

z/VM



Installation Guide

version 6 release 2

z/VM



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Note:

Before using this information and the product it supports, read the information in “Notices” on page 239.

This edition applies to the version 6, release 2, modification 0 of IBM z/VM (product number 5741-A07) and to all subsequent releases and modifications until otherwise indicated in new editions.

This edition replaces GC24-6197--00.

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About this document

This document guides the customer through the installation of version 6 release 2 of IBM® z/VM® through step-by-step installation procedures. The procedures cover installation of a z/VM system first-level (in a processor's logical partition) or second-level (as a guest operating system hosted by z/VM) from tape or DVD media.

You may treat each task in this document independently, but within each task read and follow the procedures in the order presented. For instance, if installing from tape, follow all of the steps in Part 1, “z/VM installation from tape media,” on page 1. If installing from DVD, follow all of the steps in Part 2, “z/VM installation from DVD or electronic media,” on page 65.

For information about migrating customized files and service for pre-installed products or customizing and configuring licensed products and features, see Part 3, “Post z/VM system installation,” on page 143.

For information about servicing your system, see *z/VM: Service Guide*.

Note: See *z/VM: General Information* for a list of the processors supported by z/VM and the guest operating systems hosted by z/VM.

Intended audience

This information is intended for the customer responsible for installing z/VM.

A general knowledge of what z/VM does and an understanding of virtual machine concepts is required for getting the most out of this information. You should also have a general understanding of z/VM and System z™ data processing techniques and z/VM commands.

Conventions and terminology

Various conventions are used to depict what you should type and what system responses you might see. Procedures will use the following conventions:

- The procedures in this document are in a two-column format. The left column shows the representative sequence of user entries and system responses, the right column contains explanatory comments and instructions about the entries shown in the left column.

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 where the z/VM system installation tape will be mounted.

userid
is the first-level user ID logged on to in the previous substep.

- Normal font indicates system responses and requests.

Example: The following shows a system response:

```
HCPIPX8475I THE PRODUCTS YOU SELECTED TO LOAD TO MINIDISK ARE:
          VM RSCS TCPIP OSA ICKDSF DIRM RACF
          PERFTK VMHCD
```

- Bold font indicates exactly what you should type.

Example: The following shows a command you would type:

```
disconnect
```

- 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 Enter:

```
ENTER
```

- A vertical bar (|) indicates you will receive or enter one of the values within the braces ({}).

