

Virtual Machine/  
Enterprise Systems Architecture



# Installation Guide

*Version 2 Release 4.0*



Virtual Machine/  
Enterprise Systems Architecture



# Installation Guide

*Version 2 Release 4.0*

**Note!**

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

| **Third Edition (September 1999)**

This edition applies to the Version 2, Release 4, Modification 0 of IBM® Virtual Machine/Enterprise Systems Architecture (VM/ESA®) (product number 5654-030) and to all subsequent releases and modifications until otherwise indicated in new editions.

| This edition replaces GC24-5836-02.

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# Contents

<b>Notices</b> . . . . .	ix
Trademarks . . . . .	x
<b>Preface</b> . . . . .	xiii
Who Should Read This Book . . . . .	xiii
What You Should Know Before Reading This Book . . . . .	xiii
What This Book Contains . . . . .	xiii
Where to Start . . . . .	xiii
Where to Find More Information . . . . .	xiv
How to Send Your Comments . . . . .	xiv
<b>Summary of Changes</b> . . . . .	xv
How to Obtain Previous Editions of This Book . . . . .	xv
Summary of Changes for the Third Edition . . . . .	xv
Summary of Changes for VM/ESA Version 2 Release 4.0 . . . . .	xv
New Function . . . . .	xv
Additional Changes . . . . .	xv
Summary of Changes for VM/ESA Version 2 Release 3.0 . . . . .	xv
New Function . . . . .	xv
Additional Changes . . . . .	xvi
Summary of Changes for VM/ESA Version 2 Release 2.0 . . . . .	xvi
New Function . . . . .	xvi
Additional Changes . . . . .	xvi
<hr/>	
<b>Part 1. Introduction and Planning</b> . . . . .	1
<b>Chapter 1. Introduction</b> . . . . .	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 VM/ESA System DDR Installation . . . . .	7
Tape Layout of the VM/ESA System DDR . . . . .	7
CD-ROM Layout of the VM/ESA System DDR . . . . .	8
Stopping and Restarting the Installation Procedures . . . . .	9
<b>Chapter 2. Planning Your Installation</b> . . . . .	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 . . . . .	17
Method 1 . . . . .	17
Method 2 . . . . .	18
Method 3 . . . . .	19
DASD Tables for Method 1, Method 2, and Method 3 . . . . .	20
Step 4. Choosing Your Installation Procedure . . . . .	23
Installation Procedure Overview . . . . .	23
Choose the Appropriate Installation Procedure . . . . .	24
Installation Path . . . . .	25
Worksheet Tables . . . . .	26

<b>Part 2. VM/ESA System DDR Installation</b>	31
<b>Chapter 3. Procedure 1</b>	33
Step 1. Restore the Initial Installation System (IIS)	34
Step 2. IPL the VM/ESA IIS	40
<b>Chapter 4. Procedure 2 and Procedure 3</b>	45
Step 1. Planning for Installation	46
Step 2. Restore the Initial Installation System (IIS)	50
Step 3. IPL the VM/ESA IIS	56
<b>Chapter 5. Load the System DDR</b>	63
Step 1. Run INSTDIR	64
Step 2. Run DIRONLIN EXEC	75
Step 3. Run INSTALL EXEC	76
<b>Chapter 6. Post Load Installation Tasks</b>	83
Step 1. Run POSTLOAD EXEC	84
Step 2. Start the File Pools	88
Step 3. Plan for Running INSTDEF EXEC	91
Step 4. Run INSTDEF EXEC	92
Step 5. Run INSTDEF2 EXEC	99
Step 6. Resave the CMS Named Saved System	100
Step 7. Shutdown and Re-IPL Your System	102
Step 8. Back Up the Primary Parm Disk	104
Step 9. Back Up the Named Saved Systems and Segments	105
Step 10. Store a Backup Copy of the VM/ESA System on Tape	107
<b>Part 3. Post System DDR Installation Information</b>	111
<b>Chapter 7. System Default Information</b>	113
Step 1. CMS Defaults	114
Step 2. CP Defaults	116
Step 3. GCS Defaults	118
Step 4. Saved Segments on the VM/ESA System	119
Step 5. VMSERVS, VMSERVU, and VMSERVR File Pool Defaults	120
<b>Chapter 8. Preinstalled Licensed Products and Features</b>	123
Step 1. EREP	124
Introduction	124
Installation Requirements and Considerations	124
Installation Instructions	124
Service Instructions	124
Step 2. ICKDSF	125
Introduction	125
Installation Requirements and Considerations	125
Installation Instructions	125
Service Instructions	125
Step 3. IBM Language Environment® VM	126
Introduction	126
Installation Requirements and Considerations	126
Installation Instructions	126

Service Instructions . . . . .	126
Step 4. RSCS . . . . .	127
Introduction . . . . .	127
Installation Requirements and Considerations . . . . .	127
Installation Instructions . . . . .	127
Service Instructions . . . . .	128
Step 5. TCP/IP . . . . .	129
Introduction . . . . .	129
Installation Requirements and Considerations . . . . .	129
Installation Instructions . . . . .	129
Service Instructions . . . . .	129
Step 6. German NLS Feature . . . . .	130
Introduction . . . . .	130
Installation Instructions . . . . .	130
Service Instructions . . . . .	130
Step 7. Kanji NLS Feature . . . . .	131
Introduction . . . . .	131
Installation Instructions . . . . .	131
Service Instructions . . . . .	131
Step 8. VM Online Library . . . . .	132
Introduction . . . . .	132
Installation Requirements and Considerations . . . . .	132
Installation Instructions . . . . .	132
Service Instructions . . . . .	132
Step 9. OSA/SF . . . . .	133
Introduction . . . . .	133
Installation Requirements and Considerations . . . . .	133
Installation Instructions . . . . .	133
Service Instructions . . . . .	133
Step 10. Tivoli ADSM . . . . .	134
Introduction . . . . .	134
Installation Requirements and Considerations . . . . .	134
Installation Instructions . . . . .	134
Service Instructions . . . . .	134
<b>Chapter 9. Installing VM/ESA Features . . . . .</b>	<b>135</b>
Step 1. Installing the VM/ESA Restricted Source Feature . . . . .	136
Step 2. Installing the VM/ESA PL/X-370 Source Code Feature . . . . .	138
Step 3. Installing the Remaining Features . . . . .	140
DFSMS/VM Feature . . . . .	140
CMS Utilities (CUF) Feature . . . . .	140
REXX/EXEC Migration Tool for VM/ESA Feature . . . . .	140
LANRES/VM 1.3.0 . . . . .	140
LFS/ESA 1.1.2 . . . . .	140
DCE . . . . .	141
OpenEdition Shell and Utilities Feature . . . . .	141
TCP/IP VM Source . . . . .	141
TCP/IP VM Kerberos . . . . .	141
<b>Chapter 10. Customizing National Languages . . . . .</b>	<b>143</b>
Introduction . . . . .	144
National Languages Supported . . . . .	144
Step 1. Updating the CMS Translation Tables . . . . .	145
Step 2. Changing the System National Language . . . . .	147

Step 3. Adding a National Language as a System Segment . . . . .	151
Step 4. Deleting a National Language Segment . . . . .	158

---

**Part 4. Reference . . . . . 163**

<b>Chapter 11. Exec References . . . . .</b>	<b>165</b>
Exec Format Summaries . . . . .	165
Understanding Syntax Diagrams . . . . .	168
DIRONLIN EXEC . . . . .	170
INSTALL EXEC . . . . .	171
INSTDEF EXEC . . . . .	180
INSTDEF2 EXEC . . . . .	184
INSTDIR EXEC . . . . .	185
INSTIIS EXEC . . . . .	189
INSTPLAN EXEC . . . . .	192
INSTPOOL EXEC . . . . .	195
MIGR51D EXEC . . . . .	196
MOVE2SFS EXEC . . . . .	199
POSTDDR EXEC . . . . .	204
POSTLOAD EXEC . . . . .	206

---

**Part 5. Appendixes . . . . . 211**

<b>Appendix A. Moving Components to SFS Directories . . . . .</b>	<b>213</b>
---	------------

<b>Appendix B. Adding a Work Disk . . . . .</b>	<b>217</b>
---	------------

<b>Appendix C. Post Install Load of Optional Items . . . . .</b>	<b>219</b>
--	------------

Step 1. Prepare the USER DIRECT File for New Loads . . . . .	220
Step 2. Run INSTALL EXEC . . . . .	227
Step 3. Update System Tables . . . . .	232
Step 4. Load RSU for TSAF, AVS, OSA/SF, ADSM . . . . .	233
Step 5. Generate Serviced Uppercase HELP Files for TSAF and AVS . . . . .	235
Convert Using VMFINS . . . . .	235
Step 6. Start the File Pools . . . . .	237
Step 7. Move TSAF, AVS, OSA/SF, or ADSM to SFS . . . . .	240
Step 8. Update the Directory . . . . .	241
Step 9. Bring the Changed Directory Online . . . . .	243

<b>Appendix D. Migrate 51D from Old System . . . . .</b>	<b>245</b>
--	------------

<b>Appendix E. The SYSTEM NETID File . . . . .</b>	<b>249</b>
--	------------

<b>Appendix F. Enlarging CMS Nucleus to Contain the Minidisk Directory (Y-STAT) . . . . .</b>	<b>251</b>
---	------------

<b>Appendix G. Example of Alternate CMS Nucleus Placement . . . . .</b>	<b>253</b>
---	------------

<b>Appendix H. Updating SAMPNSS to Change the CMS System Name . . . . .</b>	<b>259</b>
---	------------

<b>Appendix I. Changing GCS Nucleus Options . . . . .</b>	<b>261</b>
---	------------

<b>Appendix J. Restoring the VM/ESA System Backup Copy . . . . .</b>	<b>269</b>
--	------------



<b>Appendix K. Restoring Your Named Saved Systems and Segments</b> . . . . .	271
<b>Appendix L. Recovering a File or Minidisk</b> . . . . .	273
<b>Appendix M. Stopping or Restarting the Installation Procedure</b> . . . . .	277
Restarting the Installation Procedures . . . . .	277
<b>Appendix N. Special Hardware Considerations</b> . . . . .	279
<b>Appendix O. ITEMMD TABLE and MAINT LINKLIST</b> . . . . .	281
ITEMMD TABLE . . . . .	282
MAINT LINKLIST . . . . .	290
<b>Appendix P. Build the CMS Nucleus</b> . . . . .	293
Step 1. Rebuild the CMS Nucleus . . . . .	293
<b>Appendix Q. Build the CP Nucleus</b> . . . . .	299
Step 1. Rebuild the CP Nucleus . . . . .	299
<b>Appendix R. Build the GCS Nucleus</b> . . . . .	303
Step 1. Tailor GCS . . . . .	303
Step 2. Rebuild and Save the GCS Nucleus . . . . .	313
<hr/>	
<b>Part 6. Glossary, Bibliography, and Index</b> . . . . .	319
<b>Glossary</b> . . . . .	321
<b>Bibliography</b> . . . . .	341
VM/ESA Base Publications . . . . .	341
Evaluation . . . . .	341
Installation and Service . . . . .	341
Planning and Administration . . . . .	341
Customization . . . . .	341
Operation . . . . .	341
Application Programming . . . . .	341
End Use . . . . .	341
Diagnosis . . . . .	342
Publications for Additional Facilities . . . . .	342
OpenEdition® for VM/ESA . . . . .	342
DFSMS/VM® . . . . .	342
S/390® Open Systems Adapter Support Facility for VM/ESA . . . . .	342
Language Environment® . . . . .	342
Publications for Optional Features . . . . .	342
CMS Utilities Feature . . . . .	342
TCP/IP Feature for VM/ESA . . . . .	342
OpenEdition Distributed Computing Environment Feature for VM/ESA . . . . .	343
LAN File Services/ESA . . . . .	343
LAN Resource Extension and Services/VM . . . . .	343
CD-ROM . . . . .	343
<b>Index</b> . . . . .	345



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## Preface

This book guides system programmers through the step-by-step installation procedures for installing VM/ESA on the complete spectrum of Enterprise Systems Architecture/370™ (ESA/370) or Enterprise Systems Architecture/390® (ESA/390™) processors. This includes the range of IBM's entry level ES/9000 processors to the largest ES/3090™ or ES/9000® processor, 43xx, and 9370 processors. The procedures allow installation of the VM/ESA system first-level on the processors just mentioned, or as a guest operating system hosted by VM/ESA.

---

## Who Should Read This Book

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

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 VM/ESA does and that you understand the concept of a virtual machine. You should also have a general understanding of ESA/370 and ESA/390 data processing techniques.

This document includes all updates at the time of this publication (July 1999). Any updates to this document will be reflected in the document that is available at our website:

<http://www.ibm.com/s390/vm>

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## What This Book Contains

This book describes the step-by-step installation procedures for Virtual Machine/Enterprise Systems Architecture (VM/ESA).

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 VM/ESA.

**Note:** *VM/ESA Installation and Service Sample Files* is an informal, hardcopy document supplied with your VM/ESA product order. The sample system definition files in this document are identical to the sample system definition files on the VM/ESA 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 VM/ESA 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, page 341.

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## How to Send Your Comments

Your feedback is important in helping to provide the most accurate and high-quality information. If you have any comments about this book or any other VM/ESA documentation:

- Visit our home page at:  
<http://www.ibm.com/s390/vm>  
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:

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- Fill out the form at the back of this book and return it by mail, by fax, or by giving it to an IBM representative.



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## Summary of Changes

This section describes the technical changes made in this edition of the book and in previous editions. Technical changes or additions to the text and illustrations are indicated by a vertical line to the left of the change.

---

## How to Obtain Previous Editions of This Book

Previous editions of this book and other books in the VM/ESA library can be ordered using the order numbers listed in the *VM/ESA: General Information* manual. That book lists the order numbers and suffixes for VM/ESA books, as well as certain related books, for currently supported VM/ESA releases. When ordering a previous edition of any book, it is important to specify the correct order number suffix.

---

## Summary of Changes for the Third Edition

- The following disks increased in size:

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

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## Summary of Changes for VM/ESA Version 2 Release 4.0

### New Function

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

### Additional 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.

---

## Summary of Changes for VM/ESA Version 2 Release 3.0

### New Function

- New INSTDEF exec:
  - Automates selected customization of DMSNGP
  - Automates the build of the CMS, CP, and GCS nuclei
  - Automates the move of items to SFS.
- New INSTDEF2 exec:

- Automates the rebuild of serviced segments
- Automates the back up of the 490, 493, and 5E6 minidisks.

## Additional Changes

- The size of the allocated paging, spooling, and t-disk space on the RES pack has increased. Additional packs are required to load down all the data on the System DDR.
- The VM/ESA GUI feature is now part of the CMS component of VM/ESA.
- The complete LE product is preinstalled on the System DDR.
- 3800 Printer Image Library Source is preinstalled on the System DDR.
- The NLS features, OSA/SF, and VM Online Library are installed on the System DDR and can be optionally loaded during installation.
- TCP/IP and RSCS are installed in a disabled state as part of the base VM/ESA. This allows the operating system to use parts of RSCS and TCP/IP, but does not change the need for customers to order the products if they want to use RSCS and TCP/IP function.

---

## Summary of Changes for VM/ESA Version 2 Release 2.0

### New Function

- **Procedure 3 (370 install):** IPL of the IIS now occurs before the directory is built. This allows automated directory build for Procedure 3.
- **Automated Directory Build:** There are three methods to define the placement of minidisks on DASD. INSTDIR EXEC automates the building of the directory for all three methods.
- **New DIRONLIN EXEC:** Brings the directory online.
- **New INSTPOOL EXEC:** Automates the starting and generating of filepools.

### Additional Changes

- 9332 DASD are no longer supported as system residence installation devices.
- The manual second level install (Procedure 2 in Version 2 Release 1.0) has been replaced with the automated second level install (Procedure 4 in Version 2 Release 1.0).
- INSTDIR is updated to perform the calculation of a work disk, if needed. This replaces Appendix C and Appendix D in the *VM/ESA Version 2 Release 1.0 Installation Guide*.
- The following commands have been moved from this manual:
  - SAMPNSS moved to *VM/ESA: CMS Command Reference*
  - GROUP moved to *VM/ESA: Group Control System*
  - UTILITY moved to *VM/ESA: CP Command and Utility Reference*.

---

## 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 VM/ESA
- Learn the interactive dialog used within this book
- Plan for your installation
- Fill in worksheets
- Choose an installation procedure.



---

## Chapter 1. Introduction

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

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 VM/ESA system.

**System residence pack:**

The pack on which the CP nucleus of the operating system is located (designated as 240RES in this book). This pack must be of the same DASD type as your System DDR.

**Initial Installation System (IIS):**

A functional VM/ESA system included in the VM/ESA System DDR restored to the system residence pack (240RES) and used by all procedures to install the rest of the VM/ESA system.

**Installation-supported tape drives:**

The 3420, 3422, 3424, 3430, 3480, 3490, and 9348 tape drives are supported for installation.

**Installation-supported DASD types:**

These are: 3380, 3390, 9345 and FBA (9335, 9336) DASD. (Does not include 3390-9.)

**Recommended Service Upgrade (RSU) tape:**

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

**VM/ESA 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>valid</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"
```

If screen output or input contains variable information, the information is explained on the right side. For example:

*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
```

The right side of the two-column format will also explain input that you must enter. For example:

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

## Introduction

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

```
input devno devtype 240res
```

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

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:

```
vmfins build ppf {esa|uceng} cms cmsload (all
```

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

Use the PPF name ESA 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
```

Read this box if installing

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 Read this box if installing

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

VM/ESA Version 2 Release 4.0 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 three procedures for installing your VM/ESA system. All three use the VM/ESA System DDR that includes the Initial Installation System (IIS). The IIS is a functional VM system used during installation of VM/ESA. You will restore the IIS, IPL the new system, and then continue to load minidisks from the VM/ESA 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 (240W01, ...) 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 customers. 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 VM/ESA 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. See Appendix N, "Special Hardware Considerations" on page 279 for special hardware considerations.
2. If you are installing from another VM system, review the *VM/ESA: Conversion Guide and Notebook*.
3. See the *VM/ESA Program Directory* and the PSP Bucket for the latest information affecting VM/ESA.

---

## Tape Layout of the VM/ESA System DDR

IBM offers the VM/ESA System DDR on tapes for VM/ESA Version 2 Release 4.0. When you order VM/ESA System DDR tapes, the VM/ESA 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 VM/ESA System DDR.

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	

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

## Introduction

### File Content

#### 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 programs on file 1 of the VM/ESA System DDR may not be at the latest service level. Use these copies of the programs only during VM/ESA 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 VM/ESA System DDR. IBM can supply a 3380, 3390, 9345, or FBA (9335, 9336) IIS.

#### ISMS Trailer File

A tape volume data file is needed for ISMS (IBM Software Manufacturing Solutions) processing.

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

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

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

#### DDR Image Files

Each file is the DDR image of one minidisk.

---

## CD-ROM Layout of the VM/ESA System DDR

IBM offers a VM/ESA System DDR on CD-ROM for VM/ESA Version 2 Release 4.0. When you order VM/ESA 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 (9335, 9336)). The CD-ROM for a particular DASD type has one logical tape containing identical data to that included on the VM/ESA System DDR on tape. **Be sure to use only one CD-ROM type (2 volumes) for installation of VM/ESA.**

**Note:** All media is referred to as tape throughout the installation procedures. The term **VM/ESA 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:

1. IBM PC Server S/390®
2. RISC System/6000® with a S/390 Server on Board
3. S/390 Integrated Server
4. PS2 with S/390 Optical Media Attach/2 (OMA/2).

Figure 3 on page 9 shows the file arrangement of the VM/ESA System DDR CD-ROMs.

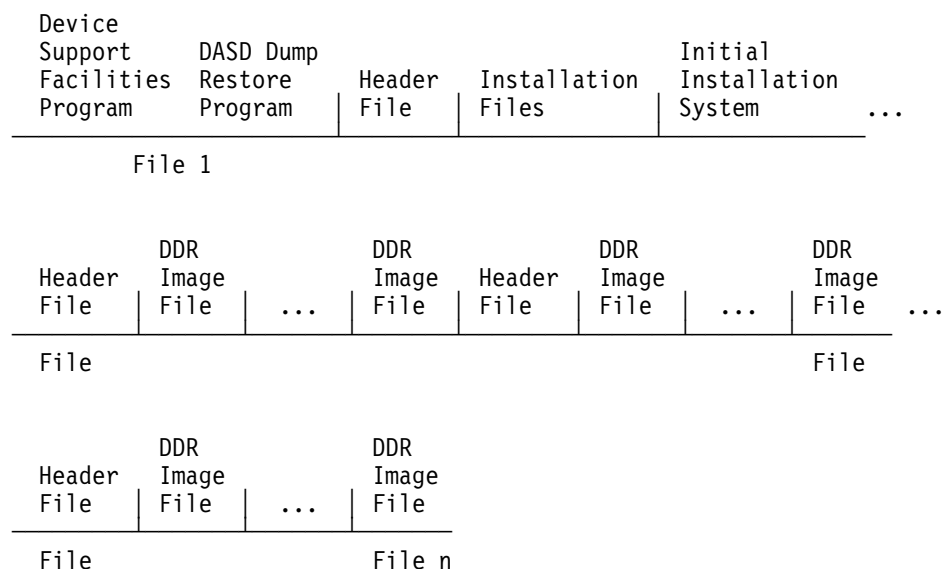
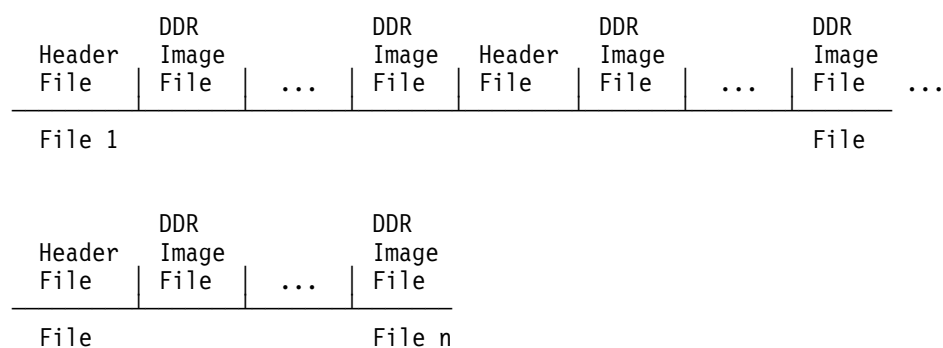
**1st CD-ROM (Volumes 1-4)****2nd CD-ROM (Volumes 5-8)**

Figure 3. Layout of VM/ESA 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 277.



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## 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

VM/ESA Version 2 Release 4.0 provides three installation procedures. To determine the proper installation procedure, you need to know some information about the system on which you are installing VM/ESA Version 2 Release 4.0. The following is a list of questions you must be able to answer:

- What is the DASD type of your VM/ESA System DDR?
- What type and amount of DASD is available for the installation of VM/ESA Version 2 Release 4.0?
- Is there a VM operating system (current system) on the processor?  
If there is a VM system:
  - Does it support VM/ESA architecture?
  - Does it support the type of DASD available for installation?
- 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
- VM online library
- OSA/SF
- ADSM installed disabled.

The Installation Worksheet (Table 5 on page 26) 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 (Table 5 on page 26) for each optional item you select to load. Place a “No” in the **Select to Load** column in the Installation Worksheet (Table 5 on page 26) 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 VM/ESA 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 VM/ESA systems in the local VM/ESA collection. TSAF provides VM/ESA users with transparent access to server resources across a collection of up to eight VM/ESA 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.

### AVS

## Planning Your Installation

- The APPC/VM VTAM support (AVS) component includes the AVS virtual machine and lets VM/ESA 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 VM/ESA.
- 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 *VM/ESA: Conversion Guide and Notebook* for information about moving your existing file pools to VM/ESA Version 2 Release 4.0. If you are going to use Java, NetRexx™, or OpenEdition® 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 *VM/ESA: 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 26) 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 26) 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).

### VM Online Library

- The VM Online Library consists of a single minidisk that contains VM/ESA Version 2 Release 4.0 Online Library Softcopy Displayable files.

### OSA/SF

- System/390® Open Systems Adapter Support Facility for VM/ESA 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.

### ADSM

- Tivoli ADSM is a client/server program that provides storage management to customers in a multivendor computer environment.

## Planning Your Installation

Tivoli ADSM 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 2 Release 4.0 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 VM/ESA System DDR and must match one of the densities listed in Table 1 on page 20. The pack labels are defined by the installation execs as 240RES, 240W01, .... 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 240RES and be one of the DASD types/densities listed in Table 1 on page 20.
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 240RES and be one of the DASD types/densities listed in Table 1 on page 20.

**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 VM/ESA 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, VMSERVU, and VMSERVR) 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 the same. The 306 and 307 minidisks for the VMSERVR 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 240RES, 240W01, 240W02, 240W03, ... 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 26), 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 20 for a list of the **Number of Packs Required** for each DASD type (**Device Type**) and **Density** supported.

## Planning Your Installation

### Notes:

- a. All packs required for this method must be of the same DASD type as your VM/ESA 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 27).
  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 eight packs, 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 26), 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 21 and determine the number of cylinders/blocks needed for the items you chose to load.
2. Select the DASD to be used for installation.
3. Get the Directory Build Worksheet—Method 2 (Table 7 on page 28).
4. In the Directory Build Worksheet—Method 2, record the DASD address and type of the 240RES pack. This pack must be the same device type as your VM/ESA System DDR and must match one of the densities listed in Table 1 on page 20.
5. Determine the DASD requirements for the items you selected to load by reviewing Table 2 on page 21. 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 240RES for minidisk placement, see Table 3 on page 21 to determine the starting extent available for use.

**Note:** If the FILEPOOL or SMALL FILEPOOL item is selected, it will be placed first. Therefore, the first extents defined must be at least as large as the item selected.

**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 21. 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 VM/ESA System DDR. Refer to the following table for the maximum number of cylinders/blocks you may have to allocate for the work minidisk:

3380	250 cylinders
9345	250 cylinders
3390	208 cylinders
FBA	300,000 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 disk.

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

## 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 26) and Table 4 on page 22 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 29).
3. In the Directory Build Worksheet—Method 3, record the DASD address and type of the 240RES pack. This pack must be the same device type as your VM/ESA System DDR and must match one of the densities listed in Table 1 on page 20.
4. In the Directory Build Worksheet—Method 3, Table 8 on page 29, 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 240RES for minidisk placement, see Table 3 on page 21 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 VM/ESA 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.

## Planning Your Installation

Item	3380 cylinders	9345 cylinders	3390 cylinders	FBA blocks
CMS,REXX	250	250	208	300000
CP,DV SOURCE	220	220	184	264000
VM ONLINE LIBRARY	220	220	184	264000
SYSTOOLS	160	160	133	192000
CP,DV	125	125	105	150000
SYSTEM	108	108	102	129600
UCENG HELP	108	108	102	129600
GERMAN HELP	108	108	102	129600
KANJI HELP	108	108	102	129600
ADSM	108	108	090	129600
VMSERVS	100	100	084	120000
SMALL FILEPOOL	100	100	084	120000
OSA/SF	192	192	160	230400
CMS,REXX SOURCE	095	095	080	114000
LE370	120	120	100	144000
TCP/IP	080	080	067	096000

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, this space may be reused.

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

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

Device Type	Density	Number of Packs Required	
		Base Only	All
3380	Single (885 cyl)	4	7
	Double (1770 cyl)	2	4
	Triple (2655 cyl)	2	3
3390	Single (1113 cyl)	3	5
	Double (2226 cyl)	2	3
	Triple (3339 cyl)	1	2
9345	Model 1 (1440 cyl)	3	4
	Model 2 (2156 cyl)	2	3
9335 (FBA)	Single (804714 blk)	5	9
9336 (FBA)	Model-10 (920115 blk)	5	8
	Model-20 (1672881 blk)	3	5

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

Item	3380/9345 (cylinders)	3390 (cylinders)	FBA (blocks)
FILEPOOL	616	525	739,200
SMALL FILEPOOL	216	189	259,200
BASE	2,709	2,318	3,229,200
TSAF, AVS	40	38	48,000
CP, DV Source <sup>2</sup>	220	184	264,000
CMS, REXX Source <sup>2</sup>	95	80	114,000
VMSES/E Source <sup>2</sup>	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
VM Online Library	220	184	264,000
OSA/SF	484	405	580,800
ADSM	251	210	301,200
<b>Total<sup>3</sup></b>	<b>5,026</b>	<b>4,310</b>	<b>6,009,600</b>

**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. 240RES IIS Location

DASD Device Type	IIS Location on 240RES	Start Location of Free Extents
3380, 9345	0-626	627
3390	0-530	531
FBA	0-752399	752400

## Planning Your Installation

<i>Table 4. Number of DASD Cyl/Blk Needed for Each Subitem Using Method 3</i>				
Item/Subitem		3380/9345 (cylinders)	3390 (cylinders)	FBA (blocks)
BASE	CP, DV	271	228	318,000
	CMS, REXX	533	446	632,400
	VMSES/E	96	85	108,000
	GCS	43	41	51,600
	RSCS	149	133	178,800
	TCP/IP	544	468	652,800
	SYSTEM	311	273	373,200
	SYSTOOLS	320	266	384,000
	SYSUSERS	35	33	42,000
	ICKDSF	57	51	68,400
	LE/370	350	294	420,000
TSAF, AVS		40	38	48,000
FILEPOOL	VMSERVS	548	463	657,600
	VMSERVU	55	49	66,000
	VMSEVR	13	13	15,600
SMALL FILEPOOL		216	189	259,200
CP, DV Source		220	184	264,000
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
VM Online Library		220	184	264,000
OSA/SF		484	405	580,800
ADSM		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 VM/ESA Version 2 Release 4.0 System DDR.

### Installation Procedure Overview

This section gives you a description of each installation procedure available for installing VM/ESA Version 2 Release 4.0. After reading this section, you will be able to choose your installation procedure in “Choose the Appropriate Installation Procedure” on page 24.

- **Procedure 1** is a first level installation. This means there is no VM system running on the processor or LPAR on which you are installing VM/ESA Version 2 Release 4.0.

You must use this procedure if:

- No VM system is running in the processor or LPAR on which you are installing VM/ESA Version 2 Release 4.0
- Or your VM system does not support the DASD on which you are installing VM/ESA Version 2 Release 4.0.

- **Procedure 2** is a second level installation. This means there is a VM system running on the processor or LPAR on which you are installing VM/ESA Version 2 Release 4.0, and you will install VM/ESA Version 2 Release 4.0 from a user ID on that system.

You may use this procedure if:

- You have an ESA VM/ESA system running on the processor or LPAR on which you are installing VM/ESA Version 2 Release 4.0
- And your VM system supports the DASD on which you are installing VM/ESA Version 2 Release 4.0.

- **Procedure 3** is a mixture of first and second level installations. This procedure begins the installation in a virtual machine on your VM system (second level) and completes the installation first level.

You may use this procedure if:

- You have a 370 VM/ESA system running on the processor or LPAR on which you are installing VM/ESA Version 2 Release 4.0
- And your current system supports the DASD on which you are installing VM/ESA Version 2 Release 4.0

### Choose the Appropriate Installation Procedure

Starting with question 1 (Q1), follow the flow chart answering each question as you go. Correctly answering the questions leads you to the installation procedure that most closely matches your requirements.

If you have any questions, refer back to “Installation Procedure Overview” on page 23.

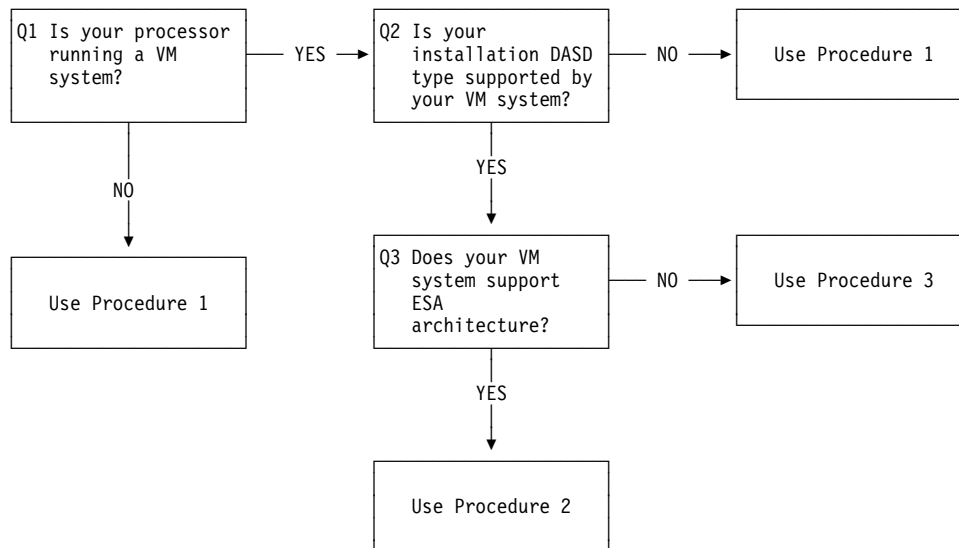


Figure 4. Installation Flow Chart

Record your procedure number in the Installation Procedure # field in the Installation Worksheet (Table 5 on page 26).

## Installation Path

Use Figure 5 to proceed to the appropriate procedure.

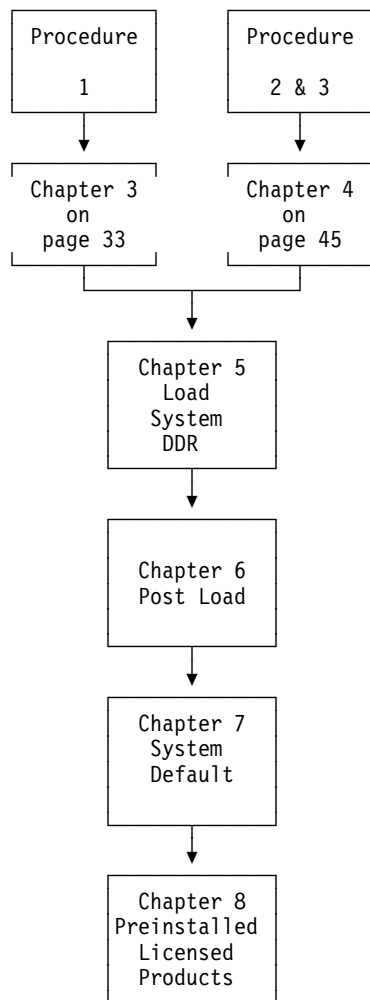


Figure 5. Charting Your VM/ESA System DDR Installation Course

## Worksheet Tables

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

<i>Table 5. Installation Worksheet</i>				
LOAD SELECTION SECTION				
<i>Item/Minidisk</i>		<i>Select To Load (Yes/No)</i>		
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				
VM Online Library				
OSA/SF				
ADSM				
TAPE DRIVE SECTION				
<i>Drive</i>	<i>Address (1st Level Real)</i>	<i>Address (1st Level Virtual) (2nd Level Real)</i>	<i>Address (2nd Level Virtual)</i>	<i>Device Type (include Model if 3420/3422)</i>
1				
2				
3				
4				
5				
6				
7				
8				
MISCELLANEOUS INFORMATION				
Installation Procedure # :				
<i>wdaddr</i> (Work Disk Address) :				
<i>currID</i> (Procedures 2 and 3 ONLY) User ID :				
<i>consaddr</i> (Primary System Console Address) :				
<b>Note:</b> You will fill in the TAPE DRIVE SECTION, <i>wdaddr</i> , <i>currID</i> , and <i>consaddr</i> during the procedures.				

<i>Table 6. Directory Build Worksheet—Method 1</i>	
<b>Device Type and Density:</b> _____	
<b>Number of Packs Required:</b> _____	
<b>Label</b>	<b>Addr</b>
240RES	
240W01	
240W02	
240W03	
240W04	
240W05	
240W06	
240W07	
240W08	

## Planning Your Installation

<i>Table 7. Directory Build Worksheet—Method 2</i>			
<b>240RES</b>			
<i>Address:</i> _____			
<i>Type/Model (Density):</i> _____			
<i>Label</i>	<i>Address</i>	<i>Type</i>	<i>Extents</i> <i>Start      End</i>
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.

<i>Table 8. Directory Build Worksheet—Method 3</i>						
<b>240RES</b>						
<b>Address:</b> _____						
<b>Type/Model (Density):</b> _____						
<i>Item/Subitem</i>		<i>Label</i>	<i>Addr</i>	<i>Type</i>	<i>Start</i>	<i>Extents End</i>
BASE	CP, DV					
	CMS, REXX					
	VMSES/E					
	GCS					
	RSCS					
	TCP/IP					
	SYSTEM					
	SYSTOOLS					
	SYSUSERS					
	ICKDSF					
	LE/370					
TSAF, AVS						
FILEPOOL	VMSERVS					
	VMSERVU					
	VMSEVR					
SMALL FILEPOOL						
CP, DV Source						
CMS, REXX Source						
VMSES/E Source						
RSCS Source						
UCENG Help						
German Help						
Kanji Help						
VM Online Library						
OSA/SF						
ADSM						
CP, DV No Source						
CMS, REXX No Source						
VMSES/E No Source						
Work Minidisk (if required)						

## Planning Your Installation



---

## Part 2. VM/ESA System DDR Installation

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



---

## Chapter 3. Procedure 1

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

### Step 1. Restore the Initial Installation System (IIS)

#### In this step you will:

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

#### Notes:

1. The IPLable Device Support Facilities (ICKDSF) program in Tape File 1 of the VM/ESA 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 VM/ESA 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 VM/ESA 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 VM/ESA 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 50. If necessary, use the Device Support Facilities (ICKDSF) to relabel your packs in substep 9 on page 36.

**Attention:** The system residence pack used for installation must be the same DASD device type as your VM/ESA System DDR and must match a density listed in Table 1 on page 20 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 (2-5) of the VM/ESA System DDR. Depending on the optional items you choose to load, you will need tape drives for volumes (6-8). You will need two CD-ROM volumes for the VM/ESA 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. If you are using 3420 or 3422 tape drives, also record the model number.

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

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 VM/ESA.
- 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*.

**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:**

- Make sure your hardware is IMLed in ESA or ESA/370 mode.
- 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**

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

**Clear**

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

