

z/VM



# Guide for Automated Installation and Service

*version 5 release 3*



z/VM



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*version 5 release 3*

**Note:**

Before using this information and the product it supports, read the information in “Notices” on page 207.

This edition applies to the version 5, release 3, modification 0 of IBM z/VM (product number 5741-A05) and to all subsequent releases and modifications until otherwise indicated in new editions.

This edition replaces GC24-6099-03.

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## About This Book

This book guides system programmers through the step-by-step installation and service procedures for version 5 release 3 of IBM® z/VM®.

The procedures allow installation of the z/VM system first-level on a processor or second-level (as a guest operating system hosted by z/VM). See the *z/VM: General Information* for a list of the processors supported by z/VM and the guest operating systems hosted by z/VM.

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## Who Should Read This Book

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

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

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## What You Should Know Before Reading This Book

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

This book includes all updates at the time of this publication. Any updates to this book will be reflected in the book that is available in the z/VM Internet Library:

[www.ibm.com/eserver/zseries/zvm/library/](http://www.ibm.com/eserver/zseries/zvm/library/)

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## How This Book Is Organized

This book has four parts, appendices, notices, a glossary, a bibliography, and an index.

- Part 1, “z/VM System DDR Installation,” on page 1, contains step-by-step installation procedures for installing z/VM from tape distribution media, including installation worksheets required for installation planning.
- Part 2, “z/VM System Image DVD Installation,” on page 63, contains step-by-step installation procedures for installing z/VM from DVD distribution media, including installation worksheets required for installation planning.
- Part 3, “Post z/VM System Installation,” on page 133, contains procedures for migrating customized files and service for products preinstalled on the z/VM installation media and information about customizing or configuring certain licensed products and features.
- Part 4, “Service Procedure,” on page 171, contains step-by-step procedures for applying service to your z/VM system.
- The appendices include supplemental information and procedures for installation and service.
- Legal notices, a reference to the z/VM glossary, a bibliography, and index round out the book.

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## How to Use This Book

You may treat each part in this document independently, but within each part read and follow the procedures in the order presented. For instance, if installing from tape, follow Part 1, “z/VM System DDR Installation,” on page 1. If installing from DVD, follow Part 2, “z/VM System Image DVD Installation,” on page 63. If migrating customized files and service for products pre-installed on the z/VM installation media, follow Part 3, “Post z/VM System Installation,” on page 133, and for information about customizing or configuring certain licensed products and features, follow Part 3, “Post z/VM System Installation,” on page 133. For service, follow Part 4, “Service Procedure,” on page 171 from beginning to end.

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## Conventions Used in This Book

Substeps in procedures display what you should type and the system responses you see.

- Bold font indicates exactly what you should type.

**Example:** The following shows a command you would type:

**disconnect**

- Normal font indicates system responses and requests.

**Example:** The following shows a system response:

```
HCP1PX84751 THE PRODUCTS YOU SELECTED TO LOAD TO MINIDISK ARE:
          VM RSCS TCPIP OSA ICKDSF DIRM RACF
          PERFTK VMHCD
```

- Italic font indicates variable input or output, which can occur in commands you type or in system output.

**Examples:** The following are examples in which italics indicate variable input or output:

- In the following, you would need to supply the address of a tape drive for *tapeaddr*:

```
attach tapeaddr * 181
```

- In the following, the system would supply a tape address for *tapeaddr* and *userID* in its response:

```
TAPE tapeaddr ATTACHED TO userID 181
```

- Reverse type indicates special keys you must press.

**Example:** The following indicates you must press the ENTER key:

**ENTER**

- Explanatory notes appear to the right of input and output.

**Example:**

```
attach tapeaddr * 181
TAPE tapeaddr ATTACHED TO userID 181

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

*tapeaddr* is the address of the tape drive(s) where the z/VM System DDR tapes will be mounted. *userID* is the first-level user ID logged on to in the previous substep.

- For outputs, a vertical bar (|) indicates you will receive one of the responses within the braces ({}). Here is a sample output:

```
{MDREST|ECKDREST}: WROTE nnnn {BLOCKS|TRACKS} ON addr, RC=0
```

In this example, you would actually receive *one* of the following two responses:

```
MDREST: WROTE nnnn BLOCKS ON addr, RC=0
ECKDREST: WROTE nnnn TRACKS ON addr, RC=0
```

---

## Where to Find More Information

For more information about z/VM functions, see the books listed in the “Bibliography” on page 213.

### Links to Other Online Books

If you are viewing the Adobe® Portable Document Format (PDF) version of this book, it may contain links to other books. A link to another book is based on the name of the requested PDF file. The name of the PDF file for an IBM book is unique and identifies the edition. The links provided in this book are for the editions (PDF names) that were current when the PDF file for this book was generated. However, newer editions of some books (with different PDF names) may exist. A link from this book to another book works only when a PDF file with the requested name resides in the same directory as this book.

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## Summary of Changes

This book contains maintenance, technical, terminology, and editorial changes. For general installation changes in previous releases of z/VM, see Installation, Migration, and Service in the *z/VM: Migration Guide*.

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### GC24-6099-04, z/VM Version 5 Release 3

This edition supports the general availability of z/VM V5.3.

- New support is provided that allows uploading the installation DVD media to an FTP server directory or VM minidisk and then installing from the FTP server or VM minidisk.
- Appendix D, “Apply or Rework Local Service and Modifications,” on page 187 has been updated with information on applying local service.
- The following new releases are preinstalled.
  - Directory Maintenance Facility (DIRM), function level 530 (disabled)
  - Performance Toolkit for VM™, function level 530 (disabled)
  - RACF Security Server for z/VM, function level 530 (disabled)
  - RSCS Networking for z/VM, function level 530 (disabled)
  - TCP/IP, level 530

---

### GC24-6099-03, z/VM Version 5 Release 2 (Updated Edition)

This edition supports programming enhancements, additional support, or other changes announced or provided after the general availability of z/VM V5.2.

- IPv6 HiperSockets™ has been added as an available option on the TCP/IP configuration worksheets and panels.

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### GC24-6099-02, z/VM Version 5 Release 2

This edition supports the general availability of z/VM V5.2.

- CD-ROM distribution media is no longer available.
- New support is provided that allows for unique pack labels for the installation packs (except the xxxRES). The default pack labels will still be provided. During installation customers will be allowed to specify a different label for the xxxW01, xxxW02, xxxSPL and xxxPAG packs. This function is not available for a first-level DDR (tape) install.
- A new procedure has been added to assist in migrating customized files and service for products preinstalled on the z/VM installation media.

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### GC24-6099-01, z/VM Version 5 Release 1

This edition supports the general availability of z/VM V5.1.

- There is a new section for installing the z/VM System Image from DVD: Part 2, “z/VM System Image DVD Installation,” on page 63
- A MAINT 500 minidisk has been added, which contains the RSU for DVD installation and can be used to receive electronic delivery of service.
- Chapter 14, “Install Preventive (RSU) or Corrective (COR) Service and Place the Service into Production,” on page 173 and Appendix B, “Determining the RSU Level for Ordering Service,” on page 181 have been updated with information on the new STATUS operand on the SERVICE EXEC command.

- Part 4, “Service Procedure,” on page 171 has been updated with information on the new SYSMEMO table.
- 3390 Single and Double density DASD are no longer supported for installation.
- 3390 Model 9 DASD is now supported for installation.
- SCSI FCP disk logical units (SCSI disks) are now supported for installation.
- Changes to the SYSRES pack (xxxRES):
  - Increase checkpoint area to max (9 cylinders/2000 4 KB pages).
  - Increase warmstart area to max (9 cylinders/2000 4 KB pages).
  - Remove tdisk from System Res (xxxRES).
  - Replace paging on System Res (xxxRES) with a paging volume (xxxPAG).
  - Replace spooling on System Res (xxxRES) with a spooling volume (xxxSPL).
- The following are no longer shipped with z/VM.
  - DFSMS™ and DFSMS Kanji. They are available through SDO as free features.
  - PLX and Restricted Source. They are available upon request from IBM Resource Link™.
- The following are no longer preinstalled.
  - Real Time Monitor (RTM)
  - TSM/ADSM
  - VM Performance Reporting Facility (VMPRF)
- The following new releases are preinstalled.
  - Directory Maintenance Facility (DIRM), function 510 (disabled)
  - Performance Toolkit for VM, function level 510 (disabled)
  - TCP/IP, function level 510

---

## Part 1. z/VM System DDR Installation

Part 1 contains procedures for installing z/VM from tape distribution media. If you are installing z/VM from DVD distribution media, use Part 2, “z/VM System Image DVD Installation,” on page 63.

**In this part, you will:**

- Plan your installation
- Fill in worksheets
- Install the z/VM System DDR.



---

## Chapter 1. Plan Your Installation

**In this chapter, you will**

- Plan your installation
- Fill in the Installation Worksheet and the TCP/IP configuration worksheet.

### Step 1. Understand the Requirements

Before you install z/VM version 5 release 3, you must satisfy the following requirements:

#### 1. z/VM media deliverables

- Be sure you have both the installation tape(s) and the latest RSU tape(s).
  - If the RSU (or COR) service is electronic or on CD-ROM and you are installing z/VM as a second level system, you need to receive the service files to a minidisk attached to your installation user ID on your first-level system before IPLing your second-level system. Follow the instructions included with the electronic or CD-ROM service files to receive and restore the service files to a minidisk that can be temporarily attached to your second-level system. If you are installing z/VM on a first-level system, you cannot use electronic or CD-ROM service until after you have completed your installation.

#### 2. General

- Be sure that you have the proper processor for your V5.3 system. For a list of processors supported by z/VM, see *z/VM: General Information*.
- A local non-SNA 3270 terminal or equivalent configured with at least 24 lines, or an integrated 3270 console is required for installation of z/VM.
- For instructions on how to receive up-to-date service, refer to the z/VM program directory.
- For up-to-date information affecting installation, refer to the "installation information" section in the cp subset of the zvm530 upgrade PSP bucket.
- If you are planning to migrate from another z/VM system, review the *z/VM: Migration Guide*.
- If you plan to deploy Linux® on z/VM, see *z/VM: Getting Started with Linux on System z* for important planning information about Linux virtual servers.

#### 3. First-level installation

- First-level installation requires at least 256 MB of real storage. Note that the storage required for installation is not necessarily the amount you should have assigned for running production workloads. Refer to *z/VM: CP Planning and Administration* for information on determining production storage requirements.
- The function to change the installation pack labels cannot be used on a first-level installation from tape.

#### 4. Second-level installation

- You must IPL the z/VM Initial Installation System (IIS) using the same installation user ID you used to run INSTPLAN and INSTIIS.
- The installation user ID must meet the following requirements:
  - At least 64 MB of virtual storage.
  - Privilege classes B and G.
  - Write access to a 191 minidisk with at least 500 4-KB blocks of available space. A shared file system directory cannot be used.
  - To change installation pack labels, the installation user ID must be able to issue the DEFINE MDISK command. The IBM default privilege class for this command is class A. The DEFINE MDISK command also requires the user ID to have DEVMAINT on the OPTION directory statement in its directory entry.

## Step 2. Complete the Installation and Basic IP Connectivity Worksheets

1. Determine the installation method you will use.
  - Choose first-level installation if no supported z/VM system is running on the processor or LPAR on which you are installing.
  - Choose second-level installation if you are installing in a virtual machine on a supported z/VM system.
2. Record the installation method you selected to use to install z/VM in the Installation Worksheet (Table 1 on page 8). Your choices are first-level or second-level.
3. Determine which products you will load into the VMSYS file pool and which products you will load to minidisks only. Each product on the z/VM System DDR allows VMSYS file pool directories to be used in place of some minidisks. Record your choices in the Installation Worksheet (Table 1 on page 8), in the *Install To* column.
4. Select your system default language and record your choice in the Installation Worksheet (Table 1 on page 8). The choices are:
  - Mixed Case English (AMENG)
  - Uppercase English (UCENG)
  - German (GERMAN)
  - Kanji (KANJI)
5. Select the DASD model you will use to install, either 3390 Model 3 or 3390 Model 9, and record the DASD model in the Installation Worksheet (Table 1 on page 8). For performance reasons, if installing to 3390 Model 9, IBM recommends using emulated 3390 Model 9s instead of real 3390 Model 9s.

**Notes:**

- a. DASD size is not checked during installation.
  - b. If you select 3390 Model 3, installation uses the first 3338 cylinders on each DASD and ignores any cylinders beyond 3338.
  - c. If you select 3390 Model 9, installation uses the first 10017 cylinders on each DASD and ignores any cylinders beyond 10017.
6. Determine the number of DASD volumes required to install.

**Note:** The INSTPLAN command, which is run early in the installation procedure, will tell you exactly how many volumes are required.

- a. If you choose 3390 Model 3 you need:
  - One 3390 Model 3 DASD (3339 cylinders) for the 530RES volume.
  - One volume each for 530SPL and 530PAG. These DASD can be any model 3390. A 3390 Model 3 is suggested.
  - Up to three 3390 Model 3 DASD (3339 cylinders each) for user work volumes (530W01, 530W02, and 530W03) depending on where you choose to install the products that are shipped with z/VM.
    - If you install all products either to minidisk or to a shared file system, but not a combination of, you will need only two user work volumes.
    - If you install products to a combination of minidisk and shared file system, two work volumes might be enough, but you should have a third volume available if you need it.
- b. If you choose 3390 Model 9 you need:
  - One 3390 Model 9 DASD (10017 cylinders) for the 530RES volume.

## Complete the Installation and Basic IP Connectivity Worksheets

- One volume each for 530SPL and 530PAG. These DASD can be any model 3390. A 3390 Model 3 is suggested.
  - One 3390 Model 9 DASD (10017 cylinders) for a user work volume (530W01) depending on where you choose to install the products that are shipped with z/VM.
    - If you install all products either to minidisk or to a shared file system, but not a combination of, you will not need this volume.
    - If you install products to a combination of minidisk and shared file system, you might not need this volume, but you should have it available if you need it.
7. Record the DASD addresses for each DASD in the Installation Worksheet (Table 1 on page 8) under the *DASD Address* column. Record your first address in the row with the label 530RES and continue recording addresses corresponding to the labels. If you need fewer than all the DASD labels in the table, disregard the extra labels.
8. If you are changing the installation pack labels, record the new pack labels in the Installation Worksheet (Table 1 on page 8).
- For each default label you wish to change, record the new label in the Installation Worksheet (Table 1 on page 8) under the *New Label* column. The 530RES label cannot be changed.
- Notes:**
- a. Installation pack labels cannot be changed on a first-level installation from tape.
  - b. To use the function to change the installation pack labels, your installation userid must be able to issue the DEFINE MDISK command. The IBM default privilege class for this command is class A. The DEFINE MDISK command also requires the userid to have DEVMAINT on its OPTION directory statement.
9. If, after you install z/VM, you want to establish a minimal TCP/IP configuration that establishes basic connectivity to your IP network, fill in the IP worksheets beginning with Table 2 on page 9 and then return here.

---

## Step 3. Choose the Document to Use for Installation

There are two sets of instructions for using either installation method:

- *z/VM: Summary for Automated Installation and Service (Tape Installation)* contains only the commands needed to install z/VM. It does not contain detailed procedures, descriptions of the parameters, or responses and messages received. Use the summary only if you are familiar with system operator tasks on z/VM and comfortable using the HMC if installing first-level.

The one-page installation and service summary is packaged with the *z/VM: Guide for Automated Installation and Service*.

- *z/VM: Guide for Automated Installation and Service* (this guide) contains detailed procedures for installing z/VM.

If you are using the procedure described in *z/VM: Summary for Automated Installation and Service (Tape Installation)*, leave this document and use the one-page document. Otherwise, proceed according to the installation method that fits your situation:

If you chose the. . .	Then go to. . .
First-level installation method	Chapter 2, "First-Level Installation Method," on page 11
Second-level installation method	Chapter 3, "Second-Level Installation Method," on page 25

## Choose the Document

### Worksheets

Table 1. Installation Worksheet

<b>Installation method (First-Level or Second-Level):</b> _____					
Below, in the <i>Install To</i> column, record an "M" if you will load the product to a minidisk, or an "F" if you will load the product to the VMSYS file pool.					
<b>Install To</b>	<b>Product</b>	<b>Install To</b>	<b>Product</b>	<b>Install To</b>	<b>Product</b>
	VM		RSCS		TCPIP
	OSA		ICKDSF		DIRM
	RACF®		PERFTK		VMHCD
<b>System Default Language:</b> _____					
<b>DASD Model:</b> _____					
<b>Pack Type</b>	<b>DASD Label</b>	<b>New Label</b>	<b>DASD Address</b>		
RES	530RES	530RES			
SPOOL	530SPL				
PAGE	530PAG				
USER1	530W01				
USER2	530W02				
USER3	530W03				

#### Notes:

1. Installation pack labels cannot be changed on a first-level installation from tape.
2. After completing the worksheet, be sure to return to the next substep on page 5.

After you have completed your z/VM installation, you can optionally create a minimal TCP/IP configuration that establishes basic connectivity to your IP network. If you choose to perform this configuration, you must gather the following information from your network system administrator and record the information in the TCP/IP Configuration Worksheet (Table 2) and the appropriate interface worksheet. In these worksheets, a number in parentheses following a field description, for example Host name (20), is the maximum length for that field.

*Table 2. TCP/IP Configuration Worksheet*

VM user ID of the VM TCP/IP stack virtual machine: (Default value is TCPIP. If you change this userid, you must define the userid in your user directory before running the IPWIZARD.)	
Host name (20):	
Domain name (40):	
DNS IP address (up to three addresses):	1) _____ 2) _____ 3) _____
Gateway IP address :	
Interface name (16):	
Device number:	
IP address:	
IPv4 Subnet mask (15) or IPv6 Prefix Length (3):	
Choose the interface you will be using (check one):	<input type="checkbox"/> QDIO <input type="checkbox"/> LCS <input type="checkbox"/> HiperSockets <input type="checkbox"/> CLAW <input type="checkbox"/> CTC  Refer to the appropriate interface worksheet to record more information.  IPv6 is available only for QDIO and HiperSockets devices.

*Table 3. QDIO Interface Worksheet*

Network type (select one):	<input type="checkbox"/> Ethernet <input type="checkbox"/> Token Ring  IPv6 is not available for Token Ring adaptors.
Port name (optional) (8):	
Router type (select one):	<input type="checkbox"/> Primary <input type="checkbox"/> Secondary <input type="checkbox"/> None
Maximum Transmission Unit (MTU) size:	
Router advertisements (IPv6 only)	<input type="checkbox"/> On <input type="checkbox"/> Off

## Choose the Document

*Table 4. LCS Interface Worksheet*

Network type (select one):	<input type="checkbox"/> Ethernet <input type="checkbox"/> Token Ring <input type="checkbox"/> FDDI
Port/Adapter number:	
Maximum Transmission Unit (MTU) size:	

*Table 5. HiperSockets Interface Worksheet*

Maximum Frame Size (MFS): (in kilobytes)	
Router advertisements (IPv6 only)	<input type="checkbox"/> On <input type="checkbox"/> Off

*Table 6. CLAW Interface Worksheet*

CLAW host name (8): (This name must match the host-name configured on the CLAW device)	
CLAW adapter name (8): (This name must match the device-name configured on the CLAW device)	
Maximum Transmission Unit (MTU) size:	

*Table 7. CTC Interface Worksheet*

Write Channel Device Number (select one):	<input type="checkbox"/> This choice contains the device number specified on the main z/VM TCP/IP Configuration Wizard panel. <input type="checkbox"/> This choice contains the device number specified on the main z/VM TCP/IP Configuration Wizard panel plus 1.
Maximum Transmission Unit (MTU) size:	
Peer IP Address:	

---

## Chapter 2. First-Level Installation Method

**In this chapter, you will:**

- Use step-by-step procedures to install the z/VM System DDR in a new system environment.

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

#### In this step, you will:

- Mount volume 1 of the z/VM System DDR on a tape drive
- Initialize, format, and relabel the DASD
- Load down the Initial Installation System (IIS) from the z/VM System DDR.

#### Notes:

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

1. Before you begin, fill out the Installation Worksheet (Table 1 on page 8) in Chapter 1, “Plan Your Installation.”
2. Refer to the Installation Worksheet (Table 1 on page 8) to ensure all the DASD addresses listed on the worksheet are available for use. Follow the operation manual for your own hardware.  
**Attention:** Make sure any DASD with the labels 530RES, 530SPL, 530PAG, or 530W0n that you are not using for this installation are not attached to your system. Any such DASD may be brought online when you IPL the initial installation system in “Step 3. Restore the Initial Installation System (IIS)” on page 30. You can remove these DASD now or use the Device Support Facilities to relabel the DASD. If you choose to relabel the DASD, wait until substep 7 on page 13, in which we explain how to use the Device Support Facilities (ICKDSF) to relabel the DASD.
3. Mount volume 1 of the z/VM System DDR on a tape drive.
4. If you are installing from an integrated 3270 console see Appendix I, “Using an Integrated 3270 Console for Installation,” on page 205.
5. IPL the tape drive that contains volume 1, to load the Device Support Facilities (ICKDSF) program. Follow the hardware IPL procedure specified for your processor, specifying a LOADPARM of CNSLccuu, where ccuu is the address of your system console (for example, 0020). If you are using the integrated 3270 console, you must use the Operating System Messages screen for ICKDSF by specifying a LOADPARM of CNSLSCLP.  
For more information, refer to your processor’s hardware operation manual(s).

#### Notes:

- a. For more information about the Device Support Facilities (ICKDSF), see the *Device Support Facilities User’s Guide and Reference*.
6. Wait 60 seconds or so for the IPL to complete. If you see no messages, press the ENTER key on your 3270 console to create an interrupt. If you do not see a response, you pressed the ENTER key before the IPL was complete. Reset the keyboard. Wait approximately 60 seconds and press the ENTER key again.

**ENTER**

CLEAR SCREEN WHEN READY

**RESET**

**CLEAR**

Press the RESET key to unlock the keyboard.

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

```
ICK005E DEFINE INPUT DEVICE, REPLY
      'DDD, 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
      'DDD, CUU' or 'CONSOLE'
ENTER INPUT/COMMAND:
console
CONSOLE
ICKDSF - SA/XA/ESA DEVICE SUPPORT FACILITIES
nn.n TIME:hh:mm:ss mm/dd/yy PAGE 1
ENTER INPUT/COMMAND:
```

7. Use ICKDSF to re-label any DASD volumes that are not being used to install z/VM. If you do not have any DASD labelled 530RES, 530SPL, 530PAG, or 530W0n on your system, skip to substep 8. If all the DASD you have labelled 530RES, 530SPL, 530PAG, or 530W0n on your system are going to be used for this installation, skip to substep 8.

Otherwise, continue with this substep to use the ICKDSF program to relabel the DASD you are **not** going to use for this installation. If there is more than one DASD to relabel, relabel them one at a time.

```
cpvolume label unit(dasdaddr) novfy valid(valid)
ICK00700I DEVICE INFORMATION FOR dasdaddr IS
      CURRENTLY AS FOLLOWS:
      PHYSICAL DEVICE = xxxx.
      STORAGE CONTROLLER = xxxx
      STORAGE CONTROL DESCRIPTOR = xx
      DEVICE DESCRIPTOR = xx
      :
ICK003D REPLY U TO ALTER VOLUME dasdaddr CONTENTS,
      ELSE T
ENTER INPUT/COMMAND:
u
:
ENTER INPUT/COMMAND:
```

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

If you have another DASD to relabel, repeat the CPVOLUME LABEL command.

8. If your DASD are already initialized, skip to substep 10 on page 14 to format and label them.
9. For uninitialized DASD, use the INSTALL command to initialize the DASD. If there is more than one uninitialized DASD, initialize one DASD at a time.

**Note:** Do not run the INSTALL command for Enterprise Storage Server® DASD. Enterprise Storage Server DASD are initialized when setup.

```
install unit(dasdaddr) novfy
```

*dasdaddr* is the address of the DASD you want to initialize. *dasdaddr* is recorded in your Installation Worksheet (Table 1 on page 8).

## Restore the Initial Installation System (IIS)

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

The system takes at least 20 to 40 minutes to inspect and initialize a DASD. 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 DASD to initialize, repeat the INSTALL command.

10. If you CP formatted your DASD ahead of time for this install using ICKDSF or CPFMTXA, go to substep 11. Otherwise, format and label the 530RES and each DASD listed on your Installation Worksheet (Table 1 on page 8). Issue the following command for each DASD that you need to format.

```
cpvolume format unit(dasdaddr) novfy valid(valid) mode(esa) nofiller
```

*dasdaddr* is the address of the DASD you want to format. *dasdaddr* is recorded on your Installation Worksheet.

*valid* is the volume identifier (**DASD Label**) listed in your Installation Worksheet.

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

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

11. If you have already CP formatted your DASD but did not label them in substep 10, you must label them now. Repeat this substep for each DASD volume being used for installation.

```
cpvolume label unit(dasdaddr) novfy valid(valid)
```

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

*dasdaddr* is the address of the DASD you want to relabel.

*valid* is the volume identifier (**DASD Label**) listed in your Installation Worksheet.

12. 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 for your processor, specifying a LOADPARM of *ccuu*, instead of *CNSLccuu* as it was for ICKDSF. If you are using the integrated 3270 console, use a LOADPARM of SYSG and see Appendix I, "Using an Integrated 3270 Console for Installation," Step 4.

### Load Parameter Specified

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

### 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 the ENTER key to create an interrupt. If you do not see a response, you pressed the ENTER key before the IPL was complete. Reset the keyboard. Wait approximately 60 seconds and press the ENTER key 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.

13. Answer the following prompts from the DDR program to load the Initial Installation System from the z/VM System DDR to the system residence device (530RES) and Spool space to the Spool DASD (530SPL).

```
z/VM DASD DUMP/RESTORE PROGRAM
ENTER CARD READER ADDRESS OR CONTROL STATEMENTS
ENTER:
sysprint cons
ENTER:
input tapeaddr tape (skip 1 leave
ENTER:
```

*tapeaddr* is the address of the tape drive where you mounted volume 1.

By typing the word **tape**, the tape device type is automatically identified by the DDR program.

```
output dasdaddr dasd 530RES
```

*dasdaddr* is the address of the system residence device (530RES) recorded on your Installation Worksheet.

DDR checks the DASD label to make sure it is 530RES, the system residence device.

```
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 530RES
```

## Restore the Initial Installation System (IIS)

```
DATA DUMPED mm/dd/yy
AT hh.mm.ss GMT FROM 530RES
RESTORED TO 530RES
```

INPUT CYLINDER EXTENTS		OUTPUT CYLINDER EXTENTS	
START	STOP	START	STOP
00000000	00000158	00000000	00000158
00000399	00000685	00000399	00000685

```
END OF RESTORE
BYTES RESTORED nnnnnnnnnn
```

```
ENTER:
input tapeaddr tape (rew
ENTER:
```

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

*tapeaddr* is the address of the tape drive where you mounted volume 1.

By typing the word **tape**, the tape device type is automatically identified by the DDR program.

```
output dasdaddr dasd 530SPL
```

*dasdaddr* is the address of the Spool DASD (530SPL) recorded on your Installation Worksheet.

DDR checks the DASD label to make sure it is 530SPL.

```
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 530SPL
DATA DUMPED mm/dd/yy AT hh.mm.ss GMT FROM 530SPL
RESTORED TO 530SPL
```

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

INPUT CYLINDER EXTENTS		OUTPUT CYLINDER EXTENTS	
START	STOP	START	STOP
00000000	00000199	00000000	00000199

```
END OF RESTORE
BYTES RESTORED nnnnnnnnnn
```

```
ENTER:
ENTER
```

```
END OF JOB
```

Press the ENTER key to end the program.  
**Note:** Give the tape time to rewind after the restore is complete.

14. IPL the tape drive that contains volume 1 to load the ICKDSF program again. Follow the **hardware IPL** procedure specified for your processor, specifying a LOADPARM of **CNSLccuu**, where *ccuu* is the address of your system console (for example, 0020). If you are using the integrated 3270 console, use a LOADPARM of SYSG and see Appendix I, "Using an Integrated 3270 Console for Installation," Step 5.

For more information, refer to your processor's hardware operation manual(s).

### Notes:

- a. For more information about the Device Support Facilities (ICKDSF), see the *Device Support Facilities User's Guide and Reference*.
- b. After DDR completes the restore, the tape is rewound to the beginning. If you have problems IPLing the tape you may need to remount it.

## Restore the Initial Installation System (IIS)

15. Wait 60 seconds or so for the IPL to complete. If you see no messages, press the ENTER key to create an interrupt. If you do not see a response, you pressed the ENTER key before the IPL was complete. Reset the keyboard. Wait approximately 60 seconds and press the ENTER key again.

**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:
console
CONSOLE
ICK006E DEFINE OUTPUT DEVICE, REPLY
      'DDDD, CUU' OR 'CONSOLE'
ENTER INPUT/COMMAND:
console
CONSOLE
ICKDSF - SA/XA/ESA DEVICE SUPPORT FACILITIES
      nn.n TIME:hh:mm:ss mm/dd/yy PAGE 1
ENTER INPUT/COMMAND:
```

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

16. Allocate the 530SPL and 530PAG DASD. Issue the following commands.

```
cpvolume alloc unit(dasdaddr) novfy type (SPOL, 200, endcyl)
```

*dasdaddr* is the address of the spool DASD (530SPL) recorded on your Installation Worksheet.

*endcyl* is the last cylinder to allocate. The values are **3338** for a 3390 Model 3 and **10016** for a 3390 Model 9.

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

**u**

```
      :
      :
ENTER INPUT/COMMAND:
cpvolume alloc unit(dasdaddr) novfy type (PAGE, 1, endcyl)
```

*dasdaddr* is the address of the PAGE DASD (530PAG) recorded on your Installation Worksheet

*endcyl* is the last cylinder to allocate. The values are **3338** for a 3390 Model 3 and **10016** for a 3390 Model 9.

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

**u**

```
      :
      :
```

17. If you selected to install on a 3390 Model 3, skip this substep.

## Restore the Initial Installation System (IIS)

If you selected to install on a 3390 Model 9, allocate the 530RES DASD to increase the allocation to the end of the volume.

```
cpvolume alloc unit(dasdaddr) novfy
:
ICK003D REPLY U TO ALTER VOLUME dasdaddr CONTENTS,
      ELSE T
ENTER INPUT/COMMAND:
u
:
ENTER INPUT/COMMAND:
```

## Step 2. IPL the z/VM IIS

### In this step, you will:

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

1. Bring up the V5.3 system from the DASD device you just restored it to; that is, IPL the real address of 530RES noted on your Installation Worksheet. Follow the hardware IPL procedure for your processor. You must specify the address of your system console (*ccuu*) on the Load Parameter field on the hardware system console. If you are using the integrated 3270 console, go to Appendix I, “Using an Integrated 3270 Console for Installation,” on page 205, step 6.

**Note:** Refer to the proper hardware operation manuals for help.

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

```

STAND ALONE PROGRAM LOADER: z/VM VERSION 5 RELEASE 3.0

DEVICE NUMBER:  dasdaddr  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 1. Sample Stand Alone Program Loader Panel

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

**cons=consaddr**

*consaddr* is the address of your virtual console. Spaces are not allowed around the equal sign. If you are using the integrated 3270 console, *consaddr*=SYSG.

4. Press the PF10 key to load.

**PF10**

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

## IPL the z/VM IIS

hh:mm:ss z/VM V5 R3.0 SERVICE LEVEL *nnnn* (64-BIT)

hh:mm:ss SYSTEM NUCLEUS CREATED ON *yyyy-mm-dd* AT *hh:mm:ss*,  
LOADED FROM 530RES

hh:mm:ss \*\*\*\*\*

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

hh:mm:ss \* 5741-A05 (C) COPYRIGHT IBM CORP. 1983, \*

hh:mm:ss \* 2007. ALL RIGHTS RESERVED. \*

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

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hh:mm:ss \*\*\*\*\*

hh:mm:ss HCPZC06718I Using parm disk 1 on volume 530RES (device *xxxx*).

hh:mm:ss HCPZC06718I Parm disk resides on cylinders *nnn* through *nnn*.

:

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

**Note:** If you receive informational message HCPIIS954I, you have duplicate volumes with the same label and must correct this error before continuing. Make a note of the duplicate DASD addresses.

- At the start prompt, enter **shutdown**
- Relabel the packs that are not to be used (refer to Step 1. Restore the Initial Installation System (IIS) substeps 3 through 7)
- Re-IPL (refer to Step 2. IPL the z/VM IIS substep 1 on page 19)

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

**cold drain noautolog**

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

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

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

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

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

**Yes Reply System Response**

Set date MM/DD/YY

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

Set time HH:MM:SS

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

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

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

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

```
hh:mm:ss The directory on volume 530RES 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**.

## IPL the z/VM IIS

```
hh:mm:ss HCPWRS2512I Spooling initialization is complete.
hh:mm:ss DASD nnnn dump unit CP IPL pages nnnn
hh:mm:ss HCPAAU2700I System gateway ZVMV5R30 identified.
hh:mm:ss z/VM Version 5 Release 3.0, Service Level 0000 (64-bit),
hh:mm:ss built on IBM Virtualization Technology
hh:mm:ss There is no logmsg data
hh:mm:ss FILES: NO RDR, NO PRT, NO PUN
hh:mm:ss LOGON AT hh:mm:ss EDT DAY mm/dd/yy
hh:mm:ss GRAF nnnn LOGON AS OPERATOR USERS = n
hh:mm:ss HCPIOP952I nnnnM system storage
hh:mm:ss FILES: nnnnnnnn RDR, nnnnnnnn PRT, NO PUN
hh:mm:ss HPCRCR8082I Accounting records are accumulated for userid DISKACNT
```

### 8. 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**

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

**ENTER**

The default password for MAINT is MAINT.

**logon maint**

```
z/VM Version 5 Release 3.0, Service Level 0000 (64-bit),
built on IBM Virtualization Technology
There is no logmsg data
FILES: NO RDR, NO PRT, NO PUN
LOGON AT hh:mm:ss EDT DAY mm/dd/yy
DMSIND2015W Unable to access the Y-disk. Filemode Y (19E) not accessed
z/VM V5 R3.0 yyyy-mm-dd hh:mm
```

**ENTER**

```
DMSACP113S B(5E5) not attached or invalid device address
DMSACP113S D(51D) not attached or invalid device address
Ready; T=n.nn/n.nn hh:mm:ss
```

Message DMSACP113S is not a problem at this time.

## Step 3. Run the INSTPLAN EXEC

### In this step, you will:

- Run INSTPLAN.

### 1. Run INSTPLAN.

#### instplan

```

*** z/VM INSTALLATION PLANNING ***

Mark the product(s) selected to be installed into the VMSYS filepool with an
"F" and those selected to be installed to minidisks with an "M"

Install To  Product  Install To  Product  Install To  Product
-----
M          VM       M          RSCS     M          TCPIP
M          OSA      M          ICKDSF   M          DIRM
M          RACF     M          PERFTK   M          VMHCD

Place a nonblank character in front of the System Default Language you would
like for your system.

_ AMENG      _ UCENG      _ KANJI      _ GERMAN

Place a nonblank character in front of the DASD model onto which your
z/VM system will be loaded. Only one model may be selected.

_ 3390 Mod 3    _ 3390 Mod 9

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

```

- Refer to the Installation Worksheet (Table 1 on page 8) and enter:
  - “M” in the *Install To* column for each product you selected to be installed onto minidisks.
  - “F” in the *Install To* column for each product you selected to be installed into the VMSYS file pool.
- Place a nonblank character next to the System Default Language you selected for your system (see the Installation Worksheet, Table 1 on page 8).
- Place a nonblank character in front of the DASD model that matches the *DASD Model* in the Installation Worksheet (Table 1 on page 8).
- After completing Steps a, b, and c, press the PF5 key to complete the planning step.

