1MB portion of real storage defined by the 370-XA, ESA/370, ESA/390, and ESA/XC architectures.

assembler language. A source language that includes symbolic machine language statements in which there is a one-to-one correspondence with instruction formats and data formats of the computer.

authority. In SFS, the permission to access a file or directory. You can have read authority or write authority (which includes read authority). You can also have file pool administration authority, which is the highest level of authority in a file pool.

authorized program analysis report (APAR). An official request to the responsible IBM Change Team to look into a suspected problem with IBM code or documentation. APARs describe problems giving conditions of failure, error messages, abend codes, or other identifiers. They also contain a problem summary and resolution when applicable. See *program temporary fix (PTF)*.

AUX file. Auxiliary control file.

auxiliary control file (AUX file). A file that contains a list of file types of update files applied to a particular source file or to control the service level used during

build. See *control file* and *preferred auxiliary file*.
Synonymous with *auxiliary file*.

auxiliary file. Synonym for *auxiliary control file*.

AVS. APPC/VM VTAM Support.

B

Base disk. In VMSES/E, a minidisk or SFS directory containing the original product code.

base file. The first occurrence of an SFS file. It remains the base for the life of the file, even if the file has been renamed. Aliases point to base files.

base file type. In VMSES/E, the file type used for a serviceable part when there is no service. The PTF number in the file type is set to "00000". For example, EXC00000 would be the base file type for an exec. See serviceable part.

Base string. In VMSES/E, the set of Base disks.

block. A unit of DASD space on FB-512 devices. For example, FB-512 devices can be the IBM 9336, 9335, 9332, 9313, 3370, and 3310 DASD using fixed-block architecture. In CMS Multitasking, to stop the execution of a thread until a function has been completed or a condition is satisfied.

Bpi. Bytes per inch.

bpi. Bits per inch.

build. In the installation and service of a product, to do the necessary steps to produce executable code or systems. This is often called the *build process*.

BUILDALL. This status, shown in the service-level build status table, indicates the user requested that an object be built with the ALL option on the VMFBLD command, and the object still needs to be built.

Build disk. In VMSES/E, a minidisk or SFS directory containing the running code for the product being serviced.

Build ID. A 1- to 8- alphanumeric character identifier (*bldid*) that is used to name the Software Inventory files created during build processing. The user can change this value to define different maintenance levels.

build list. An EXEC file that names the parts included in an object being built.

build requisites. An object that is needed to build another object. For example, when one object is built using another object, the latter is a build requisite of the former. Also, if an object's build requisite is serviced, the object must be rebuilt after its build requisite is built.

build status table. The Software Inventory table that identifies what products have been built, in the system level, and what individual objects have been generated for the product, in the service level. The file type of the system level inventory table is SYSBLDS and the file type of the service level inventory table is SRVBLDS.

Build string. The set of Build disks.

build-time requisites. Product(s) that must be installed before a certain product can run correctly.

BUILT. This status, listed in the build status table, indicates that a product or object has been built on the system.

C

callable services library (CSL). A package of CMS assembler routines that can be stored as an entity and made available to a high-level language, REXX, or an assembler program.

CD-ROM. high-capacity, read-only memory in the form of an optically read compact disk.

changes. In installation and service, service supplied by IBM and original equipment manufacturers (OEMs) for their programs. In the IBM service process, there are many ways users can receive information they need to fix (change) a portion(s) of a product they are running on a VM system. These include PTFs, APARs, user modifications, and information received over the phone. All these types of information are called *changes*.

checkpoint (CKPT) start. A VM system restart that attempts to recover information about closed spool files previously stored on the checkpoint cylinders. The spool file chains are reconstructed, but the original sequence of spool files is lost. Unlike warm start, CP accounting and system message information is also lost. Contrast with *cold start*, *force start*, and *warm start*.

circumventive service. Information that IBM supplies over the phone or on a tape to circumvent a problem by disabling a failing function until a PTF is available to be shipped as a corrective service fix. See *patch* and *zap*.

CKD. Count-key-data.

class A user. See *primary system operator privilege class*.

class authority. Privilege assigned to a virtual machine user in the user's directory entry; each class specified allows access to a subset of all the CP commands. See *privilege class* and *user class restructure (UCR)*.

CMS. Conversational Monitor System.

CMS EXEC. An exec procedure or EDIT macro written in the CMS EXEC language and processed by the CMS EXEC processor. Synonymous with *CMS program*.

CMS EXEC language. A general-purpose, high-level programming language, particularly suitable for exec procedures and EDIT macros. The CMS EXEC processor runs procedures and macros (programs) written in this language. Contrast with *EXEC 2 language* and *Restructured Extended Executor (REXX) language*.

CMS minidisk file directory. A directory on each CMS disk that contains the name, format, size, and location of each of the CMS files on that disk. When a disk is accessed by the ACCESS command, its directory is read into virtual storage and identified with any letter from A through Z. Synonymous with *master file directory block* and *minidisk directory*.

CMS nucleus. The portion of CMS that is resident in the user's virtual storage whenever CMS is executing. Each CMS user receives a copy of the CMS nucleus when the user IPLs CMS. See *saved system* and *shared segment*.

CNTRL file. Control file with file type CNTRL.

cold start. A VM system restart that ignores previous data areas and accounting information in main storage, and the contents of paging and spool files on CP-owned disks. Contrast with *checkpoint (CKPT) start*, *force start*, and *warm start*.

command. A request from a user at a terminal for the execution of a particular CP, CMS, GCS, TSAF, Dump Viewing Facility, or AVS function. A CMS command can also be the name of a CMS file with a file type of EXEC or MODULE. See *subcommand* and *user-written CMS command*.

command line. The line at the bottom of display panels that lets a user enter commands or panel selections. It is prefixed by an arrow (====>).

commit. In the context of SFS, to change a resource (such as a file) permanently. In the context of CRR, to make permanent changes to protected resources (such as SFS file pools) during a transaction (CRR logical unit of work). CRR commits changes made by an application program or transaction program.

COMMITTED. This status, listed in the receive status table, indicates that a PTF has been committed for the product. This means that obsolete parts of the PTF may be discarded.

common storage. A shared segment of reentrant code that contains free storage space, the GCS supervisor, control blocks, and data that all members of a virtual machine group share.

compile. To translate a program written in a high-level programming language into a machine language program.

component. A collection of objects that together form a separate functional unit. A product may contain many components. For example, CP, CMS, and TSAF are components of VM.

component override. Synonym for *component parameter override*.

component override area. An area of the product parameter file or of a product parameter override file that contains one or more component parameter overrides. Synonymous with *override area*.

component parameter override. A component parameter, defined in a component override area, that updates or replaces a component parameter defined in a component area of the product parameter file. Synonymous with *component override* and *override*.

concurrently. Concerning a mode of operation that includes doing work on two or more activities within a given (short) interval of time.

console. A device used for communications between the operator or maintenance engineer and the computer.

console spooling. Synonym for *virtual console spooling*.

console stack. Refers collectively to the program stack and the terminal input buffer.

control file. In service, a file with file type CNTRL that contains records that identify the updates to be applied and the macro libraries, if any, needed to assemble that source program. A CMS file that is interpreted and directs the flow of a certain process through specific steps. For example, the control file could contain installation steps, default addresses, and PTF prerequisite lists and many other necessary items.

control program. A computer program that schedules and supervises the program execution in a computer system. See *Control Program (CP)*.

Control Program (CP). A component of VM that manages the resources of a single computer so multiple computing systems appear to exist. Each of these apparent systems, or virtual machines, is the functional equivalent of an IBM System/370, 370-XA, or ESA computer. Also, XC virtual machines provide functions beyond the ESA architecture. See also *virtual machine*.

control section (CSECT). The part of a program specified by the programmer to be a relocatable unit, all elements of which are loaded into adjoining main storage.

control statement. A statement that controls or affects program execution in a data processing system.

copy file. A file having file type COPY that contains nonexecutable real storage definitions that are referred to by macros and assemble files.

copy function. The function initiated by a PF key to copy the contents of a display screen onto an associated hardcopy printer. A remote display terminal copies the entire contents of the screen onto a printer attached to the same control unit. A local display terminal copies all information from the screen, except the screen status information, onto any printer attached to any local display control unit.

COR. Corrective service tape.

corequisite. Corequisites identify other PTFs that must be applied at the same time this PTF is applied. No specific order is required for applying corequisite PTFs.

corequisite change. A change that must be applied to the user's product along with another change. For example, if the user needs to apply change1 to the system and change1 has a corequisite of change2, then the user must apply both change1 and change2 to the system, but not in a specific order. A corequisite change corrects a problem that requires changes to one or more elements of a product or component.

corrective service. Service that IBM supplies on tape to correct a specific problem.

corrective service tape. A tape, supplied by IBM at the user's request, containing a fix for a specific problem and any requisites for the fix.

count-key-data (CKD) device. A DASD that stores data in the format: count field, usually followed by a key field, followed by the actual data of a record. The count field contains the cylinder number, head number, record number, and the length of the data. The key field contains the record's key (search argument).

CP. Control Program.

CP command. A command available to all VM users. Class G CP commands let the general user reconfigure their virtual machine, control devices attached to their virtual machine, do input and output spooling functions, and simulate many other functions of a real computer console. Other CP commands let system operators, system programmers, system analysts, and support personnel manage the resources of the system.

CP directory. Synonym for *VM directory*.

CP read. The condition when CP is waiting for a response or request for work from the user. On a

typewriter terminal, the keyboard is unlocked; on a display terminal, the screen status area indicates CP READ.

cross system extensions (CSE). An environment in which end users attached to a single system can participate with additional systems as though all participating systems were one complex.

CSE. Cross system extensions.

CSECT. Control section.

CSL. Callable services library.

current system. your existing VM system.

cylinder. In a disk pack, the set of all tracks with the same nominal distance from the axis about which the disk pack rotates.