```
ICK005E DEFINE INPUT DEVICE, REPLY
      'DDDD, CUU' OR 'CONSOLE'
ENTER INPUT/COMMAND:
```

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

**console**

```
CONSOLE
ICK006E DEFINE OUTPUT DEVICE, REPLY
      'DDDD, CUU' OR 'CONSOLE'
ENTER INPUT/COMMAND:
```

## Restore the Initial Installation System (IIS)

```
console
CONSOLE
ICKDSF - SA/XA/ESA DEVICE SUPPORT FACILITIES
  nn.n TIME:hh:mm:ss mm/dd/yy    PAGE 1
ENTER INPUT/COMMAND:
```

- 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.

```
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 37 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:
```

## Restore the Initial Installation System (IIS)

```
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.

```
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 240RES 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.

```
cpvvolume 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:
```

## Restore the Initial Installation System (IIS)

```
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 (MVS Load Parameter field for 4381 processors).

### 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.

**ENTER**

CLEAR SCREEN WHEN READY

**Reset**

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

**Clear**

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 VM/ESA System DDR to the system residence pack (240RES).

**Note:** The device types for which the following steps are valid include 3380, 3390, 9345, 9335, 9336 DASD and 3420, 3422, 3424, 3430, 3480, 3490, and 9348 tape drives.

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

sysprint cons
ENTER:
```



## Restore the Initial Installation System (IIS)

**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, 3424, 3430, 3480, 3490, or 9348.

If you have a 3420 tape drive, you must specify **3420** in place of the **tape** keyword.

**output** *packaddr* **dasd 240res**

*packaddr* is the address of the system residence pack (240RES) recorded on your Directory Build Worksheet.

DDR checks the pack label to make sure it is 240RES, the system residence pack.

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 240RES

DATA DUMPED *mm/dd/yy*  
AT *hh.mm.ss* GMT FROM 240RES  
RESTORED TO 240RES

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 VM/ESA IIS

### In this step you will:

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

**1** Bring up the VM/ESA Version 2 Release 4.0 system from the DASD device you just restored it to; that is, IPL the real address of 240RES 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 (MVS Load Parameter field for 4381 processors) 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: VM/ESA VERSION 2 RELEASE 4.0

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 26. 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 VM/ESA system continues:

```
hh:mm:ss VM/ENTERPRISE SYSTEMS ARCHITECTURE V2 R4.0
        SERVICE LEVEL nnnn;
```

```
hh:mm:ss SYSTEM NUCLEUS CREATED ON yyyy-mm-dd AT hh:mm:ss,
        LOADED FROM 240RES
```

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

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

```
hh:mm:ss * 5654-030 (C) COPYRIGHT IBM CORP. 1983, *
```

```
hh:mm:ss * 1999. 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 3 on page 34.

```
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 *VM/ESA: 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 *VM/ESA: 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 240RES 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.

:

The error message HCPLNM108E may occur at this point because the appropriate directory is not online yet.

*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.

## 8 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.

## 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 63.



---

## Chapter 4. Procedure 2 and Procedure 3

In this chapter, you will use step-by-step procedures to install the VM/ESA System DDR from a VM/ESA 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 VM/ESA 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 VM/ESA 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 VM/ESA Version 2 Release 4.0. 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. This first-level user ID must have access to the DDR MODULE.

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 VM/ESA 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 VM/ESA.
- 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*.

```
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 VM/ESA System DDR will be mounted. *tapeaddr* is recorded in the **TAPE DRIVE SECTION** in Installation Worksheet Table 5.

- 7** Mount Volume 1 of the VM/ESA 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 VM/ESA System DDR to your work disk.

```
vmfp1c2 rew
Ready; T=n.nn/n.nn hh:mm:ss
```

Rewind the tape.

```
vmfp1c2 fsf 2
Ready; T=n.nn/n.nn hh:mm:ss
```

Forward space past the first and second tape file.

```
vmfp1c2 load * * a
Loading ...
:
End-of-file or end-of-tape
Ready; T=n.nn/n.nn hh:mm:ss
```

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`

```
*** VM/ESA 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   VM ONLINE LIBRARY
S   OSA/SF        S   ADSM

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.

_ (5) 3390 Single  _ (3) 3390 Double  _ (2) 3390 Triple
_ ( ) USER CUSTOMIZE

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

Figure 7. Installation Planning Panel

- a Refer to Installation Worksheet Table 5 on page 26. In the VM/ESA 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 27. If you are using Directory Build Method 2 or 3, place a nonblank character in front of USER CUSTOMIZE.
- 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 VM ONLINE LIBRARY OSA/SF ADSM

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 CUSTOMIZE, *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
```

---

### 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*.

```
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 VM/ESA System DDR will be mounted. *tapeaddr* is recorded in the **TAPE DRIVE SECTION** in Installation Worksheet Table 5.

**c** Mount Volume 1 of the VM/ESA 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 VM/ESA 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
```

**a** Depending on the DASD layout you chose on the VM/ESA 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:

```

*** VM/ESA INSTALLATION DASD FORMAT/RESTORE ***

You selected to install on dasdtype DASD

      DASD          DASD          VIRTUAL TAPE          DO NOT
      LABEL         ADDRESS        ADDRESS              FORMAT DASD
=====
240RES          _____          _____          _____
240W01          _____
240W02          _____
240W03          _____
240W04          _____
240W05          _____

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

Figure 8. Installation DASD Format and Restore Panel (3380 Model Layout)

- Fill in the panel using the information from the Installation Worksheet (Table 5 on page 26) and your Directory Build Worksheet. For detailed information, press **PF1** for HELP.
- Press **PF5** to process and continue to substep 3b on page 53.

## Restore the Initial Installation System (IIS)

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

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

Enter 240RES 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
  =====      =====      =====      =====
  240RES          _____          _____          _____
  _____
  _____
  _____
  _____
  _____
  _____
  _____
  _____
  _____
  _____

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 26) and your Directory Build Worksheet. For detailed information, press **PF1** for HELP.
- 2) Press **PF5** to process and continue to substep 3b on page 53.

**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 240RES
```

```
RESTORING 240RES
```

```
DATA DUMPED  mm/dd/yy AT hh.mm.ss  GMT FROM 240RES RESTORED TO 240RES
```

```
INPUT BLOCK EXTENTS          OUTPUT BLOCK 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)

- 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:
```

```
240RES    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 240RES
```

```
RESTORING 240RES
```

```
DATA DUMPED mm/dd/yy AT hh.mm.ss GMT FROM 240RES RESTORED TO 240RES
```

```
INPUT CYLINDER EXTENTS      OUTPUT CYLINDER EXTENTS
```

```
START      STOP      START      STOP
```

```
nnnnnnnnn  nnnnnnnnn  nnnnnnnnn  nnnnnnnnn
```

```
nnnnnnnnn  nnnnnnnnn  nnnnnnnnn  nnnnnnnnn
```

```
END OF RESTORE
```

```
BYTES RESTORED nnnnnnnnnn
```

```
END OF JOB
```

```
HCPINI8391I INSTIIS EXEC ENDED SUCCESSFULLY
```

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



- 4 If you are installing from CD-ROM, skip this substep and go to “Step 3. IPL the VM/ESA IIS” on page 56. If you are installing from tape, continue with this substep. Volume 1 of the VM/ESA 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 VM/ESA IIS

### In this step you will:

- Shutdown your VM 370 system (Procedure 3 only).
- 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.

---

### Procedure 3 Only

## 1 Bring up the VM/ESA IIS.

- Shutdown your VM 370 system.
- Make sure your processor is IMLed in ESA mode.
- IPL the VM/ESA Version 2 Release 4.0 system from the DASD device you just restored it to; that is, IPL the real address of 240RES. Follow the specified **hardware IPL** operation for your processor.

You **must** specify your operator console address in the Load Parameter field (MVS Load Parameter field for 4381 processors) 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*.

---

### End of Procedure 3 Only

---

### Procedure 2 Only

## 2 Choose the addresses of your tape drives.

For the Base item, you will need tape drives for four tape volumes (2-5) of the VM/ESA System DDR. Depending on the optional items you chose to load, you will need tape drives for volumes (6-8). You will need two CD-ROM volumes for the VM/ESA 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.

## 3 If you are using more than one tape drive, record the following in the **TAPE DRIVE SECTION** in Installation Worksheet (Table 5 on page 26):

- 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. If you are using a 3420 or 3422 tape drive, also record the model number.

- 4** 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
```

- 5** 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
DASD packaddr ATTACHED TO currID packaddr       your Directory Build Worksheet.
```

**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.

- 6** Enter the following commands to clear your virtual machine and make sure that the VM/ESA 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
```

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

```
query virtual storage                           Run the define command only if you have less than
STORAGE = nnnnM                                64M of storage.

define storage 64m
STORAGE = 64M
Storage cleared - system reset
```

- 8** Define your virtual machine to have the capabilities of an ESA virtual machine. A virtual machine defined with SET MACHINE XA is considered by CP to be an ESA virtual machine simulating the ESA/370 or ESA/390 architecture.

```
set machine xa                                  If your machine is already in XA mode, you will not
System reset.                                   get a response.
System = XA
```

- 9** 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                                   consaddr is the address of your virtual console.
CONS consaddr
:
```

- 10** IPL the IIS you loaded to the system residence pack (240RES).

## IPL the VM/ESA IIS

```
ipl packaddr clear loadparm consaddr
```

**Clear** is necessary. Do not omit it.

*packaddr* is the address of the system residence pack (240RES). Refer to your Directory Build Worksheet.

*consaddr* is the address of your virtual console recorded previously.

MORE...

**Clear**

End of Procedure 2 Only

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

```
STAND ALONE PROGRAM LOADER: VM/ESA VERSION 2 RELEASE 4.0
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

**11** Move the cursor to the IPL PARAMETERS field and type

```
cons=consaddr
```

As shown in Figure 10, where *consaddr* is the primary system console address recorded as the value of *consaddr* on the Installation Worksheet Table 5 on page 26. This statement defines the operator console. Spaces are not allowed around the equal sign.

**12** Press **PF10** to load.

**PF10**

**13** The IPL of your VM/ESA system continues:

```
hh:mm:ss VM/ENTERPRISE SYSTEMS ARCHITECTURE V2 R4.0
        SERVICE LEVEL nnnn;
```

```
hh:mm:ss SYSTEM NUCLEUS CREATED ON yyyy-mm-dd AT hh:mm:ss,
        LOADED FROM 240RES
```

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

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

```
hh:mm:ss * 5654-030 (C) COPYRIGHT IBM CORP. 1983, *
```

```
hh:mm:ss * 1999. 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 5 on page 57.

```
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.

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

```
no
```

## 14 CP logs on the primary system operator (user ID OPERATOR).

```
hh:mm:ss The directory on volume 240RES 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.

⋮

The error message HCPLNM108E may occur at this point because the appropriate directory is not online yet.

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.

## 15 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.

**16** 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 63.





---

## 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**

**logon maint**

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

The default password for MAINT is MAINT.

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

```
DMSACP112S Y(19E) device error
```

```
VM/ESA V2.4.0   yyyy-mm-dd hh:mm
```

**ENTER**

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

```
DMSACP112S A(191) device error
```

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

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

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

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

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

**spool console \* start**

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

**set pf12 retrieve**

```
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.

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 Only

**4** Attach and access the work disk used to plan the installation.**attach** *wdaddr* \* 199DASD *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 26.**access** 199 zReady; 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 replaceReady; 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 67.

## End of Procedure 2 Only

## Procedure 1 and 3

**7** Run INSTPLAN to select items to load and the DASD type on which to install. If you are following Procedure 3, you already ran INSTPLAN in "Step 1. Planning for Installation" on page 46, substep 9 on page 48. However, you need to rerun it to generate the file used as input to the remaining installation procedures.**instplan**

## Run INSTDIR

```
*** VM/ESA 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   VM ONLINE LIBRARY
S   OSA/SF        S   ADSM

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.

_ (5) 3390 Single  _ (3) 3390 Double  _ (2) 3390 Triple
_ ( ) USER CUSTOMIZE

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

Figure 11. Installation Planning Panel

- a** Refer to Installation Worksheet Table 5 on page 26. In the VM/ESA 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 8 on page 29. If you are using Directory Build Method 2 or 3, place a nonblank character in front of USER CUSTOMIZE.
- 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 VM ONLINE LIBRARY OSA/SF ADSM

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 CUSTOMIZE, *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 and 3

- 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 68.
  - If you select Directory Build Method 2, go to substep 8b on page 70.
  - If you select Directory Build Method 3, go to substep 8c on page 72.

## Run INSTDIR

**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.

- 2) The system configuration file (SYSTEM CONFIG) contains pack labels for 240W01 through 240W07. Refer to your Directory Build Worksheet to determine if you require all the pack labels. If you do not require all the pack labels, remove the pack labels not used from the system configuration file (SYSTEM CONFIG).

**cprelease a**

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

**link maint cf1 cf1 mw**

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

**access cf1 a**

```
DMSACC724I CF1 replaces A (191)  
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/&/240RES/
```

If you are not using 240W01, 240W02, ... 240W07, change the pack label to RESERVED.

**====> 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
```

3) 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 67.

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.

4) Go to “Step 2. Run DIRONLIN EXEC” on page 75.





HCPWDK8494I NO WORK DISK NEEDED

You will receive either message 8494I or 8493R.

or

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 73.

## Run INSTDIR

**C** You selected Directory Build Method 3 to install.

Run INSTDIR to build the appropriate directory for your installation.

### instdir

```
HCPIDX8484R YOU HAVE SELECTED TO CUSTOMIZE 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:

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

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

Figure 13. Installation User Defined Item Placement Panel

- 1) Fill in the panel using the information from your Directory Build Worksheet—Method 3, Table 8 on page 29. For detailed information press **PF1** for HELP.
- 2) Press **PF5** to process.

HCPWDK8494I NO WORK DISK NEEDED

You will receive either message 8494I or 8493R.

or

```
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.

## 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 67.

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/&/240RES/
```

## Run INSTDIR

- 1) If you are not using 240W01, 240W02, 240W03, 240W04, 240W05, 240W06, or 240W07, change the pack label to RESERVED.
- 2) 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/           Add each of the volumes that need to be added to
====> input User_Volume_List valid1             the list (valid1 to validxx).
:
====> input User_Volume_List validxx
```

```
====> 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 73 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.
VM/ESA USER DIRECTORY CREATION PROGRAM - VM/ESA VERSION 2 RELEASE 4.0
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.
HCPD0L8391I 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 VM/ESA System DDR. Refer to Installation Worksheet Table 5 on page 26.

### 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  
logon maint  
:  
DMSACP112S Y(19E) device error  
:  
  
VM/ESA V2.4.0   yyyy-mm-dd hh:mm
```

The default password for MAINT is MAINT.

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

```
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
```

## Procedures 1 and 3 Only

**4** Choose the addresses of your tape drives.

For the Base item, you will need tape drives for four tape volumes (2-5) of the VM/ESA System DDR. Depending on the optional items you chose to load, you will need tape drives for volumes (6-8). You will need two CD-ROM volumes for the VM/ESA 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 26):

- 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. If you are using a 3420 or 3422 tape drive, also record the model number.

## End of Procedures 1 and 3 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 26 for *tapeaddr*.

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

## Do ONLY for 3420 and 3422 tape drives

**Note:** This does not apply to a CD-ROM device emulating a 3422 tape drive.

vary on *tapeaddr*

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

```
1 DEVICE(S) SPECIFIED; 1 DEVICE(S) SUCCESSFULLY VARIED ONLINE
Ready; T=n.nn/n.nn hh:mm:ss
```

If the device was already varied online you will get the same message with 0 device(s) successfully varied online.

If you try to vary on a 3420 or 3422 tape drive, and receive message HCPN6785E, you must add the drive to the system definition of real devices using the SET RDEVICE and VARY ON commands.

```
set rdevice tapeaddr type {3420 model n|3422}
HCPZRP6722I CHARACTERISTICS OF DEVICE tapeaddr
WERE SET AS REQUESTED
1 rdev(s) SPECIFIED; 1 rdev(s) CHANGED;
1 rdev(s) CREATED
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.

## Run INSTALL EXEC

**vary on** *tapeaddr*

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

1 DEVICE(S) SPECIFIED; 1 DEVICE(S) SUCCESSFULLY VARIED ONLINE

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

End of Do ONLY for 3420 and 3422 tape drives

**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 VM/ESA 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 VM/ESA LOAD MENU panel displays after issuing the INSTALL command.



```

VM/ESA 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      VM ONLINE LIBRARY
S      OSA/SF
S      ADMS

====>

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

```

Figure 14. VM/ESA LOAD MENU Panel

- 9** The “S” in the VM/ESA 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 LOAD MENU panel.

## Run INSTALL EXEC

```
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
```

Figure 15. VM/ESA LOAD DEVICE MENU Panel

### 11 Complete the VM/ESA 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 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.

Use the addresses in the **2nd Level Virtual** column in the **TAPE DRIVE SECTION** in the Installation Worksheet Table 5 on page 26.

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 VM/ESA 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 need to mount. 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.

```
HCPWIN8428I TOTAL PERCENT LOADED -> nn%
```

```
HCPWIN8380I RESTORING MINIDISK nnn TO valid
```

*valid* is the volume identifier.

---

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
```

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

```
ipl 190 clear
```

**Clear** is necessary. Do not omit it.

```
VM/ESA V2.4.0 yyyy-mm-dd hh:mm
```

```
ENTER
```

Press **Enter** to complete CMS initialization.

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

## Run INSTALL EXEC

### What to Do Next

Go to Chapter 6, "Post Load Installation Tasks" on page 83.

---

## 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 VMSERVR file pools
- Use INSTDEF EXEC to customize and rebuild nuclei
- Load new nuclei
- Use INSTDEF2 EXEC to rebuild segments and backup disks
- Load CP nucleus
- Backup 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. RPWLIST 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 RPWLIST 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 RPWLIST DATA unchanged
  - You do want the automatic deactivation of passwords but want to tailor RPWLIST 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 RPWLIST 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 SYSDSCT
  - 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
logon maint
:
Ready; T=n.nn/n.nn hh:mm:ss
```

The default password for MAINT is MAINT.