**Note:** The output you see may be different depending on your planning choices.

## Run the INSTPLAN EXEC

```
HCPPIX8475I THE PRODUCTS YOU SELECTED TO LOAD TO MINIDISK ARE:
          VM  RSCS  TCPIP  OSA  ICKDSF
          DIRM  RACF  PERFTK  VMHCD

          THE PRODUCTS YOU SELECTED TO LOAD TO SFS ARE:
          NONE

          THE SYSTEM DEFAULT LANGUAGE SELECTED:
          AMENG

          THE DASD TYPE YOU SELECTED TO LOAD ON IS:
          3390 model

          THE DASD NEEDED TO LOAD z/VM ARE:
          530RES 530SPL 530PAG...

HCPINP8392I INSTPLAN EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss
```

### 2. Choose the addresses of your tape drives.

If you are installing from 3590 tape, you need a tape drive for one volume.

If you are installing from 3480 or 3490 tape, you need tape drives for volumes 2-14.

#### Notes:

- a. 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.

#### What to Do Next

Go to Chapter 4, "Load the System DDR," on page 37.

---

## Chapter 3. Second-Level Installation Method

**In this chapter, you will:**

Use step-by-step procedures to install the z/VM System DDR from a VM system.

### Step 1. Load the Installation Tools from the z/VM System DDR

#### In this step, you will

- Log on to a first-level user ID
- Attach tape drives
- Mount the z/VM System DDR tapes on the tape drives
- Load the installation tools.

1. Before you begin, fill out the Installation Worksheet (Table 1 on page 8) in Chapter 1, “Plan Your Installation.”
2. From your current operating system, log on to the first-level user ID that you will use to install z/VM version 5 release 3. This userid must meet the following requirements:
  - 64 MB virtual storage.
  - Privilege classes B and G
  - Write access to a 191 minidisk with at least 500 4-KB blocks of available space. A shared file system directory cannot be used.
  - To change installation pack labels, the installation user ID must be able to issue the DEFINE MDISK command. The IBM default privilege class for this command is class A. The DEFINE MDISK command also requires the user ID to have DEVMAINT on the OPTION directory statement in its directory entry.
  - You must IPL the z/VM IIS (“Step 4. IPL the z/VM IIS” on page 33) on the same user ID you used to run INSTPLAN and INSTIIS
3. Be sure you have both the installation tape(s) and the latest RSU tape(s).
  - If the RSU (or COR) service is electronic or on CD-ROM you need to receive the service files to a minidisk attached to your installation user ID on your first-level system before IPLing your second-level system. Follow the instructions included with the electronic or CD-ROM service files to receive and restore the service files to a minidisk that can be temporarily attached to your second-level system.

**Note:** You must preserve the file attribute of FIXED BINARY 1024 through all intermediary transports.

4. Access your 191 minidisk as A. It must be 191 and it must be a minidisk, not an SFS directory. The installation tools will be loaded to the A disk. Files are created on this disk that are accessed by installation execs in a later step. Verify there are at least 500 4-KB blocks of space available (BLKS LEFT).

```
access 191 a
```

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

```
query disk a
```

LABEL	VDEV	M	STAT	CYL	TYPE	BLKSZ	FILES	BLKS	USED-(%)	BLKS	LEFT	BLK	TOTAL
1b1191	191	A	R/W	nn	3390	4096	nnn		nnnn-nn		500		nnnn

```
Ready;
```

5. Choose the addresses of your tape drives.
  - If you are installing from 3590 tape, you need a tape drive for one volume.
  - If you are installing from 3480 or 3490 tape, you need tape drives for 14 volumes.

**Notes:**

- a. 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 drive for multiple volumes, you will be prompted by the INSTALL EXEC when a tape volume needs to be changed.
- b. To display all available tape drives on your system, enter:

```
query tape free
```

6. Attach the tape drives.

Enter the following ATTACH command for each tape drive needed. Volume 1 must be mounted on 181.

```
attach tapeaddr * 18x
TAPE tapeaddr ATTACHED TO userID 18x
Ready; T=n.nn/n.nn hh:mm:ss
```

*tapeaddr* is the address of the tape drive(s) where the z/VM System DDR tapes will be mounted. 18x is the virtual address where the tape drives are attached. Start with 181 and continue with 182, 183, and so on. *userID* is the first-level userid you logged on to in substep 2 on page 26.

7. Mount the z/VM System DDR tapes on the tape drives. Volume 1 must be mounted on the tape drive attached as address 181.
8. Load the installation tools from volume 1 of the z/VM System DDR to your (191) A disk.

```
rew 181
Ready; T=n.nn/n.nn hh:mm:ss
```

```
vmfplc2 fsf 4
Ready; T=n.nn/n.nn hh:mm:ss
```

```
vmfplc2 load * * a
Loading ...
:
End-of-file or end-of-tape
Ready; T=n.nn/n.nn hh:mm:ss
```

```
rew 181
Ready; T=n.nn/n.nn hh:mm:ss
```

## Step 2. Run INSTPLAN EXEC

### In this step, you will:

- Run INSTPLAN.

### 1. Run INSTPLAN.

**instplan**

```

*** z/VM INSTALLATION PLANNING ***

Mark the product(s) selected to be installed into the VMSYS filepool with an
"F" and those selected to be installed to minidisks with an "M"

Install To  Product    Install To  Product    Install To  Product
-----
M           VM          M           RSCS       M           TCPIP
M           OSA          M           ICKDSF     M           DIRM
M           RACF          M           PERFTK     M           VMHCD

Place a nonblank character in front of the System Default Language you would
like for your system.

_ AMENG      _ UCENG      _ KANJI      _ GERMAN

Place a nonblank character in front of the DASD model onto which your
z/VM system will be loaded. Only one model may be selected.

_ 3390 Mod 3    _ 3390 Mod 9

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

```

Figure 2. Installation Planning Panel

- Refer to the Installation Worksheet (Table 1 on page 8) and enter:
  - “M” in the *Install To* column for each product you selected to be installed onto minidisks.
  - “F” in the *Install To* column for each product you selected to be installed into the VMSYS file pool.
- Place a nonblank character next to the *System Default Language* you selected for your system in the Installation Worksheet (Table 1 on page 8).
- Place a nonblank character in front of the DASD model that matches the *DASD Model* in the Installation Worksheet (Table 1 on page 8).
- After completing Steps a, b, and c, press the PF5 key to complete the planning step.

**Note:** The output you see may be different due to your planning choices.

HCPPIX8475I THE PRODUCTS YOU SELECTED TO LOAD TO MINIDISK ARE:  
VM RSCS TCPIP OSA ICKDSF  
DIRM RACF PERFTK VMHCD

THE PRODUCTS YOU SELECTED TO LOAD TO SFS ARE:  
NONE

THE SYSTEM DEFAULT LANGUAGE SELECTED:  
AMENG

THE DASD TYPE YOU SELECTED TO LOAD ON IS:  
3390 *model*

THE DASD NEEDED TO LOAD z/VM ARE:  
530RES 530SPL 530PAG...

HCPINP8392I INSTPLAN EXEC ENDED SUCCESSFULLY  
Ready; T=*n.nn/n.nn hh:mm:ss*

### Step 3. Restore the Initial Installation System (IIS)

#### In this step, you will:

- Format the DASD
- Load down the Initial Installation System (IIS) from the z/VM System DDR.

1. Refer to the Installation Worksheet (Table 1 on page 8). Attach all the DASD listed in the worksheet that are not already attached. Enter the following ATTACH command for each DASD:

```
attach dasdaddr *
DASD dasdaddr ATTACHED TO userID dasdaddr
:
Ready; T=n.nn/n.nn hh:mm:ss
```

*dasdaddr* is the address of the DASD.  
*userID* is the first-level user ID logged on to previously.

**Attention:** Issue the QUERY DASD ATTACH \* command to make sure that any DASD with the same labels that you are using for installation are **not** already attached to this user ID. You must detach any other DASD with these labels now to prevent bringing them online.

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

**instiis**

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

PACK TYPE	DASD LABEL	DASD ADDRESS	VIRTUAL TAPE ADDRESS	DO NOT FORMAT DASD
RES	530RES	_____	_____	_____
SPOOL	530SPL	_____		
PAGE	530PAG	_____		
USER	530W01	_____		
USER	530W02	_____		
USER	530W03	_____		

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

Figure 3. Installation DASD Format and Restore Panel (3390 Model Layout)

- a. If you want to change the labels of the SPOOL, PAGE, or USER packs, fill in the DASD LABEL field with the new labels. You cannot change the 530RES label. To use the function to change the installation pack labels, the userid must be able to issue the DEFINE MDISK command. The IBM default privilege class for this command is class A. The DEFINE MDISK command also requires the userid to have DEVMAINT on its OPTION directory statement.
- b. Fill in the DASD addresses using the information from the Installation Worksheet (Table 1 on page 8). For detailed information, press the PF1 key for HELP.
- c. Fill in the tape address (181) where volume 1 is mounted.
- d. Place a nonblank character in the DO NOT FORMAT DASD column only if you have already formatted your DASD for installation, in which case the DASD will be labeled, but not formatted.

## Restore the Initial Installation System (IIS)

- E. Press the PF5 key to process.

HCPIIX8381I CHECKING TAPE VOLUME NUMBER FOR DRIVE 181

HCPIIX8377R YOU HAVE SELECTED TO FORMAT THE FOLLOWING DASD:

HCPIIX8483R YOU HAVE SELECTED NOT TO FORMAT YOUR DASD.  
THIS ASSUMES YOU HAVE ALREADY FORMATTED THE  
DASD AND THIS EXEC WILL ONLY RELABEL AS  
FOLLOWS

Depending on whether you chose to format your  
DASD, you will receive either message HCPIIX8377R  
or HCPIIX8483R.

530RES *dasdaddr*  
*lblspl* *dasdaddr*  
*lblpag* *dasdaddr*  
*lblw01* *dasdaddr*  
*lblw02* *dasdaddr*  
*lblw03* *dasdaddr*

DO YOU WANT TO CONTINUE ? (Y|N)

y

HCPIIX8490I NOW FORMATTING LABELING DASD *dasdaddr*  
HCPIIX8490I NOW FORMATTING LABELING DASD *dasdaddr*  
HCPIIX8490I NOW FORMATTING LABELING DASD *dasdaddr*  
:  
:  
HCPIIX8380I RESTORING IIS TO 530RES and *lblspl*

RESTORING 530RES  
DATA DUMPED *mm/dd/yy* AT *hh.mm.ss* GMT FROM 530RES RESTORED TO 530RES  
INPUT CYLINDER EXTENTS      OUTPUT CYLINDER EXTENTS  
    START      STOP      START      STOP  
00000000    00000158      00000000    00000158  
00000399    00000685      00000399    00000685  
END OF RESTORE  
BYTES RESTORED *nnnnnnnnnn*

HCPDDR717D DATA DUMPED FROM 530SPL  
TO BE RESTORED TO *spllabel*

You will receive this message if you changed the  
label for the 530SPL pack.

RESTORING 530SPL  
DATA DUMPED *mm/dd/yy* AT *hh.mm.ss* GMT FROM 530SPL RESTORED TO *lblspl*  
INPUT CYLINDER EXTENTS      OUTPUT CYLINDER EXTENTS  
    START      STOP      START      STOP  
00000000    00000199      00000000    00000199  
END OF RESTORE  
BYTES RESTORED *nnnnnnnnnn*

END OF JOB  
HCPIIX8490I NOW ALLOCATING DASD *dasdaddr* (RES PACK)  
HCPIIX8490I NOW ALLOCATING DASD *dasdaddr* (SPOOLING)  
HCPIIX8490I NOW ALLOCATING DASD *dasdaddr* (PAGING)  
HCPINI8392I INSTIIS EXEC ENDED SUCCESSFULLY  
Ready; T=*n.nn/n.nn hh:mm:ss*

3. If you are installing from 3590, skip this substep and go to "Step 4. IPL the z/VM IIS" on page 33.

If you are installing from 3480 or 3490 tape, continue with this substep. You are finished using volume 1 of the z/VM System DDR. Unload the tape from the drive.

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

## Restore the Initial Installation System (IIS)

## Step 4. IPL the z/VM IIS

### In this step, you will:

- Bring up the Initial Installation System

**Note:** You must IPL the z/VM IIS on the same user ID you used to run INSTPLAN and INSTIIS.

1. Clear your virtual machine and make sure the z/VM system will recognize your terminal as a 3277, 3278, or 3279.

```
system clear
Storage cleared - system reset.
terminal conmode 3270
```

Reset and clear your virtual machine storage.

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

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

Run the DEFINE command if you have less than 64 MB of storage.

3. Set virtual machine mode to XA.

```
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.

4. Query the console to determine the virtual console address (*consaddr*). This address is required in the next substep.

```
query console
CONS consaddr ON LDEV nnnn TERM START
consaddr CL T NOCONT NOHOLD COPY 001 READY FORM STDN
consaddr TO userid dev DIST nnnn FLASHC 000 DEST OFF
consaddr FLASH CHAR MDFY 0 FCB LPP OFF
consaddr 3270 NOEOF OPEN nnnn NOKEEP NOMSG NONAME
consaddr SUBCHANNEL = nnnn
```

*consaddr* is the address of your virtual console.

5. IPL the IIS you loaded to the system residence device (530RES).

```
ipl dasdaddr clear loadparm consaddr
```

CLEAR is necessary. Do not omit it.

*dasdaddr* is the address of the system residence device (530RES).

*consaddr* is the address of your virtual console.

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

## IPL the z/VM IIS

```
STAND ALONE PROGRAM LOADER: z/VM VERSION 5 RELEASE 3.0

DEVICE NUMBER:  dasdaddr  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 4. Sample Stand Alone Program Loader Panel

### 6. Move the cursor to the IPL PARAMETERS field and type

**cons=consaddr**

*consaddr* is the address of your virtual console from substep 4. Spaces are not allowed around the equal sign.

### 7. Press the PF10 key to load.

**PF10**

### 8. The IPL of your z/VM system continues:

hh:mm:ss z/VM V5 R3.0 SERVICE LEVEL 0000 (64-BIT)

hh:mm:ss SYSTEM NUCLEUS CREATED ON yyyy-mm-dd AT hh:mm:ss,  
LOADED FROM 530RES

hh:mm:ss \*\*\*\*\*

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

hh:mm:ss \* 5741-A05 (C) COPYRIGHT IBM CORP. 1983, \*

hh:mm:ss \* 2007. 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 530RES (device nnnn).

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

:

You may receive an informational message, HCPIIS951I, about volumes not mounted. If you are not using those volume labels, ignore this message.

**Note:** If you receive informational message HCPIIS954I, you have duplicate volumes with the same label. You must return to the first-level CP environment (enter SHUTDOWN at the next prompt) and detach the duplicate volumes. Then go back to substep 1 on page 33.

```
hh:mm:ss Start ((Warm|Force|COLD|CLEAN) (DRain)
               (Disable) (NODirect) (NOAUTOlog)) or (SHUTDOWN)
cold drain noauto log
```

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

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

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

```
hh:mm:ss The directory on volume 530RES at address nnnn
         has been brought online.
hh:mm:ss HCPWRS2513I
hh:mm:ss HCPWRS2513I Spool files available   nnnn
```

**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**.

```
hh:mm:ss HCPWRS2512I Spooling initialization is complete.
hh:mm:ss DASD nnnn dump unit CP IPL pages nnnn
hh:mm:ss HCPAAU2700I System gateway ZVMV5R30 identified.
hh:mm:ss z/VM Version 5 Release 3.0, Service Level 0000 (64-bit),
hh:mm:ss built on IBM Virtualization Technology
hh:mm:ss There is no logmsg data
hh:mm:ss FILES: NO RDR, NO PRT, NO PUN
hh:mm:ss LOGON AT hh:mm:ss EDT DAY mm/dd/yy
hh:mm:ss GRAF nnnn LOGON AS OPERATOR USERS = n
hh:mm:ss HCPIOP952I nnnnM system storage
hh:mm:ss FILES: nnnnnnnn RDR, nnnnnnnn PRT, NO PUN
hh:mm:ss HCPCRC8082I Accounting records are accumulating for userid DISKACNT
```

## IPL the z/VM IIS

### 10. 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**

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

**ENTER**

The default password for MAINT is MAINT.

**logon maint**

```
z/VM Version 5 Release 3.0, Service Level 0000 (64-bit),  
built on IBM Virtualization Technology  
There is no logmsg data  
FILES: nnnn RDR, NO PRT, NO PUN  
LOGON AT hh:mm:ss EDT DAY yyyy-mm-dd  
DMSIND2015W Unable to access the Y-disk, file mode Y(19E) not accessed  
z/VM V5.3.0 yyyy-mm-dd hh:mm
```

**ENTER**

```
DMSACP113S B(5E5) not attached or invalid device address  
DMSACP113S D(51D) not attached or invalid device address
```

Message DMSACP113S is not a problem at this time.

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

#### What to Do Next

Go to Chapter 4, "Load the System DDR," on page 37.

---

## Chapter 4. Load the System DDR

**In this chapter, you will:**

- Use INSTVM to load your new system
- Use SERVICE and PUT2PROD to install RSU service
- Configure TCP/IP (optional)
- Load new CPLOAD module
- Back up the z/VM system to tape or DASD.

### Step 1. Run INSTVM EXEC

#### In this step, you will:

- Run INSTVM to build the directory for your system and load the items from the z/VM System DDR.

**Note:** Running the INSTVM EXEC requires a full screen terminal with at least 24 lines.

1. IPL CMS to verify the CMS saved system is available.

```
ipl cms  
z/VM V5.3.0    yyyy-mm-dd hh:mm
```

**ENTER**

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

**Note:** If the CMS saved system does not exist, there is a problem with spool space, resolve the problem before you attempt to continue.

2. If the tape drives are not already attached, attach the drives where the z/VM System DDR tapes are mounted. Repeat this substep for each tape drive needed.

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

*tapeaddr*

During a first-level installation it is the real address of the tape drive. During a second-level installation it is the 18x virtual address where the tape drive was attached to your first-level installation user ID.

*vtapeaddr*

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

3. If the tapes are not already mounted, mount the z/VM System DDR tapes on the drives. If you are using 3480 or 3490 tapes, do not mount volume 1.

4. Run INSTVM to install the z/VM System DDRs.

If installing from 3590 tape, enter:

```
instvm 3590
```

Otherwise, enter:

```
instvm
```

The exec responds with the following:

```
DASD 0199 DETACHED
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.
CPRELEASE request for disk A scheduled.
HCPZAC6730I CPRELEASE request for disk A completed.
HCPIND8392I INSTDIR EXEC ENDED SUCCESSFULLY
HCPZAC6730I CPRELEASE request for disk A completed.
z/VM USER DIRECTORY CREATION PROGRAM - VERSION 5 RELEASE 3.0
EOJ DIRECTORY UPDATED AND ON LINE
HCPDIR494I User directory occupies nn disk pages.
HCPZAC6732I CPACCESS request for MAINT's 0CF1 in mode A completed.
HCPZAC6732I CPACCESS request for MAINT's 0CF2 in mode B completed.
HCPDOL8391I DIRONLIN EXEC ENDED SUCCESSFULLY
```

The LOAD DEVICE MENU panel displays after issuing the INSTVM command.

LOAD DEVICE MENU		
MEDIA SELECTED IS: <i>media</i>		
MOUNT	VOLUME	VADDR
	2	_____
	3	_____
	4	_____
	5	_____
	6	_____
	7	_____
	8	_____
	9	_____
	10	_____
	11	_____
	12	_____
	13	_____
	14	_____
PF1 = HELP		PF3 = QUIT
		PF5 = LOAD

5. Complete the LOAD DEVICE MENU panel.

- Check the **MEDIA SELECTED IS:** field. This is a required field that will contain either TAPE or 3590 depending on the parameter used to call the INSTVM exec. If the *media* specified is not correct, press the PF3 key to quit and run the INSTVM exec with the correct parameter.
- This panel shows you which tape volumes you need based on the media from which you are loading. Enter the tape drive addresses for each volume of the z/VM System DDR.  
Each volume must have an associated tape drive. If you use one drive, or tape stacker for multiple volumes, you must enter that drive address next to each volume for which it will be used.

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

6. Press PF5 to load.

The load starts with the following system messages:

```
HCPWIN8388I CHECKING STATUS OF DRIVES
```

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

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

## Run INSTVM EXEC

HCPWIN8428I TOTAL PERCENT LOADED -> nn%

HCPWIN8380I RESTORING MINIDISK *nnn* TO *valid* *valid* is the volume identifier.

HCPDDR725D SOURCE DASD DEVICE WAS (IS) LARGER THAN OUTPUT DEVICE

RESTORING *valid*

DATA DUMPED *mm/dd/yy* AT *hh:mm:ss* GMT FROM *valid* RESTORED TO SCRATCH

INPUT CYLINDER EXTENTS OUTPUT CYLINDER EXTENTS

START	STOP	START	STOP
<i>nnnnnnnn</i>	<i>nnnnnnnn</i>	<i>nnnnnnnn</i>	<i>nnnnnnnn</i>

END OF RESTORE

BYTES RESTORED *nnnnnnnn*

END OF JOB

### Tape prompt

:

HCPWIN8433I INSTALL PROCESSING CONTINUES

You receive this message when the next tape is being loaded.

HCPWIN8372R PLEASE MOUNT VOLUME *n* ON TAPE DRIVE  
*vaddr* THEN PRESS ENTER TO CONTINUE

If you receive this message, you need to mount the required tape volume and press the ENTER key. Installation processing then continues.

HCPWIN8381I CHECKING TAPE VOLUME NUMBER FOR DRIVE  
*vaddr*

HCPPLD8392I POSTLOAD EXEC ENDED SUCCESSFULLY

DMSACC724I 2CC replaces C (2CC)

HCPIDV8493I ISSUING XAUTOLOG FOR VMSERVU

AUTO LOGON \*\*\* VMSERVU USERS = *n*

HCPCLS6056I XAUTOLOG information for VMSERVU: The IPL command is verified by the IPL command processor.

VMSERVU : z/VM V5.3.0 *yyyy-mm-dd hh:mm*

VMSERVU : DMSACP723I B (193) R/O

VMSERVU : DMSWV1117I FILESERV processing begun at *hh:mm:ss* on *dd month yyyy*

VMSERVU : DMSWV1121I VMSERVU DMSPARMS A1 will be used for FILESERV processing

VMSERVU : DMSWV1121I VMSYSU POOLDEF A1 will be used for FILESERV processing

VMSERVU : DMS5BB3045I Ready for operator communications

HCPIDV8493I ISSUING XAUTOLOG FOR VMSERVER

AUTO LOGON \*\*\* VMSERVER USERS = *n*

HCPCLS6056I XAUTOLOG information for VMSERVER: The IPL command is verified by the IPL command processor.

VMSERVER : z/VM V5.3.0 *yyyy-mm-dd hh:mm*

VMSERVER : DMSACP723I B (193) R/O

VMSERVER : DMSWV1117I FILESERV processing begun at *hh:mm:ss* on *dd month yyyy*

VMSERVER : DMSWV1121I VMSERVER DMSPARMS A1 will be used for FILESERV processing

VMSERVER : DMSWV1121I VMSYSR POOLDEF A1 will be used for FILESERV processing

VMSERVER : DMS6LG3335I CRR log recovery begins at *mm-dd-yy hh:mm:ss*

VMSERVER : DMS6LG3335I CRR log recovery completes at *mm-dd-yy hh:mm:ss*

VMSERVER : DMS5BB3045I Ready for operator communications

**Extra messages received if all products were loaded to minidisks**

```

DASD 0804 DETACHED
AUTO LOGON ***          VMSEVS  USERS = n
HCPCLS6056I XAUTOLOG information for VMSEVS: The IPL command is verified
    by the IPL command processor.
VMSEVS : z/VM V5.3.0      yyyy-mm-dd hh:mm
VMSEVS : DMSACP723I B (193) R/O
VMSEVS : DMSWFV1117I FILESERV
    processing begun at hh:mm:ss on dd month yyyy
VMSEVS : DMSWFV1121I VMSEVS DMSPARMS A1 will be used for FILESERV
    processing
VMSEVS : DMS4PD3400I Initializing begins for DDNAME = CONTROL
VMSEVS : DMS4PD3400I Initializing ends for DDNAME = CONTROL
VMSEVS : DMS4PD3400I Initializing begins for DDNAME = MDK00001
VMSEVS : DMS4PD3400I Initializing ends for DDNAME = MDK00001
VMSEVS : DMS4PD3400I Initializing begins for DDNAME = MDK00002
VMSEVS : DMS4PD3400I Initializing ends for DDNAME = MDK00002
VMSEVS : DMS4PD3400I Initializing begins for DDNAME = LOG1
VMSEVS : DMS4PD3400I Initializing ends for DDNAME = LOG1
VMSEVS : DMS4PD3400I Initializing begins for DDNAME = LOG2
VMSEVS : DMS4PD3400I Initializing ends for DDNAME = LOG2
VMSEVS : DMS5FD3032I File pool server has terminated
VMSEVS : DMSWFV1120I File VMSYS POOLDEF A1 created or replaced
VMSEVS : DMSWFV1117I FILESERV processing ended at hh:mm:ss on dd month yyyy
RDR FILE nnnn SENT FROM VMSEVS  PUN WAS 0001 RECS 0004 CPY 001 A NOHOLD
NOKEEP
VMSEVS : File FILESERV VALID A3 sent to MAINT at ZVMV5R30 on
    mm/dd/yy hh:mm:ss
VMSEVS : Ready; T=n.nn/n.nn hh:mm:ss

HCPQCS150A User VMSEVS has issued a VM read
USER DSC LOGOFF AS VMSEVS  USERS = n      FORCED BY MAINT
DASD 0804 DETACHED

```

```

HCPIDV8493I ISSUING XAUTOLOG FOR VMSEVS
AUTO LOGON ***          VMSEVS  USERS = n

HCPCLS6056I XAUTOLOG information for VMSEVS: The IPL command is verified by
    the IPL command processor.
VMSEVS : z/VM V5.3.0      yyyy-mm-dd hh:mm
VMSEVS : DMSACP723I B (193) R/O
VMSEVS : DMSWFV1117I FILESERV processing begun at hh:mm:ss on dd month yyyy
VMSEVS : DMSWFV1121I VMSEVS DMSPARMS A1 will be used for FILESERV processing
VMSEVS : DMSWFV1121I VMSYS POOLDEF A1 will be used for FILESERV processing
VMSEVS : DMS5BB3045I Ready for operator communications

```

**You may not receive one or more of the following messages**

```

HCPIDV8338I UPDATING SYSTEM TABLES AND CLEANING UP FILEPOOL DIRECTORIES
RC=0 from EXEC OPENVM UNMOUNT /
RC=0 from EXEC OPENVM UNMOUNT /

```

```

HCPIFP8392I INSTPOOL EXEC ENDED SUCCESSFULLY
HCPIVM8392I INSTVM EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss

```

**Note:** You are now finished with the product installation tapes.

---

### Step 2. Run SERVICE EXEC

**In this step, you will:**

- Run SERVICE to install the Recommended Service Upgrade (RSU) and Corrective Service (COR).

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. If the RSU is on tape, continue with this substep. Otherwise, skip to substep 3.

- a. Attach a tape drive to MAINT as 181.

**attach** *tapeaddr* \* 181

TAPE *tapeaddr* ATTACHED TO MAINT 181

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

- b. Mount volume 1 on your 181 tape drive.

If the RSU has multiple volumes, either:

- Stack the RSU volumes on 181.
- Attach additional tape drives and mount each volume.

- c. IPL CMS.

**ipl cms**

z/VM V5.3.0    *yyyy-mm-dd hh:mm*

**ENTER**

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

- d. If the volumes are mounted on 181, run SERVICE with no parameters.

**service**

VMFSRV2760I SERVICE processing started

⋮

VMFSRV2760I SERVICE processing completed

successfully

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

- e. If the volumes are mounted on multiple tape drives, run SERVICE with the following parameters:

**service all** *tapeaddr1 tapeaddr2 ...*

VMFSRV2760I SERVICE processing started

⋮

VMFSRV2760I SERVICE processing completed

successfully

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

List the addresses of each tape volume. *tapeaddr1* is the tape address for tape volume 1, *tapeaddr2* is the tape address for tape volume 2, and so forth.

Go to substep 4 on page 43.

3. If the RSU service is electronic or CD-ROM, continue with this substep.

- a. You should have already loaded the service files to a minidisk (*diskaddr*) attached to your first-level user ID. Attach and access the minidisk containing the service files to the MAINT user ID on your second-level system.

```
att diskaddr * diskaddr
Ready;

access diskaddr z
Ready;
```

- b. Obtain the file names of the RSU envelopes on the minidisk (*diskaddr*).

```
listfile * * z
530xRSUn envft z
530xRSUn envft z
```

*x* is the RSU number and *n* is the volume number.

- c. Copy the service files to MAINT's 500 disk and decompress the VMSES/E envelope file.

```
access 500 c
Ready;

deterse 530xRSUn envft z = servlink c
```

You need to enter the DETERSE command for every envelope file you receive with your order.

- d. IPL CMS.

```
ipl cms
z/VM V5.3.0    yyyy-mm-dd hh:mm

ENTER

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

- e. Access the 500 minidisk containing the servlink.

```
access 500 c
Ready;
```

- f. Run SERVICE.

```
service all envfn1 envfn2 ...
VMFSRV2760I SERVICE processing started
:
VMFSRV2760I SERVICE processing completed
successfully
Ready; T=n.nn/n.nn hh:mm:ss
```

List the file names of each PTF or RSU envelope. *envfn1* is the file name for the first envelope, *envfn2* is the file name for the second envelope, and so forth. You can specify more than one envelope file only if the RSU is multivolume.

4. View the SERVICE messages log (VMFVIEW SERVICE) and handle any nonzero return codes. Base your actions on the following table:

If you received . . .	Then . . .
Return code 4	<ol style="list-style-type: none"><li>1. Issue VMFVIEW SERVICE.</li><li>2. Ignore any warning messages listed in the note below. Take appropriate actions based on other warning messages you receive.</li><li>3. Go to "Step 3. Run PUT2PROD EXEC" on page 45.</li></ol>

## Run SERVICE EXEC

If you received . . .	Then . . .
A return code greater than 4	<ol style="list-style-type: none"><li>1. Issue VMFVIEW SERVICE and check for warning and error messages.</li><li>2. Ignore any warning messages listed in the note below. Take appropriate actions based on other warning messages you receive.</li><li>3. Correct all errors reported in the error messages.</li><li>4. Restart by issuing the SERVICE command as displayed in the message VMFSRV2310W.</li><li>5. If you get a nonzero return code, repeat substep 4.</li><li>6. Go to “Step 3. Run PUT2PROD EXEC” on page 45.</li></ol>

**Note:** You can ignore the following messages and their associated VMF1966W message.

- DMSLI0201W The following names are undefined: ISPLINK ARIPRDI
- DMSLI0201W The following names are undefined: DMSDSCSC
- DMSLI0201W The following names are undefined: DMSUSRX1 DMSUSRX2
- DMSLI0202W Duplicate identifier (Associated with object IOACMAIN MODULE.)
- DMSLKD004W Warning messages issued (Associated with objects ILBONBL, ILBONTR, ILBOREC, ILBORNT, ILBOSND, ILBOSNT, and ILBOSSN.)
- VMFSRV1221W The Stand Alone Dump Utility must be rebuilt.

5. Use the VMFUPDAT SYSMEMO command to review any memos that were received with this service.
6. If the PSP bucket contains COR service that should be applied at install, repeat “Step 2. Run SERVICE EXEC” on page 42 to install the service using COR in place of RSU.

### Step 3. Run PUT2PROD EXEC

**In this step, you will:**

- Run PUT2PROD to place the product into production.

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. IPL CMS and access the VMSES/E test build disk.

```
ipl cms
z/VM V5.3.0    yyyy-mm-dd hh:mm
```

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

```
access 5E6 b
Ready;
```

3. Run PUT2PROD.

```
put2prod
VMFP2P2760I PUT2PROD processing started
:
VMFP2P2760I PUT2PROD processing completed successfully
Ready; T=n.nn/n.nn hh:mm:ss
```

4. Handle a nonzero return code. Base your action on the following table.

If you received . . .	Then . . .
Return code 4	<ol style="list-style-type: none"><li>1. Issue VMFVIEW PUT2PROD.</li><li>2. Ignore any warning messages listed in the note below. Take appropriate actions based on other warning messages you receive.</li></ol>
A return code greater than 4	<ol style="list-style-type: none"><li>1. Issue VMFVIEW PUT2PROD and check for warning and error messages.</li><li>2. Ignore any warning messages listed in the note below in this table. Take appropriate actions based on other warning messages you receive.</li><li>3. Correct all errors reported in the error messages.</li><li>4. Issue IPL CMS.</li><li>5. Issue PUT2PROD.</li><li>6. If you get a nonzero return code, repeat substep 4.</li></ol>

**Note:** You can ignore the following messages.

- DMSDCS1083E Saved segment \$\$DMY\$\$ does not exist

## Run PUT2PROD EXEC

- DMSWLG292W Text data will be loaded at '20000'x in user area; user data may be overwritten.
- DTCPRD3043W File *fn ft fm* has been updated; It's contents should be reviewed for changes that may affect your use of this file.
- TCPMSM0002W File TCPIP DATA cannot be located
- TCPMSM0002W TCP/IP appears not to have been configured

## Step 4. Shutdown and Re-IPL Your System

### In this step, you will:

- Shutdown your V5.3 system.
- Re-IPL your V5.3 system using the new CP nucleus.

### 1. Shutdown and re-IPL the V5.3 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.

HCPWRP963I STARTING SHUTDOWN STEP . . .

This will appear on the operator's console.

⋮

HCPWRP962I VM SHUTDOWN COMPLETED IN *nn* SEC

HCPWRP9277I SYSTEM TERMINATION COMPLETE,  
ATTEMPTING RESTART

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

*hh:mm:ss* HCPWRP9277I SYSTEM TERMINATION COMPLETE.  
ATTEMPTING RESTART

*hh:mm:ss* z/VM SYSTEM RESTART FROM SHUTDOWN REIPL

*hh:mm:ss* z/VM V5 R3.0  
SERVICE LEVEL *nnnn* (64-BIT)

*hh:mm:ss* SYSTEM NUCLEUS CREATED ON *yyyy-mm-dd* AT *hh:mm:ss*,  
LOADED FROM 530RES

*hh:mm:ss* \*\*\*\*\*

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

*hh:mm:ss* \* 5741-A05 (C) COPYRIGHT IBM CORP. 1983, \*

*hh:mm:ss* \* 2007. ALL RIGHTS RESERVED. \*

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*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*.

⋮

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

*hh:mm:ss* The directory on volume 530RES at address *nnnn*  
has been brought online.

*hh:mm:ss* HCPWRS2513I

*hh:mm:ss* HCPWRS2513I Spool files available {*nnnn*|none}

## Shutdown and Re-IPL Your System

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

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

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

This message tells you the amount of storage available.

The FILES message here refers to operator spool files.

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

```
hh:mm:ss HCPUS0967I Disconnect OPERATOR - system  
          restarted SHUTDOWN and system console  
          not VM operator console  
hh:mm:ss HCPCRC8082I Accounting records are accumulating for userid DISKACNT  
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 the ENTER or CLEAR key to continue.