D

DASD. Direct access storage device.

DASD Dump Restore (DDR) program. A service program that copies all or part of a minidisk onto tape, loads the contents of a tape onto a minidisk, or sends data from a DASD or from tape to the virtual printer.

DASD space. Area allocated to DASD units on CKD devices. Area allocated to DASD units on FB-512 devices. Note that *DASD space* is synonymous with *cylinder* when there is no need to differentiate between CKD devices and FB-512 devices.

DBCS. Double-byte character set.

DCSS. Discontiguous saved segment.

DDR program. DASD Dump Restore program.

dedicated pack . a Direct Access Storage Device (DASD) that is not in use by your current system or CP. It can be attached or detached.

DELETE. This status, shown in the service-level build status table, indicates the object has been removed from the build list, and the corresponding object must be deleted.

DELETED. This status, listed in the apply status table, indicates that a product has been deleted from the system. In the service-level build status table, it indicates that an object has been deleted from the product.

delimiter. A flag that separates and organizes items of data. Synonymous with *separator*. A character that groups or separates words or values in a line of input. Usually one or more blank characters separate the command name and each operand or option in the

command line. In certain cases, a tab, left parenthesis, or backspace character can also act as a delimiter.

Delta disk. In VMSES/E, a minidisk or SFS directory containing a list of the files on a PTF. See program temporary fix (PTF).

Delta string. In VMSES/E, the set of Delta disks.

dependent PTF. A PTF that has another PTF as a prerequisite or corequisite.

dependent requisite. A dependent requisite is a product that must be installed before another product can be installed correctly. Unlike pre-requisites, dependent requisites are no longer satisfied when the requisite product is superseded. This occurs when a product requires a specific level of another product and newer levels of the product will not meet the requirements.

description table. The Software Inventory table that contains the descriptive name for a product, in the system level, and APARs in the service level. The file type of the system level inventory table is SYSDESCT and the file type of the service level inventory table is SRVDESCT.

device support facilities. A program for doing operations on disk volumes so that they can be accessed by IBM and user programs. Examples of these operations are initializing a disk volume and assigning an alternate track.

DIRCONTROL directory. Synonym for *directory control directory*.

direct access storage device (DASD). A storage device in which the access time is effectively independent of the location of the data.

directory. See *auxiliary directory*, *CMS minidisk file directory*, *DIRCONTROL directory*, *directory control directory*, *file control directory*, *FILECONTROL directory*, *SFS directory*, or *VM directory*.

directory identifier (dirid). A fully-qualified directory name (in which the file pool ID and user ID can be allowed to default), a file mode letter, or plus (+) or minus (-) file mode syntax (used in commands).

directory name (dirname). A fully-qualified directory name that can incorporate a period (.) to indicate the user's own top directory (used in commands).

dirid. Directory identifier.

dirname. SFS directory name.

discontiguous saved segment (DCSS). A saved segment that begins and ends on a megabyte boundary and is not a segment space or a member of a segment

space. A DCSS may contain logical saved segments. Contrast with *segment space* and *member saved segment*.

disk. A magnetic disk unit in the user's CMS virtual machine configuration. See *virtual disk*.

display device. An I/O device that gives a visual representation of data.

display terminal. A terminal with a component that can display information on a viewing surface such as a screen or gas panel.

distributed function terminal (DFT). An operational mode that allows multiple concurrent logical terminal sessions. Contrast with *control unit terminal (CUT)*.

DMSPARMS file. A CMS file with a file type of DMSPARMS that contains the start-up parameters that SFS file pool server and CRR recovery server processing uses.

double-byte character set (DBCS). A character set that requires 2 bytes to uniquely define each character. This contrasts with EBCDIC, in which each printed character is represented by 1 byte.

dump. To write the contents of part or all of main storage, or part or all of a minidisk, to auxiliary storage or a printer. See *abend dump*.

E

ECKD™. Extended count-key data.

edit. A function that makes changes, additions, or deletions to a file on a disk. These changes are interactively made. The edit function also generates information in a file that did not previously exist.

ERROR. This qualifier of the status field in the service-level build status table indicates that an error was encountered when building an object. In the system-level build status table, it indicates that an error was detected when building a product or object.

ESA virtual machine. A virtual machine that simulates ESA/370 or ESA/390 functions. Contrast with *370 virtual machine*, *XA virtual machine*, and *XC virtual machine*

exclude list. A file listing PTFs to be omitted from a product or component.

exclusive segment. A range of pages within a saved system, member saved segment, or discontiguous saved segment that can be accessed by only one virtual machine at a time.

exec procedure. A procedure defined by a frequently used sequence of CMS and CP commands to do a commonly required function. A user creates the procedure to save repetitious reentering of the

sequence, and invokes the entire procedure by entering a command (that is, the exec file's file name). The procedure could consist of a long sequence of CMS and CP commands, along with REXX, EXEC 2, or CMS EXEC control statements to control processing within the procedure. A CMS file with a file type of EXEC.

EXEC 2 language. A general-purpose, high-level programming language, particularly suitable for exec procedures and XEDIT macros. The EXEC 2 processor runs procedures and XEDIT macros (programs) written in this language. Contrast with *CMS EXEC language* and *Restructured Extended Executor (REXX) language*.

exit. See *user exit* and *installation-wide exit*.

F

FB-512. An FBA device that stores data in 512-byte blocks (refers to DASD devices such as the IBM 9336, 9335, 9332, 9313, 3370, and 3310).

FBA. Fixed-block architecture.

feature. A feature is associated with the software distribution order number which has a type, model, and feature field. The feature field identifies a particular deliverable for the given product offering.

file access mode. A file mode number that designates whether the file can be used as a read-only or read/write file by a user. See *file mode*.

file ID. A CMS file identifier that consists of a file name, file type, file mode, or directory ID. The file ID is associated with a particular file when the file is created, defined, or renamed under CMS. See *file name*, *file type*, and *file mode*.

file mode. A two-character CMS file identifier field containing the file mode letter (A through Z) followed by the file mode number (0 through 6). The file mode letter indicates the minidisk or SFS directory on which the file resides. The file mode number indicates the access mode of the file. See *file access mode*.

file name. A one-to-eight character alphanumeric field, containing A through Z, 0 through 9, and special characters \$ # @ + - (hyphen) : (colon) _ (underscore), that is part of the CMS file identifier and serves to identify the file for the user.

file pool. A collection of minidisks managed by SFS. It contains user files and directories and associated control information. Many users' files and directories can be contained in a single file pool.

file type. A one-to-eight character alphanumeric field, containing A through Z, 0 through 9, and special characters \$ # @ + - (hyphen) : (colon) _ (underscore),

that is used as a descriptor or as a qualifier of the file name field in the CMS file identifier. See *reserved file types*.

file type abbreviation (ftabbrev). The 3-character PTF abbreviation or the real CMS file type for a part that is not serviced by replacement.

file type abbreviation table. The Software Inventory table that identifies the mapping between PTF-numbered file types and the real CMS file type. The service level inventory does not contain this table.

fixed-block architecture (FBA) device. A disk storage device that stores data in blocks of fixed size or records; these blocks are addressed by block number relative to the beginning of the particular file.

flat file. A file that consists of a set of records ordered by record number or as sequentially entered in the file; a two dimensional file.

free storage. Storage not allocated. The blocks of central storage available for temporary use by programs or by the system.

ftabbrev. File type abbreviation

full-pack minidisk. A virtual disk that contains all of the addressable cylinders of a real DASD volume.

G

GCS. Group Control System for ESA/370 or ESA/390 architecture.

group. Synonym for *virtual machine group*.

Group Control System (GCS). A component of VM, consisting of a shared segment that the user can IPL and run in a virtual machine. It provides simulated MVS services and unique supervisor services to help support a native SNA network.

GROUP EXEC. A GCS installation tool that prompts you for the specifications needed to build a GCS configuration file.

guest. An operating system running in a virtual machine managed by a VM control program. Contrast with *host*.

H

hard requisite. In VMSES/E, a prerequisite to a PTF that supplies a change required by the PTF. In VMSES/E, a prerequisite to a PTF that affects the same lines of code as the PTF, so that the PTF cannot be applied without the prerequisite. See also *corequisite*, *if-requisite*.

history files. One or more CMS files that describe the changes (with a date and time stamp) made to the VM system and its installed software products.

I

I/O. Input/output.

if-requisite. At the system-level, a requisite of an optional product. At the service-level, an out-of-component hard requisite that must be applied to an optional product. See also *out-of-component requisite*.

image library. A set of modules that define the spacing, characters, and copy modification data that a 3800 printer uses to print a spool file or that define the spacing and character set that an impact printer uses to print a spool file. See *system data file*.

Initial Installation System (IIS). A functional z/VM system included in the z/VM System DDR and used by all procedures to install the rest of the z/VM system.

initial program load (IPL). The initialization procedure that causes an operating system to begin operation. A VM user must IPL the specific operating system into the virtual machine that will control the user's work. Each virtual machine can be loaded with a different operating system.

initialize. To set counters, switches, addresses, or contents of storage to starting values.

input/output (I/O). A device whose parts can do an input process and an output process at the same time. A functional unit or channel involved in an input process, output process, or both, concurrently or not, and to the data involved in such a process.

install pack . a DASD used for installation of your new z/VM system. This includes default, customer-defined, and shared packs.

installation-supported tape drives. 3420, 3422, 3424, 3430, 3480, 3490, and 9348 tape drives

installation-supported DASD types. 3380, 3390, 9345 and FBA (9336) DASD (does not include 3390-9).

installation-wide exit. An interface to VM that a system programmer can use to enhance or extend the functions of a VM system. Generally, an installation-wide exit is activated for all users on the system and is run as part of a system program.

install-time requisites. Product(s) that must be installed before this product can be installed correctly.

interactive. The classification given to a virtual machine depending on this virtual machine's processing characteristics. When a virtual machine uses less than its allocation time slice because of terminal I/O, the

virtual machine is classified as being interactive. Contrast with *noninteractive*.

interface. A shared boundary between two or more entities. An interface might be a hardware or software component that links two devices or programs together.

interrupt. A suspension of a process, such as execution of a computer program, caused by an external event and done in such a way that the process can be resumed.

invoke. To start a command, procedure, or program.