Example: The following indicates sample output where you might receive one of two responses:

```
{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

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

For information about related documents, see “Bibliography” on page 245.

Links to Other Online Documents

The online version of this document contains links to other online documents. These links are to editions that were current when this document was published. However, due to the nature of some links, if a new edition of a linked document has been published since the publication of this document, the linked document might not be the latest edition. Also, a link from this document to another document works only when both documents are in the same directory.

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If you have a technical problem

Do not use the feedback methods listed above. Instead, do one of the following:

- Contact your IBM service representative.
- Contact IBM technical support.
- See IBM: z/VM Service Resources (www.ibm.com/vm/service/).
- Go to IBM Support Portal (www.ibm.com/support/entry/portal/Overview/).

Summary of changes

This document contains terminology, maintenance, technical, and editorial changes. Some program updates might be provided through z/VM service by program temporary fixes (PTFs) for authorized program analysis reports (APARs), which also might be available for some prior releases.

For general installation changes in previous releases of z/VM, see Installation, Migration, and Service in *z/VM: Migration Guide*.

GC24-6246-00, z/VM Version 6 Release 2

This edition supports the general availability of z/VM V6.2.

- The service procedure has been moved to *z/VM: Service Guide*.
- Flexibility has been added to the installation process by allowing the customer to change any default installation DASD volume label during any installation method.
- Support is added for single system image (SSI) clusters, in which the z/VM member systems can be managed as a single resource pool and running virtual servers (guests) can be relocated from one member to another. You can now install either a non-SSI (traditional) z/VM system or an SSI cluster of one to four members.

Note: To use the functions that define and maintain an SSI cluster, the IBM z/VM Single System Image Feature must be licensed and enabled.

- Install has been restructured so that all planning information is gathered at one time.
- After the installation environment has been setup installation is then initiated with a single command.
- A new SSI-wide shared file system (SFS) filepool is available and shared among all the member systems in the SSI. This new filepool contains the service directories for products, if installation to SFS was chosen at z/VM installation time.
- The following new releases are preinstalled.
 - Directory Maintenance Facility, function level 620 (disabled)
 - HCD and HCM for z/VM, function level 620
 - Language Environment®, function level 620
 - Performance Toolkit for VM™, function level 620 (disabled)
 - RACF Security Server for z/VM, function level 620 (disabled)
 - RSCS Networking for z/VM, function level 620 (disabled)
 - TCP/IP, function level 620

GC24-6197-00, z/VM Version 6 Release 1

This edition supports the general availability of z/VM V6.1.

- German is no longer an available default system language.
- The following new releases are preinstalled.
 - Directory Maintenance Facility, function level 610 (disabled)
 - Performance Toolkit for VM, function level 610 (disabled)
 - RACF Security Server for z/VM, function level 610 (disabled)
 - RSCS Networking for z/VM, function level 610 (disabled)
 - TCP/IP, function level 610

Part 1. z/VM installation from tape media

This part contains procedures for installing z/VM from tape distribution media to either a non-SSI or to a SSI cluster. If you are installing z/VM from DVD distribution media or electronic delivery, use Part 2, “z/VM installation from DVD or electronic media,” on page 65.

In this part, you will:

- Plan your installation from tape.
- Fill in worksheets.
- Install the z/VM system from tape.

z/VM installation from tape media

Chapter 1. Plan your tape installation

In this chapter, you will

- Plan your installation.
- Fill in the tape installation worksheets and the TCP/IP configuration worksheets.

Step 1. Review and comply with the requirements

Before you install z/VM version 6 release 2, you must review the following information and insure all requirements are satisfied:

1. z/VM media deliverable

- Be sure you have both the installation tape and the latest RSU tape.
 - You should install the latest RSU tape that was shipped with the product and, if additional service is required, install the additional service after your initial installation is complete.

2. General

- A processor supported by z/VM version 6 release 2. 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.
- For instructions on how to receive up-to-date service, see the z/VM program directory.
- For up-to-date information affecting installation, see the "installation information" section in the CP subset of the zvm620 upgrade PSP bucket.
- If you plan to migrate from another z/VM system, see *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.
- A Single System Image (SSI) cluster installation requires the IBM z/VM Single System Image Feature, a priced feature whose use is governed by the terms and conditions of the IBM International Program License Agreement and the z/VM License Information Document. Copies of these documents are included with your z/VM order.

The feature must be appropriately licensed for all machines that contain a member of the single system image cluster. If you need to order this feature, visit www.ibm.com/software/ShopzSeries. In countries where Shop zSeries is not available, contact your IBM representative or IBM Business Partner.

- If you plan to use the IBM migration procedures documented in Part 3, "Post z/VM system installation," on page 143, you must select a non-SSI installation.

3. Installation methods:

• **First-level installation:**

- At least 256 MB of real storage. Note that storage required for installation is not necessarily the amount you should have assigned for running production workloads. See *z/VM: CP Planning and Administration* for information on determining production storage requirements.
- A 3390 volume to be used temporarily to restore the single volume starter (SVS) system. This volume must contain at least 3338 cylinders (3390 model 3). It will be used during installation only and may be reclaimed after installation has been completed.

• **Second-level installation:**

- Hardware requirements:
 - Access to a local non-SNA 3270 terminal, or equivalent, configured with at least 24 lines, or an integrated 3270 console.
- System software requirements:
 - A first-level system running a supported release of z/VM.
- You must complete the entire installation using a single installation user ID.
- User ID requirements:
 - Privilege classes B and G.
 - At least 64 MB of virtual storage.

Review and comply with the requirements

- Write access to a 191 minidisk with at least 600 4-KB blocks of available space. A shared file system directory cannot be used.
- A 2CF0 read/write minidisk that is exactly 120 cylinders (3390).

Step 2. Complete the tape installation worksheets

1. Determine the installation method (first-level or second-level) you will use and record the selected installation method on tape installation worksheet 1 (Table 1 on page 10).
 - Choose first-level installation if no supported release of z/VM is running in the LPAR where you are installing.
 - Choose second-level installation if you are installing in a virtual machine on a supported z/VM system.
2. If you are installing first-level, you must select a 3390 DASD volume to use for the single volume system (SVS). This volume will be used temporarily during installation and may be formatted and returned to the DASD pool after installation is complete. The volume size must be at least a 3390 model 3 (3338 cylinders). Enter the address of this volume on tape installation worksheet 1 (Table 1 on page 10).