**2** Access the VM/ESA installation tools disk as E.**access 2c2 e**Ready; T=*n.nn/n.nn hh:mm:ss***3** Determine if you want ADRP (Auto-Deactivation of Restricted Passwords). If so, determine if you want to use RPWLIST DATA unchanged or want to tailor RPWLIST DATA. (When you run POSTLOAD in substep 6, you will be asked if you want to change the RPWLIST DATA file.)

If any logon password in the USER DIRECT file is in the list of restricted passwords in RPWLIST 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 RPWLIST DATA.

The RPWLIST 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	SSFICAL	

**4** 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.

**5** 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.

**6** 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
```

```
HCPPLD8335I LOADING RSU VOLUME 1 COMPLETED
```

```
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 tape volume 2.

```
HCPPLD8335I LOADING RSU VOLUME 2 COMPLETED
```

```
HCPPLD8335I LOADING RSU VOLUME 3
```

If you are using a CD-ROM to load the RSU AND you are using three RSU tape volumes, when you receive the LOADING RSU VOLUME 3 message, you must mount Volume 3.



HCPPLD8335I LOADING RSU VOLUME 3 COMPLETED

HCPPLD8338I NOW EXECUTING UPPERCASE OF LOADED ITEMS HELP FILES

HCPPLD8392I POSTLOAD EXEC ENDED SUCCESSFULLY

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

## 7 IPL your System disk (190).

**ipl 190 clear**

VM/ESA V2.4.0 *yyy-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.

## 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 91.

**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

:

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

The default password for MAINT is MAINT.

- 2 Access the VM/ESA 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 VMSERVS: The IPL command is verified by the IPL command processor.

VMSERVn : VM/ESA V2.4.0 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 : VM/ESA V2.4.0 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
HPCPLS6056I XAUTOLOG information for VMSErVn: The IPL command is verified by the IPL
  command processor.
VMSErVn : DMS5BB3045I Ready for operator communications
VMSErVn : VM/ESA V2.4.0   yyyy-mm-dd hh:mm
VMSErVn : DMSACP723I B (193) R/O
VMSErVn : DMSWfV1117I FILESERV processing begun at hh:mm:ss on dd month yyyy
VMSErVn : DMSWfV1121I VMSErVn DMSPARMS A1 will be used for FILESERV processing
VMSErVn : DMSWfV1121I 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
HPCPLS6056I 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 : VM/ESA V2.4.0   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 : DMSWfV1117I FILESERV processing begun at hh:mm:ss on dd month yyyy
VMSErVn : DMSWfV1121I 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 : DMSWfV1120I File VMSYSn POOLDEF A1 created or replaced
VMSErVn : DMSWfV1117I 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 ESAV2R30 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

```

## Start the File Pools

```
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 : VM/ESA V2.4.0 yyy-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 : DMSWFV1117I FILESERV processing begun at hh:mm:ss on dd month yyyy
VMSERVn : DMSWFV1121I VMSERVn DMSPARMS A1 will be used for FILESERV processing
VMSERVn : DMSWFV1121I 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 \_\_\_\_\_

```
DMSOVZ2127W Nothing is mounted
ERROR: RC=4 from EXEC OPENVM UNMOUNT
HCPIFP8392I INSTPOOL EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss
```

You **may** receive message 2127W.

## 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 92.

- 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.

<input type="checkbox"/>	AVS	<input type="checkbox"/>	GCS	<input type="checkbox"/>	TSAF
<input type="checkbox"/>	LE370	<input type="checkbox"/>	RSCS	<input type="checkbox"/>	TCP/IP
<input type="checkbox"/>	OSA	<input type="checkbox"/>	ADSM		

- 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:

VM/ESA V2.4.0    *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 version 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)

## 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.

**1** Access the 2C2 disk as C.

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

**2** Invoke INSTDEF.

```
instdef
```

```

*** VM/ESA 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            ADSM

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) _____

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

Figure 16. VM/ESA TAILOR CP, CMS, & GCS Panel

- 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 BE MOVED TO SFS ARE:  
 AVS GCS TSAF LE370 RSCS TCPIP OSA ADSM

THE ITEMS YOU SELECTED NOT TO BE MOVED TO SFS ARE:  
 NONE

THE LANGUAGE IDENTIFIER IS:  
 AMENG

THE VERSION IDENTIFIER IS:  
 NONE SPECIFIED

THE INSTALLATION IDENTIFIER IS:  
 NONE SPECIFIED

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

## Run INSTDEF EXEC

```
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 402 406
HCPWMV8392I MOVE2SFS EXEC ENDED SUCCESSFULLY
HCPDFX8341I THE COMMAND CMS MOVE2SFS RSCS (RECLAIM COMPLETED SUCCESSFULLY

HCPWMV8456I PROCESSING COMPONENT TCPIP
HCPWMV8453I MOVE OF TCPIP COMPONENT TO SFS COMPLETED SUCCESSFULLY
HCPWMV8465I THE FOLLOWING MINIDISKS FOR USERID P735FALT OF COMPONENT TCPIP
HAVE BEEN RECLAIMED:
2B2 2C2 2C4 2D2 2A6 2A2 2B3
HCPWMV8392I MOVE2SFS EXEC ENDED SUCCESSFULLY
HCPDFX8341I THE COMMAND CMS MOVE2SFS TCPIP (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 ADSM
HCPWMV8453I MOVE OF ADSM COMPONENT TO SFS COMPLETED SUCCESSFULLY
HCPWMV8465I THE FOLLOWING MINIDISKS FOR USERID 5654A09A OF COMPONENT ADSM
HAVE BEEN RECLAIMED:
2B2 2D2 2A6 2A2
HCPWMV8392I MOVE2SFS EXEC ENDED SUCCESSFULLY
HCPDFX8341I THE COMMAND CMS MOVE2SFS ADSM (RECLAIM COMPLETED SUCCESSFULLY

HCPDFX8341I INSTDEF FUNCTION MOVE TO SFS 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
0000001 FILE ORDERED
Ready; T=n.nn/n.nn hh:mm:ss
```

*fileno1* is the file number of the CMS nucleus noted in substep 2 on page 92.



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

```
change rdr fileno1 keep
00000001 FILE CHANGED
Ready; T=n.nn/n.nn hh:mm:ss
```

*fileno1* is the file number of the CMS nucleus noted in substep 2 on page 92.

- 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.

```
DMS5LG283E 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.

```
VM/ESA V2.4.0   yyyy-mm-dd hh:mm
```

This is the default version identification. If you defined your own version identification, it appears here and each time that you IPL 490.

**ENTER**

Press **Enter** to complete CMS initialization.

```
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
00000001 FILE PURGED
Ready; T=n.nn/n.nn hh:mm:ss
```

*fileno1* is the file identifier of the CMS nucleus identified in substep 2 on page 92.

- 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.

## Run INSTDEF EXEC

```
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.

```
VM/ESA V2.4.0 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 95. 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.

```
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.

### 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/
```

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

```
DMSXDC546E Target not found  
====> quit  
Ready; T=n.nn/n.nn hh:mm:ss
```

This response means that no unresolved symbols were found.

### 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
0000001 FILE ORDERED
Ready; T=n.nn/n.nn hh:mm:ss
```

*fileno2* is the file number of the GCS nucleus.

- 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.

**Note:** If you try to save the GCS nucleus in a 370 virtual machine, you will receive message HCPLDR8028W.

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

```
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 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).

```
ipl 190 clear
VM/ESA V2.4.0 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** Purge the GCS nucleus from your reader to save spool space.

```
purge rdr fileno2
0000001 FILE PURGED
Ready; T=n.nn/n.nn hh:mm:ss
```

*fileno2* is the file number of the GCS nucleus.

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

## Run INSTDEF EXEC

**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. 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

====> **quit**

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

This response means that no unresolved symbols were found.

**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
- Backup minidisks 490, 493, and 5E6
- 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 *VM/ESA: 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
VM/ESA V2.4.0   yyyy-mm-dd hh:mm
```

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.

**ENTER**

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

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  
VM/ESA V2.4.0   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 VM/ESA Version 2 Release 4.0 system.
- Re-IPL your VM/ESA Version 2 Release 4.0 system using the new CP nucleus.

### 1 Shutdown and re-IPL the VM/ESA Version 2 Release 4.0 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 VM/ESA system continues:

```
hh:mm:ss HCPWRP9277I SYSTEM TERMINATION COMPLETE.
          ATTEMPTING RESTART
hh:mm:ss VM/ENTERPRISE SYSTEMS ARCHITECTURE SYSTEM RESTART FROM SHUTDOWN REIPL
hh:mm:ss VM/ENTERPRISE SYSTEMS ARCHITECTURE V2 R4.0
          SERVICE LEVEL nnnn;

hh:mm:ss SYSTEM NUCLEUS CREATED ON yyyy-mm-dd AT hh:mm:ss,
          LOADED FROM 240RES
hh:mm:ss *****
hh:mm:ss * LICENSED MATERIALS - PROPERTY OF IBM* *
hh:mm:ss * 5654-030 (C) COPYRIGHT IBM CORP. 1983, *
hh:mm:ss * 1999. 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 240RES at address nnnn
      has been brought online.
hh:mm:ss HCPWRS2513I
hh:mm:ss HCPWRS2513I Spool files available      {nnnn|none}

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.

hh:mm:ss HCPUS0967I Disconnect OPERATOR - system
      restarted SHUTDOWN and system console
      not VM operator console
CP automatically disconnects from the primary
system operator (user ID OPERATOR).
hh:mm:ss DISCONNECT AT hh:mm:ss {EST|EDT} weekday mm/dd/yy

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

```

### 3 Log on to the MAINT user ID.

```

ENTER
logon maint
:
Ready; T=n.nn/n.nn hh:mm:ss
The password for MAINT is MAINT.

```

## Step 8. Back Up the Primary Parm Disk

### In this step you will:

- Log on to MAINT user ID (if you are not already logged on).
- Copy all the files from the primary parm disk to the secondary parm disk.

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

**ENTER**

logon maint

:

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

The default password for MAINT is MAINT.

**2** Query disks owned by CP, link to parm disks appropriately, and copy all files to the secondary parm disk (CF2).

**query cpdisk**

LABEL	USERID	VDEV	MODE	STAT	VOL-ID	RDEV	TYPE	STARTLOC	ENDLOC
MNTCF1	MAINT	0CF1	A	R/O	240RES	nnnn	nnnn	nn	nn
MNTCF2	MAINT	0CF2	B	R/O	240RES	nnnn	nnnn	nn	nn

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

**cprelease b**

CPRELEASE request for disk B scheduled.

HCPZAC6730I CPRELEASE request for disk B completed.

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

**link maint cf2 cf2 mr**

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

**access cf1 f**

DMSACP723I F(CF1) R/O

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

**access cf2 g (erase**

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

**copyfile \* \* f = g (olddate**

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

**release g (det**

DASD 0CF2 DETACHED

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

**cpaccess maint cf2 b sr**

Reaccess CP's secondary parm disk at file mode B.

CPACCESS request for mode B scheduled.

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

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

## Step 9. 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.

## Back Up the NSSs and Segments

*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 *VM/ESA: 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 271.

## Step 10. Store a Backup Copy of the VM/ESA System on Tape

### In this step you will:

- Load the DDRXA utility to tape
- Use DDRXA to store a backup copy of the VM/ESA system on tape.

**Attention:** You must back up **all** your installation volumes in order to back up the VM/ESA 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
```

## Store a Backup Copy of the VM/ESA System on Tape

- 7** IPL the tape and answer the prompts from DDR. For information about DDRXA, see the *VM/ESA: CP Command and Utility Reference* and *VM/ESA: 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:
```

**sysprint cons**

This first control statement tells DDRXA that you want program messages sent to your console.

ENTER:

**input devno dasd valid**

The second control statement is the input control statement.

ENTER:

*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 (240RES), 124 (240W01), 125 (240W02), ...

By typing the word **dasd**, the device type is automatically identified by the DDR program, either 3380, 3390, 9345, or FBA (9335, 9336).

*valid* is the label of this volume, for example 240RES.

**output 181 tape (compact**

This control statement specifies the device to which you are dumping the system.

ENTER:

By typing the word **tape**, the tape device type is automatically identified by the DDR program, either 3422, 3424, 3430, 3480, 3490, or 9348. If you have a 3420 tape drive, you must specify **3420** in place of **tape**.

**dump all**

This command dumps the specified volume to the tape.

```
DUMPING valid
DUMPING DATA mm/dd/yy
  AT hh.mm.ss GMT FROM valid
```

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.

```
INPUT CYLINDER/BLOCK EXTENTS      OUTPUT CYLINDER/BLOCK EXTENTS
      START      STOP                START      STOP
      nnnnnnnn   nnnnnnnn            nnnnnnnn   nnnnnnnn
```

```
      :
      END OF DUMP
      BYTES IN nnnnnnnnnn BYTES OUT nnnnnnnnnn
      TRACKS NOT COMPACTED ON TAPE - nnnnnnnnnn
```

ENTER:

When DDRXA finishes dumping the volume, it prompts you with ENTER.

- 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

10 Press **PA1**

**PA1**

Press PA1 to drop into CP read.

11 Re-IPL CMS.

**ipl cms**  
VM/ESA V2.4.0    *yyyymm-dd hh:mm*

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

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

Press **Enter** to return to the command line.

For information on how to restore your system from tape, see Appendix J, "Restoring the VM/ESA System Backup Copy" on page 269.

**What to Do Next**

Go to Chapter 7, "System Default Information" on page 113.

## Store a Backup Copy of the VM/ESA 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 VM/ESA 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 VM/ESA 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.

- 1 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 91.
- 2 The CMS named saved system was built with a system name of CMS and is loaded at storage location X'F00000'-X'13FFFFFF' (starting at 15MB and ending at 20MB).
- 3 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 *VM/ESA: Planning and Administration*, within the chapter on tailoring CMS with the DEFNUC macro.
- 4 The CMS nucleus shipped on the VM/ESA 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,   * Use VMRTLIB in a saved segment *
                MTSEG=VMRTLIB, * Name of above saved segment *
                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 YL0001DS) for the VM/ESA System DDR according to the following table:

Table 9. Starting Cylinder/Block for CMS Nucleus

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 91, 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 YL0002DS).

- 5 The VM/ESA GUI function is now part of the CMS component. The GUI code that previously resided on the 19E disk now is located on the 190 system disk. Also, MAINT 400 is the workstation code disk that contains the workstation agent files that must be downloaded onto your workstation. The workstation agent allows GUI programs to communicate with your workstation.
- 6 Java and NetRexx also 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/>

The files are also available through Corrective Service.

---

### 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 CP nucleus
- 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 VM/ESA System DDR.

**3** For detailed information about the CP system configuration function, CP nucleus options, and CP planning, see *VM/ESA: Planning and Administration*.

**4** The CP nucleus on the VM/ESA 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 91.

**Note:** The ESA 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 *VM/ESA Installation and Service Sample Files* document packaged with the VM/ESA System DDR.

The default machine mode definition for user IDs in the directory is XA. USER DIRECT no longer contains a GLOBALOPTS 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 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 249.

**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 VM/ESA product order. You may also read detail information about PPFs in the *VM/ESA: VMSES/E Introduction and Reference*.

**8** The VM/ESA 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 (240RES) 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 *VM/ESA: 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 VM/ESA System

**In this step you will:**

- View the saved segments that are installed on your system, and their addresses.

- 1 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 *VM/ESA: 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.
- 2 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. If you receive warning message VMFSET2206W, this does not indicate a problem.

```

:
FILE FILENAME FILETYPE MINSIZE BEGPAG ENDPAG TYPE CL #USERS PARMREGS VMGROUP
nnnn GUIVMGUI DCSS N/A 02000 024FF SR A 00000 N/A N/A
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 015FF 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. VMSERVS, VMSERVU, and VMSERVR File Pool Defaults

If you did not load FILEPOOL or SMALL FILEPOOL as part of the base VM/ESA (you are moving your existing SFS servers from a previous VM system), refer to the *VM/ESA: Conversion Guide and Notebook* 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 VMSERVS, VMSERVU, and VMSERVR.
- Refer to the *VM/ESA: CMS File Pool Planning, Administration, and Operation* manual for information describing the tailoring of SFS defaults.

The VM/ESA System DDR incorporates prebuilt file pools.

#### VMSYS

- Managed by the VMSERVS 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)
  - P735FALT (for TCP/IP)
  - 5654A09A (for ADSM)

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
  - ADSM

If you chose to load SMALL FILEPOOL, you cannot move items into SFS because the VMSYS area is too small.

- Defines BFS root directories for Java, NetRexx, and OpenEdition Shell & Utilities.

#### VMSYSU

- Managed by the VMSERVU server machine
- Enrolled MAINT in the VMSYSU file pool
- MAINT.SAMPLES directory exists with SFS sample files installed.
- Defines BFS root directories for Java, NetRexx, and OpenEdition Shell & Utilities.

#### VMSYSR

- Managed by the VMSERVR server machine

- Coordinated Resource Recovery (CRR) file pool

Each of these file pools has two definition files associated with it:

- *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 *VM/ESA: CMS File Pool Planning, Administration, and Operation* book for information and examples on tailoring these files and for information on BFS root directory definitions.

## VMSEVS, VMSERVU, and VMSERVR 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 VM/ESA System DDR was built incorporating the following licensed products and features.

*Table 10. Preinstalled Licensed Products and Features*

Product Name	Release Level	Service Level	Production Minidisk	Program Number
EREP	3.5.0	SDO 9/99	MAINT 201	5654-260
ICKDSF	1.16.0	SDO 9/99	MAINT 19E	5684-042
RSCS	3.2.0	*	n/a	5684-096
LE	1.8.0	*	MAINT 19E	5654-030
TCP/IP	FL320	*	n/a	5654-030
OSA/SF	FL220	*	n/a	5654-030
Tivoli ADSM	3.1.2	*	n/a	5697-VM3
VM Online Library	n/a	none	MAINT 409	5654-030
German NLS Feature	n/a	none	MAINT 405	5654-030
Kanji NLS Feature	n/a	none	MAINT 401	5654-030
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.
- Service Level is the level of the product or feature on the VM/ESA System DDR. This is not the RSU as shipped with VM/ESA service level.
- \* refers to the latest RSU level.

### 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 VM/ESA 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 VM/ESA 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 VM/ESA 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

To **complete** the installation of 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 VM/ESA 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 VM/ESA spooling facilities to store and retrieve data. RSCS can transfer data to other systems (such as VM/ESA, OS/390®, 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 VM/ESA 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*.

## RSCS

### **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 VM/ESA 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 VM/ESA. If you want to use TCP/IP, you must order TCP/IP as documented in the *TCP/IP Feature for VM/ESA Function Level 320 Program Directory*.

If you have ordered TCP/IP, review the following sections in the *TCP/IP Feature for VM/ESA Function Level 320 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 Feature for VM/ESA Function Level 320 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

To **complete** the installation of TCP/IP, refer to section “6.0 Installation Instructions” in the *TCP/IP Feature for VM/ESA Function Level 320 Program Directory*.

### Service Instructions

Service instructions for TCP/IP are found in the *TCP/IP Feature for VM/ESA Function Level 320 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 219, then return here. If you did install the German HELP files, they were installed on the MAINT 405 minidisk.

#### **Installation Instructions**

To put the German HELP files into production, see Chapter 10, “Customizing National Languages” on page 143.

#### **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 219, then return here. If you did install the Kanji HELP files, they were installed on the MAINT 401 minidisk.

### Installation Instructions

To put the Kanji HELP files into production, see Chapter 10, “Customizing National Languages” on page 143.

### Service Instructions

The Kanji NLS Feature is not serviced.

### Step 8. VM Online Library

VM Online Library contains all the books available online for the VM/ESA Version 2 Release 4.0 product. Using this product library, you can put a large number of IBM books online and access them without handling individual sets of books and libraries on many CD-ROMs and tapes.

#### Introduction

Refer to the *VM Online Library Program Directory* for the following:

- A list correlating the CMS file names to the book files
- A list of related publications that may be useful
- A description of how to use the online books.

#### Installation Requirements and Considerations

Review section “3.0 Installation Requirements and Considerations” in the *VM Online Library Program Directory*.

#### Installation Instructions

If you did not choose to install the VM Online Library and you wish to install it, go to Appendix C, “Post Install Load of Optional Items” on page 219, then return here.

#### Service Instructions

The VM Online Library is not serviced.

---

## Step 9. OSA/SF

System/390 Open Systems Adapter Support Facility (OSA/SF) for VM/ESA 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 for VM/ESA 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 219, then return here.

If you chose to install OSA/SF, it was loaded from the VM/ESA 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*.

### Service Instructions

Service instructions for OSA/SF are found in the *OSA/SF Program Directory*.

---

### Step 10. Tivoli ADSM

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

### Introduction

#### Note

Tivoli ADSM is not available for customer use unless you have a license for it. If you want to use Tivoli ADSM, you must order Tivoli ADSM as documented in the *Tivoli ADSTAR Distributed Storage Manager for VM Program Directory*.

If you did not choose to install Tivoli ADSM and you wish to install it, go to Appendix C, “Post Install Load of Optional Items” on page 219, then return here.

If you chose to install Tivoli ADSM, it was loaded from the VM/ESA System DDR. Review the following sections in the *Tivoli ADSTAR Distributed Storage Manager for VM Program Directory*:

- “2.0 Program Materials” identifies the basic and optional program materials and documentation for Tivoli ADSM.
- “3.0 Program Support” describes the IBM support available for Tivoli ADSM.
- “4.0 Program and Service Level Information” lists the program levels of the required licensed products and the service level of Tivoli ADSM.

### Installation Requirements and Considerations

Review sections “5.1 Hardware Requirements” through “5.3 DASD Storage and User ID Requirements” in the *Tivoli ADSTAR Distributed Storage Manager for VM Program Directory*. Tivoli ADSM 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 Tivoli ADSM, refer to section “6.0 Installation Instructions” in the *Tivoli ADSTAR Distributed Storage Manager for VM Program Directory*.

### Service Instructions

Service instructions for Tivoli ADSM are found in the *Tivoli ADSTAR Distributed Storage Manager for VM Program Directory*.



---

## Chapter 9. Installing VM/ESA Features

This chapter provides installation information for the VM/ESA features not shipped on the VM/ESA System DDR. You order some features separately to install on VM/ESA, and others are shipped directly with the VM/ESA product. For packaging and ordering information, see the *VM/ESA: General Information*.

**Note:** All VM/ESA 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 VM/ESA (ESAMIGR)
- LANRES/VM Host Code
- IBM LFS/ESA VM Host Code
- DCE
- OpenEdition Shell and Utilities Feature
- TCP/IP for VM Source
- TCP/IP for VM Kerberos (available in US only).

## Step 1. Installing the VM/ESA Restricted Source Feature

**In this step you will:**

- Learn details about what the Restricted Source Feature contains and how you install it.

The VM/ESA Restricted Source Feature is shipped as a separate feature tape or as part of the Optional Features CD-ROM.

The VM/ESA Restricted Source Feature contains Assembler source code generated from VM/ESA 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 11. 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	174	145	208,800
Header (Volume 2)	1	3				
CMS	2	4	minidisk xxx	456	380	547,200
Header (Volume 3)	1	5				
CMS (cont.)*	2	6	minidisk xxx			
Header (Volume 4)	1	7				
CMS (cont.)*	2	8	minidisk xxx			
REXX/VM	3	9	minidisk xxx	3	3	3,000
VMSES/E	4	10	minidisk xxx	2	2	2,000
GCS	5	11	minidisk xxx	30	25	30,000
TSAF	6	12	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.

The feature on CD-ROM has one logical tape containing identical data to that included on the four restricted source tape volumes.

In Table 11 on page 136, 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 VM/ESA PL/X-370 Source Code Feature

### In this step you will:

- Learn details about what the VM/ESA PL/X-370 source code feature contains and how you install it.

The VM/ESA 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 VM/ESA 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 12 shows how much to increase the minidisk size in cylinders or blocks in order to install the VM/ESA PL/X source code feature tape.

*Table 12. 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 12, 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 VM/ESA 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 VM/ESA 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 esa *compname* (ins setup**

*where compname* is CP, CMS, or REXX.

```

VMFINS2760I VMFREC processing started
VMFINS2760I VMFSETUP processing started
VMFUTL2205I Minidisk|Directory Assignments:
      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
    
```

This block of messages is repeated for each component, noting that the minidisk assignments will change with each component.

- 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 VM/ESA (ESAMIGR)
  - LANRES/VM 1.3.0
  - LFS/ESA 1.1.2
  - DCE
  - OpenEdition Shell and Utilities
  - TCP/IP VM Source
  - TCP/IP VM Kerberos

#### 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 VM/ESA Feature

The REXX/EXEC Migration Tool for VM/ESA 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*.

#### LFS/ESA 1.1.2

The LFS/ESA Feature is shipped as a separate feature tape or as part of the Optional Features CD-ROM.

For more information, see the *LFS/ESA 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*.

### **OpenEdition Shell and Utilities Feature**

OpenEdition Shell and Utilities is shipped as a separately priced feature tape or as a separately priced CD-ROM.

For more information on installing the OpenEdition Shell and Utilities Feature, see the *OpenEdition Shell and Utilities 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 Feature for VM/ESA Function Level 320 Program Directory*.

### **TCP/IP VM Kerberos**

TCP/IP VM Kerberos is shipped as a separately priced feature tape or as a separately priced CD-ROM.

For more information on installing TCP/IP VM Kerberos, see the *TCP/IP Feature for VM/ESA Function Level 320 Program Directory*.

## Installing The Remaining Features



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## Chapter 10. Customizing National Languages

This chapter describes how to customize national language HELP files on your VM/ESA 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 VM/ESA 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 VM/ESA System DDR contains HELP files for mixed case American English (AMENG), uppercase English (UCENG), German (GER), and Kanji (KANJI).

AMENG was loaded with the VM/ESA 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 219.

## National Languages Supported

Each national language supported by VM/ESA 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 13. 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 13. 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 147.

The DMSTRT`cc` ASSEMBLE file that you loaded from the VM/ESA 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 esa cms
:
Ready; T=n.nn/n.nn hh:mm:ss
```

- 2 Edit the AUX file and add an entry for the update file.

```
xedit dmstrtcc aux1c1
```

`dmstrtcc` is the name of the module being updated. `cc` is the country code for the national language you are installing. Refer to Table 13 on page 144.

For information about control files and auxiliary control files, see *VM/ESA: VMSES/E Introduction and Reference*.

```
top
input
LLnnnnDS LCL LCLnnnn *updates for translation table
:
```

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 line, beginning with the asterisk (\*), is a comment explaining the purpose of this modification.

**ENTER**

Press **Enter** to return to the command line.

```
file = = fm-3c4
Ready; T=n.nn/n.nn hh:mm:ss
```

Place the updated AUX file on the CMS LOCALMOD disk (3C4).

## 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 13 on page 144. **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, DMSTRTcc TEXT, that includes your changes. For information about the VMFNLS EXEC, see *VM/ESA: VMSES/E Introduction and Reference*.

```
vmfnls dmstrtcc assemble esa cms (logmod outmode localmod
```

```
:
```

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

**logmod** updates the CMS Version Vector Table (VVTCL).

## 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 151 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 219.
  - 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 145.
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 esa cms
:
Ready; T=n.nn/n.nn hh:mm:ss
```

**b** Edit the AUX file and the CMS nucleus generation profile (DMSNGP ASSEMBLE).

## Changing the System National Language

```
xedit dmsngp aux1c1
top
input
LLnnnnDS LCL LCLnnnn *updates for NLS
:
```

**ENTER**

```
file = = fm-3c4
Ready; T=n.nn/n.nn hh:mm:ss

xedit dmsngp assemble (ct1 dmsvm
:
```

```
file = = fm-3c4
Ready; T=n.nn/n.nn hh:mm:ss
```

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.

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 14 on page 148.
2. Change the **LANGID=** statement to identify the new system national language. See Table 13 on page 144 for the language identifier.
3. If the new language contains double-byte character set data (see Table 13 on page 144) or you want to have DBCS processing, change the **DBCS=** statement to YES.

File your changes on the LOCALMOD disk (3C4).

### C Reassemble DMSNGP.

```
vmfasm dmsngp esa cms (logmod outmode localmod
:
Ready; T=n.nn/n.nn hh:mm:ss
```

**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 14. Recommended Minidisks and Labels for National Language HELP Files

Language	Minidisk	
	user	mdiskaddr
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.