IPL. Initial program load.

ISMS. IBM Software Manufacturing Solutions

L

line number. A number located at either the beginning or the end of a record (line) that can be used during editing to refer to that line. See *prompting*.

load. In installation and service, to move files from tape to disk, auxiliary storage to main storage, or minidisks to virtual storage within a virtual machine.

load map. A map containing the storage addresses of control sections and entry points of a program loaded into storage.

loadable unit. A portion of a product that can be installed independently of the rest of the product, but is serviced as part of the product.

loader. A routine, commonly a computer program, that reads data into main storage.

local disk. In VMSES/E, a minidisk or SFS directory containing local modifications, customized files, and any circumventive service.

local modification. Synonym for *local service*.

local service. Changes manually applied to a product or component (that is, not using the program update service or corrective service procedures). See *circumventive service* and *user modification*.

local tracking number. The unique identifier assigned to a local modification. The local tracking number is used in the file type of update files and in the update file identification records of auxiliary control files. Each installation has its own system of local tracking numbers.

Local string. In VMSES/E, the set of Local disks.

logical record. A formatted record that consists of a 2-byte logical record length and a data field of variable length.

logical saved segment. A saved segment defined by CMS within a physical saved segment. A single physical saved segment can contain many logical saved segments. A logical saved segment can contain different types of program objects, such as MODULE files, TEXT files, execs, callable services libraries, language information files, user-defined objects, or a single minidisk directory. See also *physical saved segment*.

logical segment definition file. A file that identifies the contents of a logical saved segment.

logoff. The procedure by which a user ends a terminal session.

logon. The procedure by which a user begins a terminal session.

low common storage. GCS common storage that resides below the 16MB line. See *common storage*.

M

machine. A synonym for a virtual machine running under the control of VM.

macro. Synonym for *macrodefinition* and *macroinstruction*.

macro library. A library of macrodefinitions.

macrodefinition. A set of statements that defines the name of, format of, and conditions for generating a sequence of assembler language statements from a single source statement. Synonymous with *macro*.

macroinstruction. In assembler language programming, an assembler language statement that causes the assembler to process a predefined set of statements called a macrodefinition. The statements usually produced from the macrodefinition replace the macroinstruction in the program. Synonymous with *macro*.

MANUAL. This status, listed in the service-level build status table, indicates that the object requires MANUAL processing.

map. In CMS, the file that contains a CMS output listing, such as (1) a list of macros in the MACLIB library, including macro size and location within the library; (2) a listing of the directory entries for the DOS/VS system or private source, relocatable, or core image libraries; (3) a linkage editor map for CMS/DOS programs; and (4) a module map containing entry point locations. To show relationships between objects.

MB. Megabyte.

MDISK. Another name for minidisk. The VM directory statement that describes a user's storage space.

megabyte (MB). 1,048,576 bytes.

member saved segment. A saved segment that begins and ends on a page boundary and belongs to up to 64 segment spaces. A member saved segment is accessed by its own name or by the name of a segment space to which it belongs. A member saved segment may contain logical saved segments. Contrast with *discontiguous saved segment*.

memo-to-users. A file provided on a service tape that contains specific service information for a product.

merge. When receiving files from a service tape using VMFMRDSK, the process of moving existing service files from each minidisk or SFS directory in the target string to the minidisk or directory that contains the previous service level. The result is that the primary target minidisk or directory is left empty and ready to receive the latest service.

message. Data sent from a source application to a target application program in a conversation. See also *message text*, *message key*, and *message header*.

minidisk. A logical subdivision (or all) of a physical disk pack that has its own virtual device address, consecutive virtual cylinders (starting with virtual cylinder 0), and a VTOC or disk label identifier. Each user virtual disk is preallocated and defined by a VM directory entry as belonging to a user.

minidisk directory. Synonym for *CMS minidisk file directory*.

module. A unit of a software product that is discretely and separately identifiable with respect to modifying, compiling, and merging with other units, or with respect to loading and execution. For example, the input to, or output from, a compiler, the assembler, the linkage editor, or an exec routine. A nonrelocatable file whose external references have been resolved.

N

named saved system. Synonym for *saved system*.

negative prerequisite. In VMSES/E, a product that cannot exist on a system at the same time as another product.

NSS. Named saved system.

nucleus. The part of CP and CMS resident in main storage.

O

object. In computer security, a passive entity that contains or receives information. Access to an object implies access to the information it contains. Example of objects in z/VM are: minidisks, spool files, named saved segments, and virtual storage. Contrast with *subject*. In VMSES/E, a usable form defined in build lists. In

VMSES/E, a built part of a product. A product consists of many objects, such as, nuclei, modules, execs, help files, and macro libraries. See *external object*, *object code*, *object module*, *public object*.

object code. Compiler or assembler output that is executable machine code or is suitable for more processing to produce executable machine code. Contrast with *source code*.

object module. A module that is the output of an assembler or a compiler and is input to a linkage editor.

operand. Information entered with a command name to define the data on which a command processor operates and to control the execution of the command processor.

out-of-component requisite. In VMSES/E, a PTF to product B that is required by a PTF to product A. See also *if-requisite*.

overhead. The additional processor time charged to each virtual machine for the CP functions needed to simulate the virtual machine environment and for paging and scheduling time.

override. Synonym for *component parameter override*.

override area. Synonym for *component override area*.

override file. Synonym for *class override file* and *product parameter override file*.

override \$PPF. Synonym for *override product parameter file*.

P

pack. A set of flat, circular recording surfaces that a disk storage device uses. A disk pack.

page. A fixed-length block that has a virtual address and can be transferred between real storage and auxiliary storage.

parameter. A variable that is given a constant value for a specified application and that may denote the application.

parameter driven installation. An installation method in which instructions for the installation are given at the beginning of the process rather than in response to prompts during the process.

part. A CMS file provided on a z/VM System DDR, or on a z/VM service tape or CD-ROM, as input to the build process. See *build*. A part is the smallest serviceable unit of a component.

part handler. An exec provided by VMSES/E that builds a specific type of object or loads parts from service media.

parts catalog. In VMSES/E, a set of Software Inventory files that catalog all parts of a product on a minidisk or SFS directory. All product parts are cataloged when they are loaded onto the system, when they are generated, and when they are moved.

password. In computer security, a string of characters known to the computer system and a user, who must specify it to gain full or limited access to a system and to the data stored within it.

patch. A circumventive service change applied directly to object code in a text deck in a nucleus.

patch update file. A file containing a single patch. The file can also specify requisites for applying the patch.

PDI. Parameter driven installation.

PF key. Programmed function key.

physical saved segment. A member saved segment or discontinuous saved segment in which logical saved segments may be defined. See also *logical saved segment*, *saved segment*.

physical segment definition file. A file that identifies the logical saved segments to be included within a physical saved segment.

PPF. Product parameter file.

preferred auxiliary file. In CMS, an auxiliary file that applies to a particular version of a source module to be updated, if multiple versions of the module exist.

preferred virtual machine. A particular virtual machine that has one or more of the performance options assigned to it.

prefix area. The five left-most positions on the XEDIT full-screen display, in which prefix subcommands or prefix macros can be entered. See *prefix macros* and *prefix subcommands*.

prefix macros. XEDIT macros entered in the prefix area of any line on a full-screen display. See *prefix area*.

prefix subcommands. XEDIT subcommands entered in the prefix area of any line on a full-screen display. See *prefix area*.

prerequisite. A change that must be applied to the system before another change can be applied. In VMSES/E, at the system level, a product that must be installed before another product can be installed. In VMSES/E, at the service level, a PTF that must be applied before another PTF can be applied.

prerequisite change. A change that must be applied to the system before another change can be applied.

For example, change2 lists change1 as a prerequisite. This indicates that the user must apply change1 before applying change2.

preventive service. The application of all PTFs from a PUT or RSU. Contrast with selective preventive service. See program update tape and product service upgrade.

primary system operator privilege class. The CP privilege class A user. This operator has primary control over the VM system and can enable and disable teleprocessing lines, lock and unlock pages, force users off the VM system, issue warning messages, query, and set (and reset) performance options for selected virtual machines, and invoke VM accounting. If the current primary system operator logs off, the next class A user to log on becomes the primary system operator.

private storage. A combination of application code and GCS code available to only one particular virtual machine. No virtual machine can access or share another's private storage area.

privilege class. One or more classes assigned to a virtual machine user in a VM directory entry; each privilege class specified lets a user access a logical subset of the CP commands. There are nine IBM-defined privilege classes that correspond to specific administrative functions. They are:

- Class A - primary system operator
- Class B - system resource operator
- Class C - system programmer
- Class D - spooling operator
- Class E - system analyst
- Class F - support personnel
- Class G - general user
- Class H - reserved for IBM use
- Class Any - available to any user.

The privilege classes can be changed to meet the needs of an installation. See *class authority* and *user class restructure (UCR)*.

privileged program. In GCS, a program called by a GCS application that operates in supervisor state and uses privileged functions. A privileged program is one that meets either of the following requirements:

- It runs in an authorized virtual machine.
- It is called through the AUTHCALL facility.

Synonymous with *authorized program*. Contrast with *nonprivileged program*.

process. A systematic sequence of operations to produce a specified result. A process is usually logical, not physical. In CMS Multitasking, a collection of threads performing related work. A process can have resources associated with it, such as storage subpools, queues, open files, and APPC conversations. All threads in a process have equal access to the resources associated with the process.