3. Each product on the z/VM system tape allows file pool directories to be used in place of service minidisks. Determine which products will use the installation file pools for service disks and which products will use minidisks only, and record your choices under the **Install To** column on tape installation worksheet 1 (Table 1 on page 10).
4. Select your default system language and record your choice on tape installation worksheet 1 (Table 1 on page 10). The choices are:
 - Mixed Case English (AMENG)
 - Uppercase English (UCENG)
 - 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 on tape installation worksheet 1 (Table 1 on page 10).
 - If you are using volumes with more cylinders than a Model 9 (10017), select 3390 Model 9. All volumes will be allocated as PERM space to the end of the volume. The spool and paging volumes will be reallocated for spool and page space up to cylinder 65519. Any additional space on those volumes will remain PERM space.
 - If you select 3390 Model 3, installation uses the first 3338 cylinders on each DASD and ignores any cylinders beyond 3338.
 - If you select 3390 Model 9, installation uses the first 10016 cylinders on each DASD and ignores any cylinders beyond 10016.
 - The installation DASD model does not have to match the SVS volume.
 - IBM strongly suggests that you do not use any leftover space on the installation volumes.
6. Select a name for the common service filepool and record your choice on tape installation worksheet 1 (Table 1 on page 10). The common service filepool contains the service disks for the products you choose to load into the installation filepools, and will reside on the COMMON volumes. This filepool will exist even if you do not load any product into the filepool. The file ICOMDIR NAMES will be created to map your filepool name to the filepool nickname VMPSFS. If you will *not* be adding this system or SSI cluster to a larger ISFC collection, you can use the name “VMPSFS” as your filepool name.

The filepool name:

- Has no default value. You must enter a name.
- Must be 1 to 8 alphanumeric characters.
- Cannot start with the characters “VMS”.
- Cannot start with a number, i.e. the first character must be non-numeric
- Cannot be either “ALLOW ” or “ANY”.
- Cannot match any user ID on the system.

Note, also, that if at some time in the future you plan on adding this system or SSI cluster to a larger ISFC collection, the common service filepool name must not match any filepool name used by any other system or member in the ISFC collection.

7. Select the installation type, Non-SSI or Single System Image (SSI), and record your choice on tape installation worksheet 1 (Table 1 on page 10). For more information on planning for your SSI cluster, see *z/VM: CP Planning and Administration*.

Note: To select SSI, you must first order the IBM z/VM Single System Image Feature. This feature must be appropriately licensed for all machines that will contain a member of the single system image cluster.

8. If you selected Non-SSI, record the name of your system on tape installation worksheet 1 (Table 1 on page 10). Note that the system name:
- Must be 1 to 8 alphanumeric characters
 - Cannot start with a number, i.e. the first character must be non-numeric
 - Cannot contain blanks
 - Cannot be either “NOSSI” or “NOSYS”.

Attention: The system name you select should be permanent. Changing the system name after installation is a difficult process.

9. If you selected SSI:

- a. On tape installation worksheet 1 (Table 1 on page 10):
- 1) Record the number of members you wish to install (must be 1 to 4).
 - 2) Record the name of your SSI cluster (must be 1 to 8 alphanumeric characters).
- b. On tape installation worksheet 3 (Table 3 on page 11):
- 1) Select “First-level” if you intend to IPL your SSI cluster members in first-level LPARs. Otherwise, select “Second-level”. An SSI cluster can be installed to IPL all members in first-level LPARs or to IPL all members second-level from user IDs on an existing z/VM system.
 - 2) For each SSI member, record the following:
 - a) A member name, which:
 - Must be 1 to 8 alphanumeric characters
 - Cannot start with a number, i.e. the first character must be non-numeric
 - Cannot contain blanks
 - Cannot be either “NOSSI” or “NOSYS”
 - Must be unique (from all other member names) in the last 7 characters

Attention: The member names you select should be permanent. Changing member names after installation is a difficult process.

- b) The LPAR name or the user ID where the SSI member will be IPLed.

Notes:

- a) The LPAR name is the name that is defined on the resource statement of the hardware input output control program (IOCP). See your hardware administrator for more information.
- b) If you are installing a multi-member SSI cluster that will be IPLed second-level, the file SSI2ND DIR-PROF will be generated during installation processing. This file contains the directory definitions and the profile execs needed for these user IDs.

10. Select whether to use the Unified Resource Manager or another SMAPI client for system management, or to use other system management tools. The installation process can configure and enable your new system to be managed by the Unified Resource Manager or some other SMAPI client. With this configuration, you *cannot* use an external security manager program, such as RACF for VM, or a directory manager program, such as DirMaint. All system management must be performed using SMAPI clients, such as IBM Director or Unified Resource Manager.

Complete the tape installation worksheets

If you intend to use an external security manager product or a directory manager product from IBM or another vendor, or if you do not have access to any SMAPI clients for system management, you should enter No on tape installation worksheet 2 (Table 2 on page 10).

If you will *only* be using the Unified Resource Manager, IBM Director, or some other SMAPI client for system management and will *not* use an external security manager product or a directory manager product from IBM or another vendor, then you may want to enter Yes on tape installation worksheet 2 (Table 2 on page 10). Keep in mind that if you say Yes, you should *not* attempt to manage your system in any other way.

If you are not sure how you will be managing your system, you should enter No on tape installation worksheet 2 (Table 2 on page 10). For additional information on using SMAPI clients and the Unified Resource Manager, see *z/VM: Systems Management Application Programming* and the “Configuring z/VM for an Ensemble” chapter in *z/VM: CP Planning and Administration*.

11. Determine the number of volumes required to install. If you choose:

- 3390 Model 3:
 - If you choose to load all products to minidisk:
 - For non-SSI, you will need eight volumes.
 - For SSI, you will need eight volumes for member 1, plus four volumes for each additional member.
 - If you choose to load all products to filepool, you will *not* need the RELVOL2 volume:
 - For non-SSI, you will need seven volumes.
 - For SSI, you will need seven volumes for member 1, plus four volumes for each additional member.
 - If you choose to load some products to minidisk and some products to filepool, you may or may not need the RELVOL2 volume. Use the table below to make the determination by totalling the cylinders for all of the products that you will load to the filepool. If the products you selected total 2119 or more cylinders, then you will *not* need the RELVOL2 volume:
 - For non-SSI, you will need either seven or eight volumes.
 - For SSI, you will need either seven or eight volumes for member 1, plus four volumes for each additional member.

Product	Cylinders
VM	1515
OSA	0
PERFTK	100
VMHCD	559
RACF	182
DIRM	0
RSCS	94
ICKDSF	0
TCPIP	449

- 3390 Model 9 – you will will *not* need the COMMON2, RELVOL2, or WORK volumes:
 - For non-SSI, you will need five volumes.

Complete the tape installation worksheets

- For SSI, you will need five volumes for member 1, plus three volumes for each additional member.