```
vmfrep1 help lseg esa 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 SEGL*mmmm*, specify any number higher than *mmmm* for *nnnn* in the following VMFREPL command.

```
vmfrep1 help lseg esa cms (logmod lnnnn outmode localmod $select setup
```

Copy the highest level of the part, rename it to SEGL*nnnn*, update the local CMS Version Vector Table, and update the \$SELECT file.

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

```
xedit help seglnnnn fm-3c4
:
====> file
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 14 on page 148. File the changes. This must be the same minidisk defined in the HELP= statement in DMSNGP.

```
vmfbld ppf esa 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
```

- 2 To build your new CMS nucleus, refer to Appendix P, “Build the CMS Nucleus” on page 293.

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:

```
DMSSLG283E 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 on page 150.

- 3 To build your new CP nucleus and bring that nucleus into your system, refer to Appendix Q, “Build the CP Nucleus” on page 299.
- 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
VM/ESA V2.4.0 yyyy-mm-dd hh:mm
```

**Clear** is necessary. Do not omit it.

**ENTER**

Press **Enter** to complete CMS initialization.

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

```
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.

## Changing the System National Language

- 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 102. Keep in mind that you are doing a **warm start** in place of a **cold drain** during this step.
- 6 Back up the primary parm disk (CF1) by copying the files from the primary parm disk to the secondary parm disk (CF2).

- a Log on to the MAINT user ID, if you are not already logged on.

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

The default password for MAINT is MAINT.

- b Query disks owned by CP, link to parm disks appropriately, and copy all files to the secondary parm disk (CF2).

### query cpdisk

LABEL	USERID	VDEV	MODE	STAT	VOL-ID	RDEV	TYPE	STARTLOC	ENDLOC
MNTCF1	MAINT	0CF1	A	R/O	240RES	nnnn	nnnn	nn	nn
MNTCF2	MAINT	0CF2	B	R/O	240RES	nnnn	nnnn	nn	nn

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

### cprelease b

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

### link maint cf2 cf2 mr

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

### access cf1 f

```
DMSACP723I F(CF1) R/O  
Ready; T=n.nn/n.nn hh:mm:ss
```

### access cf2 g

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

### copyfile \* \* f = g (olddate replace

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

### release g (det

```
DASD 0CF2 DETACHED  
Ready; T=n.nn/n.nn hh:mm:ss
```

### cpaccess maint cf2 b sr

```
CPACCESS request for mode B scheduled.  
Ready; T=n.nn/n.nn hh:mm:ss  
HCPZAC6732I CPACCESS request for MAINT's 0CF2 in mode B completed.
```

Reaccess CP's secondary parm disk at file mode B.

### release f

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

- 7 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 ESA. 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 313.



### 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 219.
- 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 145.

**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.....RRRRRRR-----
M GCS       SYS RRRRRRNNNNNNNNNNNNNNNNNNNNNNNNNN6.....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 RRRRRRRRRRRRRR9.....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
====>

```

Figure 17. Segment Map Panel

**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 Add Segment Definition panel shown in Figure 18 on page 153.

**PF10**

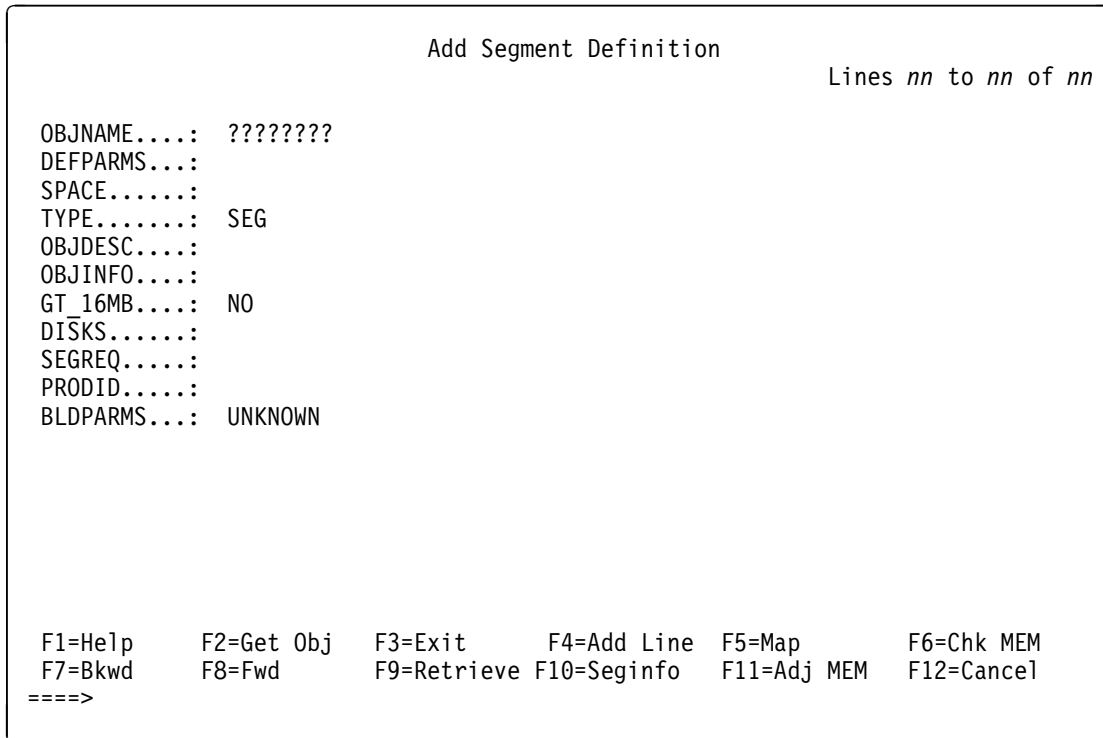


Figure 18. Add Segment Definition Panel

- c** Fill in the object name (OBJNAME) and product identifier (PRODID) fields. Change ???????? with one of the following:

- nlsuceng
  - nlskanji
  - nlsger

Type in **2VMVMA40 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...: 1600-16FF SR
SPACE.....:
TYPE.....: SEG
OBJDESC....: GER NLS SEGMENT
OBJINFO....:
GT_16MB....: YES
DISKS.....: 2C2 2C4 2A6 2A4 2A2 2D2 194
SEGREQ.....:
PROID.....: 2VMVMA40 NLS
BLDPARMS...: PPF(ESA 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
====>
```

Figure 19. Add Segment Definition Panel

- e The panel displays the refreshed NLS segment information.
- f Press **PF5** to return to the refreshed Segment Map panel shown in Figure 20 on page 155.

**PF5**

```

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.....E.....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 >RRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRR
M GCS      SYS RNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN2.....3.....

Meg          014-MB          015-MB          016-MB          017-MB
St Name     Typ 0123456789ABCDEF0123456789ABCDEF0123456789ABCDEF0123456789ABCDEF
INSTSEG    DCS RRRRRRRRRRRRRRRRRRRRRRRRRRRRRRR6.....7.....
CMSVLIB    DCS 4.....5.....6.....RRRRRRRRRRRRRRRR
P NLSGER    DCS 4.....5.....RRRRRRRRRRRRRR7.....
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
====>

```

Figure 20. Refreshed Segment Map Panel

**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 152-1h) 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.

```

set machine xa
SYSTEM RESET
SYSTEM = XA
Ready; T=n.nn/n.nn hh:mm:ss

ipl 190 clear parm nosprof instseg no
VM/ESA V2.4.0   yyyy-mm-dd hh:mm

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

```

Set your virtual machine to XA mode. If your virtual machine is already in XA mode, you will not see these messages.

**Clear** is necessary. Do not omit it.

Press **Enter** to complete CMS initialization.

## Adding a National Language as a System Segment

```
vmfbld ppf segbld esasegs segblist (serviced
:
Ready; T=n.nn/n.nn hh:mm:ss
```

Create the segment. **segbld** 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
```

```
ipl 190 clear
VM/ESA V2.4.0   yyyy-mm-dd hh:mm
```

**Clear** is necessary. Do not omit it.

**ENTER**

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

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*.

```
VM/ESA V2.4.0   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 *VM/ESA: 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 *VM/ESA: 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 *VM/ESA: 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.



```

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.....E.....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 >RRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRR
M GCS       SYS RNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN2.....3.....

Meg          014-MB          015-MB          016-MB          017-MB
St Name      Typ 0123456789ABCDEF0123456789ABCDEF0123456789ABCDEF0123456789ABCDEF
INSTSEG     DCS RRRRRRRRRRRRRRRRRRRRRRRRRRRRRRR6.....7.....
CMSVLIB     DCS 4.....5.....6.....RRRRRRRRRRRRRRRR
P NLSGER     DCS 4.....5.....RRRRRRRRRRRRRR7.....
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
=====>

```

Figure 21. Segment Map Panel

**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 *nl\$name*** on the command line, where *nl\$name* 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 Figure 22 on page 160.

**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 -----RRRRRRRRRRRRRRRRRRRRRRRRRRRRRR6.....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
====>

```

Figure 22. Segment Map Panel

**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).

```
ipl 190 clear parm nosprof instseg no
```

**Clear** is necessary. Do not omit it.

```
VM/ESA V2.4.0   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
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
```

Access the 190 and 490 disks.

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.

```
copyfile system language u = = t2 (olddate replace
Ready; T=n.nn/n.nn hh:mm:ss

ipl 190 clear
VM/ESA V2.4.0   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*.

```
VM/ESA V2.4.0   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

### Exec Format Summaries

This section is a general reference for execs you may use during installation. The following execs are described in this appendix:

- DIRONLIN
- INSTALL
- INSTDEF
- INSTDEF2
- INSTDIR
- INSTIIS
- INSTPLAN
- INSTPOOL
- MIGR51D
- MOVE2SFS
- POSTDDR
- POSTLOAD

VM/ESA provides a number of tools to help you perform install, service, and system generation tasks. Table 15 lists VM/ESA install, service, and system generation execs and the books describing each exec. Use the following key for this table.

<b>Abbreviation</b>	<b>Title</b>
<b>VMSES/E I and R</b>	<i>VM/ESA: VMSES/E Introduction and Reference</i>
<b>Install</b>	<i>VM/ESA: Installation Guide</i>
<b>CMS Cmd Ref</b>	<i>VM/ESA: CMS Command Reference</i>
<b>CP Cmd Ref</b>	<i>VM/ESA: CP Command and Utility Reference</i>
<b>GCS Ref</b>	<i>VM/ESA: Group Control System</i>

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

<i>Table 15 (Page 2 of 4). VM/ESA Install, Service, and System Generation Tools</i>		
<b>Tool</b>	<b>Task</b>	<b>Book</b>
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
SEGGEN	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



<i>Table 15 (Page 3 of 4). VM/ESA Install, Service, and System Generation Tools</i>		
<b>Tool</b>	<b>Task</b>	<b>Book</b>
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
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

## Understanding Syntax Diagrams

<i>Table 15 (Page 4 of 4). VM/ESA Install, Service, and System Generation Tools</i>		
<b>Tool</b>	<b>Task</b>	<b>Book</b>
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
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.

**Getting Started:** 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 Description

### Example

#### 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.

In this example, you can enter KEYWO, KEYWOR, or KEYWORD in any combination of uppercase and lowercase letters.

►—KEYWOrd—◀

You must code these symbols exactly as they appear in the syntax diagram.

\* Asterisk  
: Colon  
, Comma  
= Equal Sign  
- Hyphen  
( ) Parentheses  
. Period

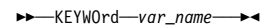
**Syntax Diagram Description**

**Example**

**Variables:**

Highlighted lowercase items (*like this*) denote variables.

In this example, *var\_name* represents a variable you must specify when you code the KEYWORD command.

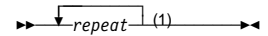
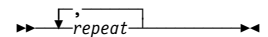
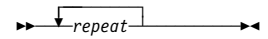


**Repetition:**

An arrow returning to the left means that the item can be repeated.

A character within the arrow means you must separate repeated items with that character.

A footnote (1) by the arrow references a limit that tells how many times the item can be repeated.



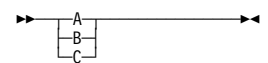
**Note:**

<sup>1</sup> 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.

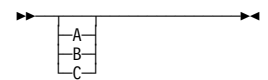
In this example, you must choose A, B, or C.



**Optional Choice:**

When an item is below the line, the item is optional. In this example, you can choose A or nothing at all.

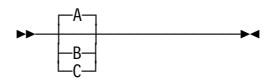
When two or more items are in a stack below the line, all of them are optional. In this example, you can choose A, B, C, or nothing at all.



**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.

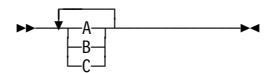
In this example, A is the default. You can override A by choosing B or C.



**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.

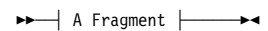
In this example, you can choose any combination of A, B, or C.



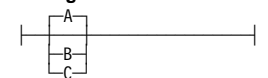
**Syntax Fragments:**

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.

In this example, the fragment is named "A Fragment."



**A Fragment:**



---

## DIRONLIN EXEC

▶▶—DIRONLIN—◀◀

### Purpose

Use DIRONLIN to bring the directory built by INSTDIR online.

### Messages and Return Codes

---

**HCPDOL8342E THE COMMAND *command* FAILED WITH RC=*rc***

**User Response:** Correct error and rerun DIRONLIN

**Return Code:** 100

---

**HCPDOL8376E DIRONLIN EXEC ENDED IN ERROR**

**User Response:** Correct error and rerun DIRONLIN

**Return Code:** 100

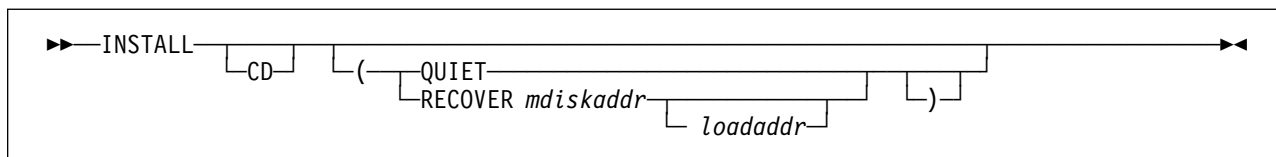
---

**HCPDOL8391I DIRONLIN EXEC ENDED SUCCESSFULLY**

**User Response:** None.

**Return Code:** 0

## INSTALL EXEC



### Purpose

The INSTALL EXEC lets you load the components provided on the VM/ESA System DDR tapes or CD-ROM. It also lets you recover the contents of a minidisk from the VM/ESA 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 VM/ESA System DDR tapes or CD-ROM. You will see these messages:

```
HCPWIN8428I TOTAL PERCENT LOADED -> nn%
HCPWIN8371I LOADING ...
HCPWIN8434I comname 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 VM/ESA System DDR tapes or CD-ROM.

- *mdiskaddr*

is the address of the minidisk to be loaded from the VM/ESA 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 290 for the “Linked by Maint as” address.

## INSTALL

- *loadaddr*

is the address to which you restore the minidisk. This disk must be the same DASD type as the VM/ESA System DDR you ordered and must be the same size as the minidisk address (*mdiskaddr*) being loaded from the VM/ESA System DDR tapes or CD-ROM.

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 VM/ESA System DDR to load VM/ESA.
2. The INSTALL EXEC uses preplanned data supplied by you or IBM-supplied default data and a user-friendly panel interface to install VM/ESA.
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 VM/ESA System DDR tape or CD-ROM. This file lists the minidisks on the VM/ESA 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 VM/ESA System DDR. Recover the minidisk that contains the desired file from the VM/ESA 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 273.
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 290 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 VM/ESA LOAD MENU panel and the VM/ESA LOAD DEVICE MENU panel.

```

VM/ESA 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      VM ONLINE LIBRARY
S      OSA/SF
S      ADSM

====>

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