PRODPART file. VMSES/E uses information in this file, included on a product's install tape, to update entries in the system-level Software Inventory each time a product is loaded onto your system.

product. Any separately installable software program, whether supplied by IBM or otherwise, distinct from others and recognizable by a unique identification code. The product identification code is unique to a given product, but does not identify the release level of that product.

product identifier (prodid). The product identifier is the 7- or 8-alphanumeric character identifier assigned to the product by IBM.

product parameter file (PPF). A file containing installation and service parameters for a product: control options, minidisk and SFS directory assignments, and component part type/function lists.

product parameter override file. A file containing one or more component override areas.

product processing exit. An interface used by program products to perform additional product installation tasks.

product service upgrade (PSU). A procedure used to upgrade the service level of a product or component using a recommended service upgrade (RSU) tape.

PROFILE EXEC. A special exec procedure with a file name of PROFILE that a user can create. The procedure is usually processed immediately after CMS is loaded into a virtual machine (also known as IPL CMS).

program temporary fix (PTF). Code changes needed to correct a problem reported in an APAR. The corrected code is included in later releases. A PTF contains one or more APAR fixes. For object-maintained parts that are changed, the PTF includes replacement parts. For source-maintained parts that are changed, the PTF includes update files and replacement parts. Each PTF is unique to a given release of a product. If the same problem occurs in multiple releases of a product, a separate PTF is defined for each release.

program update service. Receiving service from a PUT or RSU, applying all or some of the changes, and rebuilding the serviced parts. See preventive service and selective preventive service.

program update tape (PUT). A tape containing a customized collection of service tapes (preventive service) to match the products listed in a customer's ISMS (IBM Software Manufacturing Solutions) profile. Each PUT contains cumulative service for the customer's products back to earlier release levels of the product still supported. The tape is distributed to authorized customers of the products at scheduled intervals or on request.

programmed function (PF) key. On a terminal, a key that can do various functions selected by the user or determined by an application program.

prompt. A displayed message that describes required input or gives operational information.

prompting. An interactive technique that lets the program guide the user in supplying information to a program. The program types or displays a request, question, message, or number, and the user enters the desired response. The process is repeated until all the necessary information is supplied.

PSU. product service upgrade

PTF. Program temporary fix.

PTF number. A number assigned by service organizations that uniquely identifies a PTF; for example, IBM uses UVNNNNN for a VM-unique product, and UPnnnnn for a cross-system product. PTFs for different products or different releases of a product have different numbers.

PUT. Program update tape.

R

R/O. Read-only.

R/W. Read/write.

rdev. The real device address of an I/O device.

reach-ahead service. Corrective service or local service that has been applied to a product but is not available on a program update tape, product service upgrade, or other service vehicle.

read authority. The authority to read the contents of a file without being able to change them. For a directory, read authority lets the user view the names of the objects in the directory.

read-only access. An access mode associated with a virtual disk or SFS directory that lets a user read, but not write or update, any file on the disk or SFS directory.

read/write access. An access mode associated with a virtual disk or SFS directory that lets a user read and write any file on the disk or SFS directory (if write authorized).

real address. The address of a location in real storage or the address of a real I/O device.

receive. Bringing into the specified buffer data sent to the user's virtual machine from another virtual machine or from the user's own virtual machine. To load service

files from a service tape. In CMS Multitasking interprocess communication, the action of retrieving a message from a queue.

receive ID. A 7- or 8- alphanumeric character identifier that is used to name the Software Inventory files created during receive processing.

receive status table. The Software Inventory table that contains the relationship between a product and the \$PPF file used to install it. It also identifies what products of PTFs have been received or committed. The file type of the system level inventory table is SYSRECS and the file type of the service level inventory table is SRVRECS.

RECEIVED. This status, listed in the receive status table, indicates that a product or PTF has been RECEIVED on the system.

Recommended Service Upgrade (RSU) tape. A service tape included in your z/VM order. The RSU has recommended service and will be installed during the z/VM System installation procedures in this manual.

recomp. To change the number of cylinders or blocks on the disk that are available to you.

regression. Causing serviced parts to go back to earlier levels. This can occur when applying changes from a PUT to parts updated by corrective service or user modifications.

Remote Spooling Communications Subsystem Networking (RSCS). An IBM licensed program and special-purpose subsystem that supports the reception and transmission of messages, files, commands, and jobs over a computer network.

REMOVED. This status, listed in the apply status table, indicates that the PTF has been REMOVED from the system.

replacement parts. See serviceable parts.

replacement service. Servicing a part by replacing the part with a new one.

requisite. The requirements of a product or PTF.

requisite relationships. The interrelated requirements of a product or PTF.

requisite table. The Software Inventory table that contains the requisite relationships between products, in the system level, and PTFs in the service level. The file type of the system level inventory table is SYSREQT and the file type of the service level inventory table is SRVREQT.

resource. A program, a data file, a specific set of files, a device, or any other entity or a set of entities that the user can uniquely identify for application program processing in a VM system.

restricted saved segment. A segment space or discontinuous saved segment that can be accessed by a virtual machine only if the directory entry for the virtual machine contains a NAMESAVE control statement that specifies the name of the segment space or discontinuous saved segment.

restricted saved system. A saved system that can be accessed by a virtual machine only if the directory entry for the virtual machine contains a NAMESAVE control statement that specifies the name of the saved system.

REXX exec. An exec procedure or XEDIT macro written in the REXX language and processed by the REXX/VM Interpreter. Synonymous with *REXX program*.

REXX program. Synonym for *REXX exec*.

RSCS. Remote Spooling Communications Subsystem Networking.

RSU. Recommended Service Upgrade

S

saved segment. An area of virtual storage that is assigned a name and saved. Segment spaces, member saved segments, and discontinuous saved segments are defined by CP and saved in system data files. Logical saved segments are defined by CMS. A saved segment can be attached to and detached from a virtual machine and can be shared by many virtual machines. See *segment space*, *member saved segment*, *discontinuous saved segment*, and *logical saved segment*.

saved system. The control program portion of an operating system that is assigned a name and saved in pageable format in a system data file. Loading an operating system into a virtual machine by specifying the name of a saved system is more efficient than loading it from a device number. Synonymous with *named saved system*.

screen. An illuminated display surface; for example, the display surface of a CRT. Synonymous with *physical screen*.

SDF. System data file

SDO. System delivery offering.

secondary user. When a user is disconnected — that is, has no virtual console online — a secondary user can be designated to receive the disconnected user's console messages and to enter commands to the disconnected user's console.

segment. An architected segment or saved segment. See *discontinuous saved segment (DCSS)*, *exclusive segment*, *logical saved segment*, *logical segment definition file*, *member saved segment*, *physical saved segment*, *physical segment definition file*, *restricted*

saved segment, *segment interface*, *segment number*, *segment space*, *segment table*, *shared segment*, *system segment identification file*.

segment space. A saved segment that begins and ends on a megabyte boundary and contains 1–64 nonoverlapping member saved segments. A segment space is created by CP when member saved segments are defined. Access to a segment space provides access to all of its members. See also *discontinuous saved segment*, *member saved segment*, *saved segment*.

select data file. In VMSES/E, a file containing a list of the parts serviced by the VMFAPPLY EXEC. The VMFAPPLY EXEC updates this file with a time stamp and a list of parts that were serviced. The VMFBLD EXEC checks the select data file for build requirements and updates the objects that are affected by service to a status of 'SERVICED' in the service-level build status table. The select data file is named appid \$SELECT, where appid is the apply ID. See *apply ID*.

selective preventive service. The selective application of PTFs from a PUT or RSU. Contrast with *preventive service*.

separator. Synonym for *delimiter*.

server. The general name for a virtual machine that provides a service for a requesting virtual machine.

service. Changing a product after installation. See *corrective service*, *local service*, and *program update service*.

service level. The PTF and preventive service level that is associated with the testing level and support level of an orderable product function.

service level inventory. See *service-level Software Inventory*.

service-level Software Inventory. In VMSES/E, the level of the Software Inventories that contains: requisite relationships between PTFs, the status of PTFs installed, the service level of each part of the product and, the status of objects built for the product.

service machine. A virtual machine running a program that provides system-wide services.

service tape. A tape containing service changes for one or more products. See *corrective service tape* and *program update tape (PUT)*.

service virtual machine. A virtual machine that provides a system service such as accounting, error recording, monitoring, or that provided by a supported licensed program.

serviceable parts. The individual parts of a product that can be serviced separately. A serviceable part has

the file name of the source or replacement part and a file type in the form tttnnnnn, where ttt is a unique three-character abbreviation for the part type and nnnnn is the PTF number. Serviceable parts are maintained by both source updates and replacement service.

SERVICED. This status, listed in the service-level build status table, indicates that the object has been SERVICED but not built.

SFS. Shared file system.

SFS directory. A group of files. SFS directories can be arranged to form a hierarchy in which one directory can contain one or more subdirectories as well as files.

Shared File System (SFS). A part of CMS that lets users organize their files into groups known as *directories* and selectively share those files and directories with other users.

shared segment. One or more segments of real storage, saved in a saved system, member saved segment, or discontinuous saved segment, that can be shared among many virtual machines. For example, in a CMS saved system, the CMS nucleus is shared in real storage by all virtual machines that loaded CMS by name; that is, every CMS virtual machine maps a 1MB segment of virtual storage to the same 1MB of real storage.

shared system. See *saved system* and *shared read-only system residence disk*.

simultaneous peripheral operations online (SPOOL). (Noun) An area of auxiliary storage defined to temporarily hold data during its transfer between peripheral equipment and the processor. (Verb) To use auxiliary storage as a buffer storage to reduce processing delays when transferring data between peripheral equipment and the processing storage of a computer.

single user group. The concept in GCS of a virtual machine that runs applications that do not require group communications. This allows an application to run without the overhead of group initialization and multiple virtual machines. Multiple users can IPL the same saved system if it had been built for a single user environment. See *virtual machine group*.