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

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

The password for MAINT is MAINT.

#### What to do next

If you want to configure a basic IP network connection at this time, go on to “Step 5. Configure TCP/IP for an Initial Network Connection” on page 49. Otherwise, go to “Step 6. Back Up the Named Saved Systems and Segments to Tape” on page 53.

## Step 5. Configure TCP/IP for an Initial Network Connection

You can optionally configure TCP/IP after you have completed your z/VM installation. The TCP/IP configuration created in this step provides only a basic IP network connection for your z/VM host. In addition, this configuration is suitable for installations that employ only static (as opposed to dynamic) network routes.

If you choose to configure a basic IP network connection for your z/VM host at this time, continue with this step. Otherwise, go to “Step 6. Back Up the Named Saved Systems and Segments to Tape” on page 53.

For details about any DTCIPW messages you may receive while running IPWIZARD, refer to *z/VM: TCP/IP Messages and Codes*.

To establish a TCP/IP configuration that provides more comprehensive TCP/IP services, after you have completed your z/VM installation, see *z/VM: TCP/IP Planning and Customization*.

If you are going to use *z/VM: Getting Started with Linux on System z* to set up your Linux images, skip this step and go to “Step 6. Back Up the Named Saved Systems and Segments to Tape” on page 53.

If you came to this step from *z/VM: Getting Started with Linux on System z*, continue with this step and then return to *z/VM: Getting Started with Linux on System z*.

### In this step, you will:

- Configure a basic IP network connection.

1. Gather the information from the TCP/IP Configuration Worksheet (Table 2 on page 9).
2. Access minidisk 193.

```
access 193 e
Ready; T=n.nn/n.nn hh:mm:ss
```

3. Run IPWIZARD.

```
ipwizard
```

```

*** z/VM TCP/IP Configuration Wizard ***

The items that follow describe your z/VM host.

User ID of VM TCP/IP stack virtual machine: TCPIP__

Host name: _____
Domain name: _____

Gateway IP address: _____

DNS IP Addresses:
1) _____
2) _____
3) _____

:
PF1 = HELP PF3 = QUIT PF8 = Continue ENTER = Refresh

```

4. Using the information you gathered in the TCP/IP Configuration Worksheet (Table 2 on page 9), fill in the panel and press the PF8 key to continue.

## Configure TCP/IP

5. Depending on whether you selected IPv4 or IPv6 addresses, fill in one of the following panels and press the PF8 key to continue.

For **IPv4** interfaces:

```
*** General Interface Configuration Panel ***

Interface name: _____ Device Number: ____

IP Address: _____
Subnet mask: _____

Interface Type (Select one):

    __QDIO          __LCS          __HiperSockets
    __CLAW          __CTC
:
PF1 = HELP PF3 = QUIT PF7 = Backward PF8 = Continue ENTER = Refresh
```

For **IPv6** interfaces:

```
*** General Interface Configuration Panel ***

Interface name: _____ Device Number: ____

IP Address: _____
Prefix Length: ____

Interface Type (Select one):

    __QDIO          __HiperSockets
:
PF1 = HELP PF3 = QUIT PF7 = Backward PF8 = Continue ENTER = Refresh
```

6. Depending on which interface type you selected, fill in one of the following panels, then press the PF5 key to process.

For the **QDIO** interface with **IPv4**:

```
*** QDIO Interface Configuration Panel ***

Network type (Select one):
__Ethernet __Token Ring

Port name (optional): _____

Router type (Select one):
__Primary __Secondary __None

Maximum Transmission Unit (MTU) size: _____
:
PF1 = HELP PF3 = QUIT PF5 = Process PF7 = Backward ENTER = Refresh
```

For the **QDIO** interface with **IPv6**:

```
*** QDIO Interface Configuration Panel ***

Port name (optional): _____

Router type (Select one):
__Primary __Secondary __None

Maximum Transmission Unit (MTU) size: _____

Send Router Advertisements (Select One): __On __Off
:
PF1 = HELP PF3 = QUIT PF5 = Process PF7 = Backward ENTER = Refresh
```

For the **LCS** interface:

```
*** LCS Interface Configuration Panel ***

Network type (Select one):
__Ethernet __Token Ring __FDDI

Port/Adapter number: ____

Maximum Transmission Unit (MTU) size: _____
:
PF1 = HELP PF3 = QUIT PF5 = Process PF7 = Backward ENTER = Refresh
```

For the **HiperSockets** interface with **IPv4**:

```
*** HiperSockets Interface Configuration Panel ***

Maximum Frame Size (MFS): __ K
:
PF1 = HELP PF3 = QUIT PF5 = Process PF7 = Backward ENTER = Refresh
```

For the **HiperSockets** interface with **IPv6**:

```
*** HiperSockets Interface Configuration Panel ***

Maximum Frame Size (MFS): __ K

Send Router Advertisements (Select One): __On __Off
:
PF1 = HELP PF3 = QUIT PF5 = Process PF7 = Backward ENTER = Refresh
```

For the **CLAW** interface:

```
*** CLAW Interface Configuration Panel ***

The items that follow must match values configured on the CLAW device.

CLAW host name: _____
CLAW adapter name: _____

Maximum Transmission Unit (MTU) size: _____
:
PF1 = HELP PF3 = QUIT PF5 = Process PF7 = Backward ENTER = Refresh
```

For the **CTC** interface:

The write channel device numbers from which you can choose, *devnum1* and *devnum2*, automatically display in the CTC Interface Configuration Panel. *devnum1* is the device number specified on the General Interface Configuration panel. *devnum2* is the device number specified on the General Interface Configuration panel plus 1.

```
*** CTC Interface Configuration Panel ***

Write Channel Device Number (Select one):
_ 03E0 _ 03E1

Maximum Transmission Unit (MTU) size: _____

Peer IP Address: _____
:
PF1 = HELP PF3 = QUIT PF5 = Process PF7 = Backward ENTER = Refresh
```

7. The IPWIZARD displays the following and, if the TCP/IP userid is logged on, asks if you want to restart TCP/IP and continue processing.

## Configure TCP/IP

```
DTCIPW2508I DTCIPWIZ EXEC is attempting to create the necessary
DTCIPW2508I configuration files
The TCP/IP stack (TCPIP) must be restarted as part of this procedure. Would
you like to restart TCPIP and continue?
Enter 0 (No), 1 (Yes)
```

If you continue, IPWIZARD tests the information you provided and returns any error that occurred. If no errors are encountered, TCP/IP configuration files containing the network information you provided are created. See *z/VM: TCP/IP Planning and Customization* for additional information on configuring TCP/IP.

## Step 6. Back Up the Named Saved Systems and Segments to Tape

### In this step, you will:

- Back up all the named saved systems and segments, including CMS, to tape.

1. First-level only. Skip this substep if you are installing second-level.
  - a. Attach a tape drive to MAINT.
  - b. Go to substep 3.
2. Second-level only. Skip this substep if you are installing first-level.
  - a. Attach the tape drive to the first-level system.
  - b. Attach the tape drive to MAINT on a second-level system.
3. Mount a scratch tape in write mode.
4. Spool the console.

```
spool console * start
```

5. 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
```

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

```
RDR FILE fileno2 SENT FROM MAINT CON WAS fileno2 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 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.

6. Store the tape for emergency use. If it is ever necessary, you can use this tape and the SPXTAPE command to restore the CMS system data file. For more information about the SPXTAPE command, see the *z/VM: CP Commands and Utilities Reference*. For information on how to restore this tape to your system, see Appendix F, “Restore the Named Saved Systems and Segments from Tape,” on page 197.

### Step 7. Back Up the z/VM System to Tape

#### In this step, you will:

- Load the DDRXA utility to tape
- Use DDRXA to back up the z/VM system to tape.

#### Notes:

1. A complete z/VM system backup includes all of your installation volumes.
2. You should check your Installation Worksheet to make sure you have backed up each volume.
3. This procedure requires a full pack minidisk be defined in the CP directory, USER DIRECT, for each volume you are backing up.
4. If you do not have a tape drive or if you wish to back up to DASD, refer to “Step 8. Back Up the z/VM System to DASD” on page 57.

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. Rewind the scratch tape on virtual device number 181.

```
rewind 181
Rewind complete
```

6. IPL the tape and answer the prompts from DDRXA. For information about DDRXA, see the *z/VM: CP Commands and Utilities Reference* and *z/VM: System Operation*.

```
ipl 181 clear
```

CLEAR is necessary. Do not omit it.

Wait a few moments for DDRXA to prompt you. If a prompt does not appear, press the ENTER key.

```
z/VM DASD DUMP/RESTORE PROGRAM
ENTER CARD READER ADDRESS OR CONTROL STATEMENTS
ENTER:
```

```
sysprint cons
ENTER:
```

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

**input** *devno* **dasd** *valid*  
ENTER:

The second control statement is the input control statement.

*devno* is the full pack minidisk address of the volume you are backing up. You must back up **all** your installation volumes, except the paging volume.

The fullpack minidisk addresses for the default DASD are 122 (530SPL), 123 (530RES), 124 (530W01), 125 (530W02), and so on.

By typing the word **dasd**, the device type (3390) is automatically identified by the DDRXA program.

*valid* is the label of this volume, for example 530RES.

**output** 181 **tape** (**compact**)  
ENTER:

This control statement specifies the device to which you are dumping the system. You can specify one alternate tape drive for additional tape volumes.

**Example:** If you had a tape attached to 181 and an alternate tape attached to 182, the OUTPUT control statement would be:

output 181 tape 182 (compact

By typing the word **tape**, the tape device type is automatically identified by the DDRXA program.

If you are using a 3590 tape, you can use the leave option to dump multiple DASD on one tape volume. The output control statement would be:

output 181 tape (compact leave

**dump** all

This control statement 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 device types. GMT means Greenwich Mean Time.

The exact cylinder extents vary according to the device type.

INPUT CYLINDER EXTENTS		OUTPUT CYLINDER 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.

**Note:** When DDRXA encounters the end of a tape, and there is more data to dump, the program prompts you to mount the next tape.

- If you are using the same tape drive, mount the next tape and DDRXA continues.

## Back Up the z/VM System to Tape

- If you are using an alternate tape drive, DDRXA uses the alternate tape drive, then alternates between the tape drives for additional tapes. That is, if there are more than two tapes, you are prompted for the third tape on the first tape drive, the fourth tape on the second tape drive, and so forth.
7. If you have additional DASD volumes to back up, mount a new tape , if required, and repeat the INPUT, OUTPUT, and DUMP ALL statements for each volume.
  8. To end the program, press the ENTER key.

**ENTER**

END OF JOB

9. Re-IPL CMS.

```
#cp ip1 cms  
z/VM V5.3.0    yyyy-mm-dd hh:mm
```

**ENTER**

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

For information on how to restore your system from tape, refer to Appendix G, “Restore the z/VM System Backup from Tape,” on page 199.

## Step 8. Back Up the z/VM System to DASD

### In this step, you will:

- Use DDR to store a backup of the z/VM system to DASD.

### Notes:

1. A complete z/VM system backup includes all of your installation volumes.
2. You should check your Installation Worksheet to make sure you have backed up each installation volume.
3. This procedure requires a full pack minidisk be defined in the CP directory, USER DIRECT, for each volume you are backing up.
4. If you wish to store a back up to tape, refer to “Step 7. Back Up the z/VM System to Tape” on page 54.

1. Skip this step if you have already stored a backup of your z/VM system on tape.
2. Access the 193 minidisk in read/write mode.

```
access 193 z
Ready; T=n.nn/n.nn hh:mm:ss
```

3. Run DDR and answer the prompts. For information about DDR, refer to *z/VM: CP Commands and Utilities Reference* and *z/VM: System Operation*.

```
DDR
z/VM DASD DUMP/RESTORE PROGRAM
ENTER CARD READER ADDRESS OR CONTROL STATEMENTS
ENTER:
```

```
sysprint cons
ENTER:
```

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

```
input devno dasd valid
ENTER:
```

The second control statement is the input control statement.

*devno* is the full pack minidisk address of the volume you are backing up. You must back up all your installation volumes.

The fullpack minidisk addresses for the default DASD are 122 (530SPL), 123 (530RES), 124 (530W01), 125 (530W02), ....

By typing the word **dasd**, the device type (3390) is automatically identified by the DDR program.

*valid* is the label of this volume, for example 530RES.

```
output devno dasd scratch
ENTER:
```

*devno* is the full pack minidisk address of the volume you are using to backup, you need a separate volume for each volume you are backing up.

```
copy all
```

This control statement dumps the specified volume to the new DASD.

## Back Up the z/VM System to DASD

```
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 device types. GMT means Greenwich Mean Time.

The exact cylinder extents vary according to the device type.

```
INPUT CYLINDER EXTENTS      OUTPUT CYLINDER 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 DDR finishes dumping the volume, it prompts.

4. If you have any more DASD volumes to back up, repeat the INPUT, OUTPUT, and COPY ALL statements for each volume.
5. To end the program, press the ENTER key.

**ENTER**

END OF JOB

## Step 9. Create an IPLable DDR Utility Tape

You can optionally create an IPLable DDR Utility Tape. This tape can be used to IPL DDR stand-alone if you need to run DDR when CMS (and the DDR Module) is not available. If you choose to create the IPLable DDR Utility Tape, continue with this step. Otherwise, go to “Step 10. Create an IPLable ICKDSF Utility Tape” on page 60.

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. Rewind the scratch tape on virtual device number 181.

```
rewind 181
Rewind complete
```

6. IPL the tape and answer the prompts from DDRXA to verify the tape contents. For information about DDRXA, see the *z/VM: CP Commands and Utilities Reference* and *z/VM: System Operation*.

```
ipl 181 clear
```

CLEAR is necessary. Do not omit it.

```
z/VM DASD DUMP/RESTORE PROGRAM
ENTER CARD READER ADDRESS OR CONTROL STATEMENTS
ENTER:
```

Wait a few moments for DDRXA to prompt you. If a prompt does not appear, press the ENTER key. This message verifies that IPLable DDRXA has been written to the tape.

7. Re-IPL CMS.

```
#cp ipl cms
z/VM V5.3.0    yyyy-mm-dd hh:mm
```

**ENTER**

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

8. Rewind the tape and store for future use.

```
tape run
```

---

### Step 10. Create an IPLable ICKDSF Utility Tape

You can optionally create an IPLable ICKDSF Utility Tape. This tape can be used to IPL ICKDSF stand-alone if you need to run ICKDSF when the ICKDSF module is not available. If you choose to create the IPLable ICKDSF Utility Tape, continue with this step. Otherwise, go to “Step 11. Create a Stand-alone Dump Tape” on page 62.

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 ICKDSF utility to tape.

```
utility utiltape dsf
Rewind complete
HCPWUT8317I MOVING IPL ICKDSF TO TAPE
HCPWUT8318I THE IPL ICKDSF PROGRAM IS
              ON TAPE FILE NUMBER 1
Ready; T=n.nn/n.nn hh:mm:ss
```

5. Rewind the scratch tape on virtual device number 181.

```
rewind 181
Rewind complete
```

6. IPL the tape and answer the prompts from ICKDSF to verify the tape contents. For information about ICKDSF, see the *Device Support Facilities: User's Guide and Reference*.

```
ipl 181 clear
```

CLEAR is necessary. Do not omit it.

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

Wait a few moments for ICKDSF to prompt you. If a prompt does not appear, press the ENTER key. 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:
```

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

## 7. Re-IPL CMS.

```
#cp ip1 cms  
z/VM V5.3.0    yyyy-mm-dd hh:mm
```

**ENTER**

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

## 8. Rewind the tape and store for future use.

```
tape run
```

---

### Step 11. Create a Stand-alone Dump Tape

z/VM includes a stand-alone dump utility that you tailor according to your installation's configuration, using CMS. After you generate z/VM, you should create the stand-alone dump utility and place it on tape or a DASD for emergency use. If, after a system failure, CP cannot create an abend dump, you can use the stand-alone dump on tape or DASD to dump all of storage.

For instructions on creating a stand-alone dump utility on tape, refer to chapter 13 in *z/VM: CP Planning and Administration*.

**Note:** Do not use a stand alone dump tape or DASD created from a previous release of z/VM to attempt to dump your V5.3 system. When the HCPSADMP utility asks if you want to create a new HCPSDC MODULE, be sure to answer YES to create a new one for V5.3.

#### What to Do Next

Go to Part 3, "Post z/VM System Installation," on page 133.

---

## Part 2. z/VM System Image DVD Installation

Part 2 contains procedures for installing z/VM from DVD distribution media. If you are installing z/VM from tape distribution media, use Part 1, “z/VM System DDR Installation,” on page 1.

**In this part, you will:**

- Plan your installation from DVD
- Fill in worksheets
- Install the z/VM System image from DVD.



---

## Chapter 5. Plan Your DVD Installation

**In this chapter, you will**

- Plan your installation
- Fill in the Installation and TCP/IP Configuration worksheets.

### Step 1. Understand the Requirements

Before you install V5.3, you must satisfy the following requirements:

#### 1. z/VM media deliverable

- Be sure you have both the installation DVD and the RSU DVD.
- If the RSU (or COR) service is electronic or on CD-ROM you need to receive the service files to a minidisk attached to your installation user ID before IPLing your second-level system. Follow the instructions included with the electronic or CD-ROM service files to receive and restore the service files to a minidisk that can be temporarily attached to your second-level system.

#### 2. General

- Be sure that you have a supported processor for your V5.3 system. For a list of processors supported by z/VM, see *z/VM: General Information*.
- For instructions on how to receive up-to-date service, refer to the z/VM program directory.
- For up-to-date information affecting installation, refer to the "installation information" section in the cp subset of the zvm530 upgrade PSP bucket.
- If you are planning to migrate from another z/VM system, review the *z/VM: Migration Guide*.
- If you plan to deploy Linux on z/VM, see *z/VM: Getting Started with Linux on System z* for important planning information about Linux virtual servers.
- The z/VM FTP installation procedure complies with the FTP client protocol standards described in RFC 959 and RFC 1123. Passive FTP data transfers are used in order to minimize the affects of intervening firewall systems, so your FTP server must support the PASV command.

#### 3. Installation methods

- **First-level installation** can be done from a DVD in the Hardware Management Console's (HMC) DVD drive, a DVD drive connected through a FTP server (DVD drive), or from a FTP server where the files from the DVD have been placed in a FTP accessible directory (FTP server).
  - Hardware requirements
    - Exclusive access to your processor's service element (SE) in order to load your z/VM starter system to RAM.
    - Access to the integrated 3270 console on the HMC (CONS=SYSG) for use as the console during first-level install.
    - A zSeries® processor that supports "Load from CDRom, DVD or Server." This capability allows you to install z/VM from a DVD drive connected to the HMC or a FTP server. For more information, refer to "HMC and support element considerations" below.
    - At least 576 MB of real storage assigned to the LPAR where z/VM will be installed.

**Note:** The storage required for installation is not necessarily the amount you should have assigned for running production workloads. Refer to *z/VM: CP Planning and Administration* for information on determining production storage requirements.

- FTP server requirements
  - The server must comply with RFC 959 and RFC 1123.
  - The server must be able to access the DVD drive or a directory where the contents of the DVDs may be uploaded.
  - The server must have a TCP/IP communication path to the HMC of the LPAR where you will install.
  - If uploading the contents of the DVDs to a directory, there must be at least 3 GB of available space.
- HMC and support element considerations
  - If you wish to use a HMC's DVD drive, then the HMC must communicate with the desired support element. HMCs can only communicate with support element versions that are equal

to or lower than themselves. For example, an HMC version 1.8.0 can communicate with a support element at version 1.7.3, or 1.8.0, but it can not communicate with a support element at version 1.8.2.

- The following support element versions are capable of z/VM installation from DVD with the appropriate HMC or FTP server:
  - zSeries 800
    - Support element version 1.7.3, engineering-change J11213, level 146 or higher must be active.
  - zSeries 890
    - Support element version 1.8.2, no licensed internal code changes are required.
  - zSeries 900
    - Support element versions less than 1.7.3, loading of z/VM from DVD is not possible.
    - Support element version 1.7.3, engineering-change J11213, level 146 or higher must be active.
  - zSeries 990
    - Support element version 1.8.0, engineering-change J12560, level 054 or higher must be active.
    - Support element version 1.8.2, no licensed internal code changes are required.

**Note:** IBM System z9™ and later servers do not require any licensed internal code changes to support z/VM installation from DVD.

- **Second-level installation** can be done from a DVD drive connected through a FTP server (DVD drive), from a FTP server where the files from the DVD have been placed in a FTP accessible directory (FTP server), or from a minidisk (VM minidisk).

To install using the DVD drive installation method, you must use a DVD drive connected through a FTP server. To install using the FTP server installation method, you must upload the contents of the DVD to a directory on the server. To install using the VM minidisk installation method, you must upload the contents of the DVD to a minidisk that is CMS-formatted and can be accessed by your installation user ID.

- Hardware requirements
  - A first-level system running z/VM version 5.
  - Access to a local non-SNA 3270 terminal, or equivalent, configured with at least 24 lines, or an integrated 3270 console.
- FTP server requirements
  - The server must comply with RFC 959 and RFC 1123.
  - The server must be able to access the DVD drive or a directory where the contents of the DVDs may be uploaded.
  - The server must have a TCP/IP communication path to the system you are using to install.
  - If uploading the contents of the DVDs to a directory, there must be at least 3 GB of available space.
- User ID requirements
  - A copy of the INSTPIPE MODULE from your current system, which is shipped on the MAINT 2CC minidisk.
  - Privilege classes of at least B and G.
  - At least 64 MB of virtual storage.
  - A 191 read/write minidisk accessed as A.
  - A 2222 read/write minidisk that is exactly:
    - 5 cylinders (3390) or
    - 7200 512-KB blocks (fba)

## Understand the Requirements

- A 22CC read/write minidisk that is exactly:
  - 5 cylinders (3390) or
  - 7200 512-KB blocks (fba)
- A 2CF1 read/write minidisk that is exactly:
  - 120 cylinders (3390) or
  - 172800 512-KB blocks (fba)
- If installing from a VM minidisk, access to a CMS-formatted minidisk that is the equivalent of at least 4500 3390 cylinders.

## Step 2. Complete the Installation and Basic IP Connectivity Worksheets

1. Determine the installation method you will use.
  - Choose first-level installation if no supported z/VM system is running on the processor or LPAR on which you are installing.
  - Choose second-level installation if you are installing in a virtual machine on a supported z/VM system.
2. Record the installation method you selected to use to install z/VM in the Installation Worksheet (Table 8 on page 72). Your choices are first-level or second-level.
3. Determine which products you will load into the VMSYS file pool and which products you will load to minidisks only. Each product on the z/VM System DVD allows VMSYS file pool directories to be used in place of some minidisks. Record your choices in the Installation Worksheet (Table 8 on page 72).
4. Select your system default language and record your choice in the Installation Worksheet (Table 8 on page 72). The choices are:
  - Mixed Case English (AMENG)
  - Uppercase English (UCENG)
  - German (GERMAN)
  - Kanji (KANJI)
5. Select the DASD type and model you will use to install, and record the DASD information on the "DASD Type and Model" line in the Installation Worksheet (Table 8 on page 72).
  - If you are using the FBA (SCSI) DVD, record FBA for the DASD model.
  - If you are using the 3390 DVD, record either 3390 Model 3 or 3390 Model 9.

For performance reasons, IBM recommends using emulated 3390 Model 9s instead of real 3390 Model 9s.

### Notes:

- a. DASD size is not checked during installation.
  - b. If you select 3390 Model 3, installation uses the first 3338 cylinders on each DASD and ignores any cylinders beyond 3338.
  - c. If you select 3390 Model 9, installation uses the first 10017 cylinders on each DASD and ignores any cylinders beyond 10017.
  - d. If you select FBA DASD, installation uses up to the size entered on the INSTPLAN panel.
6. Determine the number of DASD volumes required to install.

**Note:** The INSTPLAN command, which is run early in the installation procedure, will tell you exactly how many volumes are required.

- a. If you choose 3390 Model 3 you need:
  - One 3390 Model 3 DASD (3339 cylinders) for the 530RES volume.
  - One volume each for 530PAG and 530SPL. These DASD can be any model 3390. A 3390 Model 3 is suggested.
  - Up to three 3390 Model 3 DASD (3339 cylinders each) for user work volumes (530W01, 530W02, and 530W03) depending on where you choose to install the products that are shipped with z/VM.
    - If you install all products either to minidisk or to a shared file system, but not a combination of, you will need only two user work volumes.

## Complete the Installation and Basic IP Connectivity Worksheets

- If you install products to a combination of minidisk and shared file system, two work volumes might be enough, but you should have a third volume available if you need it.

**b.** If you choose 3390 Model 9 you need:

- One 3390 Model 9 DASD (10017 cylinders) for the 530RES volume.
- One volume each for 530PAG and 530SPL. These DASD can be any model 3390. A 3390 Model 3 is suggested.
- One 3390 Model 9 DASD (10017 cylinders) for a user work volume (530W01) depending on where you choose to install the products that are shipped with z/VM.
  - If you install all products either to minidisk or to a shared file system, but not a combination of, you will not need this volume.
  - If you install products to a combination of minidisk and shared file system, you might not need this volume, but you should have it available if you need it.

**C.** If you choose FBA (SCSI), you need:

- One volume each for 530PAG and 530SPL. These volumes can be any size (minimum of 1 GB) and will be fully allocated.
- One volume for 530RES. This volume should be an FBA disk with 3.5 to 10.0 GB of space.
- Up to two volumes for 530W01 and 530W02 depending on the size of 530RES. These volumes should be at least as large as 530RES because the installation programs assumes they are all the same size.

**Note:** INSTPLAN will ask for the 530RES FBA disk size. The size may be 3.5 to 10.0 GB. If you are using a disk larger than 10 GB, you must enter 10.0G on the panel. Installation will only use up to 10 GB and IBM suggests that you do not use any left over space on 530RES. Record the size on the "SCSI Disk Size" line of the Installation Worksheet (Table 8 on page 72).

7. If you are using FBA (SCSI) disks, and they are already defined, you need only the DASD addresses of the volumes and can continue to the next substep. If they are not already defined, you need to know the WWPN and LUN address for each disk, as well as either the valid FCP address(es) or the channel path (CHPID) they belong to. Record each LUN and its corresponding WWPN in the SCSI Device Definition Worksheet (Table 9 on page 72). Also make a note of the valid FCP address(es) or CHPID.
8. Record the DASD addresses for each DASD you selected in the Installation Worksheet (Table 8 on page 72) under the *DASD Address* column. Record your first address in the row with the label "530RES" and continue recording addresses corresponding to the labels. If you need fewer than all the DASD labels in the table, disregard the extra labels.
9. If you are changing the installation pack labels, record the new pack labels in the Installation Worksheet (Table 8 on page 72).  
For each default label you wish to change, record the new label in the Installation Worksheet (Table 8 on page 72) under the *New Label* column. The label, 530RES, cannot be changed.
10. If, after you install z/VM, you want to establish a minimal TCP/IP configuration that establishes basic connectivity to your IP network, fill in the IP worksheets beginning with Table 10 on page 73 and then return here.

## Step 3. Choose the Document to Use for Installation

There are two sets of instructions for using either installation method:

- *z/VM: Summary for Automated Installation and Service (DVD Installation)* contains only the commands needed to install z/VM.

The one-page installation and service summary is packaged with the *z/VM: Guide for Automated Installation and Service*.

### Notes:

1. To use the one-page summary you need to be familiar with using the HMC and SE. If installing to SCSI disk (FBA) you also need to be familiar with defining and using SCSI disks.
  2. You cannot use the summary to perform a second-level installation from VM minidisk. You must use the *z/VM: Guide for Automated Installation and Service* (this guide) for this method.
- *z/VM: Guide for Automated Installation and Service* (this guide) contains the commands needed to install z/VM, in addition to descriptions of the parameters used and messages received.

If you are using the procedure described in *z/VM: Summary for Automated Installation and Service (DVD Installation)*, leave this document and use the one-page document. Otherwise, proceed according to the installation method that fits your situation:

If you chose the. . .	Then go to. . .
First-level installation method	Chapter 6, "First-Level DVD Installation Method," on page 75
Second-level installation method	Chapter 7, "Second-Level DVD Installation Setup," on page 81

## Choose the Document

### Worksheets

Table 8. Installation Worksheet

Installation method (First-Level or Second-Level): _____					
Below, in the <i>Install To</i> column, record an "M" if you will load the product to a minidisk, or an "F" if you will load the product to the VMSYS file pool.					
<b>Install To</b>	<b>Product</b>	<b>Install To</b>	<b>Product</b>	<b>Install To</b>	<b>Product</b>
	VM		RSCS		TCPIP
	OSA		ICKDSF		DIRM
	RACF		PERFTK		VMHCD
System Default Language: _____					
DASD Type and Model: _____					
SCSI Disk Size: _____ GB					
<b>Pack Type</b>	<b>DASD Label</b>	<b>New Label</b>	<b>DASD Address</b>		
RES	530RES	530RES			
SPOOL	530SPL				
PAGE	530PAG				
USER1	530W01				
USER2	530W02				
USER3	530W03				
DVD/FTP directory path name: _____					
Address of VM minidisk to upload DVD: _____					

Table 9. SCSI Device Definition Worksheet

<b>DASD</b>	<b>edevic address</b>	<b>fcp address</b>	<b>WWPN</b>	<b>LUN</b>
530RES				
530SPL				
530PAG				
530W01				
530W02				
530W03				
Channel Path (CHPID): _____				
Valid FCP Addresses: _____				

After you have completed your z/VM installation, you can optionally create a minimal TCP/IP configuration that establishes basic connectivity to your IP network. If you choose to perform this configuration, you must gather the following information from your network system administrator and record the information in the TCP/IP Configuration Worksheet (Table 10) and the appropriate interface worksheet. In these worksheets, a number in parentheses following a field description, for example “Host name (20),” is the maximum length for that field.

*Table 10. TCP/IP Configuration Worksheet*

z/VM user ID of the VM TCP/IP stack virtual machine: (Default value is TCPIP. If you change this userid, you must define the userid in your user directory before running the IPWIZARD)	
Host name (20):	
Domain name (40):	
DNS IP address (up to three addresses) :	1) _____ 2) _____ 3) _____
Gateway IP address :	
Interface name (16):	
Device number:	
IP address:	
IPv4 Subnet mask (15) or IPv6 Prefix Length (3):	
Choose the interface you will be using (check one):	<input type="checkbox"/> QDIO <input type="checkbox"/> LCS <input type="checkbox"/> HiperSockets <input type="checkbox"/> CLAW <input type="checkbox"/> CTC  Refer to the appropriate interface worksheet to record more information.  IPv6 is available only for QDIO and HiperSockets devices.

*Table 11. QDIO Interface Worksheet*

Network type (select one):	<input type="checkbox"/> Ethernet <input type="checkbox"/> Token Ring  IPv6 is not available for Token Ring adaptors.
Port name (optional) (8):	
Router type (select one):	<input type="checkbox"/> Primary <input type="checkbox"/> Secondary <input type="checkbox"/> None
Maximum Transmission Unit (MTU) size:	
Router advertisements (IPv6 only)	<input type="checkbox"/> On <input type="checkbox"/> Off

## Choose the Document

Table 12. LCS Interface Worksheet

Network type (select one):	<input type="checkbox"/> Ethernet <input type="checkbox"/> Token Ring <input type="checkbox"/> FDDI
Port/Adapter number:	
Maximum Transmission Unit (MTU) size:	

Table 13. HiperSockets Interface Worksheet

Maximum Frame Size (MFS): (in kilobytes)	
Router advertisements (IPv6 only)	<input type="checkbox"/> On <input type="checkbox"/> Off

Table 14. CLAW Interface Worksheet

CLAW host name (8): (This name must match the host-name configured on the CLAW device)	
CLAW adapter name (8): (This name must match the device-name configured on the CLAW device)	
Maximum Transmission Unit (MTU) size:	

Table 15. CTC Interface Worksheet

Write Channel Device Number (select one):	<input type="checkbox"/> This choice contains the device number specified on the main z/VM TCP/IP Configuration Wizard panel. <input type="checkbox"/> This choice contains the device number specified on the main z/VM TCP/IP Configuration Wizard panel plus 1.
Maximum Transmission Unit (MTU) size:	
Peer IP Address:	

---

## Chapter 6. First-Level DVD Installation Method

**In this chapter, you will:**

- Use step-by-step procedures to install the z/VM System Image DVD in a new system environment.

---

### Step 1. Load the RAMDISK from the Processor HMC

**In this step, you will:**

- Load the RAM disk from DVD.

**Note:** Make sure that any DASD with the same labels you are using for installation are not attached to your system.

1. Before you begin, fill out the Installation Worksheet (Table 8 on page 72) in Chapter 5, “Plan Your DVD Installation.”
2. If installing from:
  - The Hardware Management Console's (HMC) DVD drive, load the z/VM System DVD in the HMC DVD drive.
  - A DVD drive with a FTP connection to the HMC, load the z/VM System DVD in the FTP DVD drive.
  - A FTP server, upload the z/VM System DVD contents to a new directory on the FTP server.
3. On the HMC, bring up an integrated 3270 console for the LPAR you are using to install.
  - a. From the HMC Workplace window, double click on **Groups**.
  - b. From the GROUPS WORK AREA window, double click on **CPC IMAGES**.
  - c. From the CPC IMAGES WORK AREA window, highlight the LPAR on which you are going to install.
  - d. From the CPC RECOVERY window, double click on **Integrated 3270 Console**. The Integrated 3270 Console window is displayed, which is where the messages are displayed when the system IPLs.
4. On the HMC, bring up the primary support element (SE) for the LPAR you are using to install.
  - a. From the HMC Workplace window, double click on **Groups**.
  - b. From the GROUPS WORK AREA window, double click on **DEFINED CPCs**.
  - c. From the DEFINED CPCs WORK AREA window, highlight the processor on which you are going to install.
  - d. From the CPC RECOVERY window, double click on the **Single Object Operations** icon. The Single Operation Task Confirmation box is displayed. Click **Yes** when prompted to continue. The Primary Support Element Workplace window is displayed. You now have control of the SE.
5. On the primary support element (SE) select **Load from CD-ROM, DVD or Server** from the CPC Recovery area of the LPAR you are using to install.
  - a. On the Primary Support Element Workplace window, double click on **TASKLIST**.
  - b. From the Task List work area, double click on **CPC Recovery**.
  - c. On the Primary Support Element Workplace window, double click on **GROUPS**.
  - d. From GROUPS WORK AREA of the Primary Support Element Workplace window, double click on **IMAGES**. All of the available LPARS are displayed. Highlight the LPAR you are going to use.
  - e. From CPC RECOVERY of the Primary Support Element Workplace window, double click on **Load from CD-ROM, DVD or Server**. Click **Yes** when the Load from CD-ROM, DVD or Server Task confirmation box is displayed.
6. Select one of the following from the Load from CD-ROM, DVD or Server window:

- Hardware Management Console CD-ROM
- Local CD\_ROM
- FTP Source

If you are loading from the HMC's DVD drive, select **Hardware Management Console CD-ROM**.

If you are loading from a DVD drive with a FTP connection to the HMC or from a FTP server, select **FTP Source**.

7. Fill in the fields in the Load from CD-ROM, DVD or Server window.

- If you selected load from **Hardware Management Console CD-ROM**, fill in file location with /CPDVD.
- If you selected load from **FTP Source**, fill in the fields with your FTP connection information and the file location of the FTP path to your DVD drive or FTP server directory according to the conventions used by your server. If loading from DVD, append CPDVD to the end of your path.

**Note:** If using a DVD drive, wait until the light on the drive goes out or stops blinking before continuing.

8. Load the RAMDISK.

- a. From the Load from CD-ROM, DVD or Server window, select the Software to Load window, select **530VM.ins**, and click on **Continue**.
- b. From the Confirm the action window, click on **Yes**.
- c. Messages are displayed in the Load from CD-ROM, DVD or Server Progress window indicating the status of the load. When a message is displayed indicating the load is successful, click **OK** to close and return to the Integrated 3270 Console window for the LPAR you are using to install.

### Step 2. IPL the z/VM RAMDISK

#### In this step, you will:

- Bring up the RAMDISK system.

1. The RAMDISK IPLs and the system comes up with the user ID MAINT logged on. System messages are displayed in the Integrated 3270 Console window.
2. The IPL continues.