```

Figure 23. VM/ESA 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

```

Figure 24. VM/ESA LOAD DEVICE MENU Panel

## Messages and Return Codes

---

**HCPWIN8360A 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'.

**Return Code:** None.

---

**HCPWIN8361E VADDR *vaddr* IS NOT A VALID CD DEVICE**

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8362E VADDR *vaddr* IS NOT A VALID TAPE DEVICE**

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8363E VADDR *vaddr* IS AN UNKNOWN TAPE DEVICE**

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8364E NO *filename filetype* FILE FOUND ON THE 2C2 DISK**

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8365E 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 273) and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8366E MINIDISK ERROR(S) FOR {Recover Operation}*item*:**

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8367E THE FOLLOWING MINIDISK(S) DO NOT EXIST: *mdisk mdisk...***

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8368E THE FOLLOWING MINIDISK(S) HAVE DEVTYPES WHICH ARE UNSUPPORTED: *mdisk mdisk...***

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8369E THE FOLLOWING MINIDISK(S) ARE THE INCORRECT SIZE: *mdisk mdisk...***

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---



---

**HCPWIN8370E 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.

**Return Code:** 8

---

**HCPWIN8371I LOADING *component* ...**

**User Response:** None.

**Return Code:** None.

---

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

**User Response:** Mount the indicated volume then press the Enter key.

**Return Code:** None.

---

**HCPWIN8373E DDR HAS REPORTED A RETURN CODE OF 2 [CHECK DDR \$MSGLOG ON THE 2C2 DISK FOR MORE INFORMATION]**

**User Response:** Refer to the *VM/ESA: CP Command and Utility Reference* for more information on the DDR command.

**Return Code:** 8

---

**HCPWIN8374E 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 *VM/ESA: CP Command and Utility Reference* for more information on the DDR command.

**Return Code:** 8

---

**HCPWIN8375E 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 *VM/ESA: CP Command and Utility Reference* for more information on the DDR command.

**Return Code:** 8

---

**HCPWIN8376I INSTALL EXEC ENDED IN ERROR**

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8377E *addr* DOES NOT EXIST**

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8378A 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'.

**Return Code:** 0,8

---

## INSTALL

---

**HCPWIN8379E DRIVE *vaddr* FAILED THE EXEC'S REWIND COMMAND WITH RC = *rc***

**User Response:** Check the tape drive and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8380I RESTORING MINIDISK *mdisk* TO [*label*]/MINDISK *label*]**

**User Response:** None.

**Return Code:** None.

---

**HCPWIN8381I CHECKING TAPE VOLUME NUMBER FOR DRIVE *vaddr***

**User Response:** None.

**Return Code:** None.

---

**HCPWIN8382E VOLUME *volno* IS NOT A DDR INSTALL TAPE**

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8383A 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.

**Return Code:** 0,8

---

**HCPWIN8384E THE FOLLOWING MINIDISK(S) MUST BE THE SAME DEVTYPE AS THE SYSTEM DDR: *mdisk mdisk ...***

**User Response:** Correct the error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8386E DDR OR DDRXA MODULE DOES NOT EXIST ON SYSTEM**

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8387E 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.

**Return Code:** 8

---

**HCPWIN8388I CHECKING STATUS OF DRIVES**

**User Response:** None.

**Return Code:** None.

---

**HCPWIN8393E THE FOLLOWING MINIDISK(S) ARE READ ONLY: *mdisk mdisk...***

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

---

**HCPWIN8395E 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.

**Return Code:** 8

---

**HCPWIN8396E THE WORK DISK *mdisk* IS TOO SMALL. IT MUST BE AT LEAST *cyllblk* {CYLINDERS|BLOCKS}**

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8397E THE WORK DISK IS OF THE WRONG DEVICE TYPE. IT MUST BE *devtype***

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8398E THE WORK DISK IS NOT R/W.**

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8399E COPYFILE FROM THE WORK DISK TO *vaddr* FAILED WITH RC=*rc***

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8400I PROCESSING CONTINUES FOR MINIDISK *vaddr...***

**User Response:** None.

**Return Code:** None.

---

**HCPWIN8401E INSTALL EXEC MUST BE RUN ON A FULL SCREEN TERMINAL WITH AT LEAST 20 LINES**

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8406E 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 273) and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8428I TOTAL PERCENT LOADED -> *percent***

**User Response:** None.

**Return Code:** None.

---

**HCPWIN8429E INVALID SYNTAX. OPTIONS {MUST FOLLOW A '('|MAY NOT FOLLOW A ')}**

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

## INSTALL

---

**HCPWIN8430E INVALID OPTION(S):** *option(s)*

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8431E 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.

**Return Code:** 8

---

**HCPWIN8432E PANEL XEDIT WAS NOT FOUND ON THE 2C2 DISK**

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8433I INSTALL PROCESSING CONTINUES**

**User Response:** None.

**Return Code:** None.

---

**HCPWIN8434I comp HAS BEEN SUCCESSFULLY LOADED**

**User Response:** None.

**Return Code:** 0

---

**HCPWIN8435E 2C2 DISK IS FULL.**

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8436E CONFLICTING OPTION(S):** *options*

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8437E TOO MANY ARGUMENTS:** *arg*

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8438E TOO FEW ARGUMENTS:** *arg*

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8439E mdisk IS NOT ON THE DDR TAPE**

**User Response:** You tried to recover a minidisk which is not on the VM/ESA System DDR tape. Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8440E THE FOLLOWING MINIDISK(S) ARE INVALID:** *mdisk mdisk ...*

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

---

**HCPWIN8441I** *mdisk* HAS BEEN RESTORED TO MINIDISK *mdisk*

**User Response:** None.

**Return Code:** 0

---

**HCPWIN8442E** 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.

**Return Code:** None.

---

**HCPWIN8462E** THE FOLLOWING MINIDISK(S) HAVE INVALID DEVTYPES: *mdisk mdisk ...*

**User Response:** Correct error and rerun INSTALL.

**Return Code:** 8

---

**HCPWIN8463E** DDR HAS REPORTED AN ERROR {CHECK DDR \$MSGLOG ON THE 2C2 DISK FOR MORE INFORMATION}

**User Response:** Refer to the *VM/ESA: CP Command and Utility Reference* for more information on the DDR command.

**Return Code:** 8

---

**HCPWIN8464A** 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."

**Return Code:** 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

---

#### HCPDFX8300E FILE *fn ft* NOT FOUND

**User Response:** None.

**Return Code:** 28

---

#### HCPDFX8306E HELPFILE *fn* MUST CONTAIN AT LEAST 5 LINES

**User Response:** None.

**Return Code:** 101

---

#### HCPDFX8307E HELPFILE *fn* MUST NOT CONTAIN MORE THAN 100,003 LINES

**User Response:** None.

**Return Code:** 102

---

#### HCPDFX8308E HELPFILE *fn* MUST HAVE A LRECL OF 80

**User Response:** None.

**Return Code:** 103

---

#### HCPDFX8309E HELPFILE *fn* DOES NOT CONTAIN A HELP FILE HEADER

**User Response:** None.

**Return Code:** 104

---

#### HCPDFX8310E LINE *x* OF HELPFILE *fn* IS NOT BLANK

**User Response:** None.

**Return Code:** 105, 106

---

#### HCPDFX8312E ERROR DISPLAYING HELPFILE *fn*

**User Response:** None.

**Return Code:** None.

---

#### HCPDFX8338I NOW EXECUTING *function*

**User Response:** None.

**Return Code:** 0

---

**HCPDFX8339I 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.

**Return Code:** 99, 0

---

**HCPDFX8340E 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.

**Return Code:** 100

---

**HCPDFX8341I {INSTDEF FUNCTION *function*|THE COMMAND *command*} COMPLETED SUCCESSFULLY**

**User Response:** None.

**Return Code:** 0

---

**HCPDFX8342E 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.

**Return Code:** 8, 100

---

**HCPDFX8353W UNDEFINED PFKEY**

**User Response:** Enter correct input.

**Return Code:** None.

---

**HCPDFX8355I THE SPOOLID FOR THE {CMS|GCS} NUCLEUS \$\$\$TLL\$\$ FILE IS: *spoolid***

**User Response:** None.

**Return Code:** None.

---

**HCPDFX8356E THE COMMAND *cmd* FINISHED, BUT UNRESOLVED REFERENCES WERE FOUND. PLEASE CHECK AND CORRECT BEFORE PROCEEDING.**

**User Response:** Correct the error and rerun INSTDEF.

**Return Code:** None.

---

**HCPDFX8357W THE COMMAND *cmd* {FAILED|COMPLETED} WITH RC= *rc*. PROCESSING CONTINUES**

**User Response:** None.

**Return Code:** None.

---

**HCPDFX8358W QUOTES OR THE FOLLOWING SPECIAL CHARACTERS *c, #, @, |, %* NOT ALLOWED IN {VERSION|INSTALL ID}**

**User Response:** Enter correct input.

**Return Code:** None.

---

**HCPDFX8359W INVALID LANGUAGE ID *string* ENTERED**

**User Response:** Enter correct input.

**Return Code:** None.

---

## INSTDEF

---

### HCPIDF8376E INSTDEF EXEC ENDED IN ERROR

**User Response:** Previous messages describe the error in detail. Correct the error and rerun INSTDEF.

**Return Code:** 100

---

### HCPDFX8392I INSTDEF EXEC ENDED SUCCESSFULLY

**User Response:** None.

**Return Code:** None.

---

### HCPPXD8401E INSTDEF EXEC MUST BE RUN ON A FULL SCREEN TERMINAL WITH AT LEAST 20 LINES

**User Response:** Correct the error and rerun INSTDEF.

**Return Code:** 100

---

### HCPDFX8411I 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.

**Return Code:** 8

---

### HCPDFX8415W CMS TAILORING COMPLETED, {INSTALL ID|LANGUAGE ID|VERSION ID} CAN NO LONGER BE CHANGED

**User Response:** Proceed without changing this field.

**Return Code:** None.

---

### HCPDFX8416W MOVE2SFS COMPLETED, {RECLAIM OPTION|SFS CHOICES} CAN NO LONGER BE CHANGED

**User Response:** Proceed without changing this field.

**Return Code:** None.

---

### HCPIDF8430E INVALID OPTION(S): *options(s)*

**User Response:** Correct error and rerun INSTDEF.

**Return Code:** 100

---

### HCPDFX8444E THE 51D DISK MUST BE ACCESSED AS D IN R/W MODE

**User Response:** Correct the error and rerun INSTDEF.

**Return Code:** 100

---

### HCPDFX8469W INVALID STATUS *status* ENTERED FOR ITEM *item* — STATUS MUST BE “N” or “S”

**User Response:** None.

**Return Code:** None.

---

### HCPDFX8475I ITEMS SELECTED TO BE LOADED ARE: *items*

DASD TYPE SELECTED IS: *dasdtype*

PACKS NEEDED TO LOAD THESE ARE: *packlabels*

**User Response:** None.

**Return Code:** None.

---



---

**HCPDFX8498W YOUR 2C2 DISK IS TOO FULL TO HOLD AN INSTDEF MESSAGE LOG. MESSAGES WILL BE DISPLAYED TO THE CONSOLE.**

**User Response:** None.

**Return Code:** 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

---

#### HCPDFE8338I NOW EXECUTING *function*

**User Response:** None.

**Return Code:** 0

---

#### HCPDFE8341I INSTDEF2 FUNCTION *function* COMPLETED SUCCESSFULLY

**User Response:** None.

**Return Code:** 0

---

#### HCPDFE8342E 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.

**Return Code:** 8, 100

---

#### HCPDFE8392I INSTDEF2 EXEC ENDED SUCCESSFULLY

**User Response:** None.

**Return Code:** None.

---

#### HCPDFE8430E INVALID OPTIONS(S): *options(s)*

**User Response:** Correct error and rerun INSTDEF2.

**Return Code:** 100

---

## INSTRDIR EXEC

▶▶—INSTRDIR—◀◀

### Purpose

Use INSTRDIR to dynamically create a user directory for your installation using the items selected to be loaded.

### Messages and Return Codes

---

#### HCPIDX8300E

HCPIND8300E FILE *fn ft* NOT FOUND

**User Response:** Correct error and rerun INSTRDIR

**Return Code:** 28

---

#### HCPIDX8306E HELPFILE *fn* MUST CONTAIN AT LEAST 5 LINES

**User Response:** None.

**Return Code:** None.

---

#### HCPIDX8307E HELPFILE *fn* CANNOT CONTAIN MORE THAN 100,003 LINES

**User Response:** None.

**Return Code:** None.

---

#### HCPIDX8308E HELPFILE *fn* MUST HAVE A LRECL OF 80

**User Response:** None.

**Return Code:** None.

---

#### HCPIDX8309E HELPFILE *fn* DOES NOT CONTAIN A HELP FILE HEADER

**User Response:** None.

**Return Code:** None.

---

#### HCPIDX8310E LINE 2 OF HELPFILE *fn* IS NOT BLANK

**User Response:** None.

**Return Code:** None.

---

#### HCPIDX8310E LINE 4 OF HELPFILE *fn* IS NOT BLANK

**User Response:** None.

**Return Code:** None.

---

#### HCPIDX8311I [BEGINNING|END] OF HELP FILE DISPLAYED

**User Response:** None

**Return Code:** None

## INSTDIR

---

**HCPIDX8312E ERROR DISPLAYING HELPFILE *fn*. EXTENT MUST BE LESS THAN 5 CHARACTERS.**

**User Response:** None.

**Return Code:** None.

---

**HCPIDX8342E**

**HCPIND8342E THE COMMAND *command* FAILED WITH RC=*rc***

**User Response:** Correct error and rerun INSTDIR

**Return Code:** 100

---

**HCPIDX8349W INVALID ENTRY, PLEASE REENTER**

**User Response:** Enter correct data

**Return Code:** None.

---

**HCPIDX8353W**

**HCPIXH8353W UNDEFINED PFKEY**

**User Response:** Enter the correct input

**Return Code:** None

---

**HCPIXH8354W ENTER KEY NOT SUPPORTED FROM THIS PANEL**

**User Response:** None

**Return Code:** None

---

**HCPIND8376E INSTDIR EXEC ENDED IN ERROR**

**User Response:** Correct error and rerun INSTDIR

**Return Code:** 100

---

**HCPIND8392I INSTDIR EXEC ENDED SUCCESSFULLY**

**User Response:** None

**Return Code:** 0

---

**HCPIDX8401E INSTDIR EXEC MUST BE RUN ON A FULL SCREEN TERMINAL WITH AT LEAST 20 LINES**

**User Response:** Correct error and rerun INSTDIR

**Return Code:** 100

---

**HCPIDX8472I YOU MUST INPUT ALL *fields* BEFORE PRESSING PF5 TO PROCESS**

**User Response:** Fill in all the fields specified

**Return Code:** None

---

**HCPIND8473E DISK 2C2 NOT ATTACHED**

**User Response:** Access 2C2 disk and rerun INSTDIR

**Return Code:** 100

---

---

**HCPIDN8474E 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

**Return Code:** 100

---

**HCPIDX8484R 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"

**Return Code:** None

---

**HCPIDX8485I INVALID DASD TYPE ENTERED. VALID TYPES ARE 3380, 3390, 9345, FBA**

**User Response:** Correct the entry

**Return Code:** None

---

**HCPIDX8486I STARTING EXTENT MUST BE SMALLER THAN THE ENDING EXTENT**

**User Response:** Correct the entry

**Return Code:** None

---

**HCPIDX8487I FREE EXTENTS ON PACK *respack* START AT *type restart***

**User Response:** Correct the entry

**Return Code:** None

---

**HCPIDX8488I THIS IS THE FIRST PANEL**

**User Response:** You cannot go backwards from the first page of extents

**Return Code:** None

---

**HCPIDX8489I *type starting/ending* EXTENT MUST BE LESS THAN 5 CHARACTERS.**

**User Response:** Correct the entry

**Return Code:** None

---

**HCPIDX8490I *type* STARTING EXTENT MUST BEGIN ON A PAGE BOUNDARY.**

**User Response:** Correct the entry

**Return Code:** None

---

**HCPIDX8491I MINIMUM OF *size type* ARE NEEDED FOR ITEM *item***

**User Response:** Correct entry

**Return Code:** None

---

**HCPIDX8492W NOT ENOUGH DISK SPACE DEFINED TO LOAD THE SELECTED ITEMS.**

**User Response:** Correct the entry

**Return Code:** None

---

---

### HCPIDX8497W 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.

**Return Code:** None

---

## INSTIIS EXEC



### Purpose

Use INSTIIS to format and label your installation DASD and to restore the IIS.

### Messages and Return Codes

---

**HCPIIX8300E FILE *datafile* NOT FOUND**

**User Response:** Correct error and rerun INSTIIS

**Return Code:** 28

---

**HCPIIX8306E HELPFILE *fn* MUST CONTAIN AT LEAST 5 LINES**

**User Response:** None.

**Return Code:** None.

---

**HCPIIX8307E HELPFILE *fn* CANNOT CONTAIN MORE THAN 100,003 LINES**

**User Response:** None.

**Return Code:** None.

---

**HCPIIX8308E HELPFILE *fn* MUST HAVE A LRECL OF 80**

**User Response:** None.

**Return Code:** None.

---

**HCPIIX8309E HELPFILE *fn* DOES NOT CONTAIN A HELP FILE HEADER**

**User Response:** None.

**Return Code:** None.

---

**HCPIIX8310E LINE 2 OF HELPFILE *fn* IS NOT BLANK**

**User Response:** None.

**Return Code:** None.

---

**HCPIIX8310E LINE 4 OF HELPFILE *fn* IS NOT BLANK**

**User Response:** None.

**Return Code:** None.

---

**HCPIIX8312E ERROR DISPLAYING HELPFILE *fn* EXTENT MUST BE LESS THAN 5 CHARACTERS.**

**User Response:** None.

**Return Code:** None.

---

**HCPIIX8342E THE COMMAND *command* FAILED WITH RC=*rc***

**User Response:** Correct error and rerun INSTIIS

**Return Code:** 100

---

**HCPIIX8349W INVALID ENTRY, PLEASE REENTER**

**User Response:** Enter correct input

**Return Code:** None.

---

**HCPIIX8353W UNDEFINED PFKEY**

**User Response:** Enter correct input

**Return Code:** None.

---

**HCPINI8376E INSTIIS EXEC ENDED IN ERROR**

**User Response:** Correct error and rerun INSTIIS

**Return Code:** 100

---

**HCPIIX8378R 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"

**Return Code:** None.

---

**HCPIIX8380I Restoring IIS to 240RES**

**User Response:** None.

**Return Code:** None.

---

**HCPIIX8383R 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"

**Return Code:** None.

---

**HCPINI8391I INSTIIS EXEC ENDED SUCCESSFULLY**

**User Response:** None.

**Return Code:** None.

---

**HCPIIX8401E INSTIIS EXEC MUST BE RUN ON A FULL SCREEN TERMINAL WITH AT LEAST 20 LINES**

**User Response:** Correct error and rerun INSTIIS

**Return Code:** 100

---

**HCPIIX8454W ENTER KEY NOT SUPPORTED FROM THIS PANEL**

**User Response:** Enter correct input

**Return Code:** None.

---

**HCPIIX8472I YOU MUST *action* BEFORE PRESSING PF5 TO PROCESS**

**User Response:** Enter correct input

**Return Code:** None.

---



---

**HCPIIX8473E DASD/TAPE DRIVE *disk/drive* NOT ATTACHED**

**User Response:** Correct error and rerun INSTIIS

**Return Code:** 100

---

**HCPIIX8477R 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

**Return Code:** None.

---

**HCPIIX8479I EXITING INSTIIS AT USER REQUEST**

**User Response:** None.

**Return Code:** 99

---

**HCPIIX8480I NOW FORMATTING PACK *packaddr***

**User Response:** None.

**Return Code:** None.

---

**HCPIIX8481E NOW TERMINATING INSTIIS PROCESSING DUE TO AN ERROR *error***

**User Response:** Correct error and rerun INSTIIS

**Return Code:** 100

---

**HCPIIX8482E THE FIRST PACK LABEL IS *label*. IT MUST BE A RES PACK.**

**User Response:** Correct error and rerun INSTIIS

**Return Code:** 100

---

**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)**

**User Response:** Input Response

**Return Code:** None.

---

---

## INSTPLAN EXEC

▶—INSTPLAN—▶

### Purpose

Use INSTPLAN to select items to load and the DASD type on which to install.

### Messages and Return Codes

---

#### HCPIPX8300E FILE *datafile* NOT FOUND

**User Response:** Correct error and rerun INSTPLAN

**Return Code:** 28

---

#### HCPIPX8306E HELPFILE *fn* MUST CONTAIN AT LEAST 5 LINES

**User Response:** None.

**Return Code:** None.

---

#### HCPIPX8307E HELPFILE *fn* CANNOT CONTAIN MORE THAN 100,003 LINES

**User Response:** None.

**Return Code:** None.

---

#### HCPIPX8308E HELPFILE *fn* MUST HAVE A LRECL OF 80

**User Response:** None.

**Return Code:** None.

---

#### HCPIPX8309E HELPFILE *fn* DOES NOT CONTAIN A HELP FILE HEADER

**User Response:** None.

**Return Code:** None.

---

#### HCPIPX8310E LINE 2 OF HELPFILE *fn* IS NOT BLANK

**User Response:** None.

**Return Code:** None.

---

#### HCPIPX8310E LINE 4 OF HELPFILE *fn* IS NOT BLANK

**User Response:** None.

**Return Code:** None.

---

#### HCPIPX8312E ERROR DISPLAYING HELPFILE *fn*. EXTENT MUST BE LESS THAN 5 CHARACTERS.

**User Response:** None.

**Return Code:** None.

---

**HCPIPX8342E THE COMMAND *command* FAILED WITH RC=*rc***

**User Response:** Correct error and rerun INSTPLAN

**Return Code:** 100

---

**HCPIPX8353W UNDEFINED PFKEY**

**User Response:** Enter correct input

**Return Code:** None.

---

**HCPIP8376E INSTPLAN EXEC ENDED IN ERROR**

**User Response:** Correct error and rerun INSTPLAN

**Return Code:** 100

---

**HCPIP8391I INSTPLAN EXEC ENDED SUCCESSFULLY**

**User Response:** None.

**Return Code:** 0

---

**HCPIPX8401E INSTPLAN EXEC MUST BE RUN ON A FULL SCREEN TERMINAL**

**INSTPLAN EXEC MUST BE RUN ON A FULL SCREEN TERMINAL WITH AT LEAST 20 LINES**

**INSTPLAN EXEC MUST BE RUN ON A FULL SCREEN TERMINAL WITH AT LEAST 80 COLUMNS**

**User Response:** Correct error and rerun INSTPLAN

**Return Code:** 100

---

**HCPIP8430E INVALID OPTION(S): *input***

**User Response:** Rerun INSTPLAN with correct options

**Return Code:** 100

---

**HCPIPX8454W ENTER KEY NOT SUPPORTED FROM THIS PANEL**

**User Response:** Enter correct input

**Return Code:** None.

---

**HCPIPX8468W BASE CODE MUST BE LOADED**

**User Response:** Enter correct input

**Return Code:** None.

---

**HCPIPX8469W INVALID STATUS *status* ENTERED FOR ITEM *item***

**User Response:** Enter correct input

**Return Code:** None.

---

**HCPIPX8471W ONLY ONE TYPE OF DASD MAY BE SELECTED**

**User Response:** Enter correct input

**Return Code:** None.

---

---

**HCPIPX8472I YOU MUST SELECT A DASD TYPE BEFORE PRESSING PF5 TO PROCESS**

**User Response:** Enter correct input

**Return Code:** None.

---

**HCPIPX8475I 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.

**Return Code:** None.

---

**HCPIPX8476E You cannot select both the FILEPOOL and the SMALL FILEPOOL items**

**User Response:** Enter correct input

**Return Code:** None.

---

## INSTPOOL EXEC

▶▶—INSTPOOL—◀◀

### Purpose

Use INSTPOOL to start the file pool servers during installation procedures.

### Messages and Return Codes

---

**HCPIFP8324E ERROR OCCURED DURING BUILD OF FILEPOOL *filepool***

**User Response:** Correct error and rerun INSTPOOL

**Return Code:** 100

---

**HCPIFP8342E THE COMMAND *cmd* FAILED WITH RC=*rc***

**User Response:** Correct error and rerun INSTPOOL

**Return Code:** 100

---

**HCPIFP8376I INSTPOOL EXEC ENDED IN ERROR**

**User Response:** Correct error and rerun INSTPOOL

**Return Code:** 100

---

**HCPIFP8392I INSTPOOL EXEC ENDED SUCCESSFULLY**

**User Response:** None

**Return Code:** 0

---

**HCPIFP8494I SHARED FILE NOT LOADED**

**User Response:** Shared file not loaded. Exec not needed.

**Return Code:** 0

---

**HCPIFP8495E SERVER *server* NOT RESPONDING**

**User Response:** Correct error and rerun INSTPOOL

**Return Code:** 100

---

**HCPIFP8496E SERVER *server* DID NOT RETURN A READER FILE**

**User Response:** Correct error and rerun INSTPOOL

**Return Code:** 100

---

## MIGR51D EXEC



▶▶—MIGR51D—◀◀

### Purpose

Use MIGR51D to update the System Software Inventory files of the previous release to the inventory files of Version 2 Release 4.0. MIGR51D displays a panel that allows you to select which products to migrate and not to migrate.

### Messages and Return Codes

---

**HCPMIG8342E THE COMMAND *cmd* FAILED WITH RC=*rc*.**

**User Response:** Correct the error and rerun MIGR51D

**Return Code:** 99 or 100 (If you received RC=99, an error occurred, but the new, current 51D disk has been restored to its original condition.)

---

**HCPMIG8444E THE 51D DISK MUST BE ACCESSED AS D IN R/W MODE**

**User Response:** Correct the error and rerun MIGR51D.

**Return Code:** 8

---

**HCPMIG8477E A temporary MIGR51D file has been found on the current release's Software Inventory Disk (51D). This disk must be restored prior to restarting MIGR51D.**

**User Response:** A previous execution of MIGR51D ended abnormally. From your backups, restore the current release's 51D to its original condition and rerun MIGR51D.

**Return Code:** 8

---

**HCPMIX8300E FILE *datafile* NOT FOUND**

**User Response:** Correct error and rerun MIGR51D

**Return Code:** 28

---

**HCPMIX8306E HELPFILE *fn* MUST CONTAIN AT LEAST 5 LINES**

**User Response:** None.

**Return Code:** None.

---

**HCPMIX8307E HELPFILE *fn* CANNOT CONTAIN MORE THAN 100,003 LINES**

**User Response:** None.

**Return Code:** None.

---

**HCPMIX8308E HELPFILE *fn* MUST HAVE A LRECL OF 80**

**User Response:** None.

**Return Code:** None.

---

**HCPMIX8309E HELPFILE *fn* DOES NOT CONTAIN A HELP FILE HEADER**

**User Response:** None.

**Return Code:** None.

---

**HCPMIX8310E LINE *x* OF HELPFILE *fn* IS NOT BLANK**

**User Response:** None.

**Return Code:** None.

---

**HCPMIX8312E ERROR DISPLAYING HELPFILE *fn*. EXTENT MUST BE LESS THAN 5 CHARACTERS.**

**User Response:** None.

**Return Code:** None.

---

**HCPMIX8353W UNDEFINED PFKEY**

**User Response:** Enter correct input

**Return Code:** None.

---

**HCPMIX8401E MIGR51D EXEC MUST BE RUN ON A FULL SCREEN TERMINAL**

**MIGR51D EXEC MUST BE RUN ON A FULL SCREEN TERMINAL WITH AT LEAST 22 LINES**

**MIGR51D EXEC MUST BE RUN ON A FULL SCREEN TERMINAL WITH AT LEAST 80 COLUMNS**

**User Response:** Correct error and rerun MIGR51D

**Return Code:** 99 (An error occurred, but the new, current 51D disk has been restored to its original condition.)

---

**HCPMIX8469W INVALID STATUS *status* ENTERED FOR ITEM *item***

**User Response:** Enter correct input

**Return Code:** None.

---

**HCPMIX8477E 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 releases's 51D disk to its original condition and rerun MIGR51D.

**Return Code:** 99

---

**HCPMIX8478R 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.

**Return Code:** 0

---

**HCPMIX8479E Invalid filemode entered: *fmode***

**User Response:** Enter the correct file mode.

**Return Code:** 99 (An error occurred, but the new, current 51D disk has been restored to its original condition.)

---

## MIGR51D

---

**HCPMIX8480E** Previous release's Software Inventory Disk (51D) did not pass validity check. Please correct and reissue MIGR51D.

**User Response:** Correct error and rerun MIGR51D

**Return Code:** 99 (An error occurred, but the new, current 51D disk has been restored to its original condition.)

---

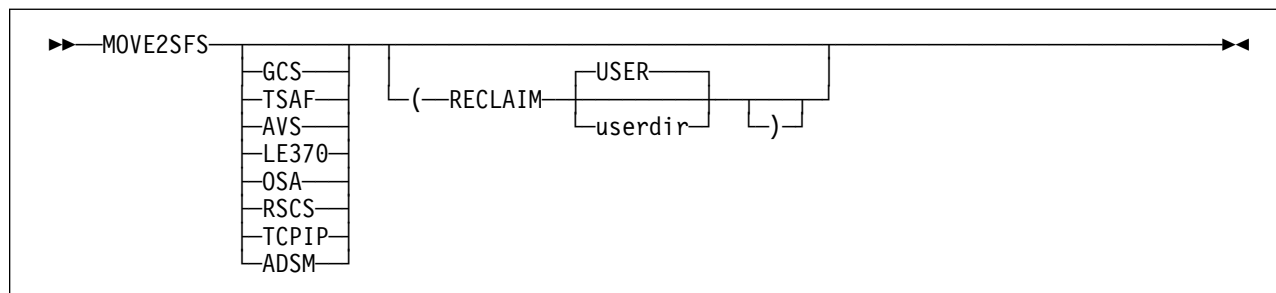
**HCPMIX8499E** The *fn ft fm* table contains the following duplicate key entries: *data*

**User Response:** Correct the table and rerun MIGR51D.

**Return Code:** 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.

#### ADSM

If ADSM is chosen, then the data for ADSM 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

---

**HCPWMV8342E THE COMMAND *command* FAILED WITH RC=*rc***

**User Response:** Check the command return codes to determine the cause of the error.

**Return Code:** 8

---

**HCPWMV8352E INVALID {OPERAND *operand*[OPTION *option*] SPECIFIED ON THE MOVE2SFS COMMAND. PLEASE CORRECT AND REENTER**

**User Response:** Correct error and rerun MOVE2SFS.

**Return Code:** 8

---

**HCPWMV8366E MINIDISK ERROR(S) FOR *component***

**User Response:** Correct error and rerun MOVE2SFS.

**Return Code:** 8

---

**HCPWMV8367E THE FOLLOWING MINIDISKS DO NOT EXIST: *mdisk mdisk ...***

**User Response:** Correct error and rerun MOVE2SFS.

**Return Code:** 8

---

**HCPWMV8376I MOVE2SFS EXEC ENDED IN ERROR**

**User Response:** Correct error and rerun MOVE2SFS.

**Return Code:** 8, 28

---

**HCPWMV8392I MOVE2SFS EXEC ENDED SUCCESSFULLY.**

**User Response:** None.

**Return Code:** 0

---

**HCPWMV8399E COPYFILE FROM THE MINIDISK *mdisk* TO *subdirectory\_name* FAILED WITH RC=*rc***

**User Response:** Correct error and rerun MOVE2SFS.

**Return Code:** 8

---

**HCPWMV8411E COULD NOT WRITE TO *file* BECAUSE YOUR '2C2' DISK IS FULL**

**User Response:** Correct error and rerun MOVE2SFS.

**Return Code:** 8

---

**HCPWMV8412E VMFINS DEFAULTS FILE NOT FOUND ON ANY ACCESSED DISK.**

**User Response:** Correct error and rerun MOVE2SFS.

**Return Code:** 28

---

**HCPWMV8422E ATTEMPT TO QUERY DISK FAILED WITH RC=*rc***

**User Response:** Correct error and rerun MOVE2SFS.

**Return Code:** 8

---

**HCPWMV8431E THE 2C2 DISK MUST BE ACCESSED IN R/W MODE**

**User Response:** Correct error and rerun MOVE2SFS.

**Return Code:** 8

---

**HCPWMV8437E TOO MANY {OPERANDS: *operands*|OPTIONS: *options*}**

**User Response:** Correct error and rerun MOVE2SFS.

**Return Code:** 8

---

**HCPWMV8444E THE 51D DISK MUST BE ACCESSED AS D AND IN R/W MODE**

**User Response:** Correct error and rerun MOVE2SFS.

**Return Code:** 8

---

**HCPWMV8445E THE {FILEPOOL|DIRECTORY} *filepool\_name* IS NOT AVAILABLE**

**User Response:** Start up the VMSERVS file pool and rerun MOVE2SFS.

**Return Code:** 8

---

**HCPWMV8446I THE FOLLOWING COMPONENT(S) WERE ALREADY MOVED TO SFS: *component component ...***

**User Response:** None.

**Return Code:** None.

---

**HCPWMV8447E NO LINES IN \$LOAD\$ LOG**

**User Response:** Check that the INSTALL EXEC was run prior to running MOVE2SFS.

**Return Code:** 8

---

**HCPWMV8448E 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.

**Return Code:** 8

---

**HCPWMV8449E THE SUBDIRECTORY *subdirectory\_name* COULD NOT BE CREATED**

**User Response:** Correct error and rerun MOVE2SFS.

**Return Code:** 8

---

## MOVE2SFS

---

**HCPWMV8450E ACCESS OF {*mdisk*|*subdirectory\_name*} AT FILEMODE *filemode* FAILED WITH RC=*rc***

**User Response:** Correct error and rerun MOVE2SFS.

**Return Code:** 8

---

**HCPWMV8451W 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 2VMVMD40%AVS FROM fm
```

3. If the warning when processing TSAF, enter

```
VMFERASE PROD 2VMVMH40%TSAF FROM fm
```

**Return Code:** 4

---

**HCPWMV8452W VM SYSRECS TABLE WAS NOT UPDATED FOR THE FOLLOWING COMPONENT: *component***

**User Response:** Issue the following command to update the VMSYSRECS table:

```
PIPE < VM SYSRECS D|CHANGE /ESA component/ESA componentsSFS/| > VM SYSRECS D
```

**Return Code:** 4

---

**HCPWMV8453I MOVE OF *component* COMPONENT TO SFS COMPLETED SUCCESSFULLY**

**User Response:** None.

**Return Code:** 0

---

**HCPWMV8454E THERE ARE NOT ENOUGH FREE FILEMODES AVAILABLE. TWO ARE REQUIRED**

**User Response:** Correct error and rerun MOVE2SFS.

**Return Code:** 8

---

**HCPWMV8455W MOVE2SFS EXEC COMPLETED WITH WARNINGS.**

**User Response:** Check the warning messages for each component.

**Return Code:** 4

---

**HCPWMV8456I PROCESSING COMPONENT *component***

**User Response:** None.

**Return Code:** None.

---

**HCPWMV8457W VM SYSRECS TABLE WAS ALREADY UPDATED FOR *component***

**User Response:** None.

**Return Code:** 4

---

**HCPWMV8458W *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.

**Return Code:** 4

---

---

**HCPWMV8459W MOVE OF *component* COMPONENT COMPLETED TO SFS WITH WARNINGS**

**User Response:** Check the warning messages for the component listed.

**Return Code:** 4

---

**HCPWMV8460E WRITE TO *file* FAILED WITH RC=*rc***

**User Response:** Correct error and rerun MOVE2SFS.

**Return Code:** 8

---

**HCPWMV8461E *filename filetype* FILE NOT FOUND ON *mdisk* DISK.**

**User Response:** Correct error and rerun MOVE2SFS.

**Return Code:** 8

---

**HCPWMV8465I THE FOLLOWING MINIDISKS FOR COMPONENTS(S): *complist* HAVE BEEN RECLAIMED: *disk disk ...***

**User Response:** None.

**Return Code:** 0

---

**HCPWMV8466I *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.

**Return Code:** 8

---

**HCPWMV8467I BOTH AVS AND TSAF MUST BE MOVED TO SFS BEFORE THE DISK SPACE CAN BE RECLAIMED**

**User Response:** None.

**Return Code:** None.

---

**HCPWMV8470W DETACH OF MINIDISK *mdisk* FAILED WITH RC=*rc***

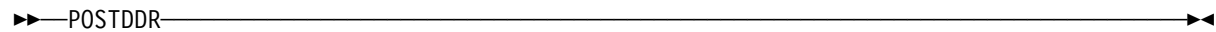
**User Response:** Manually detach the disk to finish reclaiming unused minidisk space. MOVE2SFS processing continues

**Return Code:** 4

---

---

## POSTDDR EXEC



### Purpose

The POSTDDR EXEC creates the system-level Software Inventory tables:

- VM SYSRECS
- VM SYDESCT
- 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

---

#### HCPWSR8342E THE COMMAND *command* FAILED WITH RC=*rc*

**User Response:** Check command return codes to determine the cause of the error.

**Return Code:** 8

---

#### HCPWSR8408E BASE COMPONENTS ARE NOT LOADED

**User Response:** INSTALL EXEC must be run prior to running POSTDDR.

**Return Code:** 8

---

#### HCPWSR8409I Generating Software Inventory files

**User Response:** None.

**Return Code:** 0

---

#### HCPWSR8410E NO DISK IS ACCESSED AS *fm*

**User Response:** Access 191 as your 'A' disk and rerun POSTDDR.

**Return Code:** 8

---

#### HCPWSR8411I COULD NOT WRITE TO *filename filetype* BECAUSE YOUR 'A' DISK IS FULL

**User Response:** Correct the full disk condition and rerun POSTDDR.

**Return Code:** 8

---

**HCPWSR8412E \$LOAD\$ LOG FILE NOT FOUND ON ANY ACCESSED DISK.**

**User Response:** Correct error and rerun POSTDDR.

**Return Code:** 28

---

**HCPWSR8413I Generating Software Inventory files Completed**

**User Response:** None.

**Return Code:** 0

---

**HCPWSR8418I THE SOFTWARE INVENTORY TABLES ARE ALREADY UPDATED**

**User Response:** None.

**Return Code:** 0

---

**HCPWSR8419E vdev IS NOT R/W**

**User Response:** Correct error and rerun POSTDDR.

**Return Code:** 8

---

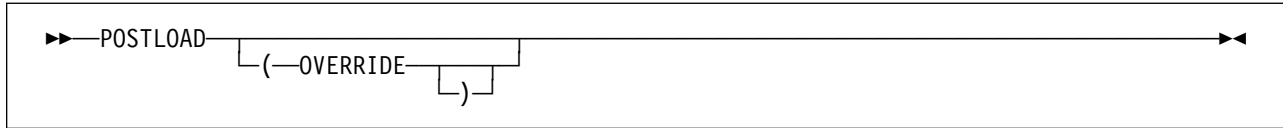
**HCPWSR8422E ATTEMPT TO QUERY DISK *filemode* FAILED WITH RETURN CODE *rc***

**User Response:** Access 191 as your 'A' disk and rerun POSTDDR.

**Return Code:** 8

---

## POSTLOAD EXEC



### Purpose

The POSTLOAD EXEC performs clean-up tasks depending on the items you have loaded.

### Options

#### OVERVERRIDE

displays a menu, shown in Figure 25, that allows you to choose what postload installation tasks you want to bypass.

**Attention:** Bypassing tasks may result in problems.

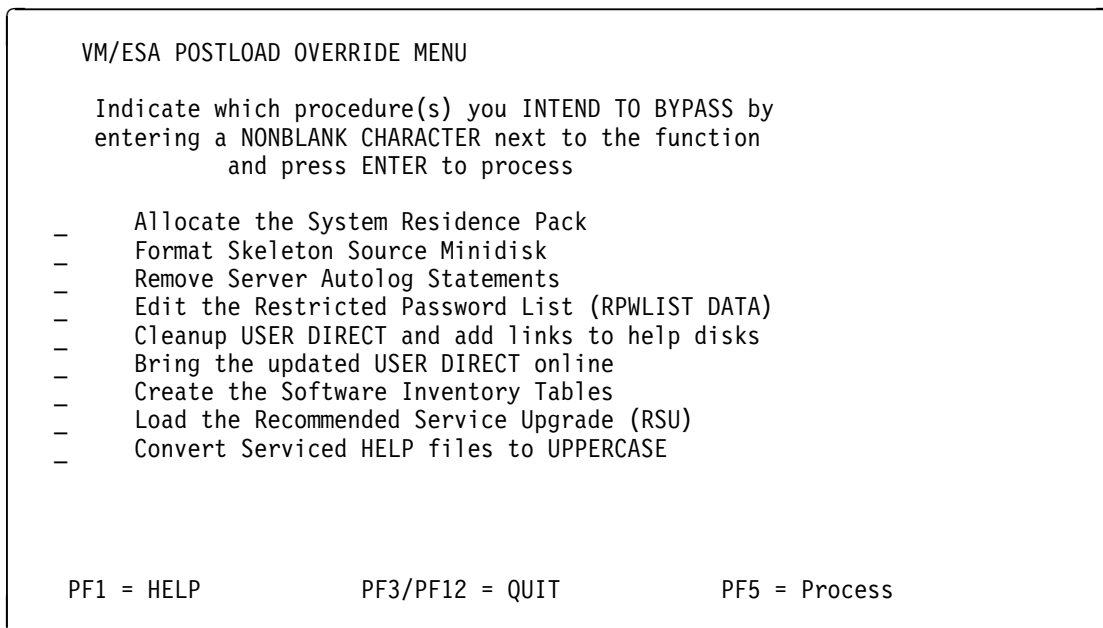


Figure 25. POSTLOAD Override Menu

### Messages and Return Codes

HCPPLD8335I Loading RSU Volume x [completed]

User Response: None.