SNA. Systems Network Architecture.

soft requisite. The subset of a PTF's requisite that is not a hard requisite. A PTF has a soft requisite for another PTF if it affects any of the same modules. The relationship exists because the pre-built replacement parts that are shipped with PTFs are built with all prior PTFs.

software inventory management. Utilities provided by VMSES/E that provide a standard interface to the system level inventories, service level inventories, tool

control statements (TCS), product parameter file (PPF), and file type abbreviation table.

software product. Any software supplied by IBM or an Original Equipment Manufacturer (OEM), or user written programs. The term includes program offerings and program products (PPs).

source code. The input to a compiler or assembler, written in a source language. Contrast with *object code*.

source file. A file that contains source statements for such items as high-level language programs and data description specifications.

source product parameter file. In VMSES/E, a file supplied with a product containing recommended values for the options that control VMSES/E processing for the product, formats of installation and service tapes, and the list of build lists used to build the product. The file name is the ID of the product and the file type is \$PPF.

source update. A change to the original assembler code provided with a product. VM source code is contained in files with a file type of ASSEMBLE. To update an ASSEMBLE file, the user creates update files containing control statements that describe the changes to be made.

source update file. A file containing a single change to a statement in a source file. The file can also include requisite information for applying the change. Synonymous with *update file*.

SPOOL. Simultaneous peripheral operations online.

spool file. A collection of data along with CCWs for processing on a unit record device. Contrast with *system data file*.

spool ID. A spool file identification number automatically assigned by CP when the file is closed. The spool ID number can be from 0001 to 9900; it is unique for each spool file. To identify a given spool file, a user must specify the owner's user ID, the virtual device type, and the spool ID.

spooling. The processing of files created by or intended for virtual readers, punches, and printers. The spool files can be sent from one virtual device to another, from one virtual machine to another, and to real devices. See *virtual console spooling*.

stand-alone dump. A dump acquired without regular system functions. For example, to obtain a CP dump when the regular system is unable to dump the machine, the stand-alone dump facility gets a CP stand-alone dump.

string. A group of minidisks defined for a specific function in the product parameter file, for example, the BASE2 string, which holds source code.

sub hard requisite. In VMSES/E, a sub hard requisite is a hard requisite of an explicitly defined requisite.

sub if-requisite. In VMSES/E, a sub if-requisite is an if-requisite of an explicitly defined requisite.

subcommand. The commands of processors such as EDIT or XEDIT that run under CMS.

subdirectory. Any SFS directory below a user's top directory. The CREATE DIRECTORY command creates subdirectories. There can be up to eight levels of subdirectories with no limit on the number of them at each level, other than overall DASD space limits. Each level of a subdirectory is an additional identifier of up to 16 characters that is appended to next higher level subdirectory.

subrequisite. A subrequisite is a prerequisite or corequisite or an explicitly defined requisite. The requisite of requisites.

SUPED. This status, listed in the service-level apply status table, indicates that the PTF has been superseded.

supersede. When a PTF supersedes another PTF, it includes all of the APARs, parts and requisite relationships of the PTF it supersedes.

syntax. The rules for the construction of a command or program.

system administrator. The person responsible for maintaining a computer system.

System DDR tape. See *z/VM System DDR*.

system data file (SDF). A file defined by CP to hold a collection of data associated with a particular system function, such as a saved segment, a saved system, a printer image library, user class restructure definitions, a message repository, or system trace data. Because a system data file contains no CCWs, it cannot be processed on a unit record device. Contrast with *spool file*.

system delivery offering (SDO). A VM package that includes a subset of all VM products or components. This package has a single point of order and delivery, is refreshed periodically, and is installed from one logical tape. All products or components included with the package, and their requisite relationships, are tested to ensure the package functions as a system.

System disk. In VMSES/E, a minidisk or SFS directory containing other products that are required during service.

system level inventory. See *system-level Software Inventory*.

system-level Software Inventory. Level of the Software Inventories that contains: requisite

relationships between products or components, the status of the product or component on the system, mapping of product identifier to the name of the product parameter file used during installation, and mapping of PTF file type abbreviation to real CMS file type.

system object. An object, such as a saved segment, that may contain objects or parts supplied by more than one component or product.

system offering. A package containing VM/SP and associated products.

system profile. An EXEC (SYSPROF) that resides in a saved system or on a system disk and called by CMS initialization. It contains some initialization functions, and provides a means for installations to override the default CMS environment by tailoring the exec to suit the installation.

system residence pack . the pack on which the CP nucleus of the operating system is located (designated as 310RES in this book). This pack must be of the same DASD type as your System DDR.

system restart. The restart that allows reuse of previously initialized areas. System restart usually requires less time than IPL. See *warm start*.

system segment identification file. A file (SYSTEM SEGID) that identifies the logical saved segments on the system and the physical saved segments in which they reside.

Systems Network Architecture (SNA). The description of the logical structure, formats, protocols, and operational sequences for transmitting information units through and controlling the configuration and operation of networks.

System string. In VMSES/E, the set of System disks.

T

T-disk. Synonym for *temporary disk*.

tailorable file. any source level product file that requires user input in order for the product to work correctly. (An example is a PROFILE EXEC.)

tailorings. Changes made to a source level product file to customize it for your own environment.

tape descriptor file. A file containing a directory of the products on a service tape.

tape document. A document describing the service procedure for a service tape.

target. One of many ways to identify a line to be searched for by XEDIT. A target can be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression.

Target disk. In VMSESE/E, a minidisk of SFS directory to which tape files are received on which the objects are built.

Target string. In VMSESE/E, the set of Target disks.

task. A basic unit of work used for the execution of a program or a system function.

temporary disk. An area on a DASD available to the user for newly created or stored files until logoff, at which time the area is released. Temporary disk space is allocated to the user during logon or when entering the CP DEFINE command. Synonymous with *T-disk*.

temporary product parameter file. In VMSESE/E, the output of the VMFOVER EXEC. The file name is either the file name of the last override product parameter file in the chain of overrides, or the file name of the source product parameter file. The file type is \$PPFTEMP.

terminal. A device, usually equipped with a keyboard and a display, capable of sending and receiving information.

text deck. An object-code file that must be additionally processed to produce executable machine code.

text library. A CMS file that contains relocatable object modules and a directory that indicates the location of each of these modules within the library.

time stamp. A record containing the TOD clock value stored in its internal 32-bit binary format.

time-of-day (TOD) clock. A hardware feature required by VM. The TOD clock is incremented once every microsecond, and provides a consistent measure of elapsed time suitable for the indication of date and time; it runs regardless of the processor state (running, wait, or stopped).

TOD clock. Time-of-day clock.

token. An eight-character symbol created by the CMS EXEC processor when it scans an exec procedure or EDIT macro statements. Symbols longer than eight characters are truncated to eight characters.

U

update file. Synonym for *source update file*.

update service. Servicing a part by applying a change to a source file statement, then assembling or compiling the source file to produce a new object file.

usable form. A built part of a product. The service level of a usable form cannot be determined from the file identifier, for instance an exec file with the file type of EXEC. See *usable form product parameter file*. See also *serviceable part*, *base file type*.

usable form product parameter file. In VMSESE/E, a product parameter file produced by applying all override product parameter files to a source product parameter file, and used by most VMSESE/E execs during installation. The file name is either the file name of the last override product parameter file in the chain of overrides, or the file name of the source product parameter file if there are no overrides. The file type is PPF.

user class. A privilege category assigned to a virtual machine user in the user's directory entry; each class specified allows access to a logical subset of all the CP commands. See *privilege class*.

user exit. An interface to VM that can be used by an application program. Generally, a user exit affects only the particular application specifying the exit and is run as part of the application program.

user ID. User identification.

user memo. At the system-level, special instructions for installing a product, and at the service-level, special instructions for installing a PTF.

user modification. Any change that a user originates for a product or component.

V

vaddr. Virtual address.

variable symbol. In an exec procedure, a symbol beginning with an ampersand (&) character, the value of which is assigned by the user, or sometimes by the VM/REXX interpreter, the EXEC 2 processor, or CMS EXEC processor. The value of a variable symbol can be tested and changed using control statements. See *special variable*.

version vector table. The Software Inventory table that identifies which PTFs have been applied to each part of the product and the current level of each part. The file type of the service level inventory table is VVT/lvid. The *lvid* may be unique for each level of service the customer has installed for a product or component. It corresponds directly to each AUX level in the control file. The system level inventory does not contain this table.

virtual address. The address of a location in virtual storage. A virtual address must be translated into a real address to process the data in processor storage.

virtual console. A console simulated by CP on a terminal such as a 3270. The virtual device type and I/O address are defined in the VM directory entry for that virtual machine.

virtual console spooling. The writing of console I/O on disk as a printer spool file instead of, or in addition

to, having it typed or displayed at the virtual machine console. The console data includes messages, responses, commands, and data from or to CP and the virtual machine operating system. The user can invoke or end console spooling at any time. When the console spool file is closed, it becomes a printer spool file. Synonymous with *console spooling*.

virtual disk. A logical subdivision (or all) of a physical disk storage device that has its own address, consecutive storage space for data, and an index or description of the stored data so that the data can be accessed. A virtual disk is also called a minidisk. See *disk*.

virtual machine (VM). A functional equivalent of a computing system. In z/VM, virtual machines can simulate the System/370, ESA/390, and ESA/XC functions. In addition, on z/Architecture servers, an ESA virtual machine can support z/Architecture. Each virtual machine is controlled by an operating system. VM controls the concurrent execution of several virtual machines on an actual processor complex. See *370 virtual machine*, *XA virtual machine*, *ESA virtual machine*, and *XC virtual machine*.

virtual machine group. The concept in GCS of two or more virtual machines associated with each other through the same named system (for example, IPL GCS1). Virtual machines in a group share common read/write storage and can communicate with one another through facilities provided by GCS. Synonymous with *group*. See *single user group*.