```
hh:mm:ss z/VM V5 R3.0
        SERVICE LEVEL nnnn (64-BIT)

hh:mm:ss SYSTEM NUCLEUS CREATED ON yyyy-mm-dd AT hh:mm:ss,
        LOADED FROM $RAMD$
hh:mm:ss *****
hh:mm:ss * LICENSED MATERIALS - PROPERTY OF IBM* *
hh:mm:ss * 5741-A05 (C) COPYRIGHT IBM CORP. 1983, *
hh:mm:ss * 2007. 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 $RAMD$ (device xxxx).
hh:mm:ss HCPZC06718I Parm disk resides on blocks xxx through xxx.
```

3. The system logs on the MAINT user ID.

```
hh:mm:ss The directory on volume $RAMD$ at address nnnn
        has been brought online.

hh:mm:ss HCPWRS2512I Spooling initialization is complete.
hh:mm:ss No dump unit - Dump function is SET OFF
hh:mm:ss HCPAAU2700I System gateway IBMVMRAM identified.
hh:mm:ss z/VM Version 5 Release 3.0, Service Level 0000 (64-bit),
hh:mm:ss built on IBM Virtualization Technology
hh:mm:ss There is no logmsg data
hh:mm:ss FILES: NO RDR, NO PRT, NO PUN
hh:mm:ss LOGON AT hh:mm:ss EDT DAY mm/dd/yy
hh:mm:ss SYSG LOGON AS MAINT USERS = n
hh:mm:ss HCPIOP952I nnnnM system storage
hh:mm:ss FILES: nnnnnnnn RDR, nnnnnnnn PRT, NO PUN
HCPCRC8082I Accounting records are accumulating for userid OPERACCT
HCPCRC8082I EREP records are accumulating for userid OPERACCT

DMSIND2015W Unable to access the Y-disk. Filemode Y (19E)not accessed
DMSWSP327I The installation saved segment could not be loaded
z/VM V5.3.0 yyyy-mm-dd hh:mm
DMSDCS1083E Saved segment CMSPIPES does not exist
DMSDCS1083E Saved segment CMSPIPES does not exist
DMSDCS1083E Saved segment CMSVMLIB does not exist
Ready; T=n.nn/n.nn hh:mm:ss
```

4. Once the system is up, with the user ID MAINT logged on, you can log off the primary support element (SE).  
From the Primary Support Element Workplace window, left click the upper-left corner and select **Logoff** or left click on the **X** in the upper-right corner.

5. Continue installing z/VM from the Integrated 3270 Console window.

**What to Do Next**

Go to Chapter 8, “Load the System Image,” on page 95.



---

## Chapter 7. Second–Level DVD Installation Setup

**In this chapter, you will:**

- Set up the user ID for installation.
- Run the DVDPRIME EXEC.

---

**If you chose to. . .**

**Then go to . . .**

---

Install from a DVD drive

“From a DVD Drive” on page 82

---

Install from a FTP server

“From a FTP Server” on page 86

---

Install from a VM minidisk

“From a VM Minidisk” on page 90

---

---

## From a DVD Drive

### Step 1. Set up the User ID for Installation

**In this step, you will**

- Complete the Installation Worksheet.
- Load the z/VM System DVD in the DVD drive.
- Log on to your first-level use ID.

1. Before you begin, fill out the Installation Worksheet (Table 8 on page 72) in Chapter 5, “Plan Your DVD Installation,” on page 65.
2. Load the z/VM System DVD in the DVD drive of the FTP server you are using for installation. Wait until the light on the DVD drive goes out or stops blinking to continue.
3. Log on to the first-level user ID that you will use to install V5.3.
4. Make sure your user ID meets the second-level installation user ID requirements on page 67.
5. Verify you have a 2222 read/write minidisk with exactly 5 cylinders if installing to 3390 or 7200 512-KB blocks if installing to FBA.

```
query v 2222
DASD 2222 3390 xxxxxx R/W      5 CYL ON DASD  nnnn SUBCHANNEL = nnnn
Ready; T=n.nn/n.nn hh:mm:ss
```

6. Access the disk containing the INSTPIPE MODULE. The INSTPIPE MODULE is shipped on the MAINT 2CC minidisk.

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

7. Copy the files needed to run DVDPRIME from the DVD to the 2222 minidisk.

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

pipe ftpget -h host -u userid -p password -d ftpdir/CPDVD
-v BEF -DVDEOF -f ddd222* |UNPACK| restcmd 2222
```

*host* is the IP address or FTP host name.

*userid* is the user ID used to log onto the FTP server.

*password* is the password for the user ID used to log onto the FTP server.

*ftpdir* is the path to the DVD drive with /CPDVD appended to the end of the path.

*ddd* is CKD for 3390 or FBA for FBA.

*restcmd* is ECKDREST for 3390 or MDREST for FBA.

**Note:** In the above PIPE command you may use a different stage separator by including the **stagesep** keyword. For example:

```
pipe ( stagesep ! ) ftpget -h host -u userid -p
password -d ftpdir/CPDVD -v BEF -DVDEOF -f
ddd222* !UNPACK! restcmd 2222
```

## From a DVD Drive - Setup the User ID for Installation

{FBA222\* | CKD222\*}

DMSRXS1408W File TCPIP DATA \* not found

You may not receive this message.

{MDREST|ECKDREST}: WROTE *nnn* {BLOCKS|TRACKS} ON 2222, RC=0  
Ready; T=*n.nn/n.nn hh:mm:ss*

### Step 2. Run DVDPRIME EXEC

#### In this step, you will:

- Run the DVDPRIME EXEC to load the 22CC and 2CF1 disks.

1. IPL CMS to remove the old INSTPIPE module from storage.

```
ipl cms  
z/VM V5.3.0    yyyy-mm-dd hh:mm
```

**ENTER**

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

2. Access the 2222 disk as C.

```
access 2222 c  
Ready; T=n.nn/n.nn hh:mm:ss
```

3. Verify the first occurrence of the INSTPIPE MODULE is on the C disk. Remove or rename all other copies.

```
listfile instpipe module *  
INSTPIPE MODULE C1  
Ready; T=n.nn/n.nn hh:mm:ss
```

4. Run DVDPRIME with the *dasdtype* you are using to install.

```
dvdprime dasdtype (dvd)           dasdtype is 3390 or FBA.
```

5. Complete the DVDPRIME PANEL by filling in the information for your FTP server.

\*\*\* DVDPRIME PANEL \*\*\*

Enter information in empty fields and press PF5 to process.

HOSTNAME OR IP ADDRESS: \_\_\_\_\_

FTP USERID: \_\_\_\_\_

FTP PASSWORD: \_\_\_\_\_

DVD PATHNAME: \_\_\_\_\_

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

Figure 5. Installation Planning Panel

#### HOSTNAME OR IP ADDRESS:

This field should be filled in with the IP ADDRESS or HOSTNAME of your z/VM system. A host name must begin with a letter, and may contain only alphanumeric characters (A-Z,a-z,0-9) or hyphens (-). For example: **MyOrg-VM01**

Specify an IP address in dotted-decimal form for your IP version 4 interface. For example:  
**129.42.16.99**

#### FTP USERID:

User ID used to log onto the FTP server. Must be 40 or less alphanumeric characters.

## FTP PASSWORD:

Password used to log onto the FTP server. Must be 40 or less alphanumeric characters.

## DVD PATHNAME:

Enter the path to the DVD drive according to the conventions used by your server and append CPDVD to the end of your path. The maximum length is 40 characters. For example:

```
mydvddrive/CPDVD
cpdvd
e:/cpdvd
vmftpdir/CPDVD
```

## 6. Press the PF5 key to process.

### PF5

```
HCPDVP8440I NOW LOADING 22CC DISK
{FBA222* | CKD222*}
```

DMSRXS1408W File TCPIP DATA \* not found

You may not receive this message

```
{MDREST|ECKDREST}: WROTE nnnn {BLOCKS|TRACKS} ON 22CC, RC=0
```

```
HCPDVP8440I NOW LOADING 2CF1 DISK
{FBACF1* | CKDCF1*}
```

DMSRXS1408W File TCPIP DATA \* not found

You may not receive this message.

```
PROCESSING {FBACF100 | CKDCF100}
```

```
:
```

```
PROCESSING {FBACF10n | CKDCF10n}
```

```
{MDREST|ECKDREST}: WROTE nnnn {BLOCKS|TRACKS} ON 2CF1, RC=0
```

```
HCPDVP8392I DVDPRIME EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss
```

## What to Do Next

Go to Chapter 8, "Load the System Image," on page 95.

---

## From a FTP Server

### Step 1. Set up the User ID for Installation

**In this step, you will**

- Complete the Installation Worksheet
- Upload the DVD contents to your FTP server
- Log on to your first-level use ID

1. Before you begin, fill out the Installation Worksheet (Table 8 on page 72) in Chapter 5, “Plan Your DVD Installation,” on page 65.
2. Upload the DVD contents to the FTP server.
  - a. Create a new directory on the FTP server. The maximum length of the directory path name is 40 characters. The FTP server will need at least 3 GB of free space.
  - b. Upload the DVD contents to the directory. Once the contents of the product package DVD have been uploaded, upload the contents of the RSU DVD to the same directory overwriting any duplicate files.
3. Log on to the first-level user ID that you will use to install V5.3.
4. Make sure your user ID meets the second-level installation user ID requirements on page 67.
5. Verify you have a 2222 read/write minidisk with exactly 5 cylinders if installing to 3390 or 7200 512-KB blocks if installing to FBA.

```
query v 2222
DASD 2222 3390 xxxxxx R/W      5 CYL ON DASD  nnnn SUBCHANNEL = nnnn
Ready; T=n.nn/n.nn hh:mm:ss
```

6. Access the disk containing the INSTPIPE MODULE. The INSTPIPE MODULE is shipped on the MAINT 2CC minidisk.

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

7. Copy the files needed to run DVDPRIME from the FTP server to the 2222 minidisk.

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

pipe ftpget -h host -u userid -p password -d ftpdir
-v BEF -DVDEOF -f ddd222* |UNPACK| restcmd 2222
```

## From a FTP Server - Set up the User ID for Installation

*host* is the IP address or FTP host name.

*userid* is the user ID used to log onto the FTP server.

*password* is the password for the user ID used to log onto the FTP server.

*ftpd* is the path to the FTP server.

*ddd* is CKD for 3390 or FBA for FBA.

*restcmd* is ECKDREST for 3390 or MDREST for FBA.

**Note:** In the above PIPE command you may use a different stage separator by including the **stagesep** keyword. For example:

```
pipe ( stagesep ! ) ftpget -h host -u userid -p  
password -d ftpd -v BEF -DVDEOF -f ddd222*  
!UNPACK! restcmd 2222
```

```
{FBA222* | CKD222*}
```

```
DMSRXS1408W File TCPIP DATA * not found
```

You may not receive this message.

```
{MDREST|ECKDREST}: WROTE nnn {BLOCKS|TRACKS} ON 2222, RC=0  
Ready; T=n.nn/n.nn hh:mm:ss
```

### Step 2. Run DVDPRIME EXEC

#### In this step, you will:

- Run the DVDPRIME EXEC to load the 22CC and 2CF1 disks.

1. IPL CMS to remove the old INSTPIPE module from storage.

```
ipl cms  
z/VM V5.3.0    yyyy-mm-dd hh:mm
```

**ENTER**

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

2. Access the 2222 disk as C.

```
access 2222 c  
Ready; T=n.nn/n.nn hh:mm:ss
```

3. Verify the first occurrence of the INSTPIPE MODULE is on the C disk. Remove or rename all other copies.

```
listfile instpipe module *  
INSTPIPE MODULE C1  
Ready; T=n.nn/n.nn hh:mm:ss
```

4. Run DVDPRIME with the *dasdtype* you are using to install.

```
dvdprime dasdtype (server)          dasdtype is 3390 or FBA.
```

5. Complete the DVDPRIME PANEL by filling in the information for your FTP server.

\*\*\* DVDPRIME PANEL \*\*\*

Enter information in empty fields and press PF5 to process.

HOSTNAME OR IP ADDRESS: \_\_\_\_\_

FTP USERID: \_\_\_\_\_

FTP PASSWORD: \_\_\_\_\_

DVD PATHNAME: \_\_\_\_\_

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

Figure 6. Installation Planning Panel

#### HOSTNAME OR IP ADDRESS:

This field should be filled in with the IP ADDRESS or HOSTNAME of your z/VM system. A host name must begin with a letter, and may contain only alphanumeric characters (A-Z,a-z,0-9) or hyphens (-). For example: **MyOrg-VM01**

Specify an IP address in dotted-decimal form for your IP version 4 interface. For example:  
**129.42.16.99**

#### FTP USERID:

User ID used to log onto the FTP server. Must be 40 or less alphanumeric characters.

**FTP PASSWORD:**

Password used to log onto the FTP server. Must be 40 or less alphanumeric characters.

**DVD PATHNAME:**

Enter the path to the FTP server according to the conventions used by your server. The maximum length is 40 characters. For example:

```
mydvddrive/ftpdire:/dirnamevmftpdire
```

**6. Press the PF5 key to process.**

**PF5**

```
HCPDVP8440I NOW LOADING 22CC DISK
{FBA222* | CKD222*}
```

```
DMSRXS1408W File TCPIP DATA * not found
```

You may not receive this message

```
{MDREST|ECKDREST}: WROTE nnnn {BLOCKS|TRACKS} ON 22CC, RC=0
```

```
HCPDVP8440I NOW LOADING 2CF1 DISK
{FBACF1* | CKDCF1*}
```

```
DMSRXS1408W File TCPIP DATA * not found
```

You may not receive this message.

```
PROCESSING {FBACF100 | CKDCF100}
```

```
:
```

```
PROCESSING {FBACF10n | CKDCF10n}
```

```
{MDREST|ECKDREST}: WROTE nnnn {BLOCKS|TRACKS} ON 2CF1, RC=0
```

```
HCPDVP8392I DVDPRIME EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss
```

**What to Do Next**

Go to Chapter 8, "Load the System Image," on page 95.

---

## From a VM Minidisk

### Step 1. Set up the User ID for Installation

**In this step, you will**

- Complete the Installation Worksheet
- Log on to your first-level user ID
- Copy the product DVD contents to a VM minidisk
- Copy the RSU DVD contents to a VM minidisk
- Restore the DVDPRIME files to the 2222 minidisk

1. Before you begin, fill out the Installation Worksheet (Table 8 on page 72) in Chapter 5, “Plan Your DVD Installation,” on page 65.
2. Log on to the first-level user ID that you will use to install V5.3.
3. Make sure your user ID meets the second-level installation user ID requirements on page 67.
4. If necessary, link the minidisk to be used to contain the image files.
5. Copy the contents of the DVD to a VM minidisk accessed as W. The minidisk needs to be the equivalent of at least 4500 cylinders of 3390 DASD.
  - a. Load the z/VM System DVD in the DVD drive of the FTP server you are using for installation. Wait until the light on the DVD drive goes out or stops blinking before continuing.
  - b. Access the minidisk address as W.

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

*diskaddr* is the address of the CMS-formatted minidisk where the DVD files are to be copied.

- C. Access the TCPIP client code disk.

```
link tcpmaint 592 592 rr
Ready; T=n.nn/n.nn hh:mm:ss
```

```
access 592 z
Ready; T=n.nn/n.nn hh:mm:ss
```

- d. Copy the files from the product DVD.

```
term more 1 1
Ready;
```

```
ftp
VM TCP/IP FTP Level nnn
OPEN (name of foreign host):
```

*host*

*host* is the IP address or FTP host name.

```
Connecting to host
220 FTP Server ready...
USER (identify yourself to the host):
```

*userid*

*userid* is the user ID used to log onto the FTP server.

```
>>>USER userid
331 User name okay, need password.
Password:
```

## From a VM Minidisk - Set up the User ID for Installatoin

*password*

*password* is the password for the user ID used to log onto the FTP server.

```
>>>PASS *****
230 User logged in, proceed
Command:
```

**cd ftpdir/CPDVD**

*ftpdir* is the path to the DVD drive with /CPDVD appended to the end of the path. For example, e:/CPDVD.

```
>>>CWD ftpdir/CPDVD
250 Directory changed to ftpdir/CPDVD
Command:
lcd w
```

Local directory mode is 'W'

```
Command:
binary f 1028
>>>TYPE i
200 Type set to I.
Command:
```

**mget ddd\***

*ddd* is CKD for 3390 or FBA for FBA. These must be entered in uppercase.

```
>>>TYPE a
200 Type set to A
>>>PORThost
200 PORT Command successful.
>>>NLST ddd*
150 Opening ASCII mode data connection for /bin/ls.
226 Transfer complete.
>>>TYPE i
200 Type set to I.
```

### The following is repeated for each file transferred

```
>>>PORT host
200 PORT Command successful.
>>>RETR dddnnnnn
150 Opening BINARY mode data connection for dddnnnnn (nnnnnnn Bytes).
nnnnnnn bytes transferred.
226 Transfer complete.
nnnnnnn bytes transferred in nn.nnn seconds. Transfer rate nnn.nn Kbytes/sec.
```

```
Command:
quit
>>>QUIT
221 Goodbye!
Ready;
```

6. Copy the contents of the RSU DVD to the same VM minidisk used for the product DVD.
  - a. Load the z/VM RSU DVD in the DVD drive of the FTP server you are using for installation. Wait until the light on the DVD drive goes out or stop blinking before continuing.
  - b. Copy the RSU files from the DVD.

```
ftp
VM TCP/IP FTP Level nnn
OPEN (name of foreign host):
```

## From a VM Minidisk - Set up the User ID for Installatoin

*host*

*host* is the IP address or FTP host name.

```
Connecting to host
220 FTP Server ready...
USER (identify yourself to the host):
```

*userid*

*userid* is the user ID used to log onto the FTP server.

```
>>>USER userid
331 User name okay, need password.
Password:
```

*password*

*password* is the password for the user ID used to log onto the FTP server.

```
>>>PASS *****
230 User logged in, proceed.
Command:
```

**cd *ftpd*dir/CPDVD**

*ftpd*ir is the path to the DVD drive with /CPDVD appended to the end of the path. For example, e:/CPDVD.

```
>>>CWD ftpdir/CPDVD
250 Directory changed to ftpdir/CPDVD
Command:
lcd w
Local directory mode is 'W'
```

```
Command:
binary f 1028
>>>TYPE i
200 Type set to I.
Command:
```

**mget *ddd*\* (replace**

*ddd* is CKD for 3390 or FBA for FBA. These must be entered in uppercase.

```
>>>TYPE a
200 Type set to A
>>>PORT host
200 PORT Command successful.
>>>NLST ddd*
150 Opening ASCII mode data connection for /bin/ls.
226 Transfer complete.
>>>TYPE i
200 Type set to I.
```

### The following is repeated for each file transferred

```
>>>PORT host
200 PORT Command successful.
>>>RETR dddnnnnn
150 Opening BINARY mode data connection for dddnnnnn (nnnnnnn Bytes).
nnnnnnn bytes transferred.
226 Transfer complete.
nnnnnnn bytes transferred in nn.nnn seconds. Transfer rate nnn.nn Kbytes/sec.
```

```
Command:
quit
>>>QUIT
221 Goodbye!
Ready;
```

```
term more 50 10
Ready;
```

7. The MGET command copied the files with a file type of \$DEFAULT. The file type needs to be renamed to IMAGE.

```
rename * $default w = image =
Ready;
```

8. Access the disk containing the INSTPIPE MODULE. The INSTPIPE MODULE is shipped on the MAINT 2CC minidisk.

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

9. Verify you have a 2222 read/write minidisk of exactly 5 cylinders if installing to 3390 or 7200 512-KB blocks if installing to FBA .

```
query v 2222
DASD 2222 3390 xxxxxx R/W      5 CYL ON DASD  nnnn SUBCHANNEL = nnnn
Ready; T=n.nn/n.nn hh:mm:ss
```

10. Restore the files needed to run DVDPRIME to the 2222 minidisk.

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

```
pipe dvddecod ddd222 image w |UNPACK| restcmd 2222
```

*ddd* is CKD for 3390 or FBA for FBA. These must be entered in uppercase.

*restcmd* is ECKDREST for 3390 or MDREST for FBA.

**Note:** In the above PIPE command you may use a different stage separator by including the **stagesep** keyword. For example:

```
pipe ( stagesep ! ) dvddecod ddd222 image w
!UNPACK! restcmd 2222
```

The following message is not a problem and can be ignored.

```
INVALID INPUT - RECORD LENGTH ERROR AT RECORD COUNT
{MDREST|ECKDREST}: WROTE nnn {BLOCKS|TRACKS} ON 2222, RC=0
Ready (00008); T=n.nn/n.nn hh:mm:ss
```

### Step 2. Run DVDPRIME EXEC

#### In this step, you will:

- Run the DVDPRIME EXEC to load the 22CC and 2CF1 disks.

1. IPL CMS to remove the old INSTPIPE module from storage.

```
ipl cms
z/VM V5.3.0    yyyy-mm-dd hh:mm
```

**ENTER**

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

2. Access the minidisk address that contains the image files as W.

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

*diskaddr* is the address of the minidisk where the DVD image files were copied.

3. Access the 2222 disk as C.

```
access 2222 c
Ready; T=n.nn/n.nn hh:mm:ss
```

4. Verify the first occurrence of the INSTPIPE MODULE is on the C disk. Remove or rename all other copies.

```
listfile instpipe module *
INSTPIPE MODULE C1
Ready; T=n.nn/n.nn hh:mm:ss
```

5. Run DVDPRIME with the *dasdtype* you are using to install.

```
dvdprime dasdtype (disk
HCPDVP8440I NOW LOADING 22CC DISK
DMSRXS1408W File TCPIP DATA * not found
{MDREST|ECKDREST}: WROTE nnnn {BLOCKS|TRACKS} ON 22CC, RC=0
HCPDVP8440I NOW LOADING 2CF1 DISK
DMSRXS1408W File TCPIP DATA * not found
{MDREST|ECKDREST}: WROTE nnnn {BLOCKS|TRACKS} ON 2CF1, RC=0
HCPDVP8392I DVDPRIME EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss
```

*dasdtype* is 3390 or FBA.

You may not receive this message.

You may not receive this message.

#### What to Do Next

Go to Chapter 8, "Load the System Image," on page 95.

---

## Chapter 8. Load the System Image

**In this chapter, you will:**

- Use INSTPLAN to enter your installation plan.
- Use INSTDVD to load the system image and RSU image files.
- IPL your new system.
- Use INSTVM to finish the install of z/VM.
- Use SERVICE and PUT2PROD to install RSU service.
- Configure TCP/IP (optional).
- Load the new CPLOAD module.
- Back up the z/VM system to tape or DASD.

## Step 1. Run INSTPLAN EXEC

### In this step, you will:

- Run INSTPLAN.

### 1. Access the minidisk with the new install code and run INSTPLAN.

**access** *mdisk* c  
Ready;

*mdisk* is 2CC for a first-level install and 22CC for a second-level install.

**instplan**

#### \*\*\* z/VM INSTALLATION PLANNING \*\*\*

Mark the product(s) selected to be installed into the VMSYS filepool with an "F" and those selected to be installed to minidisks with an "M"

Install To	Product	Install To	Product	Install To	Product
-----	-----	-----	-----	-----	-----
M	VM	M	RSCS	M	TCPIP
M	OSA	M	ICKDSF	M	DIRM
M	RACF	M	PERFTK	M	VMHCD

Place a nonblank character in front of the System Default Language you would like for your system.

\_ AMENG      \_ UCENG      \_ KANJI      \_ GERMAN

Place a nonblank character in front of the DASD model onto which your z/VM system will be loaded. Only one model may be selected.

\_ 3390 Mod 3      \_ 3390 Mod 9      \_ FBA DASD 3.5

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

Figure 7. Installation Planning Panel

- Refer to the Installation Worksheet (Table 8 on page 72) and enter:
  - An "M" in the Install To column for each product you selected to be installed onto minidisks.
  - An "F" in the Install To column for each product you selected to be installed into the VMSYS file pool.
- Place a nonblank character next to the System Default Language you selected for your system (see the Installation Worksheet, Table 8 on page 72).
- Place a nonblank character in front of the DASD model that matches the *Device Model* in the Installation Worksheet (Table 8 on page 72). If you are installing to FBA, your FBA (SCSI) disk can be defined between 3.5 and 10.0 GB inclusive.
- After completing steps a, b, and c, press the PF5 key to complete the planning step.

**Note:** The output you see may be different due to your planning choices.

```
HCPIP8475I THE PRODUCTS YOU SELECTED TO LOAD TO MINIDISK ARE:  
VM RSCS TCPIP OSA ICKDSF  
DIRM RACF PERFTK VMHCD
```

```
THE PRODUCTS YOU SELECTED TO LOAD TO SFS ARE:  
NONE
```

```
THE SYSTEM DEFAULT LANGUAGE SELECTED:  
AMENG
```

```
THE DASD TYPE YOU SELECTED TO LOAD ON IS:  
type
```

```
THE DASD NEEDED TO LOAD z/VM ARE:  
530RES 530SPL 530PAG...
```

```
HCPINP8392I INSTPLAN EXEC ENDED SUCCESSFULLY  
Ready; T=n.nn/n.nn hh:mm:ss
```

2. Make sure the number of DASD selected on the Installation worksheet (Table 8 on page 72) matches the number of DASD listed in the HCPIP8475I message.

---

## Step 2. Verify the Volumes Needed for Installation are Available

**In this step, you will:**

- Attach the volumes needed for installation.

1. If you are installing to 3390 skip to substep 9 on page 99.
2. If the SCSI disks you are installing to are defined as minidisks on your installation user ID, skip to substep 8 on page 99.
3. If the SCSI disks you are installing to have already been defined using the SET EDEVICE command and are already online, skip to substep 8 on page 99. If they are defined but offline skip to substep 7 on page 99. If not yet defined continue with the next substep.
4. Refer to the Installation Worksheet (Table 8 on page 72) and query each DASD address to verify it is not already defined for a different device (see example below). If the address is already in use, choose a different *dasdaddr* and verify that address does not exist.

For each DASD address:

```
query dasdaddr
HCPQVD040E Device dasdaddr does not exist
Ready(00040);
```

Record each verified DASD address in the DASD Address column of the Installation Worksheet (Table 8 on page 72) and in the “edevic” column of the SCSI Device Definition Worksheet (Table 9 on page 72).

5. To define the SCSI disks, you need to know which FCP addresses are valid for your SCSI disks. If you know the FCP addresses associated with your SCSI disk addresses skip to substep 6. If only the channel path id is known, issue the Query CHPID command to display all FCP addresses associated with the path. For example, if the channel path is X'66', issue:

```
query chpid 66
Path 66 online to devices 517C 5319 550D 8100 8101 8102 8103 8104
Path 66 online to devices 8105 8106 8107 8108 8109 810A 810B 810C
Path 66 online to devices 810D 810E 810F 8110 8111 8112 8113 8114
Path 66 online to devices 8115 8116 8117 8118 8119 811A 811B 811C
Path 66 online to devices 811D 811E 811F
```

6. To define the SCSI disks, use the information recorded in the Installation Worksheet (Table 8 on page 72) and SCSI Device Definition Worksheet (Table 9 on page 72).

For each DASD:

- a. Select and record a free FCP address for each *edevic*. You should use one FCP device for the 530RES and a different (or multiple different) FCPs for the other disks.

```
query fcp free
```

Choose a device from the output. Record a FCP address for each edevic in the FCP Address column of the SCSI Device Definition Worksheet (Table 9 on page 72).

- b. Define the device address.

```
set edevic dasdaddr type fba attr scsi fcp_dev fcpn wwpn www lun lll
```

where:

## Verify the Volumes Needed for Installation are Available

*dasdaddr*

is the edevice address from Table 9 on page 72.

*fcpn*

is the FCP address (you should use one FCP device for the 530RES and a different, or multiple different, FCPs for the other disks).

*www*

is the World Wide port number.

*///* is the LUN address.

7. Vary on the SCSI disks. Repeat for each disk.

**vary on** *dasdaddr*

8. Note the following changes needed in the SYSTEM CONFIG file for future IPLs.

- When performing a first-level installation to SCSI disk, INSTDVD updates the SYSTEM CONFIG file to include EDEV statements that define the SCSI disks you used to install. If you are going to IPL these disks second-level, the EDEV statements need to be commented out of the SYSTEM CONFIG file before attempting to IPL second-level.
- When performing a second-level installation to SCSI disk, the EDEV statements are added to the SYSTEM CONFIG as comments. If you want to IPL the system first-level, remove the *'/\*...\*/'* pairs from the EDEV statements in the SYSTEM CONFIG file.
- If the SCSI disks you are installing to are defined as minidisks on your installation user ID, they cannot be IPLed first-level; therefore the SYSTEM CONFIG file is not updated to include any EDEV statements.

For information on updating the SYSTEM CONFIG file, refer to *z/VM: CP Planning and Administration*.

9. Attach all the DASD listed in the Installation Worksheet (Table 8 on page 72) that are not already attached. Enter the following ATTACH command for each DASD.

```
attach dasdaddr *  
DASD dasdaddr ATTACHED TO userID dasdaddr  
:  
:  
Ready; T=n.nn/n.nn hh:mm:ss
```

*dasdaddr* is the address of the DASD.

### Step 3. Run INSTDVD EXEC to Load the z/VM System

#### In this step, you will:

- Run INSTDVD.

#### 1. Access the minidisk with the new install code.

```
access mdisk c
Ready;
```

*mdisk* is 2CC for a first-level installation and 22CC for a second-level installation.

#### 2. If installing from a VM minidisk, access the minidisk that contains the image files as W.

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

*dasdaddr* is the address of the minidisk where the image files were copied.

#### 3. Run INSTDVD to restore the image files to DASD.

```
instdvd
```

```
*** z/VM DVD INSTALL FORMAT/RESTORE PANEL ***
```

PACK TYPE	DASD LABEL	DASD ADDRESS	DO NOT FORMAT DASD
RES	530RES	_____	—
SPOOL	530SPL	_____	
PAGE	530PAG	_____	
USER	530W01	_____	
USER	530W02	_____	

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

Figure 8. z/VM DVD Install Format and Restore Panel (3390 Model Layout)

- If you want to change the labels of the SPOOL, PAGE, or USER packs, fill in the DASD LABEL field with the new labels. You cannot change the 530RES label. If you are installing second-level and you wish to change installation pack labels, the installation user ID must be able to issue the DEFINE MDISK command. The IBM default privilege class for this command is class A. The DEFINE MDISK command also requires the user ID to have DEVMAINT on the OPTION directory statement in its directory entry.
- Fill in the DASD addresses using the information from the Installation Worksheet (Table 8 on page 72). For detailed information, press the PF1 key for help.
- Place a nonblank character in the DO NOT FORMAT DASD column only if you have already formatted your DASD for installation, in which case the DASD will be labeled, but not formatted.

- d. Press the PF5 key to process.

HCPDCX8377R YOU HAVE SELECTED TO FORMAT THE FOLLOWING DASD:

HCPDCX8483R YOU HAVE SELECTED NOT TO FORMAT YOUR DASD.  
THIS ASSUMES YOU HAVE ALREADY FORMATTED THE  
DASD AND THIS EXEC WILL ONLY RELABEL AS  
FOLLOWS

Depending on whether you chose to format your  
DASD, you will receive either message  
HCPDCX8377R or HCPDCX8483R.

530RES *dasdaddr*  
1b1sp1 *dasdaddr*  
1b1pag *dasdaddr*  
1b1w01 *dasdaddr*

DO YOU WANT TO CONTINUE ? (Y|N)

y

HCPDCX8490I NOW {FORMATTING|LABELING} DASD *dasdaddr*  
HCPDCX8490I NOW {FORMATTING|LABELING} DASD *dasdaddr*

⋮

HCPDCX8380I RESTORING IIS TO 530RES and 1b1sp1

4. If this is a first-level HMC installation, the following is displayed:

DVDLOAD: LOADING FILE '{FBAIIS00 | CKDIIS00} IMAGE \*'  
DVDLOAD: RC=0  
{ECKDREST|MDREST}: WROTE nnnn {TRACKS|BLOCKS} ON addr, RC=0  
HCPDCX8341I LOAD OF THE SYSTEM IIS COMPLETED SUCCESSFULLY

DVDLOAD: LOADING FILE '{FBASPL00 | CKDSPL00} IMAGE \*'

⋮

DVDLOAD: LOADING FILE '{FBASPLnn | CKDSPLnn} IMAGE \*'  
DVDLOAD: RC=0  
{ECKDREST|MDREST}: WROTE nnnn {TRACKS|BLOCKS} ON addr, RC=0  
HCPDCX8341I LOAD OF THE SYSTEM SPOOL SPACE COMPLETED SUCCESSFULLY

HCPDCX8490I NOW ALLOCATING DASD addr (RES PACK)  
HCPDCX8490I NOW ALLOCATING DASD addr (SPOOLING)  
HCPDCX8490I NOW ALLOCATING DASD addr (PAGING)

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.

HCPIND8392I INSTDIR EXEC ENDED SUCCESSFULLY

HCPIDV8341I CREATION OF USER DIRECTORY COMPLETED SUCCESSFULLY

## Run INSTDVD EXEC to Load the z/VM System

### Messages received for each minidisk loaded

```
HCPILB8440I NOW LOADING {FB $\overline{A}cuu$  | CKD $\overline{c}uu$ }, DISK  $\overline{x}xx$  OF  $\overline{y}yy$ 
DVDLOAD: LOADING FILE '{FB $\overline{A}cuu00$  | CKD $\overline{c}uu00$ } IMAGE *'
:
DVDLOAD: LOADING FILE '{FB $\overline{A}cuunn$ |CKD $\overline{c}uunn$ } IMAGE *'
DVDLOAD: RC=0
{ECKDREST|MDREST}: WROTE  $\overline{n}nnn$  {TRACKS|BLOCKS} ON  $\overline{a}ddr$ , RC=0
```

If the install fails while processing disks in this box, you can restart INSTDVD by entering INSTDVD (RESTART).