12. Record the address for each DASD volume in the **Address** column. If you are changing any of the default installation labels, record the new labels in the **New Label** column. Disregard any volumes that you do not need. Note that you must *not* use any of IBM's default volume labels for a volume other than the volume for which it is originally defined.

- DASD labels must be 1 to 6 alphanumeric characters
- If you selected non-SSI, use tape installation worksheet 4 (Table 4 on page 11).
- If you selected SSI, use tape installation worksheet 5 (Table 5 on page 12).

Note: The address of the VMCOM1 DASD volume is written out by SALIPL to cylinder 0 of the IPL volume for each member (M0xRES), to be used at IPL time to locate the SYSTEM CONFIG file. Because of this, the address of the VMCOM1 volume cannot be redefined to a different address without rerunning SALIPL.

13. If you selected SSI and “First-level” in substep 9b1 on page 7, complete worksheet 6 (Table 6 on page 13):

- a. Enter the real addresses of the COMMON volume as it is defined to each LPAR. The COMMON volume must be available to each LPAR where your SSI cluster will run.
- b. If installing more than one member, specify the CTCA addresses that will be used to communicate between members of the SSI cluster.

Notes:

- 1) Each SSI member must have at least one CTC connection to every other SSI member.
- 2) Installation allows you to define up to two connections between any two members. More connections may be defined after installation is complete.
- 3) The number of CTC device addresses defined for communication between two members must be the same.

What to do next

Go to “Step 3. Complete the basic TCP/IP connectivity worksheets” on page 14.

Table 3. Tape Installation Worksheet 3 (SSI Only)

After installation is complete, SSI will be IPLed: ___ First-Level ___ Second-Level		
SSI Member Name(s) / IPL LPAR Name(s) or User ID Name(s):		
Slot Number	Member Name	IPL LPAR/User ID
1		
2		
3		
4		

Table 4. Tape Installation Worksheet 4 (Non-SSI Only)

Volume Type	Default Label	New Label	Address
COMMON	VMCOM1		
COMMON2	VMCOM2		
RELVOL	620RL1		
RELVOL2	620RL2		
RES	M01RES		
SPOOL	M01S01		
PAGE	M01P01		
WORK	M01W01		

Note: You must *not* use any of IBM's default volume labels for a volume other than the volume for which it is originally defined.

Complete the tape installation worksheets

Table 5. Tape Installation Worksheet 5 (SSI Only)

Volume Type	Default Label	New Label	Address				
COMMON	VMCOM1						
COMMON2	VMCOM2						
RELVOL	620RL1						
RELVOL2	620RL2						
Volume Type	Default Label	New Label	Address	Volume Type	Default Label	New Label	Address
Member 1:				Member 2:			
RES	M01RES			RES	M02RES		
SPOOL	M01S01			SPOOL	M02S01		
PAGE	M01P01			PAGE	M02P01		
WORK	M01W01			WORK	M02W01		
Member 3:				Member 4:			
RES	M03RES			RES	M04RES		
SPOOL	M03S01			SPOOL	M04S01		
PAGE	M03P01			PAGE	M04P01		
WORK	M03W01			WORK	M04W01		
<p>Note: You must <i>not</i> use any of IBM's default volume labels for a volume other than the volume for which it is originally defined.</p>							

Complete the tape installation worksheets

Table 6. Tape Installation Worksheet 6 (SSI First-Level Configuration Only)

Real addresses for the COMMON volume on each member LPAR:					
Member 1 Address	Member 2 Address	Member 3 Address	Member 4 Address		
<p>CTC device addresses:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top; padding-right: 20px;"> <p>From: Member 1</p> <p>To: Member 1 N/A</p> <p>To: Member 2 _____</p> <p>To: Member 3 _____</p> <p>To: Member 4 _____</p> <p>From: Member 3</p> <p>To: Member 1 _____</p> <p>To: Member 2 _____</p> <p>To: Member 3 N/A</p> <p>To: Member 4 _____</p> </td> <td style="width: 50%; vertical-align: top;"> <p>From: Member 2</p> <p>To: Member 1 _____</p> <p>To: Member 2 N/A</p> <p>To: Member 3 _____</p> <p>To: Member 4 _____</p> <p>From: Member 4</p> <p>To: Member 1 _____</p> <p>To: Member 2 _____</p> <p>To: Member 3 _____</p> <p>To: Member 4 N/A</p> </td> </tr> </table>				<p>From: Member 1</p> <p>To: Member 1 N/A</p> <p>To: Member 2 _____</p> <p>To: Member 3 _____</p> <p>To: Member 4 _____</p> <p>From: Member 3</p> <p>To: Member 1 _____</p> <p>To: Member 2 _____</p> <p>To: Member 3 N/A</p> <p>To: Member 4 _____</p>	<p>From: Member 2</p> <p>To: Member 1 _____</p> <p>To: Member 2 N/A</p> <p>To: Member 3 _____</p> <p>To: Member 4 _____</p> <p>From: Member 4</p> <p>To: Member 1 _____</p> <p>To: Member 2 _____</p> <p>To: Member 3 _____</p> <p>To: Member 4 N/A</p>
<p>From: Member 1</p> <p>To: Member 1 N/A</p> <p>To: Member 2 _____</p> <p>To: Member 3 _____</p> <p>To: Member 4 _____</p> <p>From: Member 3</p> <p>To: Member 1 _____</p> <p>To: Member 2 _____</p> <p>To: Member 3 N/A</p> <p>To: Member 4 _____</p>	<p>From: Member 2</p> <p>To: Member 1 _____</p> <p>To: Member 2 N/A</p> <p>To: Member 3 _____</p> <p>To: Member 4 _____</p> <p>From: Member 4</p> <p>To: Member 1 _____</p> <p>To: Member 2 _____</p> <p>To: Member 3 _____</p> <p>To: Member 4 N/A</p>				

Step 3. Complete the basic TCP/IP connectivity worksheets

1. This step is optional. If you do not wish to create a minimal TCP/IP configuration that establishes basic connectivity to your IP network, skip to “Step 4. Choose your next step” on page 15.
2. 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 necessary information from your network system administrator and record the information in the tables in Appendix L, “Basic TCP/IP Connectivity Worksheets,” on page 229.

If you are installing a multi-member SSI, the TCP/IP configuration must be done separately on each SSI member. Fill out a set of configuration worksheets for each member on which you will create a minimal TCP/IP configuration. Configuration worksheets can be found in Appendix L, “Basic TCP/IP Connectivity Worksheets,” on page 229.

Step 4. Choose your next step

What to do next

Choose your next step based on the choices you made in tape installation worksheet 1 (Table 1 on page 10).

If you chose the. . .	Then see. . .
First-level installation method	Chapter 2, "Restore and IPL the single volume system (SVS)," on page 17
Second-level non-SSI installation method	Chapter 3, "Non-SSI tape installation method," on page 25
Second-level SSI installation method	Chapter 4, "SSI tape installation method," on page 41

Choose your next step

Chapter 2. Restore and IPL the single volume system (SVS)

In this chapter, you will:

- Use step-by-step procedures to Restore and IPL the single volume system (SVS).

Step 1. Restore the SVS

In this step, you will:

- Mount the z/VM system installation tape on a tape drive.
- CP format and label the 620SVS volume.
- Restore the 620SVS volume.

Note: The IPLable Device Support Facilities (ICKDSF) program in tape file 1 of the z/VM system installation tape might not be at the latest service level. Use this copy of the program for installation only.

Before you begin: You need to complete tape installation worksheets 1 (Table 1 on page 10) through 6 (Table 6 on page 13).

1. Ensure all DASD addresses listed in the tape installation worksheets 4 (Table 4 on page 11) and 5 (Table 5 on page 12) are available for use. Follow the operation manual specific to your hardware.
2. Mount the z/VM system installation tape on a tape drive.
3. If you are installing from an integrated 3270 console, see Appendix J, “Using an integrated 3270 console for installation,” on page 225.
4. IPL the tape drive to load ICKDSF. Specify a LOADPARM of CNSL`ccuu`, where `ccuu` is the address of your system console (for example, 0020). For more information on performing a hardware IPL, see your processor's hardware operation manuals.

Note: For more information about ICKDSF, see *Device Support Facilities: User's Guide and Reference*.

5. Wait approximately 60 seconds for the IPL to complete. If you receive no messages, press Enter to create an interrupt. If you do not receive a response, you pressed Enter before the IPL was complete. Reset the keyboard. Wait approximately 60 seconds and press Enter again.

ENTER

CLEAR SCREEN WHEN READY

RESET

Press the key which corresponds to the reset function to unlock the keyboard.

CLEAR

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

6. Enter input for ICKDSF.

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

ICK005E indicates ICKDSF is loaded and ready.