Return Code: 0



---

**HCPPLD8338I NOW EXECUTING** *function*

**User Response:** None.

**Return Code:** 0

---

**HCPPLD8339I 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.

**Return Code:** 99, 0

---

**HCPPLD8340E 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.

**Return Code:** 100

---

**HCPPLD8341I POSTLOAD FUNCTION** *function* **COMPLETED SUCCESSFULLY**

**User Response:** None.

**Return Code:** 0

---

**HCPPLD8342E 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.

**Return Code:** 8, 100

---

**HCPPLD8343E 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.

**Return Code:** 100

---

**HCPPLD8344E 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.

**Return Code:** 100

---

**HCPPLD8345R**

```

*****
*
* WHAT WOULD YOU LIKE TO DO WITH THE RESTRICTED *
* PASSWORD FILE (RPWLST 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.

**Return Code:** 0, 99

## POSTLOAD

---

**HCPPLD8346I SOURCE MINIDISK *mdisk* FOR COMPONENT *component* FORMATTED SUCCESSFULLY**

**User Response:** None.

**Return Code:** 0

---

**HCPPLD8347I RPWLST DATA WILL BE USED WITH IBM SUPPLIED DEFAULTS**

**User Response:** None.

**Return Code:** 99

---

**HCPPLD8348I SOFTWARE INVENTORY FILES VM SYSRECS, VM SYSDESCT, VM SYSREQT, VM SYSBLDS,  
AND VM SYSAPPS HAVE BEEN CREATED**

**User Response:** None.

**Return Code:** 0

---

**HCPPLD8349W INVALID ENTRY, PLEASE REENTER**

**User Response:** Enter correct entry.

**Return Code:** None

---

**HCPPLD8350R PRESS THE ENTER KEY TO PROCEED WITH XEDIT OF RPWLST DATA E. REMEMBER TO  
FILE YOUR CHANGES**

**User Response:** Press enter to proceed to the XEDIT session for RPWLST DATA E.

**Return Code:** None

---

**HCPPLD8351E YOU MUST HAVE A R/W DISK ACCESSED AS "A" TO RUN POSTLOAD**

**User Response:** Correct the error and rerun POSTLOAD.

**Return Code:** 8

---

**HCPPLD8352E INVALID {OPERAND(S) *operand*{OPTION(S) *option*}} SPECIFIED ON THE POSTLOAD COMMAND.  
PLEASE CORRECT AND REENTER**

**User Response:** Correct the error and rerun POSTLOAD.

**Return Code:** 8

---

**HCPPXD8353W UNDEFINED PFKEY**

**User Response:** Enter correct input

**Return Code:** None

---

**HCPPXD8354W ENTER KEY NOT SUPPORTED FROM THIS PANEL**

**User Response:** Enter correct input

**Return Code:** None

---

**HCPPLD8392I POSTLOAD EXEC ENDED SUCCESSFULLY**

**User Response:** None.

**Return Code:** None.

---

---

**HCPPXD8401E POSTLOAD EXEC MUST BE RUN ON A FULL SCREEN TERMINAL WITH AT LEAST 16 LINES**

**User Response:** Correct the error and rerun POSTLOAD

**Return Code:** 100

---

**HCPPLD8411I 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.

**Return Code:** None.

---

**HCPPLD8444E THE 51D DISK MUST BE ACCESSED AS D IN R/W MODE**

**User Response:** Correct the error and rerun POSTLOAD.

**Return Code:** 100

---

**HCPPLD8498W 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.

**Return Code:** None.

## POSTLOAD

---

## Part 5. Appendixes

The following appendixes provide information and procedures to assist with deviations from the standard default installation procedures.



## Appendix A. Moving Components to SFS Directories

This appendix describes how to move GCS, TSAF, AVS, LE370, RSCS, OSA, TCPIP, or ADSM 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

### In this appendix you will:

- Be logged on to the MAINT user ID on your new VM/ESA Version 2 Release 4.0 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
logon maint
:
```

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

The default password for MAINT is MAINT.

**3** IPL your System disk to release any previously accessed minidisks.

```
ipl 190 clear
:
VM/ESA V2.4.0   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.

**4** Edit USER DIRECT and add links for USERID MAINT.

## Moving Components to SFS Directories

**access 2c2 e**

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

**xedit user direct e**

Add 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

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 P735FALT 191 865 WR  
LINK P735FALT 2C4 866 WR  
LINK P735FALT 2C2 867 WR  
LINK P735FALT 2D2 868 WR  
LINK P735FALT 2A6 869 WR  
LINK P735FALT 2A2 86A WR  
LINK P735FALT 2B2 86E WR  
LINK P735FALT 2B3 86F WR

ADSM:



```
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
```

**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
:
```

```
VM/ESA V2.4.0   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 vmservs**

```
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 vmservs**

```
COMMAND ACCEPTED
```

```
:
```

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

```
:
```

```
DMSSBB3045I Ready for operator communications
```

**10** Access the 2C2 minidisk as your E-disk.

## Moving Components to SFS Directories

```
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** or **ADSM**. (See "MOVE2SFS EXEC" on page 199 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
```

## 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 282, determine the largest disk you will be increasing in size or moving to a DASD type different than that of your VM/ESA 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 VM/ESA 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 VM/ESA 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
File USER DISKMAP A has been created.             mapped.
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.

*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 6 on page 225.

---

## Appendix C. Post Install Load of Optional Items

When you go through the initial installation procedures of VM/ESA Version 2 Release 4.0, there are optional items you may have chosen not to install. Once your VM/ESA system is installed, you may choose to add the optional items to your base VM/ESA 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 VM/ESA Version 2 Release 4.0 system.

---

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

The default password for MAINT is MAINT.

**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** 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 the following items, define the user IDs listed. The user entry can be uncommented from the USER DIRECT file on the 2C2 disk.

TSAF/AVS:

```
TSAFVM  
AVSVM
```

FILEPOOL:

```
VMSERVS  
VMSERVU  
VMSEVR
```

SMALL FILEPOOL:

```
VMSERVS  
VMSERVU  
VMSEVR
```

OSA/SF:

```
2VMVMV20  
OSASF  
OSAMAIN  
OSADMIN1  
OSADMIN2  
OSADMIN3
```

ADSM:

```
5654A09A
```

**b** For the following items, define the minidisk listed. Refer to "ITEMMD TABLE" on page 282. 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

## Prepare the USER DIRECT File for New Loads

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
  MAINT
    MDISK 393 dasdtype startcyl size label MR ALL      WRITE    MULTIPLE
*
CP DV SOURCE
  MAINT
    MDISK 394 dasdtype startcyl size label MR ALL      WRITE    MULTIPLE
*
VMSES SOURCE
  MAINT
    MDISK 5B4 dasdtype startcyl size label MR READ    WRITE    MULTIPLE
*
RSCS SOURCE
  P684096K
    MDISK 2B3 dasdtype startcyl size label MR READ    WRITE    MULTIPLE
*
UCENG HELP
  MAINT
    MDISK 402 dasdtype startcyl size label MR ALL      WRITE    MULTIPLE
*
GERMAN HELP
  MAINT
    MDISK 405 dasdtype startcyl size label MR ALL      WRITE    MULTIPLE
  P684096K
    MDISK 505 dasdtype startcyl size label MR READ    WRITE    MULTIPLE
*
KANJI HELP
  MAINT
    MDISK 401 dasdtype startcyl size label MR ALL      WRITE    MULTIPLE
  P684096K
    MDISK 501 dasdtype startcyl size label MR READ    WRITE    MULTIPLE
*
FILEPOOL
  VMSERVS
    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 307 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
```

## Prepare the USER DIRECT File for New Loads

### VMSEVU

MDISK 191	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	MR	RSERVER	WSERVER
MDISK 301	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RCONTROL	WCONTROL
MDISK 302	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RLOG1	WLOG1
MDISK 303	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RLOG2	WLOG2
MDISK 304	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RCATALOG	WCATALOG
MDISK 305	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RDATA	WDATA

### VMSEVR

MDISK 191	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	MR	RSERVER	WSERVER
MDISK 301	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RCONTROL	WCONTROL
MDISK 302	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RLOG1	WLOG1
MDISK 303	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RLOG2	WLOG2
MDISK 304	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RCATALOG	WCATALOG
MDISK 305	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RDATA	WDATA
MDISK 306	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RCRRLOG1	WCRRLOG1
MDISK 307	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RCRRLOG2	WCRRLOG2

\*

### SMALL FILEPOOL

#### VMSEVS

MDISK 191	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	MR	RSERVER	WSERVER
MDISK 301	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RCONTROL	WCONTROL
MDISK 302	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RLOG1	WLOG1
MDISK 303	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RLOG2	WLOG2
MDISK 304	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RCATALOG	WCATALOG
MDISK 305	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RDATA	WDATA

### VMSEVU

MDISK 191	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	MR	RSERVER	WSERVER
MDISK 301	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RCONTROL	WCONTROL
MDISK 302	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RLOG1	WLOG1
MDISK 303	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RLOG2	WLOG2
MDISK 304	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RCATALOG	WCATALOG
MDISK 305	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RDATA	WDATA

### VMSEVR

MDISK 191	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	MR	RSERVER	WSERVER
MDISK 301	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RCONTROL	WCONTROL
MDISK 302	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RLOG1	WLOG1
MDISK 303	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RLOG2	WLOG2
MDISK 304	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RCATALOG	WCATALOG
MDISK 305	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RDATA	WDATA
MDISK 306	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RCRRLOG1	WCRRLOG1
MDISK 307	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	WR	RCRRLOG2	WCRRLOG2

\*

### TSAF/AVS

#### TSAFVM

MDISK 191	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	MR	RTSAFOBJ	WTSAFOBJ	MTSAFOBJ
-----------	-----------------	-----------------	-------------	--------------	----	----------	----------	----------

#### AVSVM

MDISK 191	<i>dasdtype</i>	<i>startcyl</i>	<i>size</i>	<i>label</i>	MR	RAVSOBJ	WAVSOBJ	MAVSOBJ
-----------	-----------------	-----------------	-------------	--------------	----	---------	---------	---------



## Prepare the USER DIRECT File for New Loads

```

MAINT
  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

*
VM ONLINE LIBRARY
  MAINT
    MDISK 409 dasdtype startcyl size label MR READ      WRITE      MULTIPLE

*
OSA SF
  2VMVMV20
    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

  OSASF
    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

  OSAMAINT
    MDISK 191 dasdtype startcyl size label MR READ      WRITE      MULTIPLE
    MDISK 7F00 dasdtype startcyl size label MR READ      WRITE      MULTIPLE

  OSADMIN1
    MDISK 191 dasdtype startcyl size label MR READ      WRITE      MULTIPLE

  OSADMIN2
    MDISK 191 dasdtype startcyl size label MR READ      WRITE      MULTIPLE

  OSADMIN3
    MDISK 191 dasdtype startcyl size label MR READ      WRITE      MULTIPLE

*
ADSM
  5654A09A
    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:

## Prepare the USER DIRECT File for New Loads

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  
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 OSAMAINT 191 839 WR
LINK OSAMAINT 7F00 84C WR
LINK OSADMIN1 191 84D WR
LINK OSADMIN2 191 84E WR
LINK OSADMIN3 191 84F WR
```

ADSM:

```
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

- 5** If any of the minidisks required for the optional items you are **now** loading (identified in substep 4 on page 220) 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 217.

- 6** Run the DISKMAP tool to check for errors.

**diskmap user**

USER is the file name of the directory to be mapped.

File USER DISKMAP A has been created.

The file type defaults to DIRECT.

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

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.

- 7** 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

- 8** Log off of the MAINT user ID.

**logoff**

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

## Prepare the USER DIRECT File for New Loads

```
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
logon maint
:
VM/ESA V2.4.0   yyyy-mm-dd hh:mm
ENTER
Ready; T=n.nn/n.nn hh:mm:ss

```

The default password for MAINT is MAINT.

- 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 5 contains TSAF/AVS and FILEPOOL. Volume 6 contains VM Online Library 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 ADSM.

**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.

---

Do ONLY for 3420 and 3422 tape drives

---

**Note:** This does not apply to a CD-ROM device emulating a 3422 tape drive.

vary on *tapeaddr*

*tapeaddr* is the tape drive address.

## Run INSTALL EXEC

```
1 DEVICE(S) SPECIFIED; 1 DEVICE(S) SUCCESSFULLY VARIED ONLINE
Ready; T=n.nn/n.nn hh:mm:ss
```

If the device was already varied online you will get the same message with 0 device(s) successfully varied online.

If you try to vary on a 3420 or 3422 tape drive, and receive message HCPCPN6785E, you must add the drive to the system definition of real devices using the SET RDEVICE and VARY ON commands.

```
set rdevice tapeaddr type {3420 model n|3422}           tapeaddr is the tape drive address.
HCPZRP6722I CHARACTERISTICS OF DEVICE tapeaddr
WERE SET AS REQUESTED
1 rdev(s) SPECIFIED; 1 rdev(s) CHANGED;
1 rdev(s) CREATED
Ready; T=n.nn/n.nn hh:mm:ss
```

```
vary on tapeaddr                                       tapeaddr is the tape drive address.
1 DEVICE(S) SPECIFIED; 1 DEVICE(S) SUCCESSFULLY VARIED ONLINE
Ready; T=n.nn/n.nn hh:mm:ss
```

End of Do ONLY for 3420 and 3422 tape drives

```
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 VM/ESA 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 VM/ESA LOAD MENU panel displays after issuing the INSTALL command.

```

VM/ESA 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
      _      VM ONLINE LIBRARY
      _      OSA/SF
      _      ADMS

====>

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

```

Figure 26. VM/ESA LOAD MENU Panel

**6** The “L” in the VM/ESA 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 LOAD DEVICE MENU panel, shown next.

**PF5**

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

```

LOAD DEVICE MENU

MEDIA SELECTED IS: media

MOUNT VOLUME      VADDR
   5              _____
   6              _____
   7              _____
   8              _____

====>

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

```

Figure 27. VM/ESA LOAD DEVICE MENU Panel

## Run INSTALL EXEC

### 8 Complete the VM/ESA 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 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.

**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 VM/ESA 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 VM ONLINE LIBRARY ...
HCPWIN8371I  LOADING OSA/SF ...
HCPWIN8371I  LOADING ADMSM ...
```

The screen will clear for a few seconds after these messages are displayed.



HCPWIN8428I TOTAL PERCENT LOADED -> *nn%*                    *valid* is the volume identifier.  
HCPWIN8380I RESTORING MINIDISK *nnn* TO *valid*

---

Additional messages

---

```

:
HCPWIN8433I  INSTALL PROCESSING CONTINUES          Depending on the tape devices you are using for
HCPWIN8372A  PLEASE MOUNT VOLUME n ON TAPE DRIVE  installation, you may receive these tape device
              vaddr THEN PRESS ENTER TO CONTINUE   management messages.
HCPWIN8381I  CHECKING TAPE VOLUME NUMBER FOR DRIVE
              vaddr

```

---

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
- VM Online Library

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 143.

For information about the VM Online Library, refer to “Step 8. VM Online Library” on page 132.

If you loaded OSA/SF, ADSM, RSCS Source, German Help, Kanji Help, TSAF, AVS, FILEPOOL, or SMALL FILEPOOL, refer to “Step 3. Update System Tables” on page 232.

---

### Step 3. Update System Tables

If you just finished loading TSAF and AVS, OSA/SF, or ADSM, continue with this step. Otherwise, skip to “Step 6. Start the File Pools” on page 237.

**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, ADSM” on page 233) 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, ADSM

If you just loaded TSAF and AVS, OSA/SF, or ADSM, you must load service from the RSU for these components.

Included in the VM/ESA package is a separate tape or CD-ROM referred to as the IBM Recommended Service Upgrade VM/ESA (RSU). This RSU includes service that **must** be installed on your new VM/ESA system.

### In this step you will:

- Load the service files for any or all of the loaded TSAF, AVS, OSA/SF, and ADSM 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 ESA compname :PRODID prodid.%compname
has passed requisite checking
```

This message is repeated for each component.

## Load RSU for TSAF, AVS, OSA/SF, ADSM

```
Do you want to create an override for :PPF ESA compname
:PRODID prodid.%compname?
Enter 0 (No), 1 (Yes) or 2 (Exit)
0
```

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 *VM/ESA: VMSES/E Introduction and Reference* 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.

```
VMFINS2603I Processing product :PPF ESA compname
      :PRODID prodid%compname
VMFREQ2805I Product :PPF ESA compname
      :PRODID prodid%compname
      has passed requisite checking
VMFINS2603I Installing product :PPF ESA 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
```

This block of messages is repeated for each component.

### 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 237. 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 nolink
```

where *compname* *bldlistname* is:

```
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: This message indicates that the \$PPF file has been serviced.

VMFBLD2185R 2VMVMn40 \$PPF

2VMVMn40 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

## Generate Serviced Uppercase HELP for TSAF and AVS

**0** Enter **0** to have the serviced product parameter files built.

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

**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 2VMVM*n*40 \$ppf a = = *fm-51d* (olddate replace**

2VMVM*n*40 is the component ID displayed in the previous VMFBLD2185R message. *n* is the unique component identifier from the list in substep 1.

*fm-51d* is the file mode of the Software Inventory minidisk (51D).

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

**erase 2VMVM*n*40 \$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 227**, continue with this step. Otherwise, go to “Step 7. Move TSAF, AVS, OSA/SF, or ADSM to SFS” on page 240.

### In this step you will:

- Start the VMSYS, VMSYSU, and VMSYSR file pools

### 1 Access the VM/ESA 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 VMSERVS: The IPL command is verified by the IPL
command processor.
VMSERVn : VM/ESA V2.4.0   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 : VM/ESA V2.4.0   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 : VM/ESA V2.4.0   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
```

## Start the File Pools

```
VMSErVn : DMSWFV1121I 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
  command processor.
VMSErVn : DMSACC724I 19E replaces Y (19E)
VMSErVn : DMSACP723I Y (19E) R/O
VMSErVn : VM/ESA V2.4.0   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 : DMSWFV1117I FILESERV processing begun at hh:mm:ss on dd month yyyy
VMSErVn : DMSWFV1121I 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 : DMSWFV1120I File VMSYSn POOLDEF A1 created or replaced
VMSErVn : DMSWFV1117I 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 ESAV2R30 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 : VM/ESA V2.4.0   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 \_\_\_\_\_

```

DMSOVZ2127W Nothing is mounted                    You may receive message 2127W.
ERROR: RC=4 from EXEC OPENVM UNMOUNT

HCP1FP8392I 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 ADSM to SFS" on page 240.

## Step 7. Move TSAF, AVS, OSA/SF, or ADSM to SFS

If you loaded the TSAF, AVS, OSA/SF, or ADSM 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 241.

**In this step you will:**

- Optionally copy TSAF, AVS, OSA/SF, or ADSM to SFS.

- 1** If you loaded the TSAF, AVS, OSA/SF, or ADSM item and if you want TSAF, AVS, OSA/SF, or ADSM to be placed into SFS, follow substeps 8-12 in Appendix A, “Moving Components to SFS Directories” on page 213.

**When you are finished, return here.**

## 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 4 on page 220.

- 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 220. 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 VM/ESA Version 2 Release 4.0 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.

## Update the Directory

====> **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

### **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 *VM/ESA: Planning and Administration*. A reference copy of the directory format is contained in the *Installation and Service Sample Files* document packaged with the VM/ESA 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
VM/ESA USER DIRECTORY CREATION PROGRAM - V2 R4.0

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**

The default password for MAINT is MAINT.

```
logon maint
:
```

```
VM/ESA V2.4.0   yyyy-mm-dd hh:mm
```

**ENTER**

- 4 If you just finished loading any of the following:

- UCENG Help
- Kanji Help
- German Help
- VM Online Library
- OSA/SF
- ADSM

refer to Chapter 8, “Preinstalled Licensed Products and Features” on page 123. Some of the preinstalled products and features require additional steps to complete the installation process.

**You are completely done with this appendix.**

## Bring the Changed Directory Online

## 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 VM/ESA Version 1 Release 1.1 or a subsequent VM/ESA Release.

- 1** Backup the VM/ESA Version 2 Release 4.0 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 VM/ESA Software Inventory Disk (51D) Migration Panel displays:

## Migrate 51D from Old System

```
*** VM/ESA Software Inventory Disk (51D) Migration ***

Set action code AC to D for Do Not Migrate or to M for Migrate. Action
code I means product is already installed on new 51D and cannot be migrated.

AC Compname      Prodid  Status  Description
-----
M 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 TCPIP          5735FALQ BUILT    TCP/IP LEVEL 310 - TCP/IP FEATURE
(BASE)
I ICKDSF         5684042H BUILT    ICKDSF DEVICE SUPPORT FACILITIES
R16 for CMS

PF1=HELP  PF3/PF12=Quit  PF5=Process  PF8=Forward
```

Figure 28. VM/ESA Software Inventory Disk (51D) Migration Panel

- 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 VM/ESA 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) Figure 28 is only a sample. Your panels will not list the same products, action codes, status, and description shown in Figure 28.

- b** Press **PF5** to process. Depending on the size of your software inventory files, it may take several minutes to process.

**7** MIGR51D updated the VM/ESA Version 2 Release 4.0 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
```

**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 licensed product directories, use the ALL option instead of the SERVICED option on the VMFBLD command for the segment.

For example,

```
vmfbld 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.

This 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.

The records in the SYSTEM NETID file have the following formats:

```
cpuid nodeid netid
```

```
*comment
```

where:

*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.

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 with the CPUID in the SYSTEM NETID file 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)

**This appendix shows** you how you can 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/0  
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 100 and then return here.

- If you receive this message alone:

```
DMSACC723I Y (19E) R/0
```

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 253.

## Enlarging the CMS Nucleus to Contain the Minidisk Directory (Y-STAT)

## Appendix G. Example of Alternate CMS Nucleus Placement

**This appendix demonstrates** how to 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'13FFFFFF'. 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**

logon maint

:

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

vmfsetup esa cms

:

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

The default password for MAINT is MAINT.

Note the file mode of the CMS LOCALMOD minidisk (3C4), the alternate tools disk (493), and the production tools disk (193). 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 *VM/ESA: Service Guide*. An example of this method appears next.

### 3 Create an auxiliary control file for CMSLOAD EXEC.

xedit cmsload aux1c1

You will add your local modifications at the top of the file.

====> input YL0001DS LCL LCL0001 \*UPDATE CMSLOAD EXEC

In this example, **YL0001DS** 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

## Example of Alternate CMS Nucleus Placement

- 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'13FFFFFF'. The code from DMSALP to 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'1000000X'). 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 YLnnnnDS
```

```
DMSXUP180W Missing PTF file CMSLOAD YL0001DS A
```

```
====> set case upper
```

```
====> top
```

```
====> locate /&3 DMSALP/
```

```
====> up 2
```

```
====> change / SLC LF00000 / SLC Ln /
```

```
====> top
```

```
====> locate /&3 DMSPHI/
```

```
====> up 2
```

```
====> change / SLC L1000000 / SLC Ln /
```

```
====> top
```

```
====> locate /&3 DMSOME/
```

```
====> up 2
```

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).

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.



```
====> 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 {esa|uceng} cms (logmod filetype exc10001 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 *VM/ESA: Service Guide*. An example of this method appears next:

**a** Create an auxiliary control file for SAMPNSS.

## Example of Alternate CMS Nucleus Placement

```
xedit sampnss aux1cl
```

You will add your local modifications at the top of the file.

```
====> input YL0001DS LCL LCL0001 *UPDATE SAMPNSS
```

In this example, **YL0001DS** 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  
Ready; T=n.nn/n.nn hh:mm:ss
```

*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
```

You will see these messages only if there are updates for the SAMPNSS file you are editing.

```
DMSXUP180W Missing PTF file SAMPNSS ML0001DS A
```

Your update file cannot be found because you have not created it yet.

```
====> locate /DEFSYS/
```

```
====> change /F00-13FF SR/strtcms-endcms SR/
```

Change the old starting and ending page numbers to the numbers you calculated in step 7 on page 255.

```
====> file = = fm-3c4  
Ready; T=n.nn/n.nn hh:mm:ss
```

File the update file on the CMS LOCALMOD disk (3C4).

### c Invoke the VMFEXUPD command to update SAMPNSS.

```
vmfexupd sampnss exec esa 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 esa cms dmsb1493 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 2vmvma40%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 P, “Build the CMS Nucleus” on page 293 to rebuild the CMS nucleus.

## Example of Alternate CMS Nucleus Placement

## Appendix H. Updating SAMPNSS to Change the CMS System Name

This appendix shows how to 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 *VM/ESA: 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 esa cms
:
Ready; T=n.nn/n.nn hh:mm:ss
```

```
xedit sampnss aux1c1
```

You will add your local modifications at the top of the file.

```
====> input YLnnnnDS LCL LCLnnnn *UPDATE SAMPNSS
```

In this example, **YLnnnnDS** 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
Ready; T=n.nn/n.nn hh:mm:ss
```

*fm-3c4* is the file mode of the CMS LOCALMOD minidisk (3C4).

- 2 Create the update file and apply the updates.

```
xedit sampnss $exec (ctl dmsvm
```

```
DMSXUP178I Applying SAMPNSS VnnnnnDS
```

You will see these messages only if there are updates for the SAMPNSS file you are editing.

```
DMSXUP180W Missing PTF file SAMPNSS YLnnnnDS A
```

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

File the update file on the CMS LOCALMOD disk (3C4).

## Updating SAMPNSS to Change the CMS System Name

- 3 Invoke the VMFEXUPD command to update SAMPNSS.

```
vmfexupd sampnss exec esa 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
```

- 4 Copy the updated SAMPNSS file to the alternate and production TOOLS disks.

```
vmfbld ppf esa cms dmsb1493 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 2vmvma40%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 P, "Build the CMS Nucleus" on page 293 to rebuild the CMS nucleus.

## Appendix I. Changing GCS Nucleus Options

**This appendix describes** how to 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 R, "Build the GCS Nucleus" on page 303 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
logon maint
:
Ready; T=n.nn/n.nn hh:mm:ss
  
```

The default password for MAINT is MAINT.

- 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.**

## Changing GCS Nucleus Options

**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.

```
vmfsetup esa {gcs|gcssfs}
:
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 esa {gcs|gcssfs} tdata :part gctload exc
GCTLOAD EXC00000 BASE-FILETYPE or GCTLOAD EXCnnnnn If BASE-FILETYPE is returned in the system
Ready; T=n.nn/n.nn hh:mm:ss 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 {exec|excnnnnn} * (date
:
Ready; T=n.nn/n.nn hh:mm:ss
copyfile gctload {exec|excnnnnn} fm buildlistname exc10001 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 2vmvml40 vvtlgct fm-6c4 tdata :part buildlistname exc :mod 1c10001
Ready; T=n.nn/n.nn hh:mm:ss
```

**2vmvml40 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).

**1c10001** 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 exc10001 fm-6c4
```

*buildlistname* is the name you chose for the new GCS nucleus build list.

```
====> locate /&3 GCS/
```



====> **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 *builddlistname* 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 2M to 3M and how to move the named saved system from X'400000' to X'800000' within a 16M virtual machine.