Virtual Machine/Enterprise Systems Architecture (VM/ESA). IBM trademarks for a licensed program that manages the resources of a single computer so that multiple computing systems appear to exist. Each virtual machine is the functional equivalent of a *real* machine.

virtual printer (or punch). A printer (or card punch) simulated on disk by CP for a virtual machine. The virtual device type and I/O address are usually defined in the VM/ESA directory entry for that virtual machine.

virtual storage. Storage space that can be regarded as addressable main storage by the user of a computer system in which virtual addresses are mapped into real addresses. The size of virtual storage is limited by the addressing scheme of the computing system and by the amount of auxiliary storage available, not by the actual number of main storage locations.

virtual=real area (V=R area). The part of real storage, starting with real page 1, where a virtual=real machine can run. CP maintains control of real page zero; only page zero of the virtual=real machine is relocated. Only one virtual machine at a time can occupy the virtual=real area. The area must be defined during VM/ESA system generation to contain the largest virtual=real machine likely to run. See *virtual=real option*.

VM. Virtual machine.

VM directory. A CP disk file that defines each virtual machine's typical configuration: the user ID, password, regular and maximum allowable virtual storage, CP command privilege class or classes allowed, dispatching priority, logical editing symbols to be used, account number, and CP options desired. Synonymous with *CP directory*.

VM/ESA. See *Virtual Machine/Enterprise Systems Architecture*.

z/VM System DDR. Tapes or CD-ROM containing a prebuilt system packaged in DASD Dump Restore (DDR) image format. There is a separate prebuilt system for each installation-supported DASD type.

VMLIB. The name of the CSL supplied with VM/ESA and that contains routines to do various VM functions.

VMSES. A component of VM in VM/ESA Release 1.0 that provides the tools for installing and servicing the various components of the VM product.

VMSES/E. A component of VM, first shipped in VM/ESA Release 1.1, that provides the tools for installing and servicing the various components of the VM product. It is also the strategic installation and service tool for all of the other products that run on VM/ESA platforms.

VMSES/E installation/service tool. Consists of two VMSES/E user interfaces, VMFINS and VMFSIM, all of the VMSES/E commands, and the service-level and system-level Software Inventories. Synonymous with *VMSES/E*.

valid. Volume identifier.

volume identifier (valid). The volume identification label for a disk.

W

warm start. The result of an IPL that does not erase previous system data. The automatic reinitialization of the VM control program that occurs if the control program cannot continue processing. Closed spool files and the VM accounting information are not lost. Contrast with *checkpoint (CKPT) start*, *cold start*, and *force start*.

window. An area on the physical screen where virtual screen data can be displayed. Windowing lets the user do such functions as defining, positioning, and overlaying windows; scrolling backward and forward through data; and writing data into virtual screens.

write authority. The authority to read or change the contents of a file or directory. Write authority implies read authority.

X

XA mode. A GCS mode of operation on ESA that uses the full capabilities of the Extended Systems Architecture.

XEDIT. The CMS facility, containing the XEDIT command and XEDIT subcommands and macros, that lets a user create, change, and manipulate CMS files.

XEDIT macro. A procedure defined by a frequently used command sequence to do a commonly required editing function. A user creates the macro to save repetitious reentering of the sequence, and invokes the entire procedure by entering a command (that is, the macro file's file name). The procedure can consist of a long sequence of XEDIT commands and subcommands or both, and CMS and CP commands or both, along with REXX or EXEC 2 control statements to control processing within the procedure. A CMS file with a file type of *XEDIT*.

Y

Y-STAT. A block of storage that contains the FSTs associated with file mode Y. The FSTs are sorted so that a binary search can search for files. The Y-STAT usually resides in the CMS nucleus so it can be shared. Only files with file mode of 2 will have their associated FSTs in the Y-STAT.

Z

zap. To modify or dump an individual text file, using the ZAP command or the ZAPTEXT EXEC.

z/VM. IBM trademarks for a licensed program that manages the resources of a single computer so that multiple computing systems appear to exist. Each virtual machine is the functional equivalent of a *real* machine.

3

3262. Refers to the IBM 3262 Printer, Models 1 and 11.

3270. Refers to a series of IBM display devices, for example, the IBM 3275, 3276 Controller Display Station; 3277, 3278, and 3279 Display Stations; the 3290 Information Panel; and the 3287 and 3286 printers. A specific device type is used only when a distinction is required between device types. Information about display terminal usage also refers to the IBM 3138, 3148, and 3158 Display Consoles when used in display mode, unless otherwise noted.

3284. Refers to the IBM 3284 Printer. Information on the 3284 also pertains to the IBM 3286, 3287, 3288, and 3289 printers, unless otherwise noted.

3380. Refers to the IBM 3380 Direct Access Storage Device.

3390. Refers to the IBM 3390 Direct Access Storage Device.

3422. Refers to the IBM 3422 Magnetic Tape Subsystem.

3480. Refers to the IBM 3480 Magnetic Tape Subsystem.

3490. Refers to the IBM 3490 Magnetic Tape Subsystem.

370 mode. A GCS mode of operation on ESA that simulates 370 architecture.

370 virtual machine. A virtual machine that simulates System/370 functions. Contrast with *XA virtual machine*, *ESA virtual machine*, and *XC virtual machine*.

3800. Refers to the IBM 3800 Printing Subsystems. A specific device type is used only when a distinction is required between device types.

4

4245. Refers to the IBM 4245 Printer.

4248. Refers to the IBM 4248 Printer.

4250. Refers to the IBM 4250 Printer.

9

9332. Refers to the IBM 9332 Direct Access Storage Device, Model 400.

9335. Refers to the IBM 9335 Direct Access Storage Device, Models A01 and B01.

9370. Refers to a series of processors, namely the IBM 9371 Models 10, 12, and 14, the IBM 9373 Model 20, the IBM 9375 Models 40 and 60, the IBM 9377 Model 90, and other models.

Bibliography

This bibliography lists the publications that provide information about your z/VM system. The z/VM library includes z/VM base publications, publications for additional facilities included with z/VM, and publications for z/VM optional features. For abstracts of z/VM publications and information about current editions and available publication formats, see *z/VM: General Information*.

z/VM Base Publications

Evaluation

- *z/VM: Licensed Program Specifications*, GC24-5943
- *z/VM: General Information*, GC24-5944

Installation and Service

- *z/VM: Installation Guide*, GC24-5945
- *z/VM: Service Guide*, GC24-5946
- *z/VM: VMSES/E Introduction and Reference*, GC24-5947

Planning and Administration

- *z/VM: Planning and Administration*, SC24-5948
- *z/VM: CMS File Pool Planning, Administration, and Operation*, SC24-5949
- *z/VM: Migration Guide*, GC24-5928
- *VM/ESA: REXX/EXEC Migration Tool for VM/ESA*, GC24-5752
- *z/VM: Running Guest Operating Systems*, SC24-5950
- *VM/ESA: Connectivity Planning, Administration, and Operation*, SC24-5756
- *z/VM: Group Control System*, SC24-5951
- *z/VM: Performance*, SC24-5952

Customization

- *z/VM: CP Exit Customization*, SC24-5953

Operation

- *z/VM: System Operation*, SC24-5954
- *z/VM: Virtual Machine Operation*, SC24-5955

Application Programming

- *z/VM: CP Programming Services*, SC24-5956

- *z/VM: CMS Application Development Guide*, SC24-5957
- *z/VM: CMS Application Development Guide for Assembler*, SC24-5958
- *z/VM: CMS Callable Services Reference*, SC24-5959
- *z/VM: CMS Macros and Functions Reference*, SC24-5960
- *z/VM: CMS Application Multitasking*, SC24-5961
- *VM/ESA: REXX/VM Primer*, SC24-5598
- *z/VM: REXX/VM User's Guide*, SC24-5962
- *z/VM: REXX/VM Reference*, SC24-5963
- *z/VM: OpenExtensions POSIX Conformance Document*, GC24-5976
- *z/VM: OpenExtensions User's Guide*, SC24-5977
- *z/VM: OpenExtensions Command Reference*, SC24-5978
- *z/VM: OpenExtensions Advanced Application Programming Tools*, SC24-5979
- *z/VM: OpenExtensions Callable Services Reference*, SC24-5980
- *z/VM: Reusable Server Kernel Programmer's Guide and Reference*, SC24-5964
- *z/VM: Enterprise Systems Architecture/Extended Configuration Principles of Operation*, SC24-5965
- *C for VM/ESA: Library Reference*, SC23-3908
- *OS/390: DFSMS Program Management*, SC27-0806
- *z/VM: Program Management Binder for CMS*, SC24-5934
- *Debug Tool User's Guide and Reference*, SC09-2137
- *External Security Interface (RACROUTE) Macro Reference for MVS and VM*, GC28-1366
- *VM/ESA: Programmer's Guide to the Server-Requester Programming Interface for VM*, SC24-5455
- *VM/ESA: CPI Communications User's Guide*, SC24-5595
- *Common Programming Interface Communications Reference*, SC26-4399
- *Common Programming Interface Resource Recovery Reference*, SC31-6821

End Use

- *z/VM: CP Command and Utility Reference*, SC24-5967
- *VM/ESA: CMS Primer*, SC24-5458
- *z/VM: CMS User's Guide*, SC24-5968
- *z/VM: CMS Command Reference*, SC24-5969
- *z/VM: CMS Pipelines User's Guide*, SC24-5970
- *z/VM: CMS Pipelines Reference*, SC24-5971
- *CMS/TSO Pipelines: Author's Edition*, SL26-0018
- *z/VM: XEDIT User's Guide*, SC24-5972
- *z/VM: XEDIT Command and Macro Reference*, SC24-5973
- *z/VM: Quick Reference*, SC24-5986

Diagnosis

- *z/VM: System Messages and Codes*, GC24-5974
- *z/VM: Diagnosis Guide*, GC24-5975
- *z/VM: VM Dump Tool*, GC24-5887
- *z/VM: Dump Viewing Facility*, GC24-5966