```
HCPIRU8484R PLEASE PLACE THE SYSTEM RSU DVD IN
          THE DRIVE, THEN TYPE GO TO CONTINUE
          OR TYPE EXIT TO QUIT.
```

**go**

If you are using an RSU on DVD, place the DVD in the DVD drive and wait until the light on the DVD drive goes out or stops blinking, then enter GO. If you are not using an RSU on DVD, enter GO to continue.

If you enter EXIT to quit, your installation will NOT complete successfully. You will need to run the INSTDVD command and enter GO to load the RSU files before you can continue with the installation procedures.

If the install fails while loading the RSU, enter INSTDVD to retry (enter only INSTDVD; do not use the restart option).

```
DVDLOAD: LOADING FILE '{FBA500000|CKD50000} IMAGE *'
:
DVDLOAD: LOADING FILE '{FBA500 $\overline{nn}$ |CKD500 $\overline{nn}$ } IMAGE *'
DVDLOAD: RC=0
{ECKDREST|MDREST}: WROTE  $\overline{n}nnn$  {TRACKS|BLOCKS} ON  $\overline{a}ddr$ , RC=0
```

```
z/VM USER DIRECTORY CREATION PROGRAM - VERSION 5 RELEASE 3.0
EOJ DIRECTORY UPDATED
HCPDIR494I User directory occupies  $\overline{n}n$  disk pages
HCP $\overline{S}AL6798$ I VOLUME ID IS 530RES
HCP $\overline{S}AL6797$ I MINIDISK VOLID AT OFFSET  $\overline{n}n$  IS MNTCF1
HCPIDV8341I SALIPL COMMAND HAS COMPLETED SUCCESSFULLY
 $\overline{h}h:\overline{m}m:\overline{s}s$  DASD  $\overline{n}nnn$  ATTACHED TO SYSTEM 530RES BY MAINT
 $\overline{h}h:\overline{m}m:\overline{s}s$  DASD  $\overline{n}nnn$  DETACHED SYSTEM BY MAINT
 $\overline{h}h:\overline{m}m:\overline{s}s$  DASD  $\overline{n}nnn$  ATTACHED TO MAINT  $\overline{n}nnn$  BY MAINT WITH DEVCTL
HCPIDV8376I INSTDVD EXEC ENDED SUCCESSFULLY
Ready;
```

Go to “Step 4. IPL the new z/VM System” on page 105

### 5. If this is a second-level installation, the following is displayed:

```
{FBAIIS* | CKDIIS*}
```

This message is not displayed if installing from VM minidisk.

```
DMSRXS1408W File TCPIP DATA * not found
```

You may not get this message.

```
{ECKDREST|MDREST}: WROTE  $\overline{n}nnn$  {TRACKS|BLOCKS} ON  $\overline{a}ddr$ , RC=0
HCPDCX8341I LOAD OF THE SYSTEM IIS COMPLETED SUCCESSFULLY
```

```
{FBASPL* | CKDSPL*}
```

This message is not displayed if installing from VM minidisk.

## Run INSTDVD EXEC to Load the z/VM System

DMSRXS1408W File TCPIP DATA \* not found

You may not get this message.

PROCESSING {fbasp100|ckdsp100}

Processing messages are not displayed if installing from VM minidisk.

⋮

PROCESSING {fbasp1nn|ckdsp1nn}

{MDREST|ECKDREST}: WROTE *nnnn* {BLOCKS|TRACKS} ON *addr*, RC=0  
HCPDCX8341I LOAD OF THE SYSTEM SPOOL SPACE COMPLETED SUCCESSFULLY

HCPDCX8490I NOW ALLOCATING DASD *addr* (RES PACK)

HCPDCX8490I NOW ALLOCATING DASD *addr* (SPOOLING)

HCPDCX8490I NOW ALLOCATING DASD *addr* (PAGING)

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.

HCPIND8392I INSTDIR EXEC ENDED SUCCESSFULLY

HCPIDV8341I CREATION OF USER DIRECTORY COMPLETED SUCCESSFULLY

### Messages received for each minidisk loaded during DVD and FTP server install

HCPILB8440I NOW LOADING {FB*Acuu* | CKD*cuu*}, DISK *xxx* OF *yyy*

{FB*Acuu*\* | CKD*cuu*\*}

DMSRXS1408W File TCPIP DATA \* not found

PROCESSING {FB*Acuu*00|CKD*cuu*00}

⋮

PROCESSING {FB*Acuunn*|CKD*cuunn*}

{MDREST|ECKDREST}: WROTE *nnnn* {BLOCKS|TRACKS} ON *addr*, RC=0

If the install fails while processing disks in this box, you can restart INSTDVD by entering INSTDVD (RESTART).

### Messages received for each minidisk loaded during VM minidisk install

HCPILB8440I NOW LOADING {FB*Acuu* | CKD*cuu*}, DISK *xxx* OF *yyy*

DMSRXS1408W File TCPIP DATA \* not found

{MDREST|ECKDREST}: WROTE *nnnn* {BLOCKS|TRACKS} ON *addr*, RC=0

If the install fails while processing disks in this box, you can restart INSTDVD by entering INSTDVD (RESTART).

## Run INSTDVD EXEC to Load the z/VM System

### Messages received if loading from DVD

HCPIDU8484R PLEASE PLACE THE SYSTEM RSU DVD IN  
THE DRIVE, THEN TYPE GO TO CONTINUE  
OR TYPE EXIT TO QUIT.

go

{FBA500\* | CKD500\*}  
DMSRXS1408W File TCPIP DATA \* not found  
{MDREST|ECKDREST}: WROTE nnnn {BLOCKS|TRACKS} ON addr, RC=0

If you are using an RSU on DVD, place the DVD in the DVD drive and wait until the light on the DVD drive goes out or stops blinking, then enter GO. If you are using an RSU that you received from IBM Support instead of the RSU on DVD, enter GO to continue.

If you enter EXIT to quit, your installation will NOT complete successfully. You will need to run the INSTDVD command and enter GO to load the RSU files before you can continue with the installation procedures.

If the install fails while loading the RSU, enter INSTDVD to retry (enter only INSTDVD; do not use the restart option).

z/VM USER DIRECTORY CREATION PROGRAM - VERSION 5 RELEASE 3.0  
EOJ DIRECTORY UPDATED  
HCPDIR494I User directory occupies nn disk pages  
HCPIDV8341I USER DIRECTORY HAS BEEN BROUGHT ONLINE SUCCESSFULLY  
HCPSAL6798I VOLUME ID IS 530RES  
HCPSAL6797I MINIDISK VOLID AT OFFSET nnnn IS MNTCF1  
HCPIDV8341I SALIPL COMMAND HAS COMPLETED SUCCESSFULLY  
{MDDUMP|ECKDDUMP}: {READ} nnnn {BLOCKS|TRACKS} FROM 22CC, RC=0  
{MDREST|ECKDREST}: WROTE nnnn {BLOCKS|TRACKS} ON addr, RC=0  
HCPIDV8341I {MDDUMP|ECKDDUMP} OF 22CC COMPLETED SUCCESSFULLY  
{MDDUMP|ECKDDUMP}: {READ} nnnn {BLOCKS|TRACKS} FROM 2CF1, RC=0  
{MDREST|ECKDREST}: WROTE nnnn {BLOCKS|TRACKS} ON addr, RC=0  
HCPIDV8341I {MDDUMP|ECKDDUMP} OF 2CF1 COMPLETED SUCCESSFULLY  
HCPIDV8392I INSTDVD EXEC ENDED SUCCESSFULLY  
Ready; T=0.73/1.01 19:34:04

## Step 4. IPL the new z/VM System

### In this step, you will:

- IPL the new z/VM system.

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

1. If you are installing first-level from the HMC, skip to substep 11 on page 106.
2. If you are installing second-level, continue with substep 3.
3. Enter the following commands to clear your virtual machine and make sure the z/VM system will recognize your terminal as a 3277, 3278, or 3279:

```
system clear                                Reset and clear your virtual machine storage.
Storage cleared - system reset.
terminal conmode 3270
```

**Attention:** Issue the QUERY DASD ATTACH \* command to make sure that any DASD with the same labels that you are using for installation are not already attached. You must detach any other DASD with these labels now to prevent bringing them online.

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

```
query virtual storage                        Run the DEFINE command if you have less than 64
STORAGE = nnnnM                             MB of storage.

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

5. Set virtual machine mode to XA.

```
set machine xa                               Setting the virtual machine to XA architecture causes
SYSTEM RESET                                a reset as if you entered SYSTEM CLEAR. If your
SYSTEM = XA                                machine is already in XA mode, you will not get a
                                              response.
```

6. Query the console to determine the virtual console address (*consaddr*). This address is required in the next substep.

```
query console
CONS consaddr ON LDEV nnnn   TERM START
consaddr CL T NOCONT NOHOLD COPY 001   READY FORM STDN
consaddr TO userid   dev DIST nnnn   FLASHC 000 DEST OFF
consaddr FLASH      CHAR      MDFY    0 FCB      LPP OFF
consaddr 3270   NOEOF OPEN nnnn NOKEEP NOMSG NONAME
consaddr SUBCHANNEL = nnnn
```

*consaddr* is the address of your virtual console.

7. IPL the new z/VM system you loaded to the system residence device (530RES).

## IPL the new z/VM system

```
ipl dasdaddr clear loadparm consaddr
```

CLEAR is necessary. Do not omit it.

*dasdaddr* is the address of the system residence device (530RES).

*consaddr* is the address of your virtual console.  
If you get a CP READ, it is possible the console is not defined correctly. Go back to substep 6 on page 105 to make sure the console is defined as a 3270 and the *consaddr* is correct.

### 8. The Stand Alone Program Loader panel displays after issuing the IPL.



STAND ALONE PROGRAM LOADER: z/VM VERSION 5 RELEASE 3.0

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

MODULE NAME: CLOAD LOAD ORIGIN: 2000

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

**cons=consaddr**

-----COMMENTS-----

-----

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

Figure 9. Sample Stand Alone Program Loader Panel

### 9. Move the cursor to the IPL PARAMETERS field and type

```
cons=consaddr
```

*dasdaddr* is the device address of the 530RES.

*consaddr* is the address of your virtual console.  
Spaces are not allowed around the equal sign.

### 10. Press the PF10 key to load.

**PF10**

Skip to substep 15 on page 108

### 11. First-level install: IPL the new z/VM system you loaded to the system residence device (530RES)

- From the Hardware Management Console Workplace window, double click on **Groups**.
- From the GROUPS WORK AREA window, double click on **CPC IMAGES**.
- From the CPC IMAGES WORK AREA window, highlight the LPAR you are using.
- From the CPC RECOVERY WINDOW, double click on **LOAD**.
- From the LOAD window:
  - If installing to a 3390:
    - Select **NORMAL**.
    - Fill in Load Address (the address of the 530RES).

- 3) Fill in Load Parameter with SYSG.
- 4) Click **OK**.
- If installing on SCSI DASD (FBA) :
  - 1) Select **SCSI**.
  - 2) Fill in Load Address with the address of the FCP used to define the 530RES (this is the FCP address not the EDEV address).
  - 3) Fill in Load Parameter with SYSG.
  - 4) Fill in the World Wide Port Name with the WWPN used to define the 530RES.
  - 5) Fill in Logical Unit Number with the 16 character LUN address of the 530RES.
  - 6) Fill in Boot Program selector with 0 (zero).
  - 7) Fill in Boot Record Logical Block Address with the 16 character value of **0000000000000000C8**.
  - 8) Click **OK**.

From the LOAD TASK CONFIRMATION window:

- 1) Click **YES**.
  - f. Messages are displayed in the Load Progress window indicating the status of the load. When the message is displayed indicating the load is successful, click **OK** to close and go to the integrated 3270 console window for the LPAR you are using to install.
12. The Stand Alone Program Loader panel displays on the integrated 3270 console after issuing the IPL.

```

STAND ALONE PROGRAM LOADER: z/VM VERSION 5 RELEASE 3.0

DEVICE NUMBER:  dasdaddr  MINIDISK OFFSET:  nnnnnnnn  EXTENT:  1
MODULE NAME:    CLOAD    LOAD ORIGIN:      2000

-----IPL PARAMETERS-----
cons=consaddr pdvol=edevaddr

-----COMMENTS-----

-----

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

Figure 10. Sample Stand Alone Program Loader Panel

13. Move the cursor to the IPL PARAMETERS field and type

**cons=consaddr pdvol=edevaddr**

As shown in Figure 10, *dasdaddr* is the device address of the 530RES for 3390 or the FCP address for the SCSI (FBA). If using a 3390, do not use **pdvol=edevaddr**.

*consaddr* is SYSG for first-level IPL.

*edevaddr* is the device address of the 530RES for SCSI (FBA). .

## IPL the new z/VM system

14. Press the PF10 key to load.

**PF10**

15. The IPL of your z/VM system continues.

```
hh:mm:ss z/VM V5 R3.0
        SERVICE LEVEL nnnn (64-BIT)
```

```
hh:mm:ss SYSTEM NUCLEUS CREATED ON yyyy-mm-dd AT hh:mm:ss,
        LOADED FROM 530RES
```

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

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

```
hh:mm:ss * 5741-A05 (C) COPYRIGHT IBM CORP. 1983, *
```

```
hh:mm:ss * 2007. 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 530RES (device xxxx).
```

```
hh:mm:ss HCPZC06718I Parm disk resides on blocks/cylinders xxx through xxx.
```

```
:
```

You may receive an informational message, HCPIIS951I, about volumes not mounted. If you are not using those volume labels, ignore this message.

**Note:** If you receive informational message HCPIIS954I for your 530RES volume (for example, DASD 5016 VOLID 530RES IS A DUPLICATE OF DASD 5516), you can ignore this message and proceed. For any other occurrence of HCPIIS954I, you have duplicate volumes with the same label. Make a note of the duplicate volumes and enter SHUTDOWN at the next prompt. Second-level install, detach the duplicate volumes. First level install, relabel the duplicate volumes. Then go back to substep 1 on page 105.

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

**cold drain noauto log**

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

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

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

```
hh:mm:ss The directory on volume 530RES at address nnnn
        has been brought online.
```

```
hh:mm:ss HCPWRS2513I
```

```
hh:mm:ss HCPWRS2513I Spool files available nnnn
```

**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**

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.

```

hh:mm:ss HCPWRS2512I Spooling initialization is complete.
hh:mm:ss DASD nnnn dump unit CP IPL pages nnnn
hh:mm:ss HCPAAU2700I System gateway ZVMV5R30 identified.
hh:mm:ss z/VM Version 5 Release 3.0, Service Level 0000 (64-bit),
hh:mm:ss built on IBM Virtualization Technology
hh:mm:ss There is no logmsg data
hh:mm:ss FILES: NO RDR, NO PRT, NO PUN
hh:mm:ss LOGON AT hh:mm:ss EDT DAY mm/dd/yy
hh:mm:ss GRAF nnnn LOGON AS OPERATOR USERS = n
hh:mm:ss HCPIOP952I nnnnM system storage
hh:mm:ss FILES: nnnnnnnn RDR, nnnnnnnn PRT, NO PUN
HCPCRC8082I Accounting records are accumulating for userid DISKACNT.

```

**17. 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****18. Log on to the MAINT user ID.****ENTER**

The default password for MAINT is MAINT.

**logon maint**

```

HCPLNM102E 080D DASD force R/O; R/W by operator
HCPLNM101E 080E DASD force R/O; R/O by operator

```

## IPL the new z/VM system

```
z/VM Version 5 Release 3.0, Service Level 0000 (64-bit),  
hh:mm:ss built on IBM Virtualization Technology  
There is no logmsg data  
FILES: nnnn RDR,   NO PRT,   NO PUN  
LOGON AT hh:mm:ss EDT DAY yyyy-mm-dd
```

```
z/VM V5.3.0   yyyy-mm-dd hh:mm
```

**ENTER**

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

## Step 5. Run INSTVM EXEC

### In this step, you will:

- Run INSTVM with the DVD option to complete installation tasks.

**Note:** Running the INSTVM EXEC requires a full screen terminal with at least 20 lines.

1. IPL CMS to verify the CMS saved system is available.

```
ipl cms
z/VM V5.3.0    yyyy-mm-dd hh:mm
```

**ENTER**

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

**Note:** If the CMS saved system does not exist, there is a problem with spool space, resolve the problem before you attempt to continue.

2. Run INSTVM to complete the installation of z/VM from DVD.

```
instvm dvd
```

```
HCPPLD8338I  NOW EXECUTING ALLOCATION OF SYSTEM RESIDENCE PACK
HCPPLD8338I  NOW EXECUTING UPDATE OF $MOVE$ $FILE$ C
HCPPLD8341I  POSTLOAD FUNCTION "INSTALLATION CLEANUP" COMPLETED SUCCESSFULLY
HCPPLD8338I  NOW EXECUTING DIRECTORY CLEANUP
HCPPLD8341I  POSTLOAD FUNCTION "DIRECTORY CLEANUP AND ADD HELP DISK LINKS" COMPLETED SUCCESSFULL
HCPPLD8338I  NOW EXECUTING THE DIRECTXA COMMAND TO BRING THE UPDATED USER DIRECTORY ONLINE
HCPPLD8341I  POSTLOAD FUNCTION "BRING UPDATED DIRECTORY ONLINE" COMPLETED SUCCESSFULLY
HCPPLD8392I  POSTLOAD EXEC ENDED SUCCESSFULLY
DMSACC724I  2CC replaces C (2CC)
HCPIDV8493I  ISSUING XAUTOLOG FOR VMSERVU
AUTO LOGON ***          VMSERVU  USERS = n
HCPCLS6056I  XAUTOLOG information for VMSERVU: The IPL command is verified by the IPL
command processor.
VMSERVU : z/VM V5.3.0    yyyy-mm-dd hh:mm
VMSERVU : DMSACP723I B (193) R/O
VMSERVU : DMSWV1117I FILESERV processing begun at hh:mm:ss on dd month yyyy
VMSERVU : DMSWV1121I VMSERVU DMSPARMS A1 will be used for FILESERV processing
VMSERVU : DMSWV1121I VMSYSU POOLDEF A1 will be used for FILESERV processing
VMSERVU : DMS5BB3045I Ready for operator communications
HCPIDV8493I  ISSUING XAUTOLOG FOR VMSERVR
AUTO LOGON ***          VMSERVR  USERS = n
HCPCLS6056I  XAUTOLOG information for VMSERVR: The IPL command is verified by the IPL
command processor.
VMSERVR : z/VM V5.3.0    yyyy-mm-dd hh:mm
VMSERVR : DMSACP723I B (193) R/O
VMSERVR : DMSWV1117I FILESERV processing begun at hh:mm:ss on dd month yyyy
VMSERVR : DMSWV1121I VMSERVR DMSPARMS A1 will be used for FILESERV processing
VMSERVR : DMSWV1121I VMSYSR POOLDEF A1 will be used for FILESERV processing
VMSERVR : DMS6LG3335I CRR log recovery begins at mm-dd-yy hh:mm:ss
VMSERVR : DMS6LG3335I CRR log recovery completes at mm-dd-yy hh:mm:ss
VMSERVR : DMS5BB3045I Ready for operator communications
```

## Run INSTVM EXEC

### Extra messages received if all products were loaded to minidisks

```
DASD 0804 DETACHED
HCPIDV8493I ISSUING XAUTOLOG FOR VMSEVS
AUTO LOGON ***      VMSEVS  USERS = n
HCPCLS6056I XAUTOLOG information for VMSEVS: The IPL command is verified
  by the IPL command processor.
VMSEVS : z/VM V5.3.0   yyyy-mm-dd hh:mm
VMSEVS : DMSACP723I B (193) R/O
VMSEVS : DMSWV1117I FILESERV processing begun at hh:mm:ss on dd month yyyy
VMSEVS : DMSWV1121I VMSEVS DMSPARMS A1 will be used for FILESERV
  processing
VMSEVS : DMS4PD3400I Initializing begins for DDNAME = CONTROL
VMSEVS : DMS4PD3400I Initializing ends for DDNAME = CONTROL
VMSEVS : DMS4PD3400I Initializing begins for DDNAME = MDK00001
VMSEVS : DMS4PD3400I Initializing ends for DDNAME = MDK00001
VMSEVS : DMS4PD3400I Initializing begins for DDNAME = MDK00002
VMSEVS : DMS4PD3400I Initializing ends for DDNAME = MDK00002
VMSEVS : DMS4PD3400I Initializing begins for DDNAME = LOG1
VMSEVS : DMS4PD3400I Initializing ends for DDNAME = LOG1
VMSEVS : DMS4PD3400I Initializing begins for DDNAME = LOG2
VMSEVS : DMS4PD3400I Initializing ends for DDNAME = LOG2
VMSEVS : DMS5FD3032I File pool server has terminated
VMSEVS : DMSWV1120I File VMSYS POOLDEF A1 created or replaced
VMSEVS : DMSWV1117I FILESERV processing ended at hh:mm:ss on dd month yyyy
RDR FILE nnnn SENT FROM VMSEVS  PUN WAS nnnn RECS nnnn CPY  001 A NOHOLD
  NOKEEP
VMSEVS : File FILESERV VALID A3 sent to MAINT at ZVMV5R30 on
  mm/dd/yy hh:mm:ss
VMSEVS : Ready; T=n.nn/n.nn hh:mm:ss

HCPQCS150A User VMSEVS has issued a VM read
USER DSC  LOGOFF AS  VMSEVS  USERS = 2      FORCED BY MAINT
DASD 0804 DETACHED
```

```
HCPIDV8493I ISSUING XAUTOLOG FOR VMSEVS
AUTO LOGON ***      VMSEVS  USERS = n
HCPCLS6056I XAUTOLOG information for VMSEVS: The IPL command is verified by
  the IPL command processor.
VMSEVS : z/VM V5.3.0   yyyy-mm-dd hh:mm
VMSEVS : DMSACP723I B (193) R/O
VMSEVS : DMSWV1117I FILESERV processing begun at hh:mm:ss on dd month yyyy
VMSEVS : DMSWV1121I VMSEVS DMSPARMS A1 will be used for FILESERV processing
VMSEVS : DMSWV1121I VMSYS POOLDEF A1 will be used for FILESERV processing
VMSEVS : DMS5BB3045I Ready for operator communications
```

### You may not receive one or more of the following messages

```
HCPIDV8338I UPDATING SYSTEM TABLES AND CLEANING UP FILEPOOL DIRECTORIES
RC=0 from EXEC OPENVM UNMOUNT /
RC=0 from EXEC OPENVM UNMOUNT /
```

```
HCPIFP8392I INSTPOOL EXEC ENDED SUCCESSFULLY
HCPIVM8392I INSTVM EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss
```

## Step 6. Run SERVICE EXEC

### In this step, you will:

- Load the service files from the Recommended Service Upgrade (RSU) servlink.

- 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.

- IPL CMS.

```

ipl cms
z/VM V5.3.0    yyyy-mm-dd hh:mm

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

```

- Access the disk containing the RSU servlink as C.

```

access 500 c
DMSACC724I 500 replaces C (2CC)
Ready;

```

**Note:** If you did not load the RSU during step 3, because you are using newer service from IBM Support, skip to substep 4 on page 175. Return here after receiving your service envelope(s) and continue to the next substep.

- Get the file names of the RSU envelopes on the 500 disk.

```

listfile * servlink c
530xRSUn servlink c
530xRSUn servlink c

```

**530xRSUn**  
 x is the RSU number and n is the volume number.

- Run SERVICE.

```

service all envfn1 envfn2 ...
VMFSRV2760I SERVICE processing started
:
VMFSRV2760I SERVICE processing completed
successfully
Ready; T=n.nn/n.nn hh:mm:ss

```

If the only file on the 500 disk was 5301RSU SERVLINK, *envfn1* is 5301RSU. If there are other 530xRSUn files on the 500 disk, *envfn1* is the file name for the first envelope 530xRSU1, *envfn2* is the file name for the second envelope 530xRSU2, and so forth.

- View the SERVICE messages log (VMFVIEW SERVICE) and handle any nonzero return code, if necessary. Base your action on the following table.

## Run SERVICE EXEC

If you received . . .	Then . . .
Return code 4	<ol style="list-style-type: none"><li>1. Issue VMFVIEW SERVICE.</li><li>2. Ignore any warning messages listed in the note below. Take appropriate actions based on other warning messages you receive.</li><li>3. Go to “Step 7. Run PUT2PROD EXEC” on page 115.</li></ol>
A return code greater than 4	<ol style="list-style-type: none"><li>1. Issue VMFVIEW SERVICE and check for warning and error messages.</li><li>2. Ignore any warning messages listed in the note below. Take appropriate actions based on other warning messages you receive.</li><li>3. Correct all errors reported in the error messages.</li><li>4. Restart by issuing the SERVICE command as displayed in the message VMFSRV2310W.</li><li>5. If you get a nonzero return code, repeat substep 6.</li><li>6. Go to “Step 7. Run PUT2PROD EXEC” on page 115.</li></ol>

**Note:** You can ignore the following messages and their associated VMF1966W message.

- DMSLI0201W The following names are undefined: ISPLINK ARIPRDI
- DMSLI0201W The following names are undefined: DMSDSCSC
- DMSLI0201W The following names are undefined: DMSUSRX1 DMSUSRX2
- DMSLI0202W Duplicate identifier (Associated with object IOACMAIN MODULE.)
- DMSLKD004W Warning messages issued (Associated with objects ILBONBL, ILBONTR, ILBOREC, ILBORNT, ILBOSND, ILBOSNT, and ILBOSSN.)
- VMFSRV1221W The Stand Alone Dump Utility must be rebuilt.

7. Use the VMFUPDAT SYSMEMO command to review any memos that were received with this service.

## Step 7. Run PUT2PROD EXEC

**In this step, you will:**

- Run PUT2PROD to place the product into production.

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. IPL CMS and access the VMSES/E test build disk.

ipl cms

z/VM V5.3.0     *yyyy-mm-dd hh:mm*

**ENTER**

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

access 5E6 B

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

3. Run PUT2PROD.

put2prod

VMFP2P2760I PUT2PROD processing started

⋮

VMFP2P2760I PUT2PROD processing completed successfully

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

4. Handle a nonzero return code. Base your action on the following table.

If you received . . .	Then . . .
Return code 4	<ol style="list-style-type: none"><li>1. Issue VMFVIEW PUT2PROD.</li><li>2. Ignore any warning messages listed in the note below. Take appropriate actions based on other warning messages you receive.</li></ol>
A return code greater than 4	<ol style="list-style-type: none"><li>1. Issue VMFVIEW PUT2PROD and check for warning and error messages.</li><li>2. Ignore any warning messages listed in the note below in this table. Take appropriate actions based on other warning messages you receive.</li><li>3. Correct all errors reported in the error messages.</li><li>4. Issue IPL CMS.</li><li>5. Issue PUT2PROD.</li><li>6. If you get a nonzero return code, repeat substep 4.</li></ol>

**Note:** You can ignore the following messages.

- DMSDCS1083E Saved segment \$\$DMY\$\$ does not exist

## Run PUT2PROD EXEC

- DMSWLG292W Text data will be loaded at '20000'x in user area; user data may be overwritten.
- DTCPRD3043W File *fn ft fm* has been updated; It's contents should be reviewed for changes that may affect your use of this file.
- TCPMSM0002W File TCPIP DATA cannot be located
- TCPMSM0002W TCP/IP appears not to have been configured

## Step 8. Shutdown and Re-IPL Your System

### In this step, you will:

- Shutdown your V5.3 system
- Re-IPL your V5.3 system using the new CP nucleus.

### 1. Shutdown and re-IPL the V5.3 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.

```
HCPWRP963I STARTING SHUTDOWN STEP . . .
:
HCPWRP962I VM SHUTDOWN COMPLETED IN n SEC
HCPWRP9277I SYSTEM TERMINATION COMPLETE,
      ATTEMPTING RESTART
```

This will appear on the operator's console.

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

```
hh:mm:ss HCPWRP9277I SYSTEM TERMINATION COMPLETE.
      ATTEMPTING RESTART
hh:mm:ss z/VM SYSTEM RESTART FROM SHUTDOWN REIPL
hh:mm:ss z/VM V5 R3.0
      SERVICE LEVEL nnnn (64-BIT)

hh:mm:ss SYSTEM NUCLEUS CREATED ON yyyy-mm-dd AT hh:mm:ss,
      LOADED FROM 530RES
hh:mm:ss *****
hh:mm:ss * LICENSED MATERIALS - PROPERTY OF IBM* *
hh:mm:ss * 5741-A05 (C) COPYRIGHT IBM CORP. 1983, *
hh:mm:ss * 2007. 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.
:
```

**Note:** If you receive informational message HCPIIS954I for your 530RES volume (for example, DASD 505A VOLID 530RES IS A DUPLICATE OF DASD 5516), you can ignore this message and proceed. For any other occurrence of HCPIIS954I, you have duplicate DASD with the same label and must correct this error before continuing.

## Shutdown and Re-IPL Your System

```
hh:mm:ss The directory on volume 530RES 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
```

HCPIOP952I tells you the amount of storage available.

The FILES message here refers to operator spool files.

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

```
hh:mm:ss HCPUS0967I Disconnect OPERATOR - system
        restarted SHUTDOWN and system console
        not VM operator console
HCPCRC8082I Accounting records are accumulating for userid DISKACNT
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 the ENTER or CLEAR key to continue.

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

**ENTER**

The password for MAINT is MAINT.

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

#### What to do next

If you want to configure a basic IP network connection at this time, go on to “Step 9. Configure TCP/IP for an Initial Network Connection” on page 119. Otherwise, go to “Step 10. Back Up the Named Saved Systems and Segments to Tape” on page 123.

## Step 9. Configure TCP/IP for an Initial Network Connection

You can optionally configure TCP/IP after you have completed your z/VM installation. The TCP/IP configuration created in this step provides only a basic IP network connection for your z/VM host. In addition, this configuration is suitable for installations that employ only static (as opposed to dynamic) network routes.

If you choose to configure a basic IP network connection for your z/VM host at this time, continue with this step. Otherwise, go to “Step 10. Back Up the Named Saved Systems and Segments to Tape” on page 123.

For details about any DTCIPW messages you may receive while running IPWIZARD, refer to *z/VM: TCP/IP Messages and Codes*.

To establish a TCP/IP configuration that provides more comprehensive TCP/IP services, after you have completed your z/VM installation, see *z/VM: TCP/IP Planning and Customization*.

If you are going to use *z/VM: Getting Started with Linux on System z* to set up your Linux images, skip this step and go to “Step 10. Back Up the Named Saved Systems and Segments to Tape” on page 123.

If you came to this step from *z/VM: Getting Started with Linux on System z*, continue with this step and then return to *z/VM: Getting Started with Linux on System z*.

### In this step, you will:

- Configure a basic IP network connection.

1. Gather the information from the TCP/IP Configuration Worksheet (Table 10 on page 73).
2. Access minidisk 193.

```
access 193 e
Ready; T=n.nn/n.nn hh:mm:ss
```

3. Run IPWIZARD.

```
ipwizard
```

```

*** z/VM TCP/IP Configuration Wizard ***

The items that follow describe your z/VM host.

User ID of VM TCP/IP stack virtual machine: TCPIP__

Host name: _____
Domain name: _____

Gateway IP address: _____

DNS IP Addresses:
1) _____
2) _____
3) _____
:
PF1 = HELP PF3 = QUIT PF8 = Continue ENTER = Refresh

```

4. Using the information you gathered in the TCP/IP Configuration Worksheet (Table 10 on page 73), fill in the panel and press the PF8 key to continue.

## Configure TCP/IP for an Initial Network Connection

5. Depending on whether you selected IPv4 or IPv6 addresses, fill in one of the following panels and press the PF8 key to continue.

For **IPv4** interfaces:

```
*** General Interface Configuration Panel ***

Interface name: _____ Device Number: ____

IP Address: _____
Subnet mask: _____

Interface Type (select one):

    __QDIO        __LCS        __HiperSockets
    __CLAW        __CTC

:
PF1 = HELP PF3 = QUIT PF7 = Backward PF8 = Continue ENTER = Refresh
```

For **IPv6** interfaces:

```
*** General Interface Configuration Panel ***

Interface name: _____ Device Number: ____

IP Address: _____
Prefix Length: ____

Interface Type (Select one):

    __QDIO        __HiperSockets

:
PF1 = HELP PF3 = QUIT PF7 = Backward PF8 = Continue ENTER = Refresh
```

6. Depending on which interface type you selected, fill in one of the following panels, then press the PF5 key to process.

For the **QDIO** interface with **IPv4**:

```
*** QDIO Interface Configuration Panel *** Page 3 of 3

Network type (Select one):
__Ethernet __Token Ring

Port name: _____

Router type (Select one):
__Primary __Secondary __None

Maximum Transmission Unit (MTU) size: _____

:
PF1 = HELP PF3 = QUIT PF5 = Process PF7 = Backward ENTER = Refresh
```

For the **QDIO** interface with **IPv6**:

```
*** QDIO Interface Configuration Panel ***

Port name (optional): _____

Router type (Select one):
__Primary __Secondary __None

Maximum Transmission Unit (MTU) size: _____

Send Router Advertisements (Select One): __On __Off

:
PF1 = HELP PF3 = QUIT PF5 = Process PF7 = Backward ENTER = Refresh
```

## Configure TCP/IP for an Initial Network Connection

For the **LCS** interface:

```
*** LCS Interface Configuration Panel ***

Network type (Select one):
__Ethernet __Token Ring __FDDI

Port/Adapter number: ____

Maximum Transmission Unit (MTU) size: _____
:
PF1 = HELP PF3 = QUIT PF5 = Process PF7 = Backward ENTER = Refresh
```

For the **HiperSockets** interface with IPv4:

```
*** HiperSockets Interface Configuration Panel ***

Maximum Frame Size (MFS): __ K
:
PF1 = HELP PF3 = QUIT PF5 = Process PF7 = Backward ENTER = Refresh
```

For the **HiperSockets** interface with IPv6:

```
*** HiperSockets Interface Configuration Panel ***

Maximum Frame Size (MFS): __ K

Send Router Advertisements (Select One): __On __Off
:
PF1 = HELP PF3 = QUIT PF5 = Process PF7 = Backward ENTER = Refresh
```

For the **CLAW** interface:

```
*** CLAW Interface Configuration Panel ***

The items that follow must match values configured on the CLAW device.

CLAW host name: _____

CLAW adapter name: _____

Maximum Transmission Unit (MTU) size: _____
:
PF1 = HELP PF3 = QUIT PF5 = Process PF7 = Backward ENTER = Refresh
```

For the **CTC** interface:

The write channel device numbers from which you can choose, *devnum1* and *devnum2*, automatically display in the CTC Interface Configuration Panel. *devnum1* is the device number specified on the General Interface Configuration panel. *devnum2* is the device number specified on the General Interface Configuration panel plus 1.

```
*** CTC Interface Configuration Panel ***

Write Channel Device Number (Select one):
_ 03E0 _ 03E1

Maximum Transmission Unit (MTU) size: _____

Peer IP Address: _____
:
PF1 = HELP PF3 = QUIT PF5 = Process PF7 = Backward ENTER = Refresh
```

7. The IPWIZARD displays the following and, if the TCPIP user ID is logged on, asks if you want to restart TCPIP and continue processing.