```
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
```

7. Format and label the 620SVS volume using the DASD address (*dasdaddr*) recorded on tape installation worksheet 1 (Table 1 on page 10).

```
ENTER INPUT/COMMAND:
cpvolume format unit(dasdaddr) novfy volid(620SVS) mode(esa) nofiller
:
ICK003D REPLY U TO ALTER VOLUME dasdaddr CONTENTS,
      ELSE T

ENTER INPUT/COMMAND:
u
:
ENTER INPUT/COMMAND:
```

8. IPL the tape drive to load the DDR program. Specify a LOADPARM of *ccuu*, where *ccuu* is the address of your system console (for example, 0020). You do not have to exit ICKDSF. For more information on performing a hardware IPL, see your processor's hardware operation manuals. If you are using the integrated 3270 console, return to Step 3 in Appendix J, "Using an integrated 3270 console for installation," on page 225. The DDR program will appear on the specified console.
9. Issue the following DDR program control statements to load the SVS system from the z/VM system installation tape to the 620SVS volume.

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

```
ENTER:
input tapeaddr tape (skip 1 leave
```

tapeaddr

Address of the tape drive where you mounted the z/VM system installation tape.

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

Restore the SVS

ENTER:
output *dasdaddr* **dasd 620SVS**

dasdaddr
Address of 620SVS. This value is recorded on tape installation worksheet 1 (Table 1 on page 10).

The DDR program verifies the DASD label is 620SVS.

ENTER:
restore all

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

RESTORING 620SVS
DATA DUMPED *mm/dd/yy*
AT *hh.mm.ss* GMT FROM 620SVS
RESTORED TO 620SVS

You might receive message HCP725D. If you do, it is not a problem. Respond **yes** and continue.

INPUT CYLINDER EXTENTS		OUTPUT CYLINDER EXTENTS	
START	STOP	START	STOP
00000000	00000522	00000000	00000522

END OF RESTORE
BYTES RESTORED *nnnnnnnnnn*

ENTER:
ENTER

Give the tape time to rewind after the restore is complete, then press Enter to end the program.

END OF JOB

Step 2. IPL the z/VM SVS system

In this step, you will:

- IPL the z/VM SVS system first-level.

1. IPL the V6.2 system from the address of 620SVS, which you can find on tape installation worksheet 1 (Table 1 on page 10). Specify a LOADPARAM of *ccuu*, where *ccuu* is the address of your system console (for example, 0020). For more information on performing a hardware IPL, see your processor's hardware operation manuals.

If you are using the integrated 3270 console, return to Step 5 in Appendix J, "Using an integrated 3270 console for installation," on page 225.

The Stand Alone Program Loader panel is displayed on the specified operator console.

```

STAND ALONE PROGRAM LOADER: z/VM VERSION 6 RELEASE 2.0
DEVICE NUMBER:  dasdaddr  MINIDISK OFFSET:  nnnnnnnn  EXTENT:  1
MODULE NAME:    CLOAD    LOAD ORIGIN:      1000
-----IPL PARAMETERS-----
cons=consaddr
-----COMMENTS-----

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

```

Figure 1. Sample Stand Alone Program Loader Panel

2. Move the cursor to the **IPL PARAMETERS** field and type:

```
cons=consaddr
```

```
consaddr
```

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

3. Press F10 to load.

Note: You can ignore any messages you receive about duplicate *volids*.

IPL z/VM the SVS system

F10

```
hh:mm:ss z/VM V6 R2.0 SERVICE LEVEL nnnn (64-BIT)

hh:mm:ss SYSTEM NUCLEUS CREATED ON yyyy-mm-dd AT hh:mm:ss, LOADED FROM 620SVS
hh:mm:ss
hh:mm:ss *****
hh:mm:ss * LICENSED MATERIALS - PROPERTY OF IBM* *
hh:mm:ss * 5741-A07 (C) COPYRIGHT IBM CORP. 1983, 2010. ALL RIGHTS *
hh:mm:ss * RESERVED. US GOVERNMENT USERS RESTRICTED RIGHTS - USE *
hh:mm:ss * DUPLICATION OR DISCLOSURE RESTRICTED BY GSA ADP SCHEDULE *
hh:mm:ss * CONTRACT WITH IBM CORP. *
hh:mm:ss * *
hh:mm:ss * * TRADEMARK OF INTERNATIONAL BUSINESS MACHINES *
hh:mm:ss *****
hh:mm:ss
hh:mm:ss HCPZC06718I Using parm disk 1 on volume 620SVS (device nnnn).
hh:mm:ss HCPZC06718I Parm disk resides on cylinders nnn through nnn.
hh:mm:ss HCPMLM3016I Management by the Unified Resource Manager is not available for this system
:
:
hh:mm:ss Start ((Warm|Force|COLD|CLEAN) (DRain) (Disable) (NODIRect)
hh:mm:ss (NOAUTOlog)) or (SHUTDOWN)
```

4. Start the system using COLD DRAIN NOAUTOLOG.

cold drain noautolog

Because there is no data or accounting information to recover, use COLD DRAIN to request a cold start. Include NOAUTOLOG because you do not need the servers and all user IDs logged on.

5. If the time-of-day (TOD) clock is not already set, use standard operating procedures to set it. For more information, see *z/VM: System Operation*.

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

Enter **yes** to reset the TOD clock or **no** to keep the current setting.

If you entered yes to resetting the TOD clock

Set date MM/DD/YY

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

Set time HH:MM:SS

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

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

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

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

```
hh:mm:ss The directory on volume 620SVS 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 DASD nnnn dump unit CP IPL pages nnnn
hh:mm:ss HCPAAU2700I System gateway ZVM62SVS identified.
hh:mm:ss z/VM Version 6 Release 2.0, 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 timezone weekday 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 accumulated for userid DISKACNT

```

6. Disconnect from the OPERATOR user ID.

disconnect

```
DISCONNECT AT hh:mm:ss timezone weekday mm/dd/yy
```

Press enter or clear key to continue

ENTER

7. Log on as MAINTSVS.

ENTER

```
logon maintsvs
```

The default password for MAINTSVS is MAINTSVS.