**xedit** *builddlistname* **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 exc10001 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
```

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 2VMVML40
:BLD. UPDATE
./INSERT GCTLOAD AFTER
buildlistname VMFBDNUC BUILD7 TXT TXS * Build modified GCS nucleus
./END
:END.
:GCSSFS. GCSSFS 2VMVML40
: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.

## Changing GCS Nucleus Options

```
copyfile gcspff sample fm-6b2 ppfovername $ppf fm-51d
Ready; T=n.nn/n.nn hh:mm:ss
```

Copy the GCSPFF 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 GCSPFF 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 GCSPFF 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 GCSPFF 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|gcssfs}
```

Use **gcs** as the component name if you loaded GCS to minidisks, and **gcssfs** 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 2VMVML40 $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 304.)

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 esa 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.

VM/ESA USER DIRECTORY CREATION
PROGRAM - V2 R4.0
Ready; T=n.nn/n.nn hh:mm:ss
```

## What To Do Next

Refer to Appendix R, "Build the GCS Nucleus" on page 303 to rebuild the GCS nucleus.



## Appendix J. Restoring the VM/ESA System Backup Copy

### In this appendix you will:

- Restore the backup copy of your new VM/ESA 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** Set your virtual machine to XA mode.

```
set machine xa
SYSTEM RESET
SYSTEM = XA
```

**3** Perform an IPL of the tape device.

```
ipl devno clear
```

*devno* is the address of the tape drive.

**4** 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 volid
```

```
ENTER:
```

```
restore all
```

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 3422, 3424, 3430, 3480, 3490, or 9348. If you have a 3420 tape drive, you must specify **3420** in place of **tape**.

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, 9335, or 9336.

The RESTORE ALL statement tells DDRXA to restore the whole tape to the output device.

## Restoring the VM/ESA System Backup Copy

```
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:
:

ENTER:
ENTER
END OF JOB
```

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.

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**

logon maint

⋮

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

The default password for MAINT is MAINT.

### 2 Attach a tape drive to MAINT.

attach devno \*

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

devno is the device address of the tape drive.

### 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

SPXTAPE LOAD INITIATED ON VDEV devno

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

devno is the address you used to define the tape drive.

LOADING devno : nnn FILES, PAGES nnn  
⋮

LOADING devno : nnn FILES, PAGES nnn

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 nnn  
⋮

LOADING devno : nnn FILES, PAGES nnn

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*

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

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.

*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 *VM/ESA: CP Command and Utility Reference*.

- 7** IPL the CMS named saved system.

```
ipl cmsname
:
VM/ESA V2.4.0   yyyy-mm-dd hh:mm
```

**ENTER**

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

*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.

## 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 VM/ESA 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 VM/ESA System DDR on tape drive 181.

```
rewind 181
Rewind complete
Ready; T=n.nn/n.nn hh:mm:ss
```

Position the tape at the beginning.

```
vmfplc2 fsf 1
Ready; T=n.nn/n.nn hh:mm:ss
```

Forward space file past the first tape file.

```
vmfplc2 load minidisk map a
Loading ...
MINIDISK MAP      A1
Ready; T=n.nn/n.nn hh:mm:ss
```

Load the MINIDISK MAP file to your A-disk.

```
xedit minidisk map
:
quit
Ready; T=n.nn/n.nn hh:mm:ss
```

The MINIDISK MAP file lists the minidisks on the VM/ESA 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 VM/ESA System DDR and the same size as the minidisk you want to recover. (See "ITEMMD TABLE" on page 282 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 VM/ESA 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 VM/ESA 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 VM/ESA System DDR. Refer to "MAINT LINKLIST" on page 290 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 290. 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
  n                   _____

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

```

Figure 29. VM/ESA LOAD DEVICE MENU Panel

**8** Complete the VM/ESA 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 **VM/ESA System DDR tape or VM/ESA CD-ROM** on tape drive 181.

**d** Press **PF5** to load.

**PF5**

The load starts with the following system messages:

## Recovering a File or Minidisk

```
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 240xxx
DATA DUMPED  mm/dd/yy at hh.mm.ss GMT FROM 240xxx 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.

**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

You may want to stop the installation procedures and restart them at some later time.

**In this appendix you will:**

- Stop an installation procedure and restart the procedure.

Each of the three installation procedures is divided into chapters consisting of steps. You can interrupt a procedure at the end of any chapter.

### Procedure 1 and Procedure 3

1. Shutdown your VM/ESA Version 2 Release 4.0 system.

### Procedure 2

1. Shutdown your VM/ESA Version 2 Release 4.0 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 and Procedure 3

1. IPL and do a Force Drain Noautolog of the VM/ESA Version 2 Release 4.0 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 VM/ESA Version 2 Release 4.0 system.
  - e. Disconnect from the OPERATOR user ID and log on to the MAINT user ID.
  - f. Spool the console.

## Stopping or Restarting the Installation Procedure

- 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 VM/ESA Version 2 Release 4.0 system.
  - b. Disconnect from the OPERATOR user ID and log on to the MAINT user ID.
  - c. Spool the console.
  - d. Attach tape drives (if needed).
  - e. Resume at the chapter where you left off.



## Appendix N. Special Hardware Considerations

Following is a list of patches that are required to support the VM/ESA 370 Accommodation Facility. Customers should have their local IBM software support check their machine to ensure the patches are installed. If the patches have not been installed, IBM software support should open a hardware PMH and request the appropriate patches for their machines.

<i>Table 16. VM/ESA 370 Accommodation Facility Patches</i>			
<b>Machine</b>	<b>SEC</b>	<b>Patch #</b>	<b>Tip #</b>
3090™ Model S	227570	CPHH0161* CPHI0135*	H126269
3090 Model J	227578	CPHH0162*	H126269
9021 340 Based Processors	229914	CPHI0137* CPHF0042* CPHH0163*	H126945
9121 320 Based Processors	C35674 C35682 C35686	CPHI0136*	H126270
9121 511 Based Processors	C35945	CPHI0134	H126270
	C35954	CPHI0133	H126270
* Patches are in "Special" status. They must be transmitted manually.			



---

## **Appendix O. ITEMMD TABLE and MAINT LINKLIST**

This appendix contains ITEMMD TABLE and MAINT LINKLIST you use during the planning and installing of your VM/ESA system.

# ITEMMD TABLE

## ITEMMD TABLE

```

*****
* USERID  VADDR ALIAS 3380 9345 3390 FBA  MODE RPW      WPW      MPW
*****
:BASE.
MAINT    2D2  2D2  125  125  105  150000 MR READ      WRITE  MULTIPLE
MAINT    3B2  3B2  157  157  131  188400 MR ALL      WRITE  MULTIPLE
MAINT    194  194  120  120  100  144000 MR ALL      WRITE  MULTIPLE
MAINT    193  193  160  160  133  192000 MR ALL      WRITE  MULTIPLE
MAINT    493  493  160  160  133  192000 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  080  080  067  096000 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

```

## ITEMMD TABLE

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	015	015	013	018000	MR	READ	WRITE	MULTIPLE
P684042H	29D	828	002	002	002	002400	MR	READ	WRITE	MULTIPLE
P684042H	29E	829	015	015	013	018000	MR	READ	WRITE	MULTIPLE
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
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	034	034	029	040800	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
P735FALT	191	865	020	020	017	024000	MR	RP735FAL	WP735FAL	MP735FAL
P735FALT	2C4	866	005	005	005	006000	MR	RP735FAL	WP735FAL	MP735FAL
P735FALT	2C2	867	019	019	016	022800	MR	RP735FAL	WP735FAL	MP735FAL
P735FALT	2D2	868	060	060	050	072000	MR	RP735FAL	WP735FAL	MP735FAL
P735FALT	2A6	869	006	006	005	007200	MR	RP735FAL	WP735FAL	MP735FAL
P735FALT	2A2	86A	006	006	005	007200	MR	RP735FAL	WP735FAL	MP735FAL
P735FALT	491	86B	034	034	029	040800	MR	RP735FAL	WP735FAL	MP735FAL
P735FALT	492	86C	080	080	067	096000	MR	RP735FAL	WP735FAL	MP735FAL
P735FALT	395	86D	002	002	002	002400	MR	RP735FAL	WP735FAL	MP735FAL
P735FALT	2B2	86E	074	074	062	088800	MR	RP735FAL	WP735FAL	MP735FAL
P735FALT	2B3	86F	002	002	002	002400	MR	RP735FAL	WP735FAL	MP735FAL
TCPIP	191	870	005	005	005	006000	MR	RTCPPIP	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
FTPSEVE	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
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
NCS	191	87B	002	002	002	002400	MR	RNCS	WNCS	MNCS

# ITEMMD TABLE

NCS	195	87C	002	002	002	002400	MR	RNCS	WNCS	MNCS
NCSLLBD	191	87D	002	002	002	002400	MR	RNCSLLBD	WNCSLLBD	MNCSLLBD
NCSGLBD	191	87E	002	002	002	002400	MR	RNCSGLBD	WNCSGLBD	MNCSGLBD
ROUTED	191	87F	002	002	002	002400	MR	RROUTED	WROUTED	MROUTED
LPSERVE	191	880	002	002	002	002400	MR	RLPSERVE	WLPERVE	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
RSCSDNS	191	831	001	001	001	001200	MR	READ	WRITE	MULTIPLE
UFTD	191	832	002	002	002	002400	MR	RUFTD	WUFTD	MUFTD

:EBASE.

\*

:GCS.

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	034	034	029	040800	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
P735FALT	191	865	020	020	017	024000	MR	RP735FAL	WP735FAL	MP735FAL
P735FALT	2C4	866	005	005	005	006000	MR	RP735FAL	WP735FAL	MP735FAL
P735FALT	2C2	867	019	019	016	022800	MR	RP735FAL	WP735FAL	MP735FAL
P735FALT	2D2	868	060	060	050	072000	MR	RP735FAL	WP735FAL	MP735FAL
P735FALT	2A6	869	006	006	005	007200	MR	RP735FAL	WP735FAL	MP735FAL
P735FALT	2A2	86A	006	006	005	007200	MR	RP735FAL	WP735FAL	MP735FAL
P735FALT	491	86B	034	034	029	040800	MR	RP735FAL	WP735FAL	MP735FAL
P735FALT	492	86C	080	080	067	096000	MR	RP735FAL	WP735FAL	MP735FAL
P735FALT	395	86D	002	002	002	002400	MR	RP735FAL	WP735FAL	MP735FAL
P735FALT	2B2	86E	074	074	062	088800	MR	RP735FAL	WP735FAL	MP735FAL

P735FALT	2B3	86F	002	002	002	002400	MR	RP735FAL	WP735FAL	MP735FAL
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
FTPSEVE	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
NCS	191	87B	002	002	002	002400	MR	RNCS	WNCS	MNCS
NCS	195	87C	002	002	002	002400	MR	RNCS	WNCS	MNCS
NCSLLBD	191	87D	002	002	002	002400	MR	RNCSLLBD	WNCSLLBD	MNCSLLBD
NCSGLBD	191	87E	002	002	002	002400	MR	RNCSGLBD	WNCSGLBD	MNCSGLBD
ROUTED	191	87F	002	002	002	002400	MR	RROUTED	WROUTED	MROUTED
LPSERVE	191	880	002	002	002	002400	MR	RLPSERVE	WLPERVE	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
:ETCP_IP.										
*										
: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	157	157	131	188400	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.										
*										
:CP_DV.										
MAINT	194	194	120	120	100	144000	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

# ITEMMD TABLE

```

    MAINT  5E6  5E6  010  010  009  012000 MR READ  WRITE  MULTIPLE
:EVMSSES.
*
:SYSTOOLS.
    MAINT  193  193  160  160  133  192000 MR ALL  WRITE  MULTIPLE
    MAINT  493  493  160  160  133  192000 MR ALL  WRITE  MULTIPLE
:ESYSTOOLS.
*
:SYSTEM.
    MAINT  19D  19D  108  108  102  129600 MR ALL  WRITE  MULTIPLE
    MAINT  19E  19E  080  080  067  096000 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  WDVF  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  015  015  013  018000 MR READ  WRITE  MULTIPLE
    P684042H 29D  828  002  002  002  002400 MR READ  WRITE  MULTIPLE
    P684042H 29E  829  015  015  013  018000 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
: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 394 394 220 220 184 264000 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
:EVMSSES_SOURCE.
*
:VMSES_NOSOURCE.
  MAINT 5B4 5B4 001 001 001 001200 MR READ WRITE MULTIPLE
:EVMSSES_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 405 405 108 108 102 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
  VMSERVR 191 806 002 002 002 002400 MR RSERVER WSERVER
  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 305 815 100 100 084 120000 WR RDATA WDATA
  VMSERVS 306 834 100 100 084 120000 WR RDATA WDATA
  VMSERVS 307 835 100 100 084 120000 WR RDATA WDATA
  VMSERVS 308 836 100 100 084 120000 WR RDATA WDATA
  VMSERVS 309 837 100 100 084 120000 WR RDATA WDATA
  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
  VMSERVR 301 81C 002 002 002 002400 WR RCONTROL WCONTROL
  VMSERVR 302 81B 001 001 001 001200 WR RLOG1 WLOG1
  VMSERVR 303 81D 001 001 001 001200 WR RLOG2 WLOG2
  VMSERVR 304 81E 002 002 002 002400 WR RCATALOG WCATALOG
  VMSERVR 305 81F 001 001 001 001200 WR RDATA WDATA

```

## ITEMMD TABLE

```

VMSERV 306 820 002 002 002 002400 WR RCRRLOG1 WCRRLOG1
VMSERV 307 821 002 002 002 002400 WR RCRRLOG2 WCRRLOG2
:EFILEPOOL.
*
:SMALL_FILEPOOL.
VMSERVS 191 804 003 003 003 003600 MR RSERVER WSERVER
VMSERVU 191 805 003 003 003 003600 MR RSERVER WSERVER
VMSERV 191 806 002 002 002 002400 MR RSERVER WSERVER
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 305 815 100 100 084 120000 WR RDATA WDATA
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
VMSERV 301 81C 002 002 002 002400 WR RCONTROL WCONTROL
VMSERV 302 81B 001 001 001 001200 WR RLOG1 WLOG1
VMSERV 303 81D 001 001 001 001200 WR RLOG2 WLOG2
VMSERV 304 81E 002 002 002 002400 WR RCATALOG WCATALOG
VMSERV 305 81F 001 001 001 001200 WR RDATA WDATA
VMSERV 306 820 002 002 002 002400 WR RCRRLOG1 WCRRLOG1
VMSERV 307 821 002 002 002 002400 WR RCRRLOG2 WCRRLOG2
:ESMALL_FILEPOOL.
*
:VMSERV.
VMSERV 191 806 002 002 002 002400 MR RSERVER WSERVER
VMSERV 301 81C 002 002 002 002400 WR RCONTROL WCONTROL
VMSERV 302 81B 001 001 001 001200 WR RLOG1 WLOG1
VMSERV 303 81D 001 001 001 001200 WR RLOG2 WLOG2
VMSERV 304 81E 002 002 002 002400 WR RCATALOG WCATALOG
VMSERV 305 81F 001 001 001 001200 WR RDATA WDATA
VMSERV 306 820 002 002 002 002400 WR RCRRLOG1 WCRRLOG1
VMSERV 307 821 002 002 002 002400 WR RCRRLOG2 WCRRLOG2
:EVMSERV.
*
:VMSERVS.
VMSERVS 191 804 003 003 003 003600 MR RSERVER WSERVER
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 305 815 100 100 084 120000 WR RDATA WDATA
VMSERVS 306 834 100 100 084 120000 WR RDATA WDATA
VMSERVS 307 835 100 100 084 120000 WR RDATA WDATA
VMSERVS 308 836 100 100 084 120000 WR RDATA WDATA
VMSERVS 309 837 100 100 084 120000 WR RDATA WDATA
:EVMSERVS.
*
:VMSERVU.
VMSERVU 191 805 003 003 003 003600 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	
:EVMSERVU.										
*										
:TSAF_AVS.										
TSAFVM	191	803	002	002	002	002400	MR	RTSAFOBJ	WTSAFOBJ	MTSAFOBJ
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.										
*										
:VM_ONLINE_LIBRARY.										
MAINT	409	409	220	220	184	264000	MR	ALL	WRITE	MULTIPLE
:EVM_ONLINE_LIBRARY.										
*										
: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	192	192	160	230400	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	006	006	005	007200	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
OSAMAINT	191	839	012	012	010	014400	MR	ALL	WRITE	MULTIPLE
OSAMAINT	7F00	84C	006	006	005	007200	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.										
:ADSM.										
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
:EADSM.										

---

**MAINT LINKLIST**

USERID	MINIDISK	Linked By MAINT as
-----	-----	-----
ADMSERV	191	884
AUTOLOG1	191	80A
AVSVM	191	802
BOOTPD	191	885
CMSBATCH	195	801
DHCPD	191	887
DISKACNT	191	80B
EREP	191	809
FTPSERVE	191	871
GCS	191	807
GCSXA	191	808
LGLOPR	191	810
LPSERVE	191	880
NAMESRV	191	873
NCS	191	87B
NCS	195	87C
NCSGLBD	191	87E
NCSLLBD	191	87D
NDBPMGR	191	877
NDBSRV01	191	878
OPERATNS	191	80F
OPERATOR	191	80D
OPERSYMP	191	80C
OP1	191	80E
PORTMAP	191	876
P684042H	191	822
P684042H	2A2	823
P684042H	2A6	824
P684042H	2B2	825
P684042H	2C2	826
P684042H	2D2	827
P684042H	29D	828
P684042H	29E	829
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
P688198H	191	82A
P688198H	2A2	82B
P688198H	2A6	82C
P688198H	2B2	82D
P688198H	2C2	82E
P688198H	2D2	82F
P688198H	29E	830

P735FALT	191	865
P735FALT	2C4	866
P735FALT	2C2	867
P735FALT	2D2	868
P735FALT	2A6	869
P735FALT	2A2	86A
P735FALT	491	86B
P735FALT	492	86C
P735FALT	395	86D
P735FALT	2B2	86E
P735FALT	2B3	86F
REXECD	191	874
ROUTED	191	87F
RSCSDNS	191	831
SMTP	191	872
SNALNKA	191	881
SNMPD	191	87A
SNMPQE	191	879
TCPIP	191	870
TCPMAINT	591	861
TCPMAINT	592	862
TCPMAINT	198	863
TCPMAINT	191	864
TFTPD	191	886
TSAFVM	191	803
UFTD	191	832
VMKERB	191	883
VMNFS	191	882
XCHANGE	5BF	860
X25IPI	191	875

\*

RSCS SOURCE:  
P684096K 2B3 85D

RSCS GERMAN HELP:  
P684096K 505 85F

RSCS KANJI HELP:  
P684096K 501 85E

FILEPOOL:  
VMSERV 191 806  
VMSERV 301 81C  
VMSERV 302 81B  
VMSERV 303 81D  
VMSERV 304 81E  
VMSERV 305 81F  
VMSERV 306 820  
VMSERV 307 821  
VMSERVS 191 804  
VMSERVS 301 812  
VMSERVS 302 811  
VMSERVS 303 813  
VMSERVS 304 814  
VMSERVS 305 815  
VMSERVS 306 834

## MAINT LINKLIST

VMSERVS	307	835
VMSERVS	308	836
VMSERVS	309	837
VMSERVU	191	805
VMSERVU	301	817
VMSERVU	302	816
VMSERVU	303	818
VMSERVU	304	819
VMSERVU	305	81A

### OSA/SF:

2VMMV20	2B2	840
2VMMV20	2C2	841
2VMMV20	2D2	842
2VMMV20	2A6	843
2VMMV20	2A2	844
2VMMV20	100	845
2VMMV20	300	846
2VMMV20	7F00	847
2VMMV20	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

### ADSM:

5654A09A	191	838
5654A09A	2B2	83A
5654A09A	2D2	83B
5654A09A	2A6	83C
5654A09A	2A2	83D
5654A09A	491	83E
5654A09A	4E2	83F

## Appendix P. Build the CMS Nucleus

### Step 1. Rebuild the CMS Nucleus

#### In this step 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 *VM/ESA: 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.

```
vmfbld ppf {esa|uceng|ger|kanji} 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 **esa** 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 2VMVMA40 $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 {esa|uceng|ger|kanji} cms
Ready; T=n.nn/n.nn hh:mm:ss
copyfile 2vmvma40 $ppf a = = fm-51d (olddate replace
Ready; T=n.nn/n.nn hh:mm:ss
erase 2vmvma40 $ppf a
Ready; T=n.nn/n.nn hh:mm:ss
vmfsetup {esa|uceng|ger|kanji} cms
:
Ready; T=n.nn/n.nn hh:mm:ss
vmfbld ppf {esa|uceng|ger|kanji} 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 ESA 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 H R/W 3A4 MNT3A4
VMFUTL2205I I 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)
```

```
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) VMFBNUC 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
```

- 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
0000001 FILE CHANGED                               substep 3.
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
```

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.

## Rebuild the CMS 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 298 and 18 on page 298.

VM/ESA V2.4.0    *yyyy-mm-dd hh:mm*

This is the default version identification. If you defined your own version identification, it appears here and each time that you IPL 490.

**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*

Press **Enter** to complete CMS initialization.

### 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 295.

### 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

VM/ESA V2.4.0    *yyyy-mm-dd hh:mm*

**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.

**ENTER**

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

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.

```
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
====> locate /UNRESOLVED/

DMSXDC546E Target not found
====> quit
Ready; T=n.nn/n.nn hh:mm:ss
```

*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.

**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
ENTER:
copy all
COPYING  MNT490
  :
END OF COPY
ENTER:
ENTER
END OF JOB
Ready; T=n.nn/n.nn hh:mm:ss
```

## Rebuild the CMS Nucleus

- 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
DMSACP725I 190 also = S disk
Ready; T=n.nn/n.nn hh:mm:ss
```

Access the 190 minidisk in read/write mode.

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

Load 190 with the option to save the system under the name *cmsname*.

```
VM/ESA V2.4.0   yyyy-mm-dd hh:mm
```

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

```
ENTER
```

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

Press **Enter** to complete CMS initialization.

---

## Appendix Q. Build the CP Nucleus

---

### Step 1. Rebuild the CP Nucleus

**In this step you will:**

- Rebuild the CP nucleus.

Use this procedure for rebuilding the CP nucleus during initial installation only. To rebuild the CP nucleus any other time, see the steps on servicing CP and rebuilding CP in the *VM/ESA: Service Guide*.

- 1** Enter the VMFBLD command to build the CP nucleus.

```
vmfbl d ppf {esa|uceng|ger|kanji} cp cpload (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 **esa** for mixed case English (AMENG), **uceng** for uppercase English (UCENG), **ger** for German, or **kanji** for Japanese.

The nucleus module is built to disk instead of a reader file.

---

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 2VMVMB40 $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 CP Nucleus

```
vmfppf {esa|uceng|ger|kanji} cp
Ready; T=n.nn/n.nn hh:mm:ss
copyfile 2VMVMB40 $ppf a = = fm-51d (olddate replace
Ready; T=n.nn/n.nn hh:mm:ss
erase 2VMVMB40 $ppf a
Ready; T=n.nn/n.nn hh:mm:ss
vmfsetup {esa|uceng|ger|kanji} cp
:
Ready; T=n.nn/n.nn hh:mm:ss
vmfbld ppf {esa|uceng|ger|kanji} cp cpload (all setup
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 ESA 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 H R/W 2A4 MNT2A4
VMFUTL2205I I 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 CLOAD {EXEC|EXCnnnn} 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
```

The MAPSTRT CSECT is being loaded and is larger than 4096 bytes. This is normal.

VMFBLD1851I (1 of 1) VMFBNUC completed  
with return code 0

This build processing creates a CP loadmap on your  
493 disk with a file identifier of CPLOAD 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*

**2** If you are generating a CP nucleus with a preferred virtual machine refer to *VM/ESA: Planning and Administration* to determine how to set up your IPL parameters for SALIPL.

**3** The CPLOAD MAP file was created on your 493 disk. If you wish, you can now print a copy of the CP load map.

**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 cpload map e**

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

DMSXDC546E Target not found

====> **quit**

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

This response means that no unresolved symbols  
were found.

**access 193 f**

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

**copyfile cpload map e = = f (olddate replace**

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

**5** Copy the CP nucleus to the primary parm disk.

**query cpdisk**

Label	Userid	Vdev	Mode	Stat	Vol-ID	Rdev	Type	StartLoc	EndLoc
MNTCF1	MAINT	0CF1	A	R/O	240RES	nnnn	nnnn	nn	nn
MNTCF2	MAINT	0CF2	B	R/O	240RES	nnnn	nnnn	nn	nn

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.

## Rebuild the CP Nucleus

```
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
```

### 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 R. 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 261.
- 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 esa {gcs|gcssf}
```

**The following console is for VMFSETUP ESA 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.

##### 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 *VM/ESA: 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 261.

Refer to Table 17 on page 305 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 17. Function Keys Used With the GROUP Panels

Key	Function	Explanation
<b>PF1</b>	HELP	Shows information about the panel you are looking at.
<b>PF2</b>	CLEAR/MORE	Clears the input areas where you enter information. <ul style="list-style-type: none"> <li>On panels where multiple values are accepted, pressing <b>PF2</b> gives you an additional screen that lets you enter more values.</li> <li>Information from the previous panel does not need to be saved until you are ready to exit that panel's function.</li> </ul>
<b>PF3</b>	END/RETURN	Leaves the present panel and returns you to a previous one. <ul style="list-style-type: none"> <li>If you press <b>PF3</b> on the Primary Option Menu, you return to CMS.</li> <li>If you press <b>PF3</b> on any other screen, you return to the Primary Option Menu.</li> </ul>
<b>PF4</b>	Not Used	
<b>PF5</b>	REFRESH	Fills in the panel's input areas with the values you last saved there.
<b>PF6</b>	SAVE	Saves information you've entered on the panel or panels (for the configuration file <i>systemname</i> GROUP).
<b>PF7</b>	PREVIOUS	Returns to the previous panel, if there is one.
<b>PF8</b>	NEXT	Moves ahead to the next panel, if there is one.
<b>PF9</b>	VERIFY	This PF key validates the user IDs or the saved segments entered on the panel.
<b>PF10</b>	VEROVER	Checks to see if segments you have entered on the panel overlap each other.
<b>PF11</b>	Not Used	
<b>PF12</b>	CURSOR	Moves the cursor to the panel's command line.
<b>Enter</b>	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.

```
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
=====>
```

Figure 30. GROUP Primary Option Menu Panel. Check the system name and select the next panel you want to display.

```

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
=====>

```

Figure 31. GROUP Authorized VM User IDs Panel. Enter the user IDs of the virtual machines allowed to use GCS functions.

```

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

====>

```

Figure 32. Saved System Information Panel, Page 1. Enter information about the saved system for the GCS nucleus.

**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 261.

```

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  RETURN  4  ...    5  REFRESH  6  SAVE
PF: 7  PREVIOUS 8  ...      9  ...    10 ...    11 ...    12  CURSOR

====>

```

Figure 33. GROUP Saved System Information Panel, Page 2. Enter additional information about the saved system.

**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.

```
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

====>
```

Figure 34. GROUP Automatic Saved Segment Links Panel. Enter the names of the saved segments to be automatically linked when the saved system is IPLed.



```

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    4  ...      5  REFRESH  6  SAVE
PF: 7  PREVIOUS  8  NEXT      9  VERIFY   10 ...     11  ...     12  CURSOR

====>

```

Figure 35. GROUP User IDs Requiring Reserved Storage for VSAM Panel. Enter the user IDs that require reserved storage for VSAM.

## 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 esa {gcs|gcssfs} (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 **gcssfs** operand if you moved GCS to SFS directories.

```
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
```

These system messages will vary depending upon the assembler used.

**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 on page 311 and 6 on page 311 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 *VM/ESA: Service Guide*.

- 1 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

- 2 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 263 . 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

Issue the DEFINE command **only** if you have less than 20MB of storage.

#### ipl 190 clear

**Clear** is necessary. Do not omit it.

VM/ESA V2.4.0    yyyy-mm-dd hh:mm

**ENTER**

Press **Enter** to complete CMS initialization.

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

- 3 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:*

<b>esa</b>	To build GCS in mixed-case English (AMENG)
<b>uceng</b>	To build GCS in uppercase English (UCENG)
<i>ppfovername</i>	The PPF name created in Appendix I, "Changing GCS Nucleus Options" on page 261.