## Configure TCP/IP for an Initial Network Connection

```
DTCIPW2508I DTCIPWIZ EXEC is attempting to create the necessary  
DTCIPW2508I configuration files  
The TCP/IP stack (TCPIP) must be restarted as part of this procedure. Would  
you like to restart TCPIP and continue?  
Enter 0 (No), 1 (Yes)
```

If you continue, IPWIZARD tests the information you provided and returns any error that occurred. If no errors are encountered, TCP/IP configuration files containing the network information you provided are created. See *z/VM: TCP/IP Planning and Customization* for additional information on configuring TCP/IP.

## Step 10. Back Up the Named Saved Systems and Segments to Tape

### In this step, you will:

- Back up all the named saved systems and segments, including CMS, to tape.

1. First-level only. Skip this substep if you are installing second-level.
  - a. Attach a tape drive to MAINT.
  - b. Go to substep 3.
2. Second-level only. Skip this substep if you are installing first-level.
  - a. Attach the tape drive to the first-level system.
  - b. Attach the tape drive to MAINT on a second-level system.
3. Mount a scratch tape in write mode.
4. Spool the console.

```
spool console * start
```

5. 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
Ready; T=n.nn/n.nn hh:mm:ss
```

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.

```
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
```

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

```
RDR FILE fileno2 SENT FROM MAINT CON WAS fileno2 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 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.

6. Store the tape for emergency use. If it is ever necessary, you can use this tape and the SPXTAPE command to restore the CMS system data file. For more information about the SPXTAPE command, see the *z/VM: CP Commands and Utilities Reference*. For information on how to restore this tape to your system, see Appendix F, “Restore the Named Saved Systems and Segments from Tape,” on page 197.

### Step 11. Back Up the z/VM System to Tape

#### In this step, you will:

- Load the DDRXA utility to tape
- Use DDRXA to back up the z/VM system to tape.

#### Notes:

1. A complete z/VM system backup includes all of your installation volumes.
2. You should check your Installation Worksheet to make sure you have backed up each volume.
3. This procedure requires a full pack minidisk be defined in the CP directory, USER DIRECT, for each volume you are backing up.
4. If you do not have a tape drive or if you wish to back up to DASD, refer to “Step 12. Back Up the z/VM System to DASD” on page 127.

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. Rewind the scratch tape on virtual device number 181.

```
rewind 181
Rewind complete
```

6. IPL the tape and answer the prompts from DDRXA. For information about DDRXA, see the *z/VM: CP Commands and Utilities Reference* and *z/VM: System Operation*.

```
ipl 181 clear
z/VM DASD DUMP/RESTORE PROGRAM
ENTER CARD READER ADDRESS OR CONTROL STATEMENTS
ENTER:
```

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.

```
sysprint cons
ENTER:
```

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

**input** *devno* **dasd** *valid*  
ENTER:

The second control statement is the input control statement.

*devno* is the full pack minidisk address of the volume you are backing up. You must back up all your installation volumes, except the paging volume.

The fullpack minidisk addresses for the default DASD are 122 (530SPL), 123 (530RES), 124 (530W01), 125 (530W02), ....

By typing the word **dasd**, the device type (3390) is automatically identified by the DDRXA program.

*valid* is the label of this volume, for example 530RES.

**output** 181 tape (**compact**)  
ENTER:

This control statement specifies the device to which you are dumping the system. You can specify one alternate tape drive for additional tape volumes.

**Example:** If you had a tape attached to 181 and an alternate tape attached to 182, the OUTPUT control statement would be:

output 181 tape 182 (compact

By typing the word **tape**, the tape device type is automatically identified by the DDRXA program.

If you are using a 3590 tape, you can use the leave option to dump multiple DASD on one tape volume. The output control statement would be:

output 181 tape (compact leave

**dump all**  
DUMPING *valid*  
DUMPING DATA *mm/dd/yy*  
AT *hh.mm.ss* GMT FROM *valid*

This control statement dumps the specified volume to the tape.

The informational messages that follow will vary according to your use of device types. GMT means Greenwich Mean Time.

The exact cylinder extents vary according to the device type.

INPUT CYLINDER EXTENTS		OUTPUT CYLINDER 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.

**Note:** When DDRXA encounters the end of a tape, and there is more data to dump, the program prompts you to mount the next tape.

- If you are using the same tape drive, mount the next tape and DDRXA continues.

## Back Up the z/VM System to Tape

- If you are using an alternate tape drive, DDRXA uses the alternate tape drive, then alternates between the tape drives for additional tapes. That is, if there are more than two tapes, you are prompted for the third tape on the first tape drive, the fourth tape on the second tape drive, and so forth.
7. If you have additional DASD volumes to back up, mount a new tape, if necessary, and repeat the INPUT, OUTPUT, and DUMP ALL statements for each volume.
  8. To end the program, press the ENTER key.

**ENTER**

END OF JOB

9. Re-IPL CMS.

```
#cp ip1 cms  
z/VM V5.3.0    yyyy-mm-dd hh:mm
```

**ENTER**

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

For information on how to restore your system from tape, see Appendix G, “Restore the z/VM System Backup from Tape,” on page 199.

## Step 12. Back Up the z/VM System to DASD

### In this step, you will:

- Use DDR to store a backup of the z/VM system to DASD.

### Notes:

1. A complete z/VM system backup includes all of your installation volumes.
2. You should check your Installation Worksheet to make sure you have backed up each installation volume.
3. This procedure requires a full pack minidisk be defined in the CP directory, USER DIRECT, for each volume you are backing up.
4. If you wish to store a back up to tape, refer to “Step 11. Back Up the z/VM System to Tape” on page 124.

1. Skip this step if you have already stored a backup of your z/VM system on tape.
2. Access the 193 minidisk in read/write mode.

```
access 193 z
Ready; T=n.nn/n.nn hh:mm:ss
```

3. Run DDR and answer the prompts. For information about DDR, see the *z/VM: CP Commands and Utilities Reference* and *z/VM: System Operation*.

```
DDR
z/VM DASD DUMP/RESTORE PROGRAM
ENTER CARD READER ADDRESS OR CONTROL STATEMENTS
ENTER:
```

```
sysprint cons
ENTER:
```

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

```
input devno dasd valid
ENTER:
```

The second control statement is the input control statement.

*devno* is the full pack minidisk address of the volume you are backing up. You must back up all your installation volumes.

The fullpack minidisk addresses for the default DASD are 122 (530SPL), 123 (530RES), 124 (530W01), 125 (530W02), ....

By typing the word **dasd**, the device type (3390) is automatically identified by the DDR program.

*valid* is the label of this volume, for example 530RES.

```
output devno dasd scratch
ENTER:
```

*devno* is the full pack minidisk address of the volume you are using to backup, you need a separate volume for each volume you are backing up.

```
copy all
```

This control statement dumps the specified volume to the new DASD.

## Back Up the z/VM System to DASD

```
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 device types. GMT means Greenwich Mean Time.

The exact cylinder extents vary according to the device type.

```
INPUT CYLINDER EXTENTS      OUTPUT CYLINDER 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 DDR finishes dumping the volume, it prompts.

4. If you have any more DASD volumes to back up, repeat the INPUT, OUTPUT, and COPY ALL statements for each volume.
5. To end the program, press the ENTER key.

**ENTER**

END OF JOB

## Step 13. Create an IPLable DDR Utility Tape

You can optionally create an IPLable DDR utility tape. This tape can be used to IPL DDR stand-alone if you need to run DDR when CMS (and the DDR Module) is not available. If you choose to create the IPLable DDR utility tape, continue with this step. Otherwise, go to “Step 14. Create an IPLable ICKDSF Utility Tape” on page 130.

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. Rewind the scratch tape on virtual device number 181.

```
rewind 181
Rewind complete
```

6. IPL the tape and answer the prompts from DDRXA to verify the tape contents. For information about DDRXA, see the *z/VM: CP Commands and Utilities Reference* and *z/VM: System Operation*.

```
ipl 181 clear
```

CLEAR is necessary. Do not omit it.

```
z/VM DASD DUMP/RESTORE PROGRAM
ENTER CARD READER ADDRESS OR CONTROL STATEMENTS
ENTER:
```

Wait a few moments for DDRXA to prompt you. If a prompt does not appear, press the ENTER key. This message verifies that IPLable DDRXA has been written to the tape.

7. Re-IPL CMS.

```
#cp ipl cms
z/VM V5.3.0   yyyy-mm-dd hh:mm
```

```
ENTER
```

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

8. Rewind the tape and store for future use.

```
tape run
```

### Step 14. Create an IPLable ICKDSF Utility Tape

You can optionally create an IPLable ICKDSF utility tape. This tape can be used to IPL ICKDSF stand-alone if you need to run ICKDSF when the ICKDSF module is not available. If you choose to create the IPLable ICKDSF utility tape, continue with this step. Otherwise, go to “Step 15. Create a Stand-alone Dump Tape” on page 132.

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 ICKDSF utility to tape.

```
utility utiltape dsf
Rewind complete
HCPWUT8317I MOVING IPL ICKDSF TO TAPE
HCPWUT8318I THE IPL ICKDSF PROGRAM IS
              ON TAPE FILE NUMBER 1
Ready; T=n.nn/n.nn hh:mm:ss
```

5. Rewind the scratch tape on virtual device number 181.

```
rewind 181
Rewind complete
```

6. IPL the tape and answer the prompts from ICKDSF to verify the tape contents. For information about ICKDSF, see the *Device Support Facilities: User's Guide and Reference*.

```
ipl 181 clear
z/VM DASD DUMP/RESTORE PROGRAM
ENTER CARD READER ADDRESS OR CONTROL STATEMENTS
ENTER:
ICK005E DEFINE INPUT DEVICE, REPLY
      'DDDD,CUU' OR 'CONSOLE'
ENTER INPUT/COMMAND:
```

CLEAR is necessary. Do not omit it.

Wait a few moments for ICKDSF to prompt you. If a prompt does not appear, press the ENTER key. 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:
```

7. Re-IPL CMS.

```
#cp ipl cms
z/VM V5.3.0   yyyy-mm-dd hh:mm
```

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

8. Rewind the tape and store for future use.

**tape run**

---

### Step 15. Create a Stand-alone Dump Tape

z/VM includes a stand-alone dump utility that you tailor according to your installation's configuration, using CMS. After you generate z/VM, you should create the stand-alone dump utility and place it on tape or a DASD for emergency use. If, after a system failure, CP cannot create an abend dump, you can use the stand-alone dump on tape or DASD to dump all of storage.

For instructions on creating a stand-alone dump utility on tape, refer to chapter 13 in *z/VM: CP Planning and Administration*.

**Note:** Do not use a stand alone dump tape or DASD created from a previous release of z/VM to attempt to dump your V5.3 system. When the HCPSADMP utility asks if you want to create a new HCPSDC MODULE, be sure to answer YES to create a new one for V5.3.

#### What to Do Next

Go to Part 3, "Post z/VM System Installation," on page 133.

---

## Part 3. Post z/VM System Installation

Part 3 contains the following:

- Procedures for migrating customized files and service for products that are preinstalled on the z/VM installation media
- Information about the licensed products and features that are preinstalled on the z/VM installation media



---

## Chapter 9. Plan Your Migration

**This chapter contains:**

- Step 1. Overview
- Step 2. Requirements
- Step 3. Worksheet

## Step 1. Overview

---

### Step 1. Overview

Migration is the transfer and adjustment of information required to upgrade from one release to a later release. Rather than starting from scratch when you upgrade from your current system, you probably want to transfer and adjust much of your current information to use on the new system.

Information you may want to transfer includes:

- Customized files
- Local mods
- Service
- User-created files
- Saved segment definitions
- Spool files
- User directory entries
- SFS file pool servers
- Application programs

This migration procedure automates the transfer of the following types of files from your current system to your new system:

- Customized files as defined in the product's migration part table (*prodid MIGPvrm*)
- Local mods for all products
- Service for products that are at the same release level in the new z/VM deliverable
- User-created files that reside on selected disks as defined in the product's migration disks table (*prodid MIGDvrm*)

This migration procedure supports only the components and products that comprise the z/VM deliverable and can be used only to transfer files from a V5.1 or later system to a V5.3 system.

As this migration procedure is used, you will be advised of further actions required to complete the migration procedure (such as reworking local mods and customized parts) to reconcile differences between the two releases.

Additional tasks must be performed after this procedure completes in order to migrate the following. Refer to the *z/VM: Migration Guide* and product-specific Program Directories.

- Parm disks
- User directory
- Networking and connectivity
- Segments
- Spool space
- Security manager databases
- Directory Manager Databases
- Products and databases not preinstalled on the z/VM installation media.

If you are currently running a level of z/VM older than V5.1, you cannot use these migration procedures.

If you want to use these procedures to migrate in the future:

- Always use the VMSES/E local modification procedures to alter, modify or customize any IBM-supplied parts, unless it is specifically documented to do otherwise. The LOCALMOD command, which simplifies the creation and reworking of local modifications, is supplied with VMSES/E to assist with making such changes.

## Step 1. Overview

- If you want to use an IBM-supplied shared file system (SFS) for your own data, use VMSYSU. Do not use VMSYS or VMSYSR.
- Additional minidisks should not be defined on the DASD volumes used for the installation defined packs (default labels are 530RES, 530W01 and 530W02).

**If you are not going to use this migration procedure:**

Go to Chapter 13, “Preinstalled Licensed Products and Features,” on page 167.

---

## Step 2. Requirements

**Note:** These migration procedures support only the components and products that comprise the z/VM deliverable. You should run this migration procedure immediately after completing your installation, prior to enabling or customizing any components on your new system.

1. To use this migration procedure you must meet these requirements on your first level V5.1 or later system (referred to as your current system).
  - General
    - Each customizable file must reside on the disk specified for that part in the product documentation.
    - Unless specifically documented to do otherwise, the VMSES/E local modification procedures must have been used to customize any IBM-supplied parts. The VMSES/E LOCALMOD command, which simplifies creation and reworking of local modifications, has been provided with past releases of z/VM to assist with such changes.
    - If you use a storage management tool (for example DFSMS) you need to make sure that the auto-recall function is turned on so that stored files are available before running these procedures.
    - Have not removed any user IDs, minidisks, products, or components shipped with z/VM version 5.
  - PPFs
    - The variable labels in the DCL section of a product's PPF must not be changed.
    - If you have changed a user ID, minidisk address, or SFS directory definition you must override all PPFs that contain the user ID, minidisk address, or SFS directory.
    - If you created PPF overrides for the preinstalled components, products or features of z/VM, then you must override the P2P component in the SERVP2P \$PPF file. Your PPF override names must be in the VM SYSSUF software inventory file.
  - If any preinstalled products reside in SFS on your current system.
    - If migrating from V5.1, you must have APAR VM63814 for CMS installed on your current system.
    - A TSAF collection will be used to allow file pool access.
    - If the user ID TSAFVM is running (either online or disconnected), then it will be used for the TSAF collection. If it is not running you will be prompted for a user ID to use for the TSAF collection.
    - The TSAF collection user ID must have a 191 minidisk, accessed as file mode A. An SFS directory cannot be used.
2. Requirements for the user ID on your current system where you will run these procedures.
  - The user ID must be MAINT or a user ID with privilege classes and authorizations equivalent to MAINT.
  - The VMSES/E software inventory disk needs to be linked (default is 51D).
  - The user ID must have a 191 minidisk, accessed as file mode A. An SFS directory cannot be used.
  - If any preinstalled products reside in SFS, the user ID must have SFS administration authority to all file pools that contains these products.
3. Considerations for the V5.3 system (referred to as your new system).
  - The new system must be running second level on the current system in order to run the migration tools.
  - If you have increased the size of any disk shipped on the z/VM installation media on the current system (unless instructed to do so by IBM Service), you may need to increase the size of that disk on the new system before migration.

- Do not make any changes to your new system before using these migration procedures other than applying an RSU. Do not customize servers or file pools. Do not customize files or enable products or features on the new system before you use this migration procedure. The one exception is customizing files using the IPWIZARD.
4. If you want to use these procedures in a future release of z/VM you need to do the following:
- Always use the VMSES/E local modification procedures to alter, modify or customize any IBM-supplied parts unless it is specifically documented to do otherwise. The LOCALMOD command which simplifies creating and reworking local modifications is provided with VMSES/E.
  - If you want to use an IBM-supplied shared file system (SFS) for your own data, use VMSYSU. Do not use VMSYS or VMSYSR.
  - Additional minidisks should not be defined on the DASD volumes used for the installation defined packs. The default labels for:
    - z/VM V5.1 were 510RES, 510W01, and 510W02.
    - z/VM V5.2 were 520RES, 520W01, and 520W02.
    - z/VM V5.3 are 530RES, 530W01, and 530W02.

### Step 3. Complete the migration worksheet

## Step 3. Complete the Migration Worksheet

1. Record the addresses of your V5.3 DASD on the Migration Worksheet Table 16.
2. Select the current system user ID you will use to run these procedures. Verify that this user ID meets the following requirements, and then record the user ID in the Migration Table.
  - The user ID must be MAINT or a user ID with privilege classes and authorizations equivalent to MAINT
  - The user ID must have a 191 minidisk, accessed as file mode A. An SFS directory cannot be used.
  - If any preinstalled products reside in SFS on your current system, the first-level user ID must have SFS administration authority to all file pools that contain these products.
3. If no preinstalled products reside in SFS on your current system, record a **No** in the table and skip to substep 4. Otherwise record **Yes** and complete the SFS section of the Migration Table
4. If you use a storage management tool, record a **Yes** in the table and complete the autorecall question; otherwise record a **No** in the table

Table 16. Migration Worksheet

<b>V5.3 System DASD Addresses</b> _____		
Current system user ID you will use to run these procedures _____		
<b>SFS Section:</b>		
Preinstalled products reside in SFS (Yes or No) _____		If Yes, fill out the rest of the SFS Section
If migrating from V5.1, is APAR VM63814 for CMS installed on your system (Yes or No) _____		If No, STOP here and return when the APAR is installed
TSAF collection user ID _____		
TSAF user ID has a 191 (A) on minidisk not in SFS (Yes or No) _____		If No, a 191 disk must be defined before continuing
<b>End SFS Section</b>		
Do you use a storage management tool? (Yes or No) _____		
If Yes, is the auto-recall function turned on so that stored files are available? (Yes or No) _____		If No, the function must be turned on before continuing

---

## Chapter 10. Set Up for Migration

### This chapter contains:

- Step 1. IPL your newly installed V5.3 system
- Step 2. Run MIGSETUP
- Step 3. Run MIGLINK
- Step 4. IPL your V5.3 system

---

### Step 1. IPL Your Newly Installed V5.3 System

1. Make sure you have filled out the migration worksheet and reviewed all the requirements listed in Chapter 9, “Plan Your Migration,” on page 135
2. Log on to the current system user ID you selected to use for the migration procedures
3. Verify that this user ID has met the requirements listed in Chapter 9 Step 2 substep 2 on page 138
4. Attach the DASD used to install your new V5.3 system.

Enter the following ATTACH command for each DASD listed in the migration worksheet:

```
attach dasdaddr *  
DASD dasdaddr ATTACHED TO userID dasdaddr  
:  
:  
Ready; T=n.nn/n.nn hh:mm:ss
```

#### 5. IPL your new V5.3 system

- a. your virtual machine and make sure the z/VM system will recognize your terminal as a 3277, 3278, or 3279. This puts your virtual machine into a CP READ state.

```
system clear  
Storage cleared - system reset.
```

Reset and clear your virtual machine storage.

```
terminal conmode 3270
```

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

```
query virtual storage  
STORAGE = nnnnM
```

Issue the DEFINE command if you have less than 64 MB of storage.

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

#### C. Set virtual machine mode to XA.

```
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.

- d. Query the console to determine the virtual console address (*consaddr*). This address is required in the next substep.

## IPL your newly installed V5.3 system

### query console

```
CONS consaddr ON LDEV nnnn TERM START
      consaddr CL T NOCONT NOHOLD COPY 001 READY FORM STDN
      consaddr TO userid dev DIST nnnn FLASHC 000 DEST OFF
      consaddr FLASH CHAR MDFY 0 FCB LPP OFF
      consaddr 3270 NOEOF OPEN nnnn NOKEEP NOMSG NONAME
      consaddr SUBCHANNEL = nnnn
```

- e. IPL the system residence device (530RES) of your newly installed V5.3 system.

```
ipl dasdaddr clear loadparm consaddr
```

CLEAR is necessary. Do not omit it.

*dasdaddr* is the address of the system residence device (530RES).

*consaddr* is the address of your virtual console.

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

STAND ALONE PROGRAM LOADER: z/VM VERSION 5 RELEASE 3.0

DEVICE NUMBER: *dasdaddr* 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 11. Sample Stand Alone Program Loader Panel

- f. Move the cursor to the IPL PARAMETERS field and type.

```
cons=consaddr
```

*consaddr* is the address of your virtual console.  
Spaces are not allowed around the equal sign.

- g. Press the PF10 key to load.

**PF10**

## h. The IPL of your z/VM system continues:

```

hh:mm:ss z/VM V5 R3.0
        SERVICE LEVEL nnnn (64-BIT)

hh:mm:ss SYSTEM NUCLEUS CREATED ON yyyy-mm-dd AT hh:mm:ss,
        LOADED FROM 530RES
hh:mm:ss *****
hh:mm:ss * LICENSED MATERIALS - PROPERTY OF IBM* *
hh:mm:ss * 5741-A05 (C) COPYRIGHT IBM CORP. 1983, *
hh:mm:ss * 2007. 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 530RES (device xxxx).
hh:mm:ss HCPZC06718I Parm disk resides on cylinders xxx through xxx.
        :

```

You may receive an informational message, HCPIIS951I, about volumes not mounted. If you are not using those volume labels, ignore this message.

**Attention:** If you receive informational message HCPIIS954I, you have duplicate volumes with the same label. You must return to the first-level CP environment (enter SHUTDOWN at the next prompt) and detach the duplicate volumes. Then go back to substep 5a on page 141.

```

hh:mm:ss Start ((Warm|Force|COLD|CLEAN) (DRain)
        (DIisable) (NODIRect) (NOAUTOlog)) or (SHUTDOWN)
force noautolog

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

```

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

```

hh:mm:ss The directory on volume 530RES at address nnnn
        has been brought online.
hh:mm:ss HCPWRS2513I
hh:mm:ss HCPWRS2513I Spool files available nnnn
hh:mm:ss HCPWRS2512I Spooling initialization is complete.
hh:mm:ss DASD nnnn dump unit CP IPL pages nnnn
hh:mm:ss HCPAAU2700I System gateway ZVMV5R30 identified.
hh:mm:ss z/VM Version 5 Release 3.0, Service Level 0000 (64-bit),
hh:mm:ss built on IBM Virtualization Technology
hh:mm:ss There is no logmsg data
hh:mm:ss FILES: NO RDR, NO PRT, NO PUN
hh:mm:ss LOGON AT hh:mm:ss EDT DAY mm/dd/yy
hh:mm:ss GRAF nnnn LOGON AS OPERATOR USERS = n
hh:mm:ss HCPIOP952I nnnnM system storage
hh:mm:ss FILES: nnnnnnnn RDR, nnnnnnnn PRT, NO PUN
hh:mm:ss HCPCRC8082I Accounting records are accumulating for userid DISKACNT

```

## IPL your newly installed V5.3 system

- j. 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**

- k. Log on to the MAINT user ID.

**ENTER**

The default password for MAINT is MAINT.

**logon maint**

z/VM Version 5 Release 3.0, Service Level *nnnn* (64-bit),

built on IBM Virtualization Technology

There is no logmsg data

FILES: *nnnn* RDR, *nnnn* PRT, *nnnn* PUN

LOGON AT *hh:mm:ss* EDT DAY *yyyy-mm-dd*

z/VM V5 R3.0 *yyyy-mm-dd hh:mm*

**ENTER**

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

## Step 2. Run MIGSETUP

1. Run the MIGSETUP exec to copy migration tools to the 191 disk of your current system user ID. If you receive any error messages during MIGSETUP processing, look up the message in *z/VM: CP Messages and Codes*, take the appropriate action and rerun the command.

```
access 193 c
Ready;
```

```
migsetup
Ready;
```

2. Shut down the V5.3 system.

```
shutdown
SYSTEM SHUTDOWN STARTED
HCPWRP963I STARTING SHUTDOWN STEP ..... - .....
:
HCPWRP963I STARTING SHUTDOWN STEP ..... - .....

HCPWRP962I VM SHUTDOWN COMPLETED IN n SEC
HCPWRP963I STARTING SHUTDOWN STEP SVADV - DEACTIVATE TERMINATION SAVE AREAS
HCPWRP961W SYSTEM SHUTDOWN COMPLETE
HCPGIR450W CP entered; disabled wait PSW 00020000 00000000 00000000 00000961
```

3. IPL CMS on your current system user ID.

```
ipl cms
z/VM V5.n.0
```

```
ENTER
Ready;
```

## Step 3. Run MIGLINK

---

### Step 3. Run MIGLINK

1. Access the VMSES/E system inventory disk.

```
access 51D d
Ready; T=n.nn/n.nn hh:mm:ss
```

2. Run the MIGLINK exec to establish the appropriate minidisk or SFS environment on your current system. If you receive any error messages during MIGLINK processing, look up the message in *z/VM: CP Messages and Codes*, take the appropriate action and rerun the command.

```
miglink
(You get the following prompt only if products reside in
SFS on your current system)

HCPMLK8309R A TSAF COLLECTION NEEDS TO BE ESTABLISHED.
          ONLY ONE TSAF COLLECTION CAN BE ACTIVE AT A
          TIME. IF TSAF IS CURRENTLY RUNNING ON A
          USERID DIFFERENT THAN 'TSAFVM' YOU NEED TO
          ENTER THAT USERID.
          ENTER:

          0 TO QUIT
          1 TO USE TSAFVM
          OR
          YOUR TSAF USERID

          { 0 | 1 | userid}
Ready;
```

**Note:** If you logoff your current system user ID at this point, when you log back on, you must attach your new system DASD and run MIGLINK again to reestablish your environment.

## Step 4. IPL Your V5.3 System

### 1. IPL your V5.3 system

```
system clear
Storage cleared - system reset.
```

```
terminal conmode 3270
```

```
query virtual storage
STORAGE = nnnnM
```

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

```
set machine xa
SYSTEM RESET
SYSTEM = XA
```

### 2. Query the console to determine the virtual console address (*consaddr*). This address is required in the next substep.

```
query console
CONS consaddr ON LDEV nnnn TERM START
consaddr CL T NOCONT NOHOLD COPY 001 READY FORM STDN
consaddr TO userid dev DIST nnnn FLASHC 000 DEST OFF
consaddr FLASH CHAR MDIFY 0 FCB LPP OFF
consaddr 3270 NOEOF OPEN nnnn NOKEEP NOMSG NONAME
consaddr SUBCHANNEL = nnnn
```

*consaddr* is the address of your virtual console.

```
ipl dasdaddr clear loadparm consaddr
```

CLEAR is necessary. Do not omit it.

*dasdaddr* is the address of the system residence device (530RES).

*consaddr* is the address of your virtual console.

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

```
STAND ALONE PROGRAM LOADER: z/VM VERSION 5 RELEASE 3.0

DEVICE NUMBER:  dasdaddr  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 12. Sample Stand Alone Program Loader Panel

## Step 4. IPL your V5.3 system

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

**cons=consaddr**

*consaddr* is the address of your virtual console.  
Spaces are not allowed around the equal sign.

### 4. Press the PF10 key to load.

**PF10**

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

hh:mm:ss z/VM V5 R3.0  
SERVICE LEVEL *nnnn* (64-BIT)

hh:mm:ss SYSTEM NUCLEUS CREATED ON *yyyy-mm-dd* AT *hh:mm:ss*,  
LOADED FROM 530RES

hh:mm:ss \*\*\*\*\*

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

hh:mm:ss \* 5741-A05 (C) COPYRIGHT IBM CORP. 1983, \*

hh:mm:ss \* 2007. ALL RIGHTS RESERVED. \*

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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 530RES (device *xxxx*).

hh:mm:ss HCPZC06718I Parm disk resides on cylinders *xxx* through *xxx*.

:

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

**Attention:** If you receive informational message  
HCPIIS954I, you have duplicate volumes with the  
same label. You must return to the first-level CP  
environment (enter SHUTDOWN at the next prompt)  
and detach the duplicate volumes. Then go back to  
substep 1 on page 147.

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

**force drain noautolog**

Use **noautolog** at this point because you cannot  
have the servers and all user IDs logged on.

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

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

```
hh:mm:ss The directory on volume 530RES at address nnnn
        has been brought online.
hh:mm:ss HCPWRS2513I
hh:mm:ss HCPWRS2513I Spool files available nnnn
hh:mm:ss HCPWRS2512I Spooling initialization is complete.
hh:mm:ss DASD nnnn dump unit CP IPL pages nnnn
hh:mm:ss HCPAAU2700I System gateway ZVMV5R30 identified.
hh:mm:ss z/VM Version 5 Release 3.0, Service Level 0000 (64-bit),
hh:mm:ss built on IBM Virtualization Technology
hh:mm:ss There is no logmsg data
hh:mm:ss FILES: NO RDR, NO PRT, NO PUN
hh:mm:ss LOGON AT hh:mm:ss EDT DAY mm/dd/yy
hh:mm:ss GRAF nnnn LOGON AS OPERATOR USERS = n
hh:mm:ss HCPIOP952I nnnnM system storage
hh:mm:ss FILES: nnnnnnnn RDR, nnnnnnnn PRT, NO PUN
hh:mm:ss HCPCRC8082I Accounting records are accumulating for userid DISKACNT
```

7. 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**

8. Log on to the MAINT user ID.

**ENTER**

The default password for MAINT is MAINT.

```
logon maint
z/VM Version 5 Release 3.0 Service Level 0000 (64-bit),
built on IBM Virtualization Technolog
There is no logmsg data
FILES: nnnn RDR, NO PRT, NO PUN
LOGON AT hh:mm:ss EDT DAY yyyy-mm-dd
```

**ENTER**

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

## Step 4. IPL your V5.3 system

---

## Chapter 11. Run Migrate

**In this chapter you will:**

- Step 1. Run the MIGRATE EXEC
- Step 2. View the MIGRATE message log

## Step 1. Run MIGRATE EXEC

---

### Step 1. Run MIGRATE EXEC

1. Run the MIGRATE EXEC to move minidisk and shared file data for all preinstalled products.

```
access 193 c
Ready;
```

*currel* is the current release you are migrating from.  
For example, 510 (V5.1) or 520 (V5.2).

```
migrate all currel
Ready;
```

Messages received from the MIGRATE EXEC are logged in the \$VMFMIG \$MSGLOG file.

If you receive a return code of zero, skip to Chapter 12, “Place Migrated Parts into Production,” on page 155. Otherwise, continue on to “Step 2. View the MIGRATE Message Log” on page 153.

## Step 2. View the MIGRATE Message Log

View the MIGRATE message log and handle any nonzero return codes. Base your actions on the following table:

If you received . . .	Then . . .
Return code 4	<ol style="list-style-type: none"> <li>1. Issue VMFVIEW MIGRATE. You can ignore any warning messages that appear in the notes below. Take appropriate action based on other warning messages you receive. Messages are documented in <i>z/VM: Other Components Messages and Codes</i> or by issuing HELP on the message number.</li> <li>2. Go to Chapter 12, "Place Migrated Parts into Production," on page 155.</li> </ol>
Return code 6	<ol style="list-style-type: none"> <li>1. Issue VMFVIEW MIGRATE. You can ignore any warning messages that appear in the notes below. Take appropriate action based on other warning messages you receive. Messages are documented in <i>z/VM: Other Components Messages and Codes</i> or by issuing HELP on the message number.  For messages VMFMGR2308I and VMFSUI2308W for CP local modification 99999, simply mark them reworked with the VMFUPDAT SYSLMOD command.</li> <li>2. Use the VMFUPDAT SYSLMOD command to see which customized parts and local modifications you need to rework. Rework the customized parts and local modifications that were identified. For more information, see <i>z/VM: VMSES/E Introduction and Reference</i>.</li> <li>3. After you complete the rework, use the VMFUPDAT SYSLMOD command to flag the customized parts and local modification as REWORKED.</li> <li>4. Return to "Step 1. Run MIGRATE EXEC" on page 152 and reissue the MIGRATE ALL command.</li> </ol>
A return code greater than 6	<ol style="list-style-type: none"> <li>1. Issue VMFVIEW MIGRATE and check for warning and error messages. You can ignore any warning messages in the notes below. Take appropriate action based on other warning messages you receive. Messages are documented in <i>z/VM: Other Components Messages and Codes</i> or by issuing HELP on the message number.</li> <li>2. Correct all errors reported in the error messages.</li> <li>3. Return to "Step 1. Run MIGRATE EXEC" on page 152 and reissue the MIGRATE ALL command.</li> </ol>

**Note:** You can ignore the following messages and their associated VMF1966W message:

- DMSLI0201W The following names are undefined: ISPLINK ARIPRDI
- DMSLI0201W The following names are undefined: DMSDSCSC
- DMSLI0201W The following names are undefined: DMSUSRX1 DMSUSRX2
- DMSLI0202W Duplicate identifier messages associated with object IOACMAIN MODULE.
- DMSLKD004W Warning messages issued messages associated with objects ILBONBL, ILBONTR, ILBOREC, ILBORNT, ILBOSND, ILBOSNT, and ILBOSSN.
- DMSLI0994W Restrictive RMODE encountered in CSECT CEEM@VOU
- DMSLI0994W Restrictive RMODE encountered in CSECT CEEBLIA

## Step 2. View the MIGRATE message log

---

## Chapter 12. Place Migrated Parts into Production

**This chapter contains:**

- Step 1. Run PUT2PROD
- Step 2. Shut down your new system
- Step 3. Run MIGCLEAN
- Step 4. Access current system software inventory disk
- Step 5. IPL your new system
- Step 6. Run MIGR51D
- Step 7. Additional information

## Step 1. Run PUT2PROD

---

### Step 1. Run PUT2PROD

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

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

The default password for MAINT is MAINT.

2. IPL CMS.

```
ipl cms
z/VM V5.3.0   yyyy-mm-dd hh:mm
```

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

3. Run PUT2PROD.

```
put2prod
VMFP2P2760I PUT2PROD processing started
:
VMFP2P2760I PUT2PROD processing completed successfully
Ready; T=n.nn/n.nn hh:mm:ss
```

4. Handle a nonzero return code. Base your action on the following table:

If you received . . .	Then . . .
Return code 4	<ul style="list-style-type: none"><li>• Issue VMFVIEW PUT2PROD. You can ignore any warning messages in the notes below. Take appropriate action based on other warning messages you receive.</li></ul>
A return code greater than 4	<ol style="list-style-type: none"><li>1. Issue VMFVIEW PUT2PROD and check for warning and error messages.</li><li>2. You can ignore any warning messages in the notes below. Take appropriate action based on other warning messages you receive.</li><li>3. Correct all errors reported in the error messages.</li><li>4. Issue <code>ipl cms</code></li><li>5. Issue PUT2PROD.</li><li>6. If you get a nonzero return code, repeat substep 4.</li></ol>

**Note:** You can ignore the following:

- DMSDCS1083E Saved segment \$\$DMY\$\$ does not exist
- DMSWLG292W Text data will be loaded at '20000'x in user area; user data may be overwritten.

---

## Step 2. Shut Down Your New System

1. Shut down your new system.