```

z/VM Version 6 Release 2.0, 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 timezone weekday mm/dd/yy
DMSIND2015W Unable to access the Y-disk. File mode Y (19E) not accessed
DMSWSP327I The installation saved segment could not be loaded
z/VM V6 R2.0 yyyy-mm-dd hh:mm

```

ENTER

```

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

```

What to do next

If this is a . . .

Non-SSI install

SSI install

Then . . .

Continue with Chapter 3, "Non-SSI tape installation method," on page 25.

Go to Chapter 4, "SSI tape installation method," on page 41.

IPL z/VM the SVS system

Chapter 3. Non-SSI tape installation method

In this chapter, you will:

Use step-by-step procedures to either:

- Continue to install the first-level non-SSI z/VM system installation tape in a new system environment, OR
- Install the non-SSI z/VM system installation tape second-level on an existing z/VM system.

Step 1. Load the installation tools from the z/VM system installation tape

In this step, you will

- Log on to a first-level user ID (second-level installation only).
- Mount the z/VM system installation tape and RSU tape.
- Load the installation tools.

If you are continuing a first-level installation, skip to substep 4.

Before you begin: You should have completed tape installation worksheets 1 (Table 1 on page 10) through 6 (Table 6 on page 13). If you have not done so, return to “Step 2. Complete the tape installation worksheets” on page 6.

1. Log on to the first-level user ID that you will use for installation. Make sure the user ID meets the “second-level installation user ID requirements” on page 4.
2. Verify you have both the installation tape and the RSU tape.
3. 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 tools. Verify there are at least 600 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
lb1191	191	A	R/W	nn	3390	4096	nnn	nnnn-nn	600		nnnn

```
Ready;
```

4. Select the tape drive(s) you will use for installation. One tape drive is needed for the installation tape. The RSU tape can be mounted on the same tape drive as the installation tape (stacked), mounted on a second tape drive or mounted when the installation program prompts you to do so. If the RSU tape is stacked on the same drive as the installation tape or mounted on a separate tape drive, installation will proceed without interruption. Otherwise, the installation process will be stopped and a prompt will be displayed when you need to mount the RSU. Installation will not continue until you answer the prompt.

To display all available tape drives on your system, enter:

```
query tape free
```

Choose one or two tape drive addresses from the list of available drives.

5. Attach an available tape drive for the installation tape at virtual device address 181.

```
attach tapeaddr * 181
```

```
TAPE tapeaddr ATTACHED TO userid 181
```

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

tapeaddr

Address of the tape drive where the z/VM system installation tape will be mounted.

userid

First-level user ID you logged on to.

Load the installation tools from the z/VM system installation tape

6. Mount the z/VM system installation tape on the tape drive attached at virtual device address 181.
7. If the RSU tape is to be stacked on the same drive as the installation tape, also mount the RSU tape on the tape drive attached as 181.
8. If the RSU tape will be mounted on a separate tape drive, attach another available tape drive for the RSU tape at virtual device address 182.

```
attach tapeaddr * 182  
TAPE tapeaddr ATTACHED TO userid 182  
Ready; T=n.nn/n.nn hh:mm:ss
```

9. If the RSU tape is to be mounted on a separate tape drive, mount it on the tape drive you attached as 182.
10. Load the installation tools from the z/VM system installation tape to your (191) A-disk.

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

```
vmfp1c2 fsf 7  
Ready; T=n.nn/n.nn hh:mm:ss
```

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

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

Step 2. Run INSTPLAN

In this step, you will:

- Run INSTPLAN.

1. Run INSTPLAN with the TAPE operand.

instplan tape

```

*** z/VM INSTALLATION PLANNING ***

Mark the product(s) selected to be installed into the filepool with an "F"
and those selected to be installed to minidisks with an "M"
M      VM      M      OSA      M      PERFTK
M      VMHCD   M      RACF     M      DIRM
M      RSCS    M      ICKDSF   M      TCPIP

Select a System Default Language.
_ AMENG   _ UCENG   _ KANJI

Select a System DASD model.
_ 3390 Mod 3   _ 3390 Mod 9

Enter name for common service filepool.
Filepool Name: _____

Select a System Type: Non-SSI or SSI (SSI requires the SSI feature)
_ Non-SSI Install:   System Name _____
_ SSI Install:      Number of Members _   SSI Cluster Name _____

F1 = HELP   F3/F12 = QUIT   F5 = Process   ENTER = Refresh

```

Figure 2. Installation Planning Panel

- See tape installation worksheet 1 (Table 1 on page 10) 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 file pool.
- Place a nonblank character next to the *System Default Language* you selected for your system on tape installation worksheet 1 (Table 1 on page 10).
- Place a nonblank character in front of the DASD model that matches the *DASD type and model* recorded on tape installation worksheet 1 (Table 1 on page 10).
- Fill in the *Filepool Name* for the common service filepool.
- Place a nonblank character in front of the type of install you selected for your system on tape installation worksheet 1 (Table 1 on page 10) – in this case, *Non-SSI Install*.
- Fill in the *System Name*.
- Press F5 to process your selections.

F5

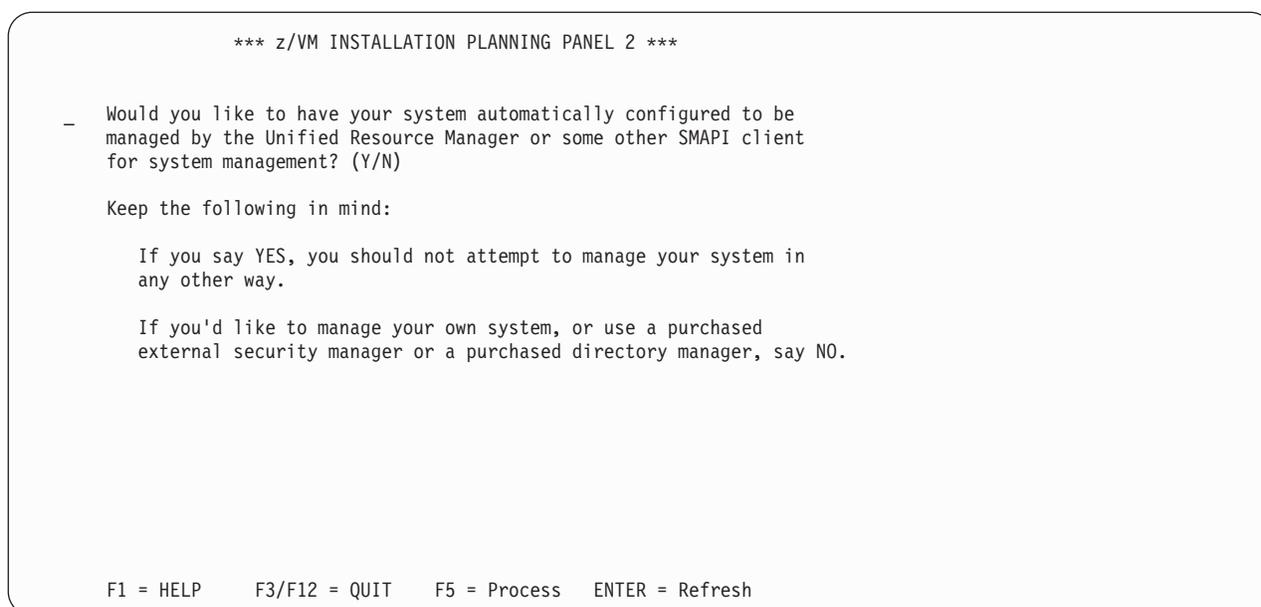


Figure 3. Installation Planning Panel 2

- h. Refer to tape installation worksheet 2 (Table 2 on page 10):
 - If you will be using the System Management Application Programming Interface (SMAPI) function, enter Y. Otherwise, enter N.
- i. Press F5 to process your selections.

F5

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