Publications for Additional Facilities

DFSMS/VM®

- *VM/ESA: DFSMS/VM Function Level 221 Planning Guide*, GC35-0121
- *VM/ESA: DFSMS/VM Function Level 221 Installation and Customization*, SC26-4704
- *VM/ESA: DFSMS/VM Function Level 221 Storage Administration Guide and Reference*, SH35-0111
- *VM/ESA: DFSMS/VM Function Level 221 Removable Media Services User's Guide and Reference*, SC35-0141
- *VM/ESA: DFSMS/VM Function Level 221 Messages and Codes*, SC26-4707
- *VM/ESA: DFSMS/VM Function Level 221 Diagnosis Guide*, LY27-9589

OSA/SF

- *S/390: Planning for the S/390 Open Systems Adapter (OSA-1, OSA-2) Feature*, GC23-3870
- *VM/ESA: Open Systems Adapter Support Facility User's Guide for OSA-2*, SC28-1992
- *S/390: Open Systems Adapter-Express Customer's Guide and Reference*, SA22-7403

Language Environment®

- *Language Environment for OS/390 & VM: Concepts Guide*, GC28-1945
- *Language Environment for OS/390 & VM: Migration Guide*, SC28-1944
- *Language Environment for OS/390 & VM: Programming Guide*, SC28-1939
- *Language Environment for OS/390 & VM: Programming Reference*, SC28-1940
- *Language Environment for OS/390 & VM: Writing Interlanguage Communication Applications*, SC28-1943
- *Language Environment for OS/390 & VM: Debugging Guide and Run-Time Messages*, SC28-1942

Publications for Optional Features

CMS Utilities Feature

- *VM/ESA: CMS Utilities Feature*, SC24-5535

TCP/IP Feature for z/VM

- *z/VM: TCP/IP Level 3A0 Planning and Customization*, SC24-5981
- *z/VM: TCP/IP Level 3A0 User's Guide*, SC24-5982
- *z/VM: TCP/IP Level 3A0 Programmer's Reference*, SC24-5983
- *z/VM: TCP/IP Level 3A0 Messages and Codes*, GC24-5984
- *z/VM: TCP/IP Level 3A0 Diagnosis Guide*, GC24-5985

OpenEdition® DCE Feature for VM/ESA®

- *OpenEdition DCE for VM/ESA: Introducing the OpenEdition Distributed Computing Environment*, SC24-5735
- *OpenEdition DCE for VM/ESA: Planning*, SC24-5737
- *OpenEdition DCE for VM/ESA: Configuring and Getting Started*, SC24-5734
- *OpenEdition DCE for VM/ESA: Administration Guide*, SC24-5730
- *OpenEdition DCE for VM/ESA: Administration Reference*, SC24-5731
- *OpenEdition DCE for VM/ESA: Application Development Guide*, SC24-5732

- *OpenEdition DCE for VM/ESA: Application Development Reference*, SC24-5733
- *OpenEdition DCE for VM/ESA: User's Guide*, SC24-5738
- *OpenEdition DCE for VM/ESA: Messages and Codes*, SC24-5736

LANRES/VM

- *LAN Resource Extension and Services/VM: Licensed Program Specifications*, GC24-5617
- *LAN Resource Extension and Services/VM: General Information*, GC24-5618
- *LAN Resource Extension and Services/VM: Guide and Reference*, SC24-5622

CD-ROM

The following CD-ROM contains all the IBM libraries that are available in IBM BookManager[®] format for current VM system products and current IBM licensed programs that run on VM. It also contains PDF versions of z/VM publications and publications for some related IBM licensed programs.

- *Online Library Omnibus Edition: VM Collection*, SK2T-2067

Note: Only unlicensed publications are included.

Index

Numerics

- 310RES pack
 - initializing 34
- 310W01 pack
 - initializing 34
- 310W02 pack
 - initializing 34

A

- abbreviations and variables, common 4
- adding a work disk 191
- alternate CMS nucleus placement 227

B

- backing up
 - CMS 92
 - CP 93
 - named saved systems 92
 - saved systems 92
- BFS (Byte File System)
 - defining root directories 106
 - dependencies on 14
- building
 - CMS nucleus 265
 - CP nucleus 271
 - GCS nucleus 277

C

- CD-ROM
 - definition 4
 - layout of VM/ESA System DDR 8
- changing the system national language 131
- CMS (Conversational Monitor System)
 - alternate nucleus placement 227
 - increasing CMS nucleus 225
 - nucleus
 - alternate placement 227
 - default values 100
 - increasing size 225
 - rebuilding 265
 - starting cylinder per device 100
 - rebuilding nucleus 265
 - saved systems
 - backing up 92
 - Y minidisk directory (Y-STAT) 225
- CMS Utilities
 - install information 124
- commands
 - DIRONLIN 154
 - documented in other books 147
 - INSTALL 155
 - installation
 - DIRONLIN 154
 - INSTALL 155
 - INSTDEF 161

commands (*continued*)

installation (*continued*)

- INSTDEF2 164
- INSTDIR 165
- INSTIIS 167
- INSTPLAN 169
- INSTPOOL 171
- MIGR51D 172
- MOVE2SFS 174
- POSTDDR 178
- POSTLOAD 180
- INSTDEF 161
- INSTDEF2 164
- INSTDIR 165
- INSTIIS 167
- INSTPLAN 169
- INSTPOOL 171
- MIGR51D 172
- MOVE2SFS 174
- POSTDDR 178
- POSTLOAD 180
- common variables and abbreviations 4
- component
 - deciding what to load 13
- content of
 - z/VM System DDR CD-ROM 8
 - z/VM System DDR tapes 7
- CP (Control Program)
 - backing up 93
 - nucleus
 - rebuilding 271
- current system
 - definition 4
- cylinders/blocks required for installation 19, 21

D

- DASD (Direct Access Storage Device)
 - adding a work disk 191
 - cylinders/blocks required for installation 19, 21
 - Directory Build worksheets 26
 - initializing 34
 - Installation worksheet 25
 - minimum number for installation 19
 - planning packs used for installation 16
 - restoring IIS minidisks 32, 45
 - support 4
 - used for installation 25
- DCE
 - install informaton 124
- DDRXA (DASD Dump/Restore Program)
 - backup system to tape 93
 - restoring the system to disk 241
- dedicated pack
 - definition 4, 300
- default sizes for minidisks 252
- deleting a national language 140
- DFSMS/VM
 - install information 124

- diagram for selecting z/VM System DDR installation procedure 22
- dialogs, understanding system 5
- Directory Build worksheets 26
- DIRONLIN EXEC
 - description 154
- DMSNGP ASSEMBLE file
 - changing the system national language 131

E

- EREP (Environmental Recording Editing and Printing Program)
 - product information 109

F

- features
 - CMS Utilities 124
 - DCE 124
 - DFSMS/VM 124
 - LANRES/VM 124
 - LFS/ESA 124
 - PL/X-370 source 122
 - restricted source 120
 - REXX/EXEC Migration Tool 124
 - TCP/IP VM Kerberos 124
 - TCP/IP VM Source 124
- file arrangement
 - z/VM System DDR CD-ROM 8
 - z/VM System DDR tape 7
- file recovery 245
- format of
 - z/VM System DDR CD-ROM 8
 - z/VM System DDR tapes 7

G

- GCS (Group Control System)
 - configuration file 277
 - GCS nucleus buildlist 234
 - load map 291
 - nucleus
 - changing placement 233
 - changing size 233
- glossary 297

I

- ICKDSF (Device Support Facilities)
 - product information 109
- IIS (Initial Installation System)
 - definition of 4
 - IPL 37, 51
 - loading 33
 - restoring to disk 32, 45
- INSTALL EXEC
 - description 155
- install pack
 - definition 4, 303
- installation
 - interrupting 249

- installation (*continued*)
 - logical partition mode (LPAR) 22
 - minimum number of DASD for z/VM System DDR 19
 - procedures
 - choosing 22
 - saved segments 105
- installation commands
 - DIRONLIN 154
 - INSTALL 155
 - INSTDEF 161
 - INSTDEF2 164
 - INSTDIR 165
 - INSTIIS 167
 - INSTPLAN 169
 - INSTPOOL 171
 - MIGR51D 172
 - MOVE2SFS 174
 - POSTDDR 178
 - POSTLOAD 180
- installation-supported DASD type
 - definition 4
- installation-supported tape drives
 - definition 4
- Installation worksheet 25
- installing
 - system national language
 - adding national language as system segment 134
 - changing the system national language 131
 - loading national language files 127
- INSTDEF EXEC
 - description 161
- INSTDEF2 EXEC
 - description 164
- INSTDIR EXEC
 - description 165
 - using 60
- INSTIIS EXEC
 - description 167
 - using 45
- INSTPLAN EXEC
 - description 169
 - using 44, 59
- INSTPOOL EXEC
 - description 171
 - messages 171
- interrupting installation 249
- IPL your initial system
 - installation procedure 1 37
 - installation procedure 2 51
 - installation procedure 3 51
- ITEMMD TABLE 252

L

- language, national
 - country codes 128
 - update directory entries for 139
- LANRES/VM
 - install information 124
- layout of z/VM System DDR
 - CD-ROM 8

- layout of z/VM System DDR *(continued)*
 - tapes 7
- LOAD DEVICE MENU
 - using 70, 203
- load map
 - printing CMS 269
 - printing GCS 291
 - saving CMS 268
- LOAD MENU
 - using 69, 202
- loader panel, sample stand-alone 37, 52
- loading
 - files from z/VM source feature tape
 - CMS 120
 - CP 120
 - GCS 120
 - REXX/VM 120
 - TSAF 120
 - VMSES/E 120
 - Recommended Service Upgrade
 - post install component load 207
 - source using INSTALL EXEC 69, 202
- logical partition mode (LPAR), z/VM System DDR
 - installation procedure 22