```
shutdown
SYSTEM SHUTDOWN STARTED

HCPWRP963I STARTING SHUTDOWN STEP ..... - .....
:
:
HCPWRP963I STARTING SHUTDOWN STEP ..... - .....

HCPWRP962I VM SHUTDOWN COMPLETED IN nn SEC
HCPWRP963I STARTING SHUTDOWN STEP SVADV - DEACTIVATE TERMINATION SAVE AREAS
HCPWRP961W SYSTEM SHUTDOWN COMPLETE
HCPGIR450W CP entered; disabled wait PSW 00020000 00000000 00000000 00000961
```

2. IPL CMS on your current system user ID.

```
ipl cms
z/VM V5.n.0    yyyy-mm-dd hh:mm
```

**ENTER**

Ready;

## Step 3. Run MIGCLEAN

---

### Step 3. Run MIGCLEAN

1. Run MIGCLEAN to reestablish your original minidisk and SFS environment. If you receive any error messages during MIGCLEAN processing, look up the message in *z/VM: CP Messages and Codes*, take the appropriate action and rerun the command.

```
migclean  
Ready;
```

---

### Step 4. Access Current System Software Inventory Disk

1. Access to the current system software inventory (SI) disk is required. Link the SI disk if it is not.

```
link maint 51d * rr  
Ready; T=n.nn/n.nn hh:mm:ss
```

The default owner and disk address are MAINT and 51D. If your SI disk has a different user ID or address, substitute that user ID and address for MAINT and 51D respectively.

2. Your current SI disk must be defined as address FFF for a future step in the migration procedures.

```
define 51D FFF  
DASD 0FFF DEFINED  
Ready; T=n.nn/n.nn hh:mm:ss
```

If your SI disk has an address other than 51D, substitute that disk address for 51D.

## Step 5. IPL Your New System

### Step 5. IPL Your New System

#### 1. IPL your new system

```
system clear  
Storage cleared - system reset.
```

```
terminal conmode 3270
```

```
query virtual storage  
STORAGE = nnnnM
```

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

```
set machine xa  
SYSTEM RESET  
SYSTEM = XA
```

#### 2. Query the console to determine the virtual console address (*consaddr*). This address is required in the next substep.

```
query console  
CONS consaddr ON LDEV nnnn TERM START  
      consaddr CL T NOCONT NOHOLD COPY 001 READY FORM STDN  
      consaddr TO userid dev DIST nnnn FLASHC 000 DEST OFF  
      consaddr FLASH CHAR MDIFY 0 FCB LPP OFF  
      consaddr 3270 NOEOF OPEN nnnn NOKEEP NOMSG NONAME  
      consaddr SUBCHANNEL = nnnn
```

*consaddr* is the address of your virtual console.

```
ipl dasdaddr clear loadparm consaddr
```

CLEAR is necessary. Do not omit it.

*dasdaddr* is the address of the system residence device (530RES).

*consaddr* is the address of your virtual console.

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

STAND ALONE PROGRAM LOADER: z/VM VERSION 5 RELEASE 3.0

DEVICE NUMBER: *dasdaddr* 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 13. Sample Stand Alone Program Loader Panel

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

**cons=consaddr**

*consaddr* is the address of your virtual console.  
Spaces are not allowed around the equal sign.

### 4. Press the PF10 key to load.

**PF10**

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

hh:mm:ss z/VM V5 R3.0  
SERVICE LEVEL *nnnn* (64-BIT)

hh:mm:ss SYSTEM NUCLEUS CREATED ON *yyyy-mm-dd* AT *hh:mm:ss*,  
LOADED FROM 530RES

hh:mm:ss \*\*\*\*\*

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

hh:mm:ss \* 5741-A05 (C) COPYRIGHT IBM CORP. 1983, \*

hh:mm:ss \* 2007. ALL RIGHTS RESERVED. \*

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

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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 530RES (device *xxxx*).

hh:mm:ss HCPZC06718I Parm disk resides on cylinders *xxx* through *xxx*.

:

You may receive an informational message, HCPIIS951I, about volumes not mounted. If you are not using those volume labels, ignore this message.

**Note:** If you receive informational message HCPIIS954I, you have duplicate volumes with the same label. You must return to the first-level CP environment (enter SHUTDOWN at the next prompt) and detach the duplicate volumes. Then go back to substep 1 on page 160.

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

**force drain**

NOW hh:mm:ss {EST|EDT} *weekday yyyy-mm-dd*

Change TOD clock (yes|no)

**no**

## Step 5. IPL Your New System

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

```
hh:mm:ss The directory on volume 530RES at address nnnn
        has been brought online.
hh:mm:ss HCPWRS2513I
hh:mm:ss HCPWRS2513I Spool files available nnnn
hh:mm:ss HCPWRS2512I Spooling initialization is complete.
hh:mm:ss DASD nnnn dump unit CP IPL pages nnnn
hh:mm:ss HCPAAU2700I System gateway ZVMV5R30 identified.
hh:mm:ss z/VM Version 5 Release 3.0, Service Level 0000 (64-bit),
hh:mm:ss built on IBM Virtualization Technology
hh:mm:ss There is no logmsg data
hh:mm:ss FILES: NO RDR, NO PRT, NO PUN
hh:mm:ss LOGON AT hh:mm:ss EDT DAY mm/dd/yy
hh:mm:ss GRAF nnnn LOGON AS OPERATOR USERS = n
hh:mm:ss HCPIOP952I nnnnM system storage
hh:mm:ss FILES: nnnnnnnn RDR, nnnnnnnn PRT, NO PUN
hh:mm:ss HCPCRC8082I Accounting records are accumulating for userid DISKACNT
```

### 7. 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**

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

```
logon maint                                The default password for MAINT is MAINT.
z/VM Version 5 Release 3.0 Service Level 0000 (64-bit)
built on IBB Virtualization Technology
There is no logmsg data
FILES: nnnn RDR, NO PRT, NO PUN
LOGON AT hh:mm:ss EDT DAY yyyy-mm-dd
```

**ENTER**

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

## Step 6. Run MIGR51D

In this step, you will migrate your 51D disk from your current system.

1. Create a backup copy of the your new system software inventory (SI) disk (default is 51D) using your site's normal backup procedures.
2. Access the SI disk (defined on your current system user ID as FFF) from your current system.

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

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

3. Access the new system 51D minidisk as file mode D.

```
access 51D d
Ready; T=n.nn/n.nn hh:mm:ss
```

4. Access the 493 minidisk as file mode W.

```
access 493 w
Ready; T=n.nn/n.nn hh:mm:ss
```

5. Use the MIGR51D EXEC to update the system SI files.

```
migr51d
HCPMIX8478R Please enter filemode letter of the
              Software Inventory Disk (51D) from
              the previous release. Press enter
              to Exit.

z
```

The following VM Software Inventory Disk (51D) Product and Segment Migration panels will be displayed:

```
*** VM Software Inventory Disk (51D) Product Migration ***

Set action code AC to D = Do Not Migrate or to M = Migrate product. Action
code I means product is already installed on new 51D and cannot be migrated.
```

AC	Compname	Prodid	Status	Description
D	SHELL	2VMVMZ30	APPLIED	Shell and Utilities for VM/ESA 2.3.0
M	DITTO	5654029C	NONE	DITTO/ESA VM 1.2.0
D		5735NFSQ	ENABLED	
D	CMS	5VMCMS10	BUILT	CMS component for z/VM 5.1.0
D	CP	5VMCPR10	BUILT	CP component for z/VM 5.1.0
D	TCPIP	5VMTCP10	BUILT	TCP/IP LEVEL 510 - TCP/IP Feature
I	ICKDSF	5684042J	BUILT	ICKDSF DEVICE SUPPORT FACILITIES R17 for CMS

Page 1 of 1

PF1=HELP PF3/PF12=Quit PF5=Process PF8=Forward

## Step 6. Run MIGR51D

- a. Enter an action code (AC) for each product listed. For information about the panel and action codes, press the PF1 key for HELP.

### Notes:

- 1) Products that are preselected as **D** (Do Not Migrate) should not be changed.
  - 2) If a product is not supported on the new z/VM release, you should enter **D** (Do Not Migrate) for that product.
  - 3) Before you delete any product, you must determine whether any product that you intend to migrate is dependent on this product. You can use VMFINFO or VMFSIM SYSDEP to determine product dependencies.
  - 4) This Product Migration panel is only a sample. Your panels will not list the same products, action codes, status, and description.
  - 5) Press the PF8 key to select action codes for all Software Inventory Migration panels before continuing to the next step.
- b. Press the PF5 key to process the product migration information and display the Segment Migration panel. Depending on the size of your software inventory files, it may take several minutes to process.

```

*** VM Software Inventory Disk (51D) Segment Migration ***

Set action code AC to D = Do Not Migrate or to M = Migrate segment. Action
code P means segment will be migrated due to product migration. If =====
or ***** appears under Segname, enter a new name to change the segment
name upon migration ( ===== Must be changed, ***** May be changed ).

AC Segname      ProdId   Compname      Defparms      Bldparms
-----
D  CMSBAM       01d-> 5VMCMS10 CMS      B0D-B37 SR    PPF(ESA
      New-> 5VMCMS30 CMS      B0D-B37 SR    PPF(ZVM
      ***** Mig-> 5VMCMS30 CMS      B0D-B37 SR    PPF(ZVM
D  CMSDOS       01d-> 5VMCMS10 CMS      B00-B0C SR    PPF(ESA
      New-> 5VMCMS30 CMS      B00-B0C SR    PPF(ZVM
      ***** Mig-> 5VMCMS30 CMS      B00-B0C SR    PPF(ZVM
D  CMSFILES     01d-> 5VMCMS10 CMS      1900-18FF SR  PPF(ESA
      New-> 5VMCMS30 CMS      1900-18FF SR  PPF(ZVM
      ***** Mig-> 5VMCMS30 CMS      1900-18FF SR  PPF(ZVM
D  CMSPIPES     01d-> 5VMCMS10 CMS      1800-18FF SR  PPF(ESA
      New-> 5VMCMS30 CMS      1800-18FF SR  PPF(ZVM
      ***** Mig-> 5VMCMS30 CMS      1800-18FF SR  PPF(ZVM
                                           Page 1 of 4

PF1=HELP  PF3/PF12=Quit  PF5=Process  PF8=Forward

```

- a. Enter an action code for each segment listed. For information about the panel and action codes, press the PF1 key for HELP.  
This Segment Migration panel is only a sample. Your panels will not list the same segments, action codes, status, and description.
  - b. Press the PF5 key to process. Depending on the size of your SI files, it may take several minutes to process.
  - c. Press the PF8 key to select action codes for all Software Inventory Segment Migration panels before continuing to the next step.
6. MIGR51D updated the V5.3 VMSES/E system SI files on your new 51D disk 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 to any one of the licensed product installation user IDs, or MAINT, and enter the following to update some of the other segment files on the system SI disk:

a. Enter:

```
vmfsgmap segbld esasegs segblist
```

At this time, you can make further changes to any segment.

b. On the first panel, enter:

```
segmerge
```

c. Press the PF5 key to exit from VMFSGMAP.

These three steps only need to be done once from one user ID. At this point, the appropriate files on the system software inventory disk are updated.

Now, you can use the VMFBLD command to build the licensed product segments from the corresponding licensed product installation user IDs. Follow the information in the licensed product program directories.

For example:

```
vmfbld ppf segbld esasegs segblist myseg (serviced
```

To rebuild the CMS segments, see the “Using the COR Service Procedure” chapter of *z/VM: Service Guide*, and follow “Rebuild the Saved Segments” under the “Place Your Serviced Components into Production” step.

For example:

```
vmfbld list segbld esasegs zvmsegs blddata (serviced
```

**Note:** You need to rebuild the segments on the new system to get the SYSTEM SEGID file updated.

---

### Step 7. Additional Information

You have completed the automated migration procedure. Additional information that you should be aware of :

1. In addition to the customizable files that were moved from your current system to your new V5.3 system, some minidisks were migrated. When a minidisk is migrated, all of the files that exist on the minidisk on your current system that did NOT exist on the minidisk on your new system are copied to the minidisk on the new system.

The following are general guidelines for disk migration:

- Local and sample disks are migrated
- Help disks are not migrated
- Base disks are not migrated
- PARM disks (MAINTs CF1, CF2, CF3) are not migrated
- Apply and delta disks:
  - If the product on the new system is the same release as the current system (LE, RSCS, OSASF, ICKDSF, DIRMAINT, RACF), the apply and delta disks are migrated
  - If the product on the new system is a different release than the current system (CP/DV, CMS/REXX, VMSES, TSAF/AVS, GCS, TCPIP, PERFTK, VMHCD), the apply and delta disks are not migrated
- DirMaint™ database disks are not migrated
- RACF database disks are not migrated.

2. Additional tasks must be performed after this procedure completes in order to migrate the following. Refer to *z/VM: Migration Guide* and product-specific Program Directories for additional information on migration:

- Parm disks
- User directory
- Networking and connectivity
- Segments
- Spool space
- Security manager databases
- Directory manager databases
- Products and databases not preinstalled on the z/VM installation media.

---

## Chapter 13. Preinstalled Licensed Products and Features

**Note:** Some of the preinstalled product and features require additional installation steps. You must complete these steps for the product or feature to be completely installed.

The z/VM installation media was built incorporating the following licensed products and features.

*Table 17. Preinstalled Licensed Products and Features*

Product name	Release level	Program number	Is product or feature installed disabled or enabled?	Do I need to configure before using the product or feature?
DirMaint	530	5741-A05	Disabled <sup>1</sup>	Yes <sup>2</sup>
EREP	3.5.0	5654-260	Enabled	No
HCD and HCM for z/VM	520	5741-A05	Enabled	No <sup>3</sup>
ICKDSF	1.17.0	5684-042	Enabled	No
OSA/SF	440	5741-A05	Enabled	Yes <sup>2</sup>
Performance Toolkit for VM	530	5741-A05	Disabled <sup>1</sup>	Yes <sup>2</sup>
RACF Security Server for z/VM	530	5741-A05	Disabled <sup>1</sup>	Yes <sup>2</sup>
RSCS Networking for z/VM	530	5741-A05	Disabled <sup>1</sup>	Yes <sup>2</sup>
TCP/IP	530	5741-A05	Enabled	Yes <sup>2</sup>

**Notes:**

1. This product or feature is not available for customer use unless you have a license for it. To use this product or feature, you must order it as documented in the appropriate program directory.
2. To use this product or feature, it must be configured. For configuration information, see the appropriate program directory.
3. This product can be customized.

For detailed information about a product or feature, refer to its own documentation. See the “Bibliography” on page 213.

---

### Directory Maintenance Facility

Directory Maintenance Facility provides support for all the z/VM directory statements. DirMaint also provides additional utilities to help manage minidisk assignments and allocations, and provides a level of security regarding command authorizations and password monitoring.

**Installation Instructions:** The installation of DirMaint is complete. To use DirMaint, it must be enabled and configured. Refer to section “6.0 Installation Instructions” in Directory Maintenance Facility program directory.

---

### Environmental Record Editing and Printing Program

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.

**Installation Instructions:** No additional installation instructions are required.

### Hardware Configuration Definition and Hardware Configuration Manager for z/VM

Hardware Configuration Definition and Hardware Configuration Manager for z/VM (HCD and HCM for z/VM) provides a comprehensive I/O configuration management environment, similar to that available with the z/OS® operating system.

HCM runs on a Microsoft™ Windows-based personal computer connected to the z/VM system through a TCP/IP network connection. HCM provides a graphical user interface as well as commands to help you configure your system. You supply the needed I/O configuration information to HCM, which processes the information and passes it to HCD.

HCD runs in a z/VM server virtual machine and performs the work of actually creating and changing the hardware and software aspects of your I/O configuration. While HCM provides the primary user interface to HCD, HCD also provides a backup user interface on your z/VM host for certain I/O configuration tasks, in case HCM is not available.

z/VM's original dynamic I/O configuration capabilities are still valid. These consist of a set of system operator commands for changing the System z server's I/O configuration while the system continues to run, or for managing the hardware I/O configuration of all of the logical partitions in your System z server. You now have the choice of either using these commands or else using HCM and HCD to manage your I/O configuration. Note, however, that the use of HCM and HCD is incompatible with the original dynamic I/O configuration capabilities. You should select one method to use for the duration of any given IPL of your z/VM system.

**Installation Instructions:** The installation of the HCD host code is complete. To **install** the workstation code (user interface) and customize HCD, refer to section “6.0 Installation Instructions” in the Hardware Configuration Definition and Hardware Configuration Manager program directory and follow the installation instructions.

---

### Device Support Facilities (ICKDSF)

Device Support Facilities (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.

**Installation Instructions:** No additional installation instructions are required.

---

### Open Systems Adapter Support Facility

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

OSA/SF has a Java-based 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 RACF Security Server for z/VM (RACF), or equivalent, to authorize or deny access to OSA/SF commands.

**Installation Instructions:** The installation of the OSA/SF host code is complete. To **install** the workstation code (OSA/SF user interface) and configure OSA/SF, refer to section “6.0 Installation Instructions” in the Open Systems Adapter Support Facility program directory and follow the installation instructions.

---

## Performance Toolkit for VM

Performance Toolkit for VM provides performance management capabilities for VM systems. It is a performance analysis tool for z/VM systems that can be used to detect and diagnose performance problems, analyze system performance, and provide printed reports that show the utilization and response times of key system components. You can also use Performance Toolkit for VM to improve operator efficiency and productivity.

**Installation Instructions:** The installation of Performance Toolkit for VM is complete. To use Performance Toolkit for VM, it must be enabled and configured. Refer to section “6.0 Installation Instructions” in Performance Toolkit for VM program directory.

---

## RACF Security Server for z/VM

RACF Security Server for z/VM (RACF) is a product that works together with the existing system features of z/VM to provide improved data security for an installation.

**Installation Instructions:** The installation of RACF is complete. To use RACF, it must be enabled and configured. Refer to section “6.0 Installation Instructions” in Resource Access Control Facility (RACF) Security Server program directory.

---

## Remote Spooling Communications Subsystem (RSCS) Networking for z/VM

Remote Spooling Communications Subsystem (RSCS) Networking for z/VM lets users send messages, files and mail to coworkers at other systems on their TCP/IP, SNA, or non-SNA network. They can also use RSCS to print documents and issue commands on other systems.

RSCS uses z/VM spooling facilities to store and retrieve data. RSCS can transfer data to other systems (such as z/VM, z/OS, OS/400®, VSE/ESA™, UNIX®, Linux, and AIX/ESA®) that support Network Job Entry (NJE) protocols. NJE connectivity options include TCP/IP, SNA, ESCON®, channel to channel, and Binary Synchronous Communication.

RSCS also supports secure data transfer between z/VM spool and a system that is a workstation that supports Remote Job Entry (RJE) or Multileaving 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.

The enhanced level of TCP/IP print support provided by RSCS (LPR, LPD, UFT, and TN3270E) may be used without obtaining a license for RSCS and enabling RSCS. All other RSCS features can only be used after obtaining a license and enabling RSCS.

**Installation Instructions:** The installation of RSCS is complete. To use RSCS, it must be enabled and configured. Refer to section “6.0 Installation Instructions” in Remote Spooling Communications Subsystem (RSCS) Networking program directory.

### Transmission Control Protocol/Internet Protocol for z/VM

Transmission Control Protocol/Internet Protocol for z/VM (TCP/IP) enables z/VM customers to participate in a multivendor, open networking environment using the TCP/IP protocol suite for communications and interoperability. The applications provided in TCP/IP include the ability to transfer files, send mail, log on a remote host, allow access from any other TCP/IP node in the network, and perform other network client and server functions.

**Installation Instructions:** The installation of TCP/IP is complete. To use TCP/IP, it must be configured. Refer to section “6.0 Installation” in TCP/IP program directory for more information. If you used the IPWIZARD command to initially configure TCP/IP, additional modifications may be required depending on the needs of your installation.

#### **Congratulations!**

You have completed z/VM installation. Your system will need to be tailored. There are several planning and administration guides to refer to for these tasks. See “Bibliography” on page 213.

Part 4, “Service Procedure,” on page 171 contains the procedures for servicing your system and should be used to apply service when required.

Return to the z/VM System Delivery Offering program directory when you are ready to install other licensed products.

## Part 4. Service Procedure

### In this part, you will:

- Run SERVICE to install preventive (Recommended Service Upgrade–RSU) or corrective (COR) service
- Run PUT2PROD to place the service into production.

The SERVICE EXEC automates the steps for installing preventive (RSU) and corrective (COR) service, while the PUT2PROD EXEC automates the steps for placing service into production. These EXECs apply to the following components, features, and products:

*Table 18. Components, Features, and Products Supported by SERVICE and PUT2PROD*

Product	COMPNAME
VMSES/E	VMSES
REXX/VM	REXX
Language Environment®	LE
CMS	CMS
CP	CP
GCS	GCS
Dump Viewing Facility	DV
TSAF	TSAF
AVS	AVS
RSCS Networking for z/VM	RSCS
TCP/IP	TCPIP
OSA/SF for VM	OSA
Directory Maintenance Facility	DIRM
RACF Security Server for z/VM	RACF
Performance Toolkit for VM	PERFTK
HCD and HCM for z/VM	VMHCD

The steps that SERVICE and PUT2PROD automate are documented in *z/VM: Service Guide* and applicable product program directories. The EXECs themselves are documented in *z/VM: VMSES/E Introduction and Reference*. If you need information more detailed than provided in this part, refer to those sources for more information.

To use the SERVICE EXEC to service VMSES/E-formatted program products that are not preinstalled on the z/VM System DDRs, see Appendix A, “Setting up VMSES/E Licensed Products to use the SERVICE EXEC,” on page 179.

**Note:** You cannot use the PUT2PROD EXEC for products other than those listed in Table 18.



---

## Chapter 14. Install Preventive (RSU) or Corrective (COR) Service and Place the Service into Production

**In this chapter, you will:**

- Run the SERVICE EXEC to receive, apply, and build the preventive (RSU) or corrective (COR) service.
- Run PUT2PROD to place the products into production when you are satisfied with the service.

---

## Install and Place Service Into Production

Use the following steps to receive, apply, and build the preventive (RSU) or corrective (COR) service and then place the service into production.

### Step 1. Load the Service Files from the RSU or COR

**In this step, you will:**

- Run the SERVICE EXEC to receive, apply, and build the preventive (RSU) or corrective (COR) service.

**Note:** The SERVICE EXEC processes only one RSU or COR per invocation. The EXEC does, however, process all volumes of a multiple-volume RSU or COR in a single invocation.

1. Make sure you have a current backup of your system. For information about backing up your system, refer to “Step 11. Back Up the z/VM System to Tape” on page 124 or “Step 12. Back Up the z/VM System to DASD” on page 127.
2. Log on to the MAINT user ID from the logon screen.

**ENTER**

The default password for MAINT is MAINT.

logon maint

⋮

z/VM V5.3.0      yyyy-mm-dd hh:mm

**ENTER**

⋮

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

3. If the RSU or COR is on tape, continue with this substep. Otherwise, skip to substep 4 on page 175.
  - a. Attach a tape drive to MAINT as 181.

**attach** tapeaddr \* 181

TAPE tapeaddr ATTACHED TO MAINT 181

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

- b. Mount volume 1 on your 181 tape drive. If you are using an automated tape library (ATL), consult the automated tape library manual(s).

If the RSU or COR has multiple volumes, either:

- Stack the RSU or COR volumes on 181, or
- Attach other tape drives and mount each volume.

- c. IPL CMS.

**ipl** cms

z/VM V5.3.0      yyyy-mm-dd hh:mm

**ENTER**

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

- d. If all the volumes are mounted on 181, run SERVICE with no parameters.

```

service
VMFSRV2760I SERVICE processing started
:
VMFSRV2760I SERVICE processing completed
successfully
Ready; T=n.nn/n.nn hh:mm:ss

```

- e. If the volumes are mounted on multiple tape drives, run SERVICE with the following parameters:

```

service all tapeaddr1 tapeaddr2 ...
VMFSRV2760I SERVICE processing started
:
VMFSRV2760I SERVICE processing completed
successfully
Ready; T=n.nn/n.nn hh:mm:ss

```

List the addresses of each tape volume. *tapeaddr1* is the tape address for tape volume 1, *tapeaddr2* is the tape address for tape volume 2, and so forth.

Go to substep 5 on page 176.

4. If the RSU or COR service is electronic or CD-ROM, continue with this substep.

- a. Retrieve the entire RSU or COR service. (MAINT's 500 minidisk can be used to load the service files.)

- If your media is electronic, follow the instructions that were sent to you electronically.
- If your media is CD-ROM, follow the instructions in the README file on the CD-ROM.

**Note:** You must preserve the file attribute of FIXED BINARY 1024 through all intermediary transports.

- b. IPL CMS.

```

ipl cms
z/VM V5.3.0      yyyy-mm-dd hh:mm

```

**ENTER**

```

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

```

- c. Access the minidisk containing the service files and decompress the VMSES/E envelope file.

```

access diskaddr c
Ready;

```

```

deterse envfn envft envfm = servlink =

```

You need to enter the DETERSE command for every envelope file you receive with your order.

- d. Run SERVICE against the COR documentation envelope file. This step is only for COR service as the RSU documentation envelope file is a text readable file.

```

service all docenvfn

```

*docenvfn* is the file name of the documentation envelope

```

vmfupdat sysmemo

```

Displays the memos that were in the documentation envelope

- e. Run SERVICE against PTF or RSU envelope.

## Run SERVICE EXEC

```
service all envfn1 envfn2 ...
VMFSRV2760I SERVICE processing started
:
VMFSRV2760I SERVICE processing completed
successfully
Ready; T=n.nn/n.nn hh:mm:ss
```

List the file names of each PTF or RSU envelope. *envfn1* is the file name for the first envelope, *envfn2* is the file name for the second envelope, and so forth. You can specify more than one envelope file only if the RSU or COR is multivolume.

Go to substep 5.

5. View the SERVICE messages log (VMFVIEW SERVICE) and handle any nonzero return codes, if necessary. Base your actions on the following table:

If you received . . .	Then . . .
Return code 4	<ol style="list-style-type: none"><li>1. Issue VMFVIEW SERVICE. You can ignore any warning messages in the notes below. Take appropriate action based on other warning messages you receive.</li><li>2. Go to substep 6.</li></ol>
Return code 6 and the message: VMFSUII2760I VMFSUFIN PROCESSING INCOMPLETE DUE TO LOCAL MODIFCATIONS	<ol style="list-style-type: none"><li>1. Issue VMFVIEW SERVICE. You can ignore any warning messages in the notes below. Take appropriate action based on other warning messages you receive.</li><li>2. Use the VMFUPDAT SYSLMOD command to see which local modifications you need to rework. Rework the local modifications that were affected by service. For more information, see <i>z/VM: VMSES/E Introduction and Reference</i>.</li><li>3. After you complete the rework, use the VMFUPDAT SYSLMOD command to flag the local modification as reworked.</li><li>4. Restart by issuing SERVICE RESTART.</li><li>5. If you get a nonzero return code, repeat substep 5.</li><li>6. Go to substep 6.</li></ol>
A return code greater than 6	<ol style="list-style-type: none"><li>1. Issue VMFVIEW SERVICE and check for warning and error messages.</li><li>2. You can ignore any warning messages in the notes below. Take appropriate action based on other warning messages you receive.</li><li>3. Correct all errors reported in the error messages.</li><li>4. Restart by issuing the SERVICE command as displayed in the message VMFSRV2310W.</li><li>5. If you get a nonzero return code, repeat substep 5.</li><li>6. Go to substep 6.</li></ol>

**Note:** You can ignore the following messages and their associated VMF1966W message:

- DMSLI0201W The following names are undefined: ISPLINK ARIPRDI
- DMSLI0201W The following names are undefined: DMSDSCSC
- DMSLI0201W The following names are undefined: DMSUSRX1 DMSUSRX2
- DMSLI0202W Duplicate identifier messages associated with object IOACMAIN MODULE.
- DMSLKD004W Warning messages issued messages associated with objects ILBONBL, ILBONTR, ILBOREC, ILBORNT, ILBOSND, ILBOSNT, and ILBOSSN.
- DMSLI0994W Restrictive RMODE encountered in CSECT CEEM@VOU
- DMSLI0994W Restrictive RMODE encountered in CSECT CEEBLIIA

6. Use the VMFUPDAT SYSMEMO command to review any memos that were received with this service.

You are done installing service. Continue with “Step 2. Place the Service into Production” on page 177.

## Step 2. Place the Service into Production

### In this step, you will:

- Run PUT2PROD to place the products that were processed by the SERVICE EXEC into production. Do this step only after you are satisfied with the service.

**Attention:** PUT2PROD will affect your production environment. It will log off some virtual machines (for example DIRMAINT, OSASF and XCHANGE) in your environment in order to write to minidisks or SFS directories they own. It is recommended that all users be logged off and therefore, you should perform this substep as part of a planned system outage.

**Note:** You cannot use the PUT2PROD EXEC for products other than those listed in Table 18 on page 171.

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

```

ENTER
logon maint
:
z/VM V5.3.0      yyyy-mm-dd hh:mm

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

```

The default password for MAINT is MAINT.

### 2. IPL CMS.

```

ipl cms
z/VM V5.3.0      yyyy-mm-dd hh:mm

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

```

### 3. Run PUT2PROD.

#### Attention:

- PUT2PROD will affect your production environment. It will log off some virtual machines (for example DIRMAINT, OSASF and XCHANGE) in your environment in order to write to minidisks or SFS directories they own. It is recommended that all users be logged off and therefore, you should perform this substep as part of a planned system outage.
- If you are running RACF and you receive the message VMFP2P1219E while running PUT2PROD, then you need to IPL the VM system using the CF2 PARM disk with NOAUTOLOG and then XAUTOLOG your backup RACF server machine, RACMAINT, before attempting to put RACF service into production. For more information, see the Resource Access Control Facility (RACF) Security Server program directory.

```

put2prod
VMFP2P2760I PUT2PROD processing started
:
VMFP2P2760I PUT2PROD processing completed successfully
Ready; T=n.nn/n.nn hh:mm:ss

```

If you receive a nonzero return code, go to substep 4. Otherwise, go to substep 5.

## Place the Service into Production

4. Handle a nonzero return code. Base your action on the following table:

If you received . . .	Then . . .
Return code 4	<ol style="list-style-type: none"><li>1. Issue VMFVIEW PUT2PROD. You can ignore any warning messages in the notes below. Take appropriate action based on other warning messages you receive.</li><li>2. Go to substep 5.</li></ol>
A return code greater than 4	<ol style="list-style-type: none"><li>1. Issue VMFVIEW PUT2PROD and check for warning and error messages.</li><li>2. Take appropriate action based on warning messages.</li><li>3. Correct all errors reported in the error messages.</li><li>4. Issue <code>ipl cms</code>.</li><li>5. Issue PUT2PROD.</li><li>6. If you get a nonzero return code, repeat substep 4.</li><li>7. Go to substep 5.</li></ol>

**Note:** You can ignore the following messages:

- DMSDCS1083E Saved segment \$\$DMY\$\$ does not exist
- DMSWLG292W Text data will be loaded at '20000'x in user area; user data may be overwritten.

5. Shutdown and re-IPL your system

`shutdown reipl`

**ENTER**

You have now completed the service procedure.

## Appendix A. Setting up VMSES/E Licensed Products to use the SERVICE EXEC

You can use the SERVICE EXEC to automate the apply, receive, and build service steps for installed VMSES/E licensed products that are not preinstalled on the z/VM System DDRs. To use the SERVICE EXEC on these products after you have installed them, you must set up the System-Level Service Update Facility (VM SYSSUF) software inventory file through the VMFUPDAT EXEC, as follows.

For a list of the preinstalled products, see Table 18 on page 171.

**Note:** You cannot use the PUT2PROD EXEC for VMSES/E licensed products that are not preinstalled on the z/VM system. Instead, see the steps for placing a product into production in that product's program directory.

### Steps for Setting up VMSES/E Licensed Products to use the SERVICE EXEC

**Before you begin:** You must have the software inventory disk accessed. By default, the software inventory disk is the 51D disk and it is accessed as D.

Perform the following steps to setting up the licensed products:

1. Log on to the MAINT user ID.

**ENTER**

The default password for MAINT is MAINT.

logon maint

:

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

2. Invoke VMFUPDAT to update the VM SYSSUF file.

**vmfupdat syssuf**

\*\*\* Update SYSSUF Table Entries \*\*\*

Update any PPF/component name or YES|NO field. To change all occurrences of a PPF name in the table replace both \*\*\*\*\* fields with PPF names.

Compname	Prodid	Servlev	Description
ADSM	5654A09A	RSU-0101	ADSTAR Distributed Storage Manager for
:INSTALL	YES	:INSPPF	SERV2P ADSM
:BUILD	YES	:BLDPPF	SERV2P ADSM
:INCLUDE	YES	:P2PPPF	SERV2P ADSMP2P
AVS	5VMAVS30	000-0000	AVS for z/VM 5.3.0
:INSTALL	YES	:INSPPF	SERV2P AVS
:BUILD	YES	:BLDPPF	SERV2P AVS
:INCLUDE	YES	:P2PPPF	SERV2P AVSP2P
CMS	5VMCMS30	000-0000	CMS for z/VM 5.3.0
:INSTALL	YES	:INSPPF	SERV2P CMS
:BUILD	YES	:BLDPPF	SERV2P CMS
:INCLUDE	YES	:P2PPPF	SERV2P CMSP2P

Change PPF name \*\*\*\*\* to \*\*\*\*\*

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PF1=HELP PF3/PF12=Quit PF5=Process PF6=VMFSUFTB PF8=Forward

3. Press the PF6 key to refresh the VM SYSSUF table from the information on your system inventory disk (51D). This adds the new product(s) you installed in to the VM SYSSUF table and displays the table again.
4. Locate the product to be used with SERVICE EXEC by scrolling forward.

**Example:** In the following example, HLASM was added, then the user scrolled to it.

```

*** Update SYSSUF Table Entries ***

Update any PPF/component name or YES|NO field. To change all occurrences
of a PPF name in the table replace both ***** fields with PPF names.