*compname:*

<b>gcs</b>	GCS is loaded on minidisks
<b>gcssf</b>	GCS was moved to SFS directories.

*builddlistname:*

<b>gctload</b>	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 261.

---

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 2VMVML40 \$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** 2vmvm140 \$ppf a = = fm-51d (olddate replace

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

**erase** 2vmvm140 \$ppf a

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

**vmfsetup** *ppfname compname*

:

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

**vmfbld** **ppf** *ppfname compname builddlistname* (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 comprname
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)
RDR FILE fileno SENT FROM MAINT PUN WAS fileno The GCS nucleus has been sent to MAINT's virtual
RECS nnnn CPY 001 A NOHOLD NOKEEP 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

```

- 4 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 .**

## Rebuild and Save the GCS Nucleus

**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
```

- 5** 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
```

- 6** 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
```

- 7** 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*

```
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).

**ipl 190 clear**

**Clear** is necessary. Do not omit it.

```
VM/ESA V2.4.0 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
0000001 FILE PURGED
Ready; T=n.nn/n.nn hh:mm:ss
```

*fileno* is the file number of the GCS nucleus identified in substep 4 on page 315.

- 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 316. 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).

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

This response means that no unresolved symbols were found.

- 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
```

- 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).

## Rebuild and Save the GCS Nucleus

**release e**

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

**release f**

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



---

**Part 6. Glossary, Bibliography, and Index**



---

## Glossary

The list of VM/ESA terms and their definitions is available through the online VM/ESA 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 *VM/ESA: CMS User's Guide*. For more information about the HELP command, see the *VM/ESA: 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/ESA 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.** (1) the address (800-series) of a minidisk owned by another user ID and linked for installation purposes by the MAINT user ID. (2) 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.** (1) A unit of DASD space on FB-512 devices. For example, FB-512 devices can be the IBM 9335, 9332, 9313, 3370, and 3310 DASD using fixed-block architecture. (2) 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 (*blidid*) 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/ESA 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/ESA 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.** (1) In the context of SFS, to change a resource (such as a file) permanently. (2) 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/ESA.

**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.** (1) 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. (2) 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/ESA 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 prerequisites 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.** (1) Area allocated to DASD units on CKD devices. (2) 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.** (1) A flag that separates and organizes items of data. Synonymous with *separator*. (2) 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 SYSDSCT and the file type of the service level inventory table is SRVDSCT.

**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 discontinuous saved segment that can be accessed by only one virtual machine at a time.

**exec procedure.** (1) 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. (2) 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 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/ESA, 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.** (1) In VMSES/E, a prerequisite to a PTF that supplies a change required by the PTF. (2) 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. (3) 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/ESA system and its installed software products.

## I

**I/O.** Input/output.

**if-requisite.** (1) At the system-level, a requisite of an optional product. (2) 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 VM/ESA system included in the VM/ESA System DDR and used by all procedures to install the rest of the VM/ESA 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).** (1) A device whose parts can do an input process and an output process at the same time. (2) 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 VM/ESA 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 (9335, 9336) DASD (does not include 3390-9).

**installation-wide exit.** An interface to VM/ESA that a system programmer can use to enhance or extend the functions of a VM/ESA 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/ESA.

**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.** (1) 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. (2) To show relationships between objects.

**MB.** Megabyte.

**MDISK.** (1) Another name for minidisk. (2) 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/ESA directory entry as belonging to a user.

**minidisk directory.** Synonym for *CMS minidisk file directory*.

**module.** (1) 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. (2) 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.** (1) 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 VM/ESA are: minidisks, spool files, named saved segments, and virtual storage. Contrast with *subject*. (2) In VMSES/E, a usable form defined in build lists. (3) 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. (4) 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 VM/ESA System DDR, or on a VM/ESA 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.** (1) A change that must be applied to the system before another change can be applied. (2) In VMSES/E, at the system level, a product that must be installed before another product can be installed. (3) 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/ESA system and can enable and disable teleprocessing lines, lock and unlock pages, force users off the VM/ESA system, issue warning messages, query, and set (and reset) performance options for selected virtual machines, and invoke VM/ESA 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/ESA 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.** (1) A systematic sequence of operations to produce a specified result. A process is usually logical, not physical. (2) 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.** (1) 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. (2) To load service files from a service tape. (3) 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 VM/ESA order. The RSU has recommended service and will be installed during the VM/ESA 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.** (1) 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. (2) 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.** (1) An architected segment or saved segment. (2) 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.** (1) 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. (2) 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).** (1) (Noun) An area of auxiliary storage defined to temporarily hold data during its transfer between peripheral equipment and the processor. (2) (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 *VM/ESA 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/ESA 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 240RES 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 VMSES/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 VMSES/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/ESA. 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.** (1) 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*. (2) See also *serviceable part, base file type*.

**usable form product parameter file.** In VMSES/E, a product parameter file produced by applying all override product parameter files to a source product parameter file, and used by most VMSES/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/ESA 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.** (1) At the system-level, special instructions for installing a product, and (2) 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 *VVTIvlid*. The *Ivlid* 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/ESA 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 VM/ESA, virtual machines can simulate the System/370, 370-XA, ESA/370, and ESA/390 functions. In addition, on ESA/390 systems, the XC virtual machine architecture is available. 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*.

**VM/ESA 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.** (1) The result of an IPL that does not erase previous system data. (2) The automatic reinitialization of the VM/ESA control program that occurs if the control program cannot continue processing. Closed spool files and the VM/ESA

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.** (1) 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. (2) 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.

## 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.



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## Bibliography

This bibliography lists the publications that provide information about your VM/ESA system. The VM/ESA library includes VM/ESA base publications, publications for additional facilities included with VM/ESA, and publications for VM/ESA optional features.

VM/ESA publications may be available as Adobe Portable Document Format (PDF) files, IBM BookManager® files, or printed books. For abstracts of VM/ESA publications and other library-related information, including current editions and available publication formats, see *VM/ESA: General Information*.

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### VM/ESA Base Publications

#### Evaluation

*VM/ESA: Licensed Program Specifications*, GC24-5744

*VM/ESA: General Information*, GC24-5745

#### Installation and Service

*VM/ESA: Installation Guide*, GC24-5836

*VM/ESA: Service Guide*, GC24-5838

*VM/ESA: VMSES/E Introduction and Reference*, GC24-5837

#### Planning and Administration

*VM/ESA: Planning and Administration*, SC24-5750

*VM/ESA: CMS File Pool Planning, Administration, and Operation*, SC24-5751

*VM/ESA: Conversion Guide and Notebook*, GC24-5839

*VM/ESA: REXX/EXEC Migration Tool for VM/ESA*, GC24-5752

*VM/ESA: Running Guest Operating Systems*, SC24-5755

*VM/ESA: Connectivity Planning, Administration, and Operation*, SC24-5756

*VM/ESA: Group Control System*, SC24-5757

*VM/ESA: Performance*, SC24-5782

#### Customization

*IBM VM/ESA: CP Exit Customization*, SC24-5672

#### Operation

*VM/ESA: System Operation*, SC24-5758

*VM/ESA: Virtual Machine Operation*, SC24-5759

#### Application Programming

*VM/ESA: CP Programming Services*, SC24-5760

*VM/ESA: CMS Application Development Guide*, SC24-5761

*VM/ESA: CMS Application Development Reference*, SC24-5762

*VM/ESA: CMS Application Development Guide for Assembler*, SC24-5763

*VM/ESA: CMS Application Development Reference for Assembler*, SC24-5764

*VM/ESA: CMS Application Multitasking*, SC24-5766

*VM/ESA: REXX/VM Primer*, SC24-5598

*VM/ESA: REXX/VM User's Guide*, SC24-5465

*VM/ESA: REXX/VM Reference*, SC24-5770

*IBM VM/ESA: Distributed Graphical User Interface Toolkit*, SC24-5724

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*Common Programming Interface Communications Reference*, SC26-4399

*Common Programming Interface Resource Recovery Reference*, SC31-6821

*External Security Interface (RACROUTE) Macro Reference for MVS and VM*, GC28-1366

#### End Use

*VM/ESA: CP Command and Utility Reference*, SC24-5773

*VM/ESA: CMS Primer*, SC24-5458

*VM/ESA: CMS User's Guide*, SC24-5775

*VM/ESA: CMS Command Reference*, SC24-5776

IBM VM/ESA: Graphical User Interface Facility, SC24-5789

VM/ESA: CMS Pipelines User's Guide, SC24-5777

VM/ESA: CMS Pipelines Reference, SC24-5778

CMS/TSO Pipelines: Author's Edition, SL26-0018

VM/ESA: XEDIT User's Guide, SC24-5779

VM/ESA: XEDIT Command and Macro Reference, SC24-5780

VM/ESA: Quick Reference, SX24-5290

## Diagnosis

VM/ESA: System Messages and Codes, GC24-5841

VM/ESA: Dump Viewing Facility, GC24-5853

VM/ESA: Diagnosis Guide, GC24-5854

VM/ESA: CP Diagnosis Reference, SC24-5855

VM/ESA: CP Diagnosis Reference Summary, SX24-5292

VM/ESA: CMS Diagnosis Reference, SC24-5857

**Note:** CP and CMS control block information is not provided in book form. This information is available on the IBM VM/ESA operating system home page (<http://www.ibm.com/s390/vm>).

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## Publications for Additional Facilities

### OpenEdition® for VM/ESA

IBM OpenEdition for VM/ESA: POSIX Conformance Document, GC24-5842

IBM OpenEdition for VM/ESA: User's Guide, SC24-5727

IBM OpenEdition for VM/ESA: Command Reference, SC24-5728

IBM OpenEdition for VM/ESA: Advanced Application Programming Tools, SC24-5729

IBM OpenEdition for VM/ESA: Callable Services Reference, SC24-5726

IBM OpenEdition for VM/ESA: Sockets Reference, SC24-5741

IBM C for VM/ESA: Library Reference, SC23-3908

Debug Tool User's Guide and Reference, SC09-2137

## 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

## S/390® Open Systems Adapter Support Facility for VM/ESA

Planning for the System/390 Open Systems Adapter Feature, GC23-3870

IBM VM/ESA: Open Systems Adapter Support Facility User's Guide, SC28-1992

## 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

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## Publications for Optional Features

### CMS Utilities Feature

VM/ESA: CMS Utilities Feature, SC24-5535

### TCP/IP Feature for VM/ESA

VM/ESA: TCP/IP Function Level 320 Planning and Customization, SC24-5847



*VM/ESA: TCP/IP Function Level 320 User's Guide*, SC24-5848

*VM/ESA: TCP/IP Function Level 320 Programmer's Reference*, SC24-5849

*VM/ESA: TCP/IP Function Level 320 Messages and Codes*, GC24-5850

*VM/ESA: TCP/IP Function Level 320 Diagnosis Guide*, GC24-5851

## **OpenEdition Distributed Computing Environment Feature for VM/ESA**

*IBM OpenEdition DCE for VM/ESA: Introducing the OpenEdition Distributed Computing Environment*, SC24-5735

*IBM OpenEdition DCE for VM/ESA: Planning*, SC24-5737

*IBM OpenEdition DCE for VM/ESA: Configuring and Getting Started*, SC24-5734

*IBM OpenEdition DCE for VM/ESA: Administration Guide*, SC24-5730

*IBM OpenEdition DCE for VM/ESA: Administration Reference*, SC24-5731

*IBM OpenEdition DCE for VM/ESA: Application Development Guide*, SC24-5732

*IBM OpenEdition DCE for VM/ESA: Application Development Reference*, SC24-5733

*IBM OpenEdition DCE for VM/ESA: User's Guide*, SC24-5738

*IBM OpenEdition DCE for VM/ESA: Messages and Codes*, SC24-5736

## **LAN File Services/ESA**

*Discovering LAN File Services/ESA*, GK2T-5762

*Introducing LAN File Services/ESA*, GH24-5259

*LAN File Services/ESA: Licensed Program Specifications*, GH24-5260

*LAN File Services/ESA: VM Guide and Reference*, SH24-5264

## **LAN Resource Extension and Services/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

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## **CD-ROM**

The following CD-ROM contains PDF versions of many VM/ESA publications and publications for some related IBM licensed programs. It also 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/ESA.

*IBM Online Library Omnibus Edition: VM Collection*, SK2T-2067

**Note:** Only unlicensed publications are included.



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# Index

## Numerics

- 240RES pack**
  - initializing 36
- 240W01 pack**
  - initializing 36
- 240W02 pack**
  - initializing 36

## A

- abbreviations and variables, common** 4
- adding a work disk** 217
- alternate CMS nucleus placement** 253

## B

- backing up**
  - CMS 105
  - CP 107
  - named saved systems 105
  - saved systems 105
- BFS (Byte File System)**
  - defining root directories 120
  - dependencies on 14
- building**
  - CMS nucleus 293
  - CP nucleus 299
  - GCS nucleus 303
- Byte File System (BFS)**
  - See BFS (Byte File System)

## C

- CD-ROM**
  - definition 4
  - layout of VM/ESA System DDR 8
- changing the system national language** 147
- CMS (Conversational Monitor System)**
  - alternate nucleus placement 253
  - increasing CMS nucleus 251
  - nucleus
    - alternate placement 253
    - default values 114
    - increasing size 251
    - rebuilding 293
    - starting cylinder per device 114
  - rebuilding nucleus 293
  - saved systems
    - backing up 105
  - Y minidisk directory (Y-STAT) 251
- CMS Utilities**
  - install information 140

## commands

- DIRONLIN 170
- documented in other books 165
- INSTALL 171
- installation
  - MIGR51D 196
- INSTDEF 180
- INSTDEF2 184
- INSTDIR 185
- INSTIIS 189
- INSTPLAN 192
- INSTPOOL 195
- MIGR51D 196
- MOVE2SFS 199
- POSTDDR 204
- POSTLOAD 206

## common variables and abbreviations

### component

- deciding what to load 13

### content of

- VM/ESA System DDR CD-ROM 8
- VM/ESA System DDR tapes 7

### CP (Control Program)

- backing up 107
- nucleus
  - rebuilding 299

### current system

- definition 4

### cylinders/blocks required for installation

## D

### DASD (Direct Access Storage Device)

- adding a work disk 217
- cylinders/blocks required for installation 21, 22
- Directory Build worksheets 27
- initializing 36
- Installation worksheet 26
- minimum number for installation 20
- planning packs used for installation 17
- restoring IIS minidisks 34, 50
- support 4
- used for installation 26

### DASD Dump/Restore Program (DDRXA)

- See DDRXA (DASD Dump/Restore Program)

### DCE

- install informaton 141

### DCSSGEN command

- See VM/ESA: CMS Command Reference

### DDRXA (DASD Dump/Restore Program)

- backup system to tape 107
- restoring the system to disk 269

**dedicated pack**  
 definition 4, 325

**default sizes for minidisks 282**

**deleting a national language 158**

**Device Support Facilities (ICKDSF)**  
 See ICKDSF (Device Support Facilities)

**DFSMS/VM**  
 install information 140

**diagram for selecting VM/ESA System DDR  
 installation procedure 23**

**dialogs, understanding system 5**

**directory**  
 See user directory

**Directory Build worksheets 27**

**DIRECTXA command**  
 See VM/ESA: CP Command Reference

**DIRONLIN EXEC**  
 description 170

**DISKMAP command**  
 See VM/ESA: CP Command Reference

**DMSNGP ASSEMBLE file**  
 changing the system national language 147

**DOSGEN command**  
 See VM/ESA: CMS Command Reference

**E**

**Environmental Recording Editing and Printing  
 Program (EREP)**  
 See EREP (Environmental Recording Editing and  
 Printing Program)

**EREP (Environmental Recording Editing and  
 Printing Program)**  
 product information 123

**EXEC procedures**  
 See commands

**F**

**features**

- CMS Utilities 140
- DCE 140
- DFSMS/VM 140
- LANRES/VM 140
- LFS/ESA 140
- OpenEdition Shell and Utilites 140
- PL/X-370 source 138
- restricted source 136
- REXX/EXEC Migration Tool 140
- TCP/IP VM Kerberos 140
- TCP/IP VM Source 140

**file arrangement**  
 VM/ESA System DDR CD-ROM 8  
 VM/ESA System DDR tape 7

**file header 8**

**file recovery 273**

**format of**  
 VM/ESA System DDR CD-ROM 8  
 VM/ESA System DDR tapes 7

**G**

**GCS (Group Control System)**  
 configuration file 304  
 GCS nucleus buildlist 262  
 load map 317  
 national language files, saving 150  
 nucleus  
   changing placement 261  
   changing size 261

**glossary 321**

**GROUP command**  
 See VM/ESA: Group Control System Reference

**Group Control System (GCS)**  
 See GCS (Group Control System)

**H**

**header files**  
 on VM/ESA System DDR 8

**HELP files**  
 See national language

**I**

**ICKDSF (Device Support Facilities)**  
 product information 123

**IIS (Initial Installation System)**  
 definition of 4  
 devices supported 8  
 IPL 40, 56  
 loading 35  
 location on VM/ESA System DDR 8  
 restoring to disk 8, 34, 50

**Initial Installation System (IIS)**  
 See IIS (Initial Installation System)

**INSTALL EXEC**  
 description 171

**install pack**  
 definition 4, 328

**installation**  
 interrupting 277  
 logical partition mode (LPAR) 23  
 minimum number of DASD for VM/ESA System  
 DDR 20  
 procedures  
   choosing 23  
   saved segments 119

**installation commands**  
 MIGR51D 196

**installation sample files**

See VM/ESA Installation and Service Sample Files  
packaged with VM/ESA

**installation tools**

See commands

**Installation worksheet 26****installation-supported DASD type**

definition 4

**installation-supported tape drives**

definition 4

**installing**

system national language

adding national language as system

segment 151

changing the system national language 147

loading national language files 143

**INSTDEF EXEC**

description 180

**INSTDIR EXEC**

description 185

using 67

**INSTIIS EXEC**

description 189

using 50

**INSTPLAN EXEC**

description 192

using 48, 65

**INSTPOOL EXEC**

description 195

messages 195

**interrupting installation 277****IPL your initial system**

installation procedure 1 40

installation procedure 2 56

installation procedure 3 56

**ISMS trailer files 8****ITEMMD TABLE 282****L****LANGGEN command**

See VM/ESA: CMS Command Reference

**LANGMERG command**

See VM/ESA: CMS Command Reference

**language, national**

country codes 144

update directory entries for 157

**LANRES/VM**

install information 140

**layout of VM/ESA System DDR**

CD-ROM 8

tapes 7

**LFS/ESA**

install information 140

**LOAD DEVICE MENU**

using 79, 229

**load map**

printing CMS 297

printing GCS 317

saving CMS 296

**LOAD MENU**

using 78, 228

**loader panel, sample stand-alone 40, 58****loading**

files from VM/ESA source feature tape

CMS 136

CP 136

GCS 136

REXX/VM 136

TSAF 136

VMSES/E 136

Recommended Service Upgrade

post install component load 233

source using INSTALL EXEC 78, 228

**logical partition mode (LPAR), VM/ESA System DDR****installation procedure 23****M****MAINT LINKLIST 290****message repository**

CMS

CP

**messages**

DIRONLIN EXEC 170

INSTALL EXEC 174

INSTDEF EXEC 180

INSTDEF2 EXEC 184

INSTDIR EXEC 185

INSTIIS EXEC 189

INSTPLAN EXEC 192

INSTPOOL EXEC 195

MIGR51D EXEC 196

MOVE2SFS EXEC 200

POSTDDR EXEC 204

POSTLOAD EXEC 206

**MIGR51D EXEC**

description 196

using 245

**minidisk**

cylinders/blocks required for installation 21, 22

formatting

installation procedure 1 37

installation procedure 2 50

installation procedure 3 50

minimum number for installation 20

moving components to SFS directories 199

moving data to SFS directories 213

reclaiming unused space 199, 216

recovering 171, 273

**minimum number of DASD for installation 20, 21**

**mixed DASD support** 7

**MOVE2SFS EXEC**

description 199

**moving components to SFS directories** 199, 213

## N

### **national language**

adding national language as system segment

build the segment 155

define saved segment to store CMS files 151

update directory entries 157

country codes 144

deleting a national language 158

identifiers 144

update directory entries for 157

### **notational convention**

See syntax diagram

### **nucleus**

CMS

adding segment for Y minidisk directory

(Y-STAT) 251

alternate placement 253

starting cylinder per device 114

CP

building, changing the system national

language 149

GCS

changing placement 261

changing size 261

## O

### **OpenEdition Shell and Utilities**

install information 141

### **overview**

VM/ESA System DDR installation procedures 23

## P

### **panels, installation**

Change NLS Segment Definition Panel 153

LOAD DEVICE MENU 79, 229

LOAD MENU 78, 228

Segment Map Panel 151

Stand-Alone Program Loader

VM/ESA System DDR install example 40, 58

### **PL/X-370 source code feature** 138

### **planning for**

VM/ESA System DDR installation 11

### **POSTDDR EXEC**

description 204

### **POSTLOAD EXEC**

description 206

using 84

### **printing**

CMS load map 297

GCS load map 317

### **procedure 1, VM/ESA System DDR installation**

bring directory online 75

CMS nucleus defaults 114

CP system configuration file defaults 116

GCS defaults 118

initialize DASD 34

IPL VM/ESA Initial Installation System 40

overview 23

prepare system directories 67

resave the CMS named saved system 100

restore IIS to DASD 34

run INSTALL EXEC 78

segments on the VM/ESA system 119

### **procedure 2, VM/ESA System DDR installation**

bring directory online 75

CMS nucleus defaults 114

CP system configuration file defaults 116

format DASD 50

GCS defaults 118

IPL VM/ESA Initial Installation System 56

overview 23

planning 46

prepare system directories 67

resave the CMS named saved system 100

restore IIS to DASD 50

run INSTALL EXEC 78

segments on the VM/ESA system 119

selecting items to load 48

### **procedure 3, VM/ESA System DDR installation**

bring directory online 75

CMS nucleus defaults 114

CP system configuration file defaults 116

format DASD 50

GCS defaults 118

IPL VM/ESA Initial Installation System 56

overview 23

planning 46

prepare system directories 67

resave the CMS named saved system 100

restore IIS to DASD 50

run INSTALL EXEC 78

segments on the VM/ESA system 119

selecting items to load 48

### **Programming Language/Cross Systems for System/370 (PL/X-370) source**

See PL/X-370 source code feature

## Q

### **QUERY NSS command**

saved segment definitions 119

## R

### rebuilding

- CMS nucleus 293
- CP nucleus 299
- GCS nucleus 313

### reclaiming minidisk space 199, 216

### Recommended Service Upgrade (RSU)

See RSU (Recommended Service Upgrade)

### recovering a file 273

### recovering a minidisk 273

### recovery file pool

defaults 120

### restarting installation procedures 277

### restoring

IIS minidisks 34, 50

### REXX/EXEC Migration Tool

install information 140

### RPWLST DATA 84

### RSU (Recommended Service Upgrade)

definition 4

TSAF, AVS, OSA/SF service 233

## S

### SAMGEN command

See VM/ESA: CMS Command Reference

### sample files

See VM/ESA Installation and Service Sample Files  
packaged with VM/ESA

### SAMPNSS command

See VM/ESA: CMS Command Reference

### SAPL (Stand-Alone Program Loader)

loader panel 40, 58

loading 1st level 40

### saved segments

Change NLS Segment Definition Panel 153

Segment Map Panel 151

VMFBLD command 149, 155

VMFSGMAP EXEC 151

### saving

CMS load map 296

GCS nucleus 315

national language files for GCS 150

### segment map, adding to 152

### setting TOD clock 41, 59

### SFS (Shared File System)

file pool definition file defaults 120

moving components to SFS directories 199

moving data files to SFS directories 213

### Shared File System

See SFS (Shared File System)

### shutdown current system 277

### stand-alone loader panel 40, 58

### Stand-Alone Program Loader (SAPL)

See SAPL (Stand-Alone Program Loader)

### stopping installation 277

### summary of

VM/ESA System DDR installation procedures 23

### syntax diagram 168

### system console address

primary

installation worksheet table 26

specifying during IPL 40, 56

### System DDR backup procedure

See VM/ESA System DDR backup procedure

### System DDR installation procedure

See VM/ESA System DDR installation procedure

### system dialogs, understanding 5

### system generation

backing up

named saved systems 105

saved segments 105

system 107

initializing DASD packs 36

initializing system residence pack 36

loading

RSU for TSAF, and AVS 233

VM/ESA RSU tape or CD-ROM 233

restoring Initial Installation System to disk

installation procedure 1 34

installation procedure 2 50

installation procedure 3 50

saving CMS load map 296

spooling console during 64

### system national language

installing new 143

### system NETID file 249

### system residence pack

definition 4, 336

## T

### tailoring

GCS 303

### tapes

VM/ESA additional feature tapes

CMS Utilities 140

DCE 140

DFSMS/VM 140

LANRES/VM 140

LFS/ESA 140

OpenEdition Shell and Utilities 140

PL/X-370 source code 138

REXX/EXEC Migration Tool 140

TCP/IP VM Kerberos 140

TCP/IP VM Source 140

VM/ESA restricted source feature tapes 136

VM/ESA System DDR

layout 7

### TCP/IP VM Kerberos

install information 141

## TCP/IP VM Source

install information 141

## TOD (time-of-day) clock

setting 41, 59

## Transparent Services Access Facility

See TSAF (Transparent Services Access Facility)

## TSAF (Transparent Services Access Facility)

loading source files from feature tapes 136

## U

### understanding

installation procedure path 25

system dialogs 5

### USER DIRECT

See user directory

### user directory

updating entries for nation languages 157

### user file pool

defaults 120

### UTILITY utility

See VM/ESA: CP Command Reference

## V

### variables and abbreviations, common 4

### VM/ESA RSU tape or CD-ROM

loading files from

post install component load 233

### VM/ESA System DDR

definition 4

### VM/ESA System DDR backup procedure

back up named saved systems 105

back up primary parm disk 104

restore VM/ESA system backup copy 269, 271

store backup copy of VM/ESA system on tape 107

### VM/ESA System DDR installation procedure

CD-ROM layout 8

Directory Build worksheets 27

Installation worksheet 26

minimum number of DASD needed 20

overview of procedures 23

planning 11

preparing for 7

procedure 1

bring directory online 75

CMS nucleus defaults 114

CP system configuration file defaults 116

GCS defaults 118

initialize DASD 34

IPL VM/ESA Initial Installation System 40

overview 23

prepare system directories 67

resave the CMS named saved system 100

restore IIS to DASD 34

run INSTALL EXEC 78

segments on the VM/ESA system 119

### VM/ESA System DDR installation procedure

(continued)

procedure 2

bring directory online 75

CMS nucleus defaults 114, 123

CP system configuration file defaults 116

format DASD 50

GCS defaults 118

IPL VM/ESA Initial Installation System 56

overview 23

planning 46

prepare system directories 67

resave the CMS named saved system 100

restore IIS to DASD 50

run INSTALL EXEC 78

segments on the VM/ESA system 119

selecting items to load 48

procedure 3

bring directory online 75

CMS nucleus defaults 114

CP system configuration file defaults 116

format DASD 50

GCS defaults 118

IPL VM/ESA Initial Installation System 56

overview 23

planning 46

prepare system directories 67

resave the CMS named saved system 100

restore IIS to DASD 50

run INSTALL EXEC 78

segments on the VM/ESA system 119

selecting items to load 48

selecting a procedure 23

tape layout 7

### VMFINS EXEC

loading Recommended Service Upgrade

post install of optional components 233

### VMFPLC2 command 47, 136, 167

### VMFSGMAP EXEC

Add Segment Definition Panel, example 153

Segment Map Panel, example 151

Segment Map Panel, refreshed 155

### VMSEVR DMSPARMS 120

### VSAM

See VSE/VSAM (Virtual Storage Extended/Virtual Storage Access Method)

### VSE/VSAM (Virtual Storage Extended/Virtual Storage Access Method)

default user IDs requiring 118

## W

### worksheets

Directory Build 27

Installation 26



## **Y**

**Y-minidisk directory (Y-STAT) 251**  
**Y-STAT (Y-minidisk directory) 251**



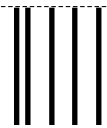




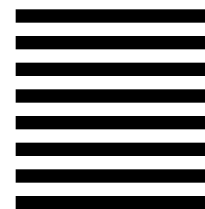
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