M

- MAINT LINKLIST 261
- messages
 - DIRONLIN EXEC 154
 - INSTALL EXEC 157
 - INSTDEF EXEC 161
 - INSTDEF2 EXEC 164
 - INSTDIR EXEC 165
 - INSTIIS EXEC 167
 - INSTPLAN EXEC 169
 - INSTPOOL EXEC 171
 - MIGR51D EXEC 172
 - MOVE2SFS EXEC 175
 - POSTDDR EXEC 178
 - POSTLOAD EXEC 180
- MIGR51D EXEC
 - description 172
 - using 219
- minidisk
 - cylinders/blocks required for installation 19, 21
 - formatting
 - installation procedure 1 35
 - installation procedure 2 45
 - installation procedure 3 45
 - minimum number for installation 19
 - moving components to SFS directories 174
 - moving data to SFS directories 185
 - reclaiming unused space 174, 188, 214
 - recovering 155, 245
- minimum number of DASD for installation 19, 20
- mixed DASD support 6
- MOVE2SFS EXEC
 - description 174
- moving components to SFS directories 174, 185

N

- national language
 - adding national language as system segment
 - build the segment 138
 - define saved segment to store CMS files 134
 - update directory entries 139
 - country codes 128
 - deleting a national language 140
 - identifiers 128
 - update directory entries for 139
- nucleus
 - CMS
 - adding segment for Y minidisk directory (Y-STAT) 225
 - alternate placement 227
 - starting cylinder per device 100
 - CP
 - building, changing the system national language 133
 - GCS
 - changing placement 233
 - changing size 233

O

- overview
 - z/VM System DDR installation procedures 22

P

- panels, installation
 - Change NLS Segment Definition Panel 135
 - LOAD DEVICE MENU 70, 203
 - LOAD MENU 69, 202
 - Segment Map Panel 134
 - Stand-Alone Program Loader
 - z/VM System DDR install example 37, 52
- PL/X-370 source code feature 122
- planning for
 - z/VM System DDR installation 11
- POSTDDR EXEC
 - description 178
- POSTLOAD EXEC
 - description 180
 - using 74
- printing
 - CMS load map 269
 - GCS load map 291
- procedure 1, z/VM System DDR installation
 - bring directory online 67
 - CMS nucleus defaults 100
 - CP system configuration file defaults 102
 - GCS defaults 104
 - initialize DASD 32
 - IPL z/VM Initial Installation System 37
 - overview 22
 - prepare system directories 60
 - resave the CMS named saved system 89
 - restore IIS to DASD 32
 - run INSTALL EXEC 69

procedure 1, z/VM System DDR installation (*continued*)

segments on the z/VM system 105

procedure 2, z/VM System DDR installation

bring directory online 67

CMS nucleus defaults 100

CP system configuration file defaults 102

format DASD 45

GCS defaults 104

IPL z/VM Initial Installation System 51

overview 22

planning 42

prepare system directories 60

resave the CMS named saved system 89

restore IIS to DASD 45

run INSTALL EXEC 69

segments on the z/VM system 105

selecting items to load 44

procedure 3, z/VM System DDR installation

bring directory online 67

CMS nucleus defaults 100

CP system configuration file defaults 102

format DASD 45

GCS defaults 104

IPL z/VM Initial Installation System 51

planning 42

prepare system directories 60

resave the CMS named saved system 89

restore IIS to DASD 45

run INSTALL EXEC 69

segments on the z/VM system 105

selecting items to load 44

Q

QUERY NSS command

saved segment definitions 105

R

rebuilding

CMS nucleus 265

CP nucleus 271

GCS nucleus 287

reclaiming minidisk space 174, 188, 214

recovering a file 245

recovering a minidisk 245

recovery file pool

defaults 106

restarting installation procedures 249

restoring

IIS minidisks 32, 45

REXX/EXEC Migration Tool

install information 124

RPWLST DATA 74

RSU (Recommended Service Upgrade)

definition 4

TSAF, AVS, OSA/SF, TSM service 207

S

SAPL (Stand-Alone Program Loader)

loader panel 37, 52

loading 1st level 37

saved segments

Change NLS Segment Definition Panel 135

Segment Map Panel 134

VMFBLD command 133, 138

VMFSGMAP EXEC 134

saving

CMS load map 268

GCS nucleus 290

segment map, adding to 135

setting TOD clock 38, 53

SFS (Shared File System)

file pool definition file defaults 106

moving components to SFS directories 174

moving data files to SFS directories 185

shutdown current system 249

stand-alone loader panel 37, 52

stopping installation 249

summary of

z/VM System DDR installation procedures 22

system console address

primary

installation worksheet table 25

specifying during IPL 37

system dialogs, understanding 5

system generation

backing up

named saved systems 92

saved segments 92

system 93

initializing DASD packs 34

initializing system residence pack 34

loading

RSU for TSAF, and AVS 207

z/VM RSU tape or CD-ROM 207

restoring Initial Installation System to disk

installation procedure 1 32

installation procedure 2 45

installation procedure 3 45

saving CMS load map 268

spooling console during 58

system national language

installing new 127

system NETID file 223

system residence pack

definition 4, 310

T

tailoring

GCS 277

tapes

z/VM additional feature tapes

CMS Utilities 124

DCE 124

DFSMS/VM 124

LANRES/VM 124

- tapes (*continued*)
 - LFS/ESA 124
 - PL/X-370 source code 122
 - REXX/EXEC Migration Tool 124
 - TCP/IP VM Kerberos 124
 - TCP/IP VM Source 124
 - z/VM restricted source feature tapes 120
 - z/VM System DDR
 - layout 7
 - TCP/IP VM Source
 - install information 124
 - TOD (time-of-day) clock
 - setting 38, 53
 - TSAF (Transparent Services Access Facility)
 - loading source files from feature tapes 120

U

- understanding
 - installation procedure path 24
 - system dialogs 5
- user directory
 - updating entries for nation languages 139
- user file pool
 - defaults 106

V

- variables and abbreviations, common 4
- VMFINS EXEC
 - loading Recommended Service Upgrade
 - post install of optional components 207
- VMFPLC2 command 43, 120, 149
- VMFSGMAP EXEC
 - Add Segment Definition Panel, example 135, 136
 - Segment Map Panel, example 134
 - Segment Map Panel, refreshed 137
- VMSEVR DMSPARMS 106
- VSE/VSAM (Virtual Storage Extended/Virtual Storage Access Method)
 - default user IDs requiring 104

W

- worksheets
 - Directory Build 26
 - Installation 25

Y

- Y-minidisk directory (Y-STAT) 225
- Y-STAT (Y-minidisk directory) 225

Z

- z/VM RSU tape or CD-ROM
 - loading files from
 - post install component load 207
- z/VM System DDR
 - definition 4
- z/VM System DDR backup procedure
 - back up named saved systems 92

- z/VM System DDR backup procedure (*continued*)
 - restore z/VM system backup copy 241, 243
 - store backup copy of z/VM system on tape 93
- z/VM System DDR installation procedure
 - CD-ROM layout 8
 - Directory Build worksheets 26
 - Installation worksheet 25
 - minimum number of DASD needed 19
 - overview of procedures 22
 - planning 11
 - preparing for 7
 - procedure 1
 - bring directory online 67
 - CMS nucleus defaults 100
 - CP system configuration file defaults 102
 - GCS defaults 104
 - initialize DASD 32
 - IPL z/VM Initial Installation System 37
 - overview 22
 - prepare system directories 60
 - resave the CMS named saved system 89
 - restore IIS to DASD 32
 - run INSTALL EXEC 69
 - segments on the z/VM system 105
 - procedure 2
 - bring directory online 67
 - CMS nucleus defaults 100, 109
 - CP system configuration file defaults 102
 - format DASD 45
 - GCS defaults 104
 - IPL z/VM Initial Installation System 51
 - overview 22
 - planning 42
 - prepare system directories 60
 - resave the CMS named saved system 89
 - restore IIS to DASD 45
 - run INSTALL EXEC 69
 - segments on the z/VM system 105
 - selecting items to load 44
 - procedure 3
 - bring directory online 67
 - CMS nucleus defaults 100
 - CP system configuration file defaults 102
 - format DASD 45
 - GCS defaults 104
 - IPL z/VM Initial Installation System 51
 - planning 42
 - prepare system directories 60
 - resave the CMS named saved system 89
 - restore IIS to DASD 45
 - run INSTALL EXEC 69
 - segments on the z/VM system 105
 - selecting items to load 44
 - selecting a procedure 22
 - tape layout 7

Readers' Comments — We'd Like to Hear from You

z/VM
Installation Guide
Version 3 Release 1.0

Publication No. GC24-5945-00

Overall, how satisfied are you with the information in this book?

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Overall satisfaction	☐	☐	☐	☐	☐

How satisfied are you that the information in this book is:

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Accurate	☐	☐	☐	☐	☐
Complete	☐	☐	☐	☐	☐
Easy to find	☐	☐	☐	☐	☐
Easy to understand	☐	☐	☐	☐	☐
Well organized	☐	☐	☐	☐	☐
Applicable to your tasks	☐	☐	☐	☐	☐

Please tell us how we can improve this book:

Thank you for your responses. May we contact you? ☐ Yes ☐ No

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

Name

Address

Company or Organization

Phone No.

Cut or Fold
Along Line

Fold and Tape

Please do not staple

Fold and Tape



NO POSTAGE
NECESSARY
IF MAILED IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO. 40 ARMONK, NEW YORK

POSTAGE WILL BE PAID BY ADDRESSEE

IBM Corporation
Information Development
Department G60G
1701 North Street
Endicott, New York
13760-5553



Fold and Tape

Please do not staple

Fold and Tape

GC24-5945-00

Cut or Fold
Along Line



File Number: S370/S390-34
Program Number: 5654-A17



Printed in the United States of America
on recycled paper containing 10%
recovered post-consumer fiber.

GC24-5945-00