```

HCPIPX8475I THE PRODUCTS YOU SELECTED TO LOAD TO MINIDISK ARE:
              VM OSA PERFTK VMHCD RACF DIRM RSCS ICKDSF TCPIP

              THE PRODUCTS YOU SELECTED TO LOAD TO SFS ARE:
              NONE

              THE SYSTEM DEFAULT LANGUAGE SELECTED:
              AMENG

              THE COMMON SERVICE FILEPOOL NAME IS:
              poolname

              THE INSTALL TYPE YOU SELECTED IS:
              Non-SSI

              SYSTEM NAME IS:
              sysname

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

              THE VOLUMES NEEDED TO LOAD z/VM ARE:
              COMMON: VMCOM1 VMCOM2
              RELEASE: 620RL1 620RL2
              SYSTEM: M01RES M01S01 M01P01 M01W01

DO YOU WANT TO CONTINUE ? (Y|N)

```

Run INSTPLAN

Compare the information listed in the response from the INSTPLAN command to the information listed on your tape installation worksheets. Ensure that the information filled in on the worksheets matches what is listed in this response.

y

2. Continue with the following steps to fill in the Installation Volume Definition panel.

```
*** z/VM INSTALLATION VOLUME DEFINITION ***

TYPE   LABEL   ADDRESS   FORMAT (Y/N)
=====
COMMON VMCOM1    _____
COMMON2 VMCOM2    _____
RELVOL 620RL1   _____
RELVOL2 620RL2   _____

TYPE   LABEL   ADDRESS
=====
sysname
RES    M01RES   _____
SPOOL M01S01    _____
PAGE  M01P01    _____
WORK  M01W01    _____

F1 = HELP      F3/F12 = QUIT    F5 = Process    ENTER = Refresh
```

Figure 4. Installation Volume Definition (Non-SSI Only)

- If you do not want use a default volume label, then enter a new label (recorded on tape installation worksheet 4, Table 4 on page 11) in the **LABEL** field.
- Fill in the volume addresses using the information from tape installation worksheet 4 (Table 4 on page 11). For more information and help, press F1.
- Fill in the **FORMAT (Y/N)** column with **Y** to CP format your installation volumes or **N** to not format your installation volumes. Specify **N** only if you have already CP formatted your volumes for this installation using ICKDSF or CPFMTXA. If you specify **N**, the volumes will be labeled, but not formatted.
- Press F5 to process.

F5

HCPIIX8377R YOU HAVE SELECTED TO FORMAT YOUR DASD.
DASD SELECTED ARE:

HCPIIX8483R YOU HAVE SELECTED NOT TO FORMAT YOUR DASD.
THIS ASSUMES THEY HAVE ALREADY BEEN FORMATTED.
DASD SELECTED ARE:

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

```
lblcom      dasdaddr  
lblcm2     dasdaddr  
lblrl1     dasdaddr  
lblrl2     dasdaddr  
lblrl3     dasdaddr  
lblres     dasdaddr  
lblspl     dasdaddr  
lblpag     dasdaddr  
lblw01     dasdaddr
```

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

3. Compare the information listed in the response from the INSTPLAN command to the information listed on your tape installation worksheets. Ensure that the information filled in on the worksheet matches what is listed in this response.

Step 3. Attach your installation volumes

In this step, you will:

- Attach the volumes for installation,

1. Attach each volume listed on tape installation worksheet 4 (Table 4 on page 11) that is not already attached. Enter the following ATTACH command for each volume:

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

dasdaddr
Address of the volume.

userid
First-level user ID logged on to
previously.

Attention: Issue the QUERY DASD ATTACH * command to verify there are no volumes attached to your user ID with the same label as those being used for installation. You must detach any duplicate-labeled volumes from your user ID to prevent bringing them online.

Step 4. Run INSTALL to install your new system

In this step, you will:

- Run INSTALL to install your new system.

1. Run INSTALL to install your new system.

Note: You must *not* disconnect your installation user ID. The installation procedure will IPL the z/VM system a number of times and these will fail if the user ID is running disconnected.

```
install
HCPiIS8381I  CHECKING TAPE VOLUME NUMBER FOR DRIVE 181

HCPiIS8490I  NOW FORMATTING|LABELING VOLUME dasdaddr (1 OF n)
:
:
HCPiIS8490I  NOW FORMATTING|LABELING VOLUME dasdaddr (n OF n)
:
:
HCPiIS8380I  RESTORING VOLUMES FOR sysname
HCPiIS8490I  NOW ALLOCATING DASD dasdaddr (COMMON VOLUME)
HCPiIS8490I  NOW ALLOCATING DASD dasdaddr (RELVOL VOLUME)
HCPiIS8490I  NOW ALLOCATING DASD dasdaddr (RES VOLUME)
HCPiIS8490I  NOW ALLOCATING DASD dasdaddr (RES VOLUME)
HCPiIS8490I  NOW ALLOCATING DASD dasdaddr (SPOOLING)
HCPiIS8490I  NOW ALLOCATING DASD dasdaddr (PAGING)
HCPiIS8341I  WRITING OWNERSHIP FOR sysname TO spladdr lblspl COMPLETED SUCCESSFULLY
HCPiIS8341I  WRITING OWNERSHIP FOR sysname TO pagaddr lblpag COMPLETED SUCCESSFULLY