Compname      Prodid  Servlev  Description
-----
HLASM          5696234E 000-0000 HIGH LEVEL ASSEMBLER FOR MVS & VM &
:INSTALL      YES      :INSPPF  5696234E HLASM
:BUILD        YES      :BLDPPF  5696234E HLASM
:INCLUDE      YES      :P2PPPF
ICKDSF         5684042J 011-0011 ICKDSF DEVICE SUPPORT FACILITIES R17
:INSTALL      YES      :INSPPF  SERVP2P ICKDSF
:BUILD        YES      :BLDPPF  SERVP2P ICKDSF
:INCLUDE      YES      :P2PPPF  SERVP2P ICKDSFP2P
LE             4VMVMQ40 000-0000 IBM Language Environment for z/VM 4.4.0
:INSTALL      YES      :INSPPF  SERVP2P LE
:BUILD        YES      :BLDPPF  SERVP2P LE
:INCLUDE      YES      :P2PPPF  SERVP2P LEP2P

Change PPF name ***** to *****

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PF1=HELP  PF3/PF12=Quit  PF5=Process  PF7=Backward  PF8=Forward

```

5. If necessary, change the :INSPPF and :BLDPPF fields to the PPF name you are using to service this product.
6. Press the PF5 key to process. The VM SYSSUF table is updated and you exit VMFUPDAT.

You are done with the set up. You can now use the SERVICE EXEC to apply service for new product(s) you added. For more information on using the SERVICE EXEC, see “Step 1. Load the Service Files from the RSU or COR” on page 174.

---

## Appendix B. Determining the RSU Level for Ordering Service

Use the SERVICE command with the STATUS operand to determine the current RSU Service Level for a component or product. The SERVICE command queries the system-level service update facility (VM SYSSUF) table, which contains a list of all products or components that are installed on the system.

**Before you begin:** You must have the software inventory disk accessed. By default, the software inventory disk is the 51D disk and it is accessed as D.

Perform the following step to determine the RSU level of a component:

- Issue the SERVICE command, which has the following format:

**service** *compname* **status**

where *compname* is a component defined in Table 18 on page 171 or any other component defined in the VM SYSSUF table.

**Example:**

```
VMFSRV2195I SERVICE CP STATUS
VMFSRV2760I SERVICE processing started
VMFSRV1225I CP (5VMCPR30%CPSFS) status:
VMFSRV1225I   Service Level    RSU-0701
VMFSRV1225I   Production Level RSU-0701
VMFSRV2760I SERVICE processing completed successfully
```

In the example, “0701” is the RSU level that you would use when ordering service for CP.

You are done when you receive the RSU level output from the SERVICE command.

For more information, see SERVICE EXEC in *z/VM: VMSES/E Introduction and Reference*.



## Appendix C. Migrate 51D from the Old System

### In this appendix, you will:

- Migrate your 51D disk from your old system.

**Note:** Your old system must be VM/ESA® Version 2 or z/VM.

1. Create a backup of the z/VM version 5 release 3 system software inventory (SI) disk (default is 51D) using your site's normal backup procedures.
2. Obtain access to the system SI 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 SI 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 SI files.

```
migr51d
HCPMIX8478R Please enter filemode letter of the
                Software Inventory Disk (51D) from
                the previous release. Press enter
                to Exit.

z
```

The following VM Software Inventory Disk (51D) Product and Segment Migration panels will be displayed:

## Migrate 51D from the Old System

\*\*\* VM Software Inventory Disk (51D) Product Migration \*\*\*

Set action code AC to **D** = **Do Not Migrate** or to **M** = **Migrate** product. Action code **I** means product is already installed on new 51D and cannot be migrated.

AC	Compname	Prodid	Status	Description
D	SHELL	2VMVMZ30	APPLIED	Shell and Utilities for VM/ESA 2.3.0
M	DITTO	5654029C	NONE	DITTO/ESA VM 1.2.0
D		5735NFSQ	ENABLED	
D	CMS	4VMVMA40	BUILT	CMS component for z/VM 4.4.0
D	CP	4VMVMB40	BUILT	CP component for z/VM 4.4.0
D	TCPIP	4TCPIP40	BUILT	TCP/IP LEVEL 440 - TCP/IP Feature
I	ICKDSF	5684042J	BUILT	ICKDSF DEVICE SUPPORT FACILITIES R17 for CMS

Page 1 of 1

PF1=HELP PF3/PF12=Quit PF5=Process PF8=Forward

- a. Enter an action code (AC) for each product listed. For information about the panel and action codes, press the PF1 key for HELP.

**Notes:**

- 1) Products that are preselected as **D** (Do Not Migrate) should not be changed.
  - 2) If a product is not supported on the new z/VM release, you should enter **D** (Do Not Migrate) for that product.
  - 3) Before you delete any product, you must determine whether any product that you intend to migrate is dependent on this product. You can use VMFINFO or VMFSIM SYSDEP to determine product dependencies.
  - 4) This Product Migration panel is only a sample. Your panels will not list the same products, action codes, status, and description.
  - 5) Press the PF8 key to select action codes for all Software Inventory Migration panels before continuing to the next step.
- b. Press the PF5 key to process the product migration information and display the Segment Migration panel. Depending on the size of your SI files, it may take several minutes to process.

## \*\*\* VM Software Inventory Disk (51D) Segment Migration \*\*\*

Set action code AC to **D** = **Do Not Migrate** or to **M** = **Migrate** segment. Action code **P** means segment will be migrated due to product migration. If ===== or \*\*\*\*\* appears under Segname, enter a new name to change the segment name upon migration ( ===== **Must** be changed, \*\*\*\*\* **May** be changed ).

AC	Segname	Prodid	Compname	Defparms	Bldparms
D	CMSBAM	01d->	4VMVMA40 CMS	B0D-B37 SR	PPF(ESA
		New->	5VMCMS30 CMS	B0D-B37 SR	PPF(ZVM
	***** Mig->	5VMCMS30 CMS		B0D-B37 SR	PPF(ZVM
D	CMSDOS	01d->	4VMVMA40 CMS	B00-B0C SR	PPF(ESA
		New->	5VMCMS30 CMS	B00-B0C SR	PPF(ZVM
	***** Mig->	5VMCMS30 CMS		B00-B0C SR	PPF(ZVM
D	CMSFILES	01d->	4VMVMA40 CMS	1900-1BFF SR	PPF(ESA
		New->	5VMCMS30 CMS	1900-1BFF SR	PPF(ZVM
	***** Mig->	5VMCMS30 CMS		1900-1BFF SR	PPF(ZVM
D	CMSPIPES	01d->	4VMVMA40 CMS	1800-18FF SR	PPF(ESA
		New->	5VMCMS30 CMS	1800-18FF SR	PPF(ZVM
	***** Mig->	5VMCMS30 CMS		1800-18FF SR	PPF(ZVM

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PF1=HELP PF3/PF12=Quit PF5=Process PF8=Forward

- a. Enter an action code for each segment listed. For information about the panel and action codes, press the PF1 key for HELP.  
This Segment Migration panel is only a sample. Your panels will not list the same segments, action codes, status, and description.
  - b. Press the PF5 key to process. Depending on the size of your SI files, it may take several minutes to process.
  - c. Press the PF8 key to select action codes for all Software Inventory Segment Migration panels before continuing to the next step.
7. MIGR51D updated the V5.3 VMSES/E system SI files on your new 51D disk 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 SI 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 to any one of the licensed product installation user IDs, or MAINT, and enter the following to update some of the other segment files on the system SI disk:

- a. Enter:

**vmfsgmap segbld esasegs segblist**

At this time, you can make further changes to any segment.

- b. On the first panel, enter:

**segmerge**

- c. Press the PF5 key to exit from VMFSGMAP.

These three steps only need to be done once from one user ID. At this point, the appropriate files on the system SI disk are updated.

Now, you can use the VMFBLD command to build the licensed product segments from the corresponding licensed product installation user IDs. Follow the information in the licensed product program directories.

For example:

**vmfbld ppf segbld esasegs segblist myseg (serviced**

## Migrate 51D from the Old System

To rebuild the CMS segments, see the “Using the COR Service Procedure” chapter of *z/VM: Service Guide*, and follow “Rebuild the Saved Segments” under the “Place Your Serviced Components into Production” step.

For example:

```
vmfbld list segbld esasegs zvmsegs blddata (serviced
```

**Note:** You need to rebuild the segments on the new system to get the SYSTEM SEGID file updated.

---

## Appendix D. Apply or Rework Local Service and Modifications

You can use the LOCALMOD command to create and apply or rework local service and modifications to any component or product defined in the System-Level Service Update Facility (VM SYSSUF) software inventory table.

---

### Apply or Create a Local Modification

You can use the LOCALMOD command to create and apply local modifications to any component or product defined in the System-Level Service Update Facility (VM SYSSUF) software inventory table.

**Before you begin:** You must have the software inventory disk accessed. By default, the software inventory disk is the 51D disk and it is accessed as D.

1. Create and apply the local modification.

- a. Run LOCALMOD:

```
localmod compname partfn partft
```

*compname* is the component name associated with the product you are modifying (for example one of the COMPNAME values in Table 18 on page 171)

*partfn* and *partft* are the file name and file type of the source part that is to be modified

- b. Reply to any prompt messages.
- c. Make your changes to the displayed file.
- d. File your changes:

```
====> file
```

Enter **file** on the XEDIT command line.

- e. Repeat this entire step for any additional local modifications that you need to make.

2. Run SERVICE, for each component processed, to build the local modification(s).

```
service compname build
```

3. Run PUT2PROD to put the local modification(s) into production.

```
put2prod
```

**Note:** You can use only PUT2PROD for products listed in Table 18 on page 171. If you have reworked a local modification for a product that you added to the VM SYSSUF table, follow that product's instructions (found in the product's program directory) to place its service into production.

---

### Rework a Local Modification

You can use the LOCALMOD command to rework a local modification to any component or product defined in the System-Level Service Update Facility (VM SYSSUF) software inventory table.

**Before you begin:** You must have the software inventory disk accessed. By default, the software inventory disk is the 51D disk and it is accessed as D.

1. Rework the local modification.

## Rework a Local Modification

- a. Run LOCALMOD:

```
localmod compname partfn partft (rework
```

*compname* is the component name associated with the product you are reworking (for example one of the COMPNAME values in Table 18 on page 171).

*partfn* and *partft* are the file name and file type of the source part that is to be reworked

- b. Reply to any prompt messages.
- c. Make your changes to the displayed file.
- d. File your changes:

```
====> file
```

Enter **file** on the XEDIT command line.

- e. Repeat this entire step for any additional local modifications that you need to rework.

2. Run SERVICE, for each component processed, to build the local modification(s).

If you received a return code 6 (rework local modifications) from a SERVICE invocation, enter the following:

```
service restart
```

Otherwise, enter the following:

```
service compname build
```

3. Run PUT2PROD to put the local modification(s) into production.

```
put2prod
```

**Note:** You can use only PUT2PROD for products listed in Table 18 on page 171. If you have reworked a local modification for a product that you added to the VM SYSSUF table, follow that product's instructions (found in the product's program directory) to place its service into production.

---

## Apply Local Service

You can use the LOCALMOD command to apply local service to any component or product defined in the System-Level Service Update Facility (VM SYSSUF) software inventory table. Local service is defined as any service received from IBM that is not on a COR or RSU tape (or envelope).

**Before you begin:** You must have the software inventory disk accessed. By default, the software inventory disk is the 51D disk and it is accessed as D.

1. Apply the local service.

a. Run LOCALMOD:

```
localmod compname partfn partft servfn servft
```

*compname* is the component name associated with the product you are modifying (for example one of the COMPNAME values in Table 18 on page 171)

*partfn* and *partft* are the file name and file type of the part to be serviced. If the service is an update, *partft* is the file type of the service part, for example ASSEMBLE. If the service is a replacement part, *partft* is the file type of the part to be replaced, for example TEXT.

*servfn* and *servft* are the file name and file type of the service received from IBM.

b. Reply to any prompt messages.

c. Repeat this entire step for any additional local service.

2. Run SERVICE, for each component processed, to build the local service.

```
service compname build
```

3. Run PUT2PROD to put the local service into production.

```
put2prod
```

**Note:** You can use only PUT2PROD for products listed in Table 18 on page 171. If you have applied local service for a product that you added to the VM SYSSUF table, follow that product's instructions (found in the product's program directory) to place its service into production.



---

## Appendix E. Contents of the z/VM System

---

### This appendix contains:

- Products loaded from the z/VM installation media information.
- CP, CMS, and GCS default information.
- Saved segment and file pool default information.

---

## Products Loaded from the z/VM System Installation Media

Products installed on the z/VM system are:

- z/VM
  - Control Program (CP)
  - Dump Viewing Facility (DV)
  - Conversational Monitor System (CMS)
  - REstructured eXtended eXecutor/VM (REXX)
  - Virtual Machine Serviceability Enhancements Staged/Extended (VMSES)
  - Group Control System (GCS)
  - Transparent Services Access Facility (TSAF)
  - APPC/VM VTAM® Support (AVS)
  - Language Environment (LE)
  - 3800 Model-3 Printer Image Library
  - UCENG Help - Uppercase English Help minidisk
  - German Help - German Help minidisk
  - Kanji Help - Japanese Help minidisk
- Environmental Record Editing and Printing Program (EREP)
- Device Support Facilities (ICKDSF)
- Remote Spooling Communications Subsystem (RSCS) Networking for z/VM
- Transmission Control Protocol/Internet Protocol (TCPIP)
- Open Systems Adapter Support Facility (OSA)
- Directory Maintenance Facility (DIRM)
- RACF Security Server for z/VM (RACF)
- Performance Toolkit for VM (PERFTK)
- Hardware Configuration Definition and Hardware Configuration Manager for z/VM (VMHCD)

---

## CMS Defaults

1. The CMS nucleus was built with a local mod to DMSNGP. This local mod updates the CYLADDR, which defines where to write the CMS nucleus on the System disk (the recomp value).

---

## CP Defaults

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) and backup parm disk (CF3). These files contain the system configuration data used by CP.

## CP Defaults

2. For detailed information about the CP system configuration function, CP nucleus options, and CP planning, see *z/VM: CP Planning and Administration*.
3. The CP nucleus on the z/VM system is a module. The module resides on the parm disks (CF1, CF2, and CF3).
4. The CP nucleus is IPLed with the system default language, mixed case American English (AMENG), Uppercase English (UCENG), Kanji (KANJI), or German (GER), which was selected during installation.
5. The USER DIRECT file on MAINT's 2CC minidisk contains entries defining each virtual machine (user) permitted to log on to your system.

The default machine mode definition for user IDs in the directory is XA. However, any SET MACHINE statement issued for a user ID overrides the default setting. The USER DIRECT file built during installation contains a SET MACH XA, SET MACH ESA, or SET MACH XC command for all user IDs.
6. 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. Each user you add to the directory that needs access to a HELP disk must have an INCLUDE statement to the PROFILE IBMDFLT section or a LINK statement for each of the four help disks.
7. The z/VM System 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 (530RES) and various system parameters, defining the configuration of your system.
8. CP ships several CP Sample Utility Programs to help you configure your system once installation is complete. They are located on the MAINT 2C2 minidisk. For additional information on these programs, refer to appendix A in *z/VM: CP Planning and Administration*.

---

## GCS Defaults

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

---

## Saved Segments on the z/VM System

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 *z/VM: Service Guide*. A local modification allows VMSES/E to track the changes and to ensure the CMSINST segment is rebuilt when any of the execs in it are serviced.
2. The QUERY NSS ALL MAP command displays the saved segments and saved systems defined on your system. The segments may be displayed in a different order.

**query nss all map**

Enter the QUERY NSS ALL MAP command to list all defined saved segments and their addresses.

## Saved Segments on the z/VM System

```

:
FILE FILENAME FILETYPE MINSIZE BEGPAG ENDPAG TYPE CL #USERS PARMREGS VMGROUP
nnnn ZCMS      NSS      0000256K 00000 0000D EW  A  00000  00-15  NO
                                00020 00023 EW
                                00F00 013FF SR
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 MONDCSS   CPDCSS    N/A      09000 097FF SC  R  00000  N/A    N/A
nnnn GUICSLIB  DCSS      N/A      01F00 01FFF SR  A  00000  N/A    N/A
nnnn CMSFILES  DCSS      N/A      01900 01BFF SR  A  00000  N/A    N/A
nnnn SVM       DCSS      N/A      01900 019FF SR  A  00000  N/A    N/A
nnnn CMSPIPES  DCSS      N/A      01800 018FF SR  A  00001  N/A    N/A
nnnn CMSVMLIB  DCSS      N/A      01700 017FF SR  A  00001  N/A    N/A
nnnn INSTSEG   DCSS      N/A      01400 016FF SR  A  00001  N/A    N/A
nnnn HELPSEG   DCSS      N/A      00C00 00CFF SR  A  00000  N/A    N/A
nnnn PERFOUT   CPDCSS    N/A      08A00 08FFF SC  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      02100 027FF SR  A  00000  N/A    N/A
nnnn NLSGER     DCSS      N/A      02000 020FF SR  A  00000  N/A    N/A
nnnn NLSKANJI  DCSS      N/A      02000 020FF SR  A  00000  N/A    N/A
nnnn NLSUCENG  DCSS      N/A      02000 020FF SR  A  00000  N/A    N/A
nnnn NLSAMENG  DCSS      N/A      02000 020FF SR  A  00000  N/A    N/A
Ready; T=n.nn/n.nn hh:mm:ss

```

---

## VMSESVS, VMSERVU, and VMSEVR File Pool Defaults

The z/VM system incorporates three prebuilt file pools.

### VMSYS

- Managed by the VMSESVS server machine
- Enrolled MAINT in the VMSYS file pool
- BFS directories defined for Shell and Utilities

### VMSYSU

- Managed by the VMSERVU server machine
- Enrolled MAINT in the VMSYSU file pool
- MAINT.SAMPLES directory exists with SFS sample files installed.

### VMSYSR

- Managed by the VMSEVR 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 startup parameters for the file pool server machine. *filename* is the user ID of the server machine.

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

### VMSYS File Pool

If you chose to load these products into the file pool, the following user IDs are also enrolled in the VMSYS file pool:

Table 19. VMSYS File Pool User Ids

Product	User ID
RSCS	5VMRSC30
	RSCSAUTH
	RSCSDNS
	XCHANGE
OSA/SF	4OSASF40
	OSASF
	OSAMAIN
	OSADMIN1
	OSADMIN2
	OSADMIN3
TCP/IP	5VMTCP30
	SSLSESV
ICKDSF	5684042J
DIRM	5VMDIR30
RACF	5VMRAC30
PERFTK	5VMPTK30
	PERFSVM
VMHCD	5VMHCD20
	CBDIODSP

**Note:** Other user IDs enrolled in the VMSYS file pool are: LDAPSRV, ROOT, VMRMSVM, VSMPROXY, VSMREQIN, VSMREQUIU, VSMWORK1, VSMWORK2, VSMWORK3.



## Appendix F. Restore the Named Saved Systems and Segments from Tape

### In this appendix, you will:

- Restore the CMS named saved system and segments.

You should have created a loadable tape of the named saved systems and segments during your system installation. Follow these steps if you need to restore the named saved system and segments.

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 nnnn
:
LOADING devno : nnn FILES, PAGES nnnn
SPXTAPE LOAD END-OF-TAPE ON VDEV devno;
MOUNT NEXT TAPE
TAPE NUMBER: devno-001
FILES PROCESSED: nnn
SPOOL PAGES: nnnn
LOADING devno : nnn FILES, PAGES nnnn
:
LOADING devno : nnn FILES, PAGES nnnn
RDR FILE fileno1 SENT FROM MAINT CON WAS fileno RECS nnnn CPY 001 T NOHOLD NOKEEP
```

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

## Restore the Named Saved Systems and Segments from Tape

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 devnoSPXTAPE 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
```

The SPXTAPE END command ends the SPXTAPE LOAD operation at the completion of the current file.

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

The CMS ready message may occur between the messages.

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

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

For more information on the SPXTAPE command, see the *z/VM: CP Commands and Utilities Reference*.

7. IPL the CMS named saved system.

```
ipl cmsname
:
z/VM V5.3.0    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.

## Appendix G. Restore the z/VM System Backup from Tape

### In this appendix, you will:

- Restore the backup of your new z/VM system from tape.

**Note:** This procedure requires a full pack minidisk be defined in the CP directory, USER DIRECT, for each volume you are restoring.

You should have created a backup of your new z/VM system on tape during your system installation. Follow these steps to restore the system.

1. Mount the backup tape on a tape drive.
2. Perform an IPL of the tape device.

```
ipl devno clear
```

*devno* is the address of the tape drive.

3. Use DDRXA to restore the system to disk. Repeat this substep for each DASD volume you are restoring.

```
z/VM DASD DUMP/RESTORE PROGRAM  
ENTER CARD READER ADDRESS OR CONTROL STATEMENTS  
ENTER:
```

```
sysprint cons  
ENTER:
```

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

```
input devno tape  
ENTER:
```

The second control statement is the input control statement.

*devno* identifies the device number where the backup tape is mounted.

You can specify one alternate tape drive for additional tape volumes.

**Example:** If you had a tape attached to 181 and an alternate tape attached to 182, the INPUT control statement would be:

```
input 181 tape 182
```

By typing the word **tape**, the tape device type is automatically identified by the DDRXA program.

If you are using a 3590 tape, and multiple DASD were dumped on one tape volume, use the leave option to position the tape for the next restore. The input control statement would be:

```
input 181 tape (leave
```

## Restore the z/VM System Backup

**output** *devaddr dasd valid*  
ENTER:

This output statement specifies the DASD device to which you are restoring the system.

*devaddr* is the full pack minidisk address of the volume to which you are restoring this tape.

The full pack minidisk addresses for the default DASD are 122 (530SPL), 123 (530RES) 124 (530W01), 125 (530W02), ...

By typing the word **dasd**, the device type (3390) is automatically identified by the DDRXA program.

**restore all**

The RESTORE ALL statement tells DDRXA to restore the whole tape to the output device.

```
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
```

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.

ENTER:  
:

ENTER:

When DDRXA finishes, it prompts you with ENTER. To end the program, press the ENTER key.

**ENTER**

END OF JOB

**Note:** When DDRXA encounters the end of a tape, and there is more data to restore, the program prompts you to mount the next tape.

- If you are using the same tape drive, mount the next tape and DDRXA continues.
- If you are using an alternate tape drive, DDRXA uses the alternate tape drive, then alternates between the tape drives for additional tapes. That is, if there are more than two tapes, you are prompted for the third tape on the first tape drive, the fourth tape on the second tape drive, and so forth.

## Appendix H. Recover a File or Minidisk

### In this appendix, you will:

- Recover an entire minidisk. To recover 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 installation media. 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.

#### 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 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 recover an entire minidisk, skip this substep 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, check the minidisk map file. If you loaded z/VM to the file pool, the minidisk map file is on the directory VMSYS:MAINT.CPDV.OBJECT. Access this directory in place of the 194 disk.

**access 194 z**

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

**xedit minidisk map z**

:

:

**quit**

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

The MINIDISK MAP file lists the minidisks shipped on the z/VM system 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 recover the entire minidisk to a temporary disk, you need to define a temporary disk. The temporary disk must be the same DASD type that is provided by your installation media and the same size as the minidisk you want to recover. (See the \$ITEMMD\$ \$TABLE\$ on the 2CC disk for the size of the minidisk you want to recover.)

**define [t3390 or vfb-512] loadaddr mdisksize**

DASD loadaddr DEFINED

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

loadaddr is the address of the temporary disk.

mdisksize is the size of the minidisk you want to restore.

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 DASD type that is provided by your installation media and the same size as the minidisk you want to recover.

#### 5. Continue to the appropriate substep depending on the type of installation media.

- DDR tape, continue to substep 6 on page 202.

## Recover a File or Minidisk

- DVD, continue to substep 9 on page 203.
6. To restore the chosen minidisk, enter the **INSTALL EXEC** with the **RECOVER** option.  
If installing from 3590, enter:

```
install 3590 (recover mdiskaddr loadaddr
```

If installing from 3480 or 3490, enter:

```
install (recover mdiskaddr loadaddr
```

where:

*mdiskaddr*

is the address of the minidisk to be loaded from the z/VM System DDR.

loadaddr

is the address to which you restore the minidisk.

**Notes:**

- a. If the minidisk belongs to MAINT, *mdiskaddr* is the actual minidisk address. If the minidisk does not belong to MAINT, *mdiskaddr* is the alias address. Refer to the \$ITEMMD\$ \$TABLE\$ on the 2CC disk to determine the alias address.
  - b. To recover a minidisk and overlay the existing disk, you must link the minidisk in write mode. For example, enter the LINK CMSBATCH 195 801 WR command.
  - c. If you want to restore an entire minidisk and overlay the existing minidisk, *loadaddr* is the address at which you have the disk linked.  
If the load address (*loadaddr*) is not specified, a temporary disk (T-disk) is created.
  - d. You cannot recover the 2CC minidisk directly to the 2CC minidisk. You can recover the 2CC to an address other than 2CC and copy the files you wish to recover to the 2CC minidisk.
  - e. The INSTALL EXEC requires a full screen terminal with at least 20 lines.
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

```

8. Complete the z/VM LOAD DEVICE MENU panel.

**Note:** This LOAD DEVICE MENU panel shows you the volume you need to mount based on the minidisk you want to restore.

- a. Check the **MEDIA SELECTED IS:** field. This is a required field that will contain either TAPE or 3590 depending on the parameter used to invoke the INSTALL exec. If the *media* specified is not correct, press PF3 key to quit and run the INSTALL exec with the correct parameter.

- b. Type 181 for the tape drive virtual address (VADDR).
- c. Mount volume *n* of the z/VM System DDR tape on tape drive 181.
- d. Press the PF5 key to load.

The load starts with the following system messages:

```

PF5
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 520xxx
DATA DUMPED  mm/dd/yy at hh.mm.ss  GMT FROM 520xxx RESTORED TO SYSTEM
INPUT CYLINDER EXTENTS          OUTPUT CYLINDER EXTENTS
      START          STOP          START          STOP
      nnnnnnnnn      nnnnnnnnn      nnnnnnnnn      nnnnnnnnn
END OF RESTORE
  BYTES RESTORED nnnnnnnnnnn

END OF JOB

HCPWIN8441I  mdiskaddr HAS BEEN RESTORED TO MINIDISK loadaddr
Ready; T=n.nn/n.nn hh:mm:ss

```

- e. Skip to substep 10 on page 204.

## 9. Recover the minidisk.

If your installation media was DVD, you could have installed from the DVD or uploaded the contents of the DVD to either a FTP server or VM minidisk. You can use the FTP server or VM minidisk if they are still available, otherwise use the DVD.

### a. Run INSTPIPE

```
instpipe
```

### b. Recover from the DVD or FTP server:

```
pipe ftpget -h IPaddress -u userid -p password -d ftpdrc -v BEF -DVDEOF -f dddcuu* [UNPACK]
restcmd loadaddr
```

*IPaddress* is the IP address or FTP HOSTNAME.

*userid* and *password* are the user ID and password used to log onto the FTP server.

*ftpdrc* is the path to the DVD drive or server directory. If using a DVD drive, append **/CPDVD** to the end of the path.

*ddd* is **CKD** for 3390 or **FBA** for FBA.

*cuu\** is the address of the minidisk to be recovered from the DVD, with an asterisk (\*) appended to the end.

*restcmd* is **ECKDREST** for 3390 or **MDREST** for FBA.

*loadaddr* is the address to which you are restoring the minidisk.

### Notes:

- 1) To recover a minidisk and overlay the existing disk, you must link the minidisk in write mode. For example, enter the LINK CMSBATCH 195 801 WR command.
- 2) If the minidisk belongs to MAINT, *cuu* is the actual minidisk address. If the minidisk does not belong to MAINT, *cuu* is the alias address. Refer to the \$ITEMMD\$ \$TABLE\$ on the 2CC disk to determine the alias address.

## Recover a File or Minidisk

- 3) If you want to recover an entire minidisk and overlay the existing minidisk, *loadaddr* is the address at which you have the disk linked. If *loadaddr* is not specified, a temporary disk (T-disk) is created.

### C. Recover from a VM minidisk. Access the VM minidisk address as C.

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

**pipe** *dvddecod dddcuu image c |UNPACK| restcmd loadaddr*

*ddd* is **CKD** for 3390 or **FBA** for FBA.

*restcmd* is **ECKDREST** for 3390 or **MDREST** for FBA.

*cuu* is the address of the minidisk to be recovered from the DVD.

*loadaddr* is the address to which you are recovering the minidisk.

#### Notes:

- 1) To recover a minidisk and overlay the existing disk, you must link the minidisk in write mode. For example, enter the LINK CMSBATCH 195 801 WR command.
- 2) If the minidisk belongs to MAINT, *cuu* is the actual minidisk address. If the minidisk does not belong to MAINT, *cuu* is the alias address. Refer to the \$ITEMMD\$ \$TABLE\$ on the 2CC disk to determine the alias address.
- 3) If you want to recover an entire minidisk and overlay the existing minidisk, *loadaddr* is the address at which you have the disk linked. If *loadaddr* is not specified, a temporary disk (T-disk) is created.

10. 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*

*loadaddr* is the address of the temporary disk.

*fm-1* is any available file mode.

**access** *mdiskaddr fm-2*  
Ready; T=*n.nn/n.nn hh:mm:ss*

*mdiskaddr* is the address of the target minidisk. If you loaded z/VM to the file pool, *mdiskaddr* is the directory to which the minidisks were copied. See MOVE2SFS \$TABLE\$ for a list of minidisks and directories.

*fm-2* is any available file mode.

**copyfile** *fn ft fm-1 = = fm-2 (olddate*  
Ready; T=*n.nn/n.nn hh:mm:ss*

*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 I. Using an Integrated 3270 Console for Installation

Perform the following steps to install the z/VM System DDR into a new system environment using an integrated 3270 console on the Hardware Management Console (HMC).

1. Open the CPC IMAGES window on the HMC.
  - a. Open the TASK list from the VIEWS area by double clicking.
  - b. Open CPC RECOVERY from the TASK LIST WORK AREA.
  - c. Open GROUPS for the VIEW AREA.
  - d. Open CPC IMAGES from the GROUPS WORK AREA.
2. IPL volume one of the z/VM System DDR.
  - a. From the CPC IMAGES WORK AREA, drag and drop the image you want to IPL on the **LOAD** icon in the CPC RECOVERY AREA or highlight the image you are using and double-click on the **LOAD** icon in the CPC RECOVERY AREA. The LOAD panel will open.
  - b. IPL the tape using the LOAD panel. Fill in the fields on the LOAD panel with the device address of your tape drive and a load parameter of CNSLSCLP (Operating System Messages window):
    - Load Address xxxx - type your tape drive address
    - Load parameter CNSLSCLP
    - Click **OK** in the LOAD panel
    - Click **Yes** in the LOAD TASK CONFIRMATION panel
    - Click **OK** in the LOAD PROGRESS panel when status says completedICKDSF will load in the Operating System Messages window.
  - c. Double click the OPERATING SYSTEM MESSAGES icon in the HMC CPC RECOVERY panel. It may take a few minutes for the messages to appear.
  - d. Go back to “Step 1. Restore the Initial Installation System (IIS)” on page 12 and follow substeps 6-11 to use ICKDSF to initialize, format, and label the packs needed for installation. Then, return here.
  - e. Close the Operating System Messages window.
3. Open the integrated 3270 console from the CPC RECOVERY area on the HMC and IPL your from your tape drive.

The Integrated 3270 Console window must remain open, even if it is in the background. To open the window and IPL your image:

  - a. From the CPC IMAGE WORK AREA, drag and drop the image you want to IPL on the **INTEGRATED 3270 CONSOLE** icon in the CPC RECOVERY tasks area. The Integrated 3270 Console window will open.
  - b. From the CPC IMAGE WORK AREA, drag and drop the image you want to IPL on the LOAD icon in the CPC RECOVERY tasks area. The LOAD panel will open.
  - c. IPL the tape using the LOAD panel, filling in the fields with the device address of tape drive and a load parameter SYSG:
    - Load Address xxxx - type your tape drive address
    - Load parameter SYSG - uses the integrated 3270 console as your system console. Ensure the load parameter field is empty before entering SYSG.
    - Click **OK** in the LOAD panel
    - Click **Yes** in the LOAD TASK CONFIRMATION panel

- Click **OK** in the LOAD PROGRESS panel when status says completed
  - d. Click on the Integrated 3270 Console window to bring it to the foreground. The DDR program will be displayed in the Integrated 3270 Console window.
  - e. Go back to “Step 1. Restore the Initial Installation System (IIS)” on page 12 and follow substep 13 to use DDR to load the IIS. Then, return here.
  - f. Keep the Integrated 3270 Console window open in the background.
4. From the CPC IMAGES WORK AREA, drag and drop the Image you want to IPL on the **LOAD** icon in the CPC RECOVERY area. The LOAD panel will open.
- a. IPL the tape using the LOAD panel, filling in the fields with the device address of tape drive and a load parameter of CNSLSCLP:
    - Load Address xxxx - type your tape drive address
    - Load parameter CNSLSCLP
    - Click **OK** in the LOAD panel
    - Click **Yes** in the LOAD TASK CONFIRMATION panel
    - Click **OK** in the LOAD PROGRESS panel when status says completed
 ICKDSF will load in the Operating System Messages window.
  - b. Double click the OPERATING SYSTEM MESSAGES icon in the HMC CPC RECOVERY panel. It may take a few minutes for the messages to appear.
  - c. Go back to “Step 1. Restore the Initial Installation System (IIS)” on page 12 and follow substeps 15 - 17 to use ICKDSF to allocate your paging and spool space, and allocate the remainder of your 530RES pack if necessary. Then, return here.
  - d. Close the Operating System Messages window.
5. IPL the 530RES to bring up the IIS part of the install.
- a. From the CPC IMAGES WORK AREA, drag and drop the image you want to IPL on the LOAD icon in the CPC RECOVERY tasks area. The LOAD panel will open.
  - b. IPL the DASD using the LOAD panel, filling in the fields with the DASD address of your 530RES volume and a load parameter of SYSG:
    - Load Address xxxx - type the DASD address of your 530RES volume
    - Load parameter SYSG - uses the integrated 3270 console as your system console
    - Click **OK** in the LOAD panel
    - Click **Yes** in the LOAD TASK CONFIRMATION panel
    - Click **OK** in the LOAD PROGRESS Panel when status says completed
  - c. Click on the Integrated 3270 Console window to bring it to the foreground. The Stand Alone Program Loader (SAPL) panel will be displayed in the Integrated 3270 Console window.

Go back to “Step 2. IPL the z/VM IIS” on page 19, substep 2, and complete the installation.

**Note:** Use CONS=SYSG in place of CONS=*consaddr* on the SAPL panel before pressing the PF10 key to load.

---

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## Glossary

For a list of terms and their definitions, see *z/VM: Glossary*. The glossary is also available through the online HELP Facility. For example, to display the definition of "cms", enter:

```
help glossary cms
```

You will enter the glossary HELP file and the definition of "cms" will be displayed. While you are in the glossary HELP file, you can also search for other terms.

If you are unfamiliar with the HELP Facility, you can enter:

```
help
```

to display the main HELP Menu, or enter:

```
help cms help
```

for information about the HELP command.

For more information about the HELP Facility, see the *z/VM: CMS User's Guide*. For more information about the HELP command, see the *z/VM: CMS Commands and Utilities Reference*.



---

## Bibliography

This bibliography lists the publications in the IBM® z/VM® product library, and it may list other publications referenced in this publication. For abstracts of z/VM publications and information about current editions and available media, see *z/VM: General Information*.

---

### Where to Get z/VM Publications

z/VM publications are available from the following sources:

- IBM Publications Center at [www.elink.ibm.com/publications/servlet/pbi.wss](http://www.elink.ibm.com/publications/servlet/pbi.wss)
- z/VM Internet Library at [www.ibm.com/eserver/zseries/zvm/library/](http://www.ibm.com/eserver/zseries/zvm/library/)
- *IBM Online Library: z/VM Collection* (CD-ROM), SK2T-2067
- *IBM Online Library: z/VM Collection on DVD*, SK5T-7054

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### z/VM Base Library

#### Overview

- *z/VM: General Information*, GC24-6095
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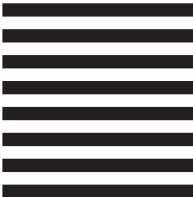
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