HCPiIS8341I  UPDATING SYSTEM CONFIG

*****
*      NOW IPLing VOLUME dasdaddr      *
*      WITH COMMAND:                    *
*      CP SYSTEM CLEAR                  *
*      TERMINAL CONMODE 3270            *
*      SET MACHINE ESA                  *
*      IPL dasdaddr CLEAR                *
*****

hh:mm:ss z/VM V6 R2.0 SERVICE LEVEL 0000 (64-BIT)

hh:mm:ss SYSTEM NUCLEUS CREATED ON yyyy-mm-dd AT hh:mm:ss, LOADED FROM lblres
hh:mm:ss
hh:mm:ss *****
hh:mm:ss * LICENSED MATERIALS - PROPERTY OF IBM*      *
hh:mm:ss * 5741-A07 (C) COPYRIGHT IBM CORP. 1983, 2010. ALL RIGHTS      *
hh:mm:ss * RESERVED. US GOVERNMENT USERS RESTRICTED RIGHTS - USE      *
hh:mm:ss * DUPLICATION OR DISCLOSURE RESTRICTED BY GSA ADP SCHEDULE      *
hh:mm:ss * CONTRACT WITH IBM CORP.                                          *
hh:mm:ss *
hh:mm:ss * * TRADEMARK OF INTERNATIONAL BUSINESS MACHINES      *
hh:mm:ss *****
hh:mm:ss
hh:mm:ss HCPZC06718I Using parm disk 1 on volume lblcom (device nnn).
hh:mm:ss HCPZC06718I Parm disk resides on cylinders nnn through nnn.
:
:
```

Run INSTALL to install your new system

```
hh:mm:ss The directory on volume lblres 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 HCPMLM3016I Management by the Unified Resource Manager is not available for this system  
hh:mm:ss HCPAAU2700I System gateway sysname identified.  
hh:mm:ss z/VM Version 6 Release 2.0, 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 timezone weekday mm/dd/yy  
hh:mm:ss GRAF nnnn LOGON AS MAINT620 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
```

```
DMSIND2015W Unable to access the Y-disk. File mode Y (19E) not accessed  
z/VM V6.2.0 yyyy-mm-dd hh:mm
```

```
DMSACP113S B(5E5) not attached or invalid device address  
DMSACP113S D(51D) not attached or invalid device address  
DMSACP113S E(551) not attached or invalid device address  
Message DMSACP113S is not a problem at this time.
```

```
hh:mm:ss AUTO LOGON *** OP1 USERS = 2 BY MAINT620  
hh:mm:ss HCPCLS6056I XAUTOLOG information for OP1: The IPL command is verified by the  
IPL command processor.
```

```
DASD 0199 DETACHED  
HCPWIN8381I CHECKING TAPE VOLUME NUMBER FOR DRIVE 181
```

Messages repeated for each disk restored (until total percent loaded reaches 100%)

```
HCPWIN8428I TOTAL PERCENT LOADED -> nn%  
  
HCPWIN8380I RESTORING MINIDISK nnn TO lblnew  
  
HCPDDR725D SOURCE DASD DEVICE WAS (IS) LARGER THAN OUTPUT DEVICE  
  
RESTORING lbldf1t  
DATA DUMPED mm/dd/yy AT hh.mm.ss GMT FROM lbldf1t RESTORED TO SCRATCH  
INPUT CYLINDER EXTENTS OUTPUT CYLINDER EXTENTS  
START STOP START STOP  
nnnnnnnn nnnnnnnn nnnnnnnn nnnnnnnn  
  
END OF RESTORE  
BYTES RESTORED nnnnnnnn  
END OF JOB
```

Run INSTALL to install your new system

HCPWIN8319I TAPE LOAD COMPLETED SUCCESSFULLY
HCPPLD8341I POSTLOAD PROCESSING STARTED
DMSACC724I 4CC replaces C (4CC)

HCPIFP8493I ISSUING XAUTOLOG FOR VMSERVU
AUTO LOGON *** VMSERVU USERS = *n*
HCPCLS6056I XAUTOLOG information for VMSERVU: The IPL command is verified by the IPL
command processor.

HCPIFP8493I ISSUING XAUTOLOG FOR VMSERVR
AUTO LOGON *** VMSERVR USERS = *n*
HCPCLS6056I XAUTOLOG information for VMSERVR: The IPL command is verified by the IPL
command processor.

HCPIFP8493I ISSUING XAUTOLOG FOR VMSERVS
AUTO LOGON *** VMSERVS USERS = *n*
HCPCLS6056I XAUTOLOG information for VMSERVS: The IPL command is verified by the IPL
command processor.

USER DSC LOGOFF AS VMSERVR USERS = *n* FORCED BY MAINT620
HCPIFP8493I ISSUING XAUTOLOG FOR VMSERVR
AUTO LOGON *** VMSERVR USERS = *n*
HCPCLS6056I XAUTOLOG information for VMSERVR: The IPL command is verified by the IPL
command processor.

HCPIFP8493I ISSUING XAUTOLOG FOR VMSERVP
AUTO LOGON *** VMSERVP USERS = *n*
HCPCLS6056I XAUTOLOG information for VMSERVP: The IPL command is verified by the IPL
command processor.

HCPIFP8338I UPDATING SYSTEM TABLES AND CLEANING UP FILEPOOL DIRECTORIES
USER DSC LOGOFF AS VMSERVP USERS = *n* FORCED BY MAINT620 You will receive these messages if you
DASD 0917 DETACHED did *not* select VMPSFS as the common
service filepool name.

HCPIUF8493I ISSUING XAUTOLOG FOR VMSERVP
AUTO LOGON *** VMSERVP USERS = *n*
HCPCLS6056I XAUTOLOG information for VMSERVP: The IPL command is verified by
the IPL command processor.

z/VM V6.2.0 *yyyy-mm-dd hh:mm*
DMSWSP100W Shared S-STAT not available
AUTO LOGON *** OP1 USERS = *n*
HCPCLS6056I XAUTOLOG information for OP1: The IPL command is verified by the IPL
command processor.

AUTO LOGON *** BLDCMS USERS = *n*
HCPCFX6768I SECUSER of BLDCMS initiated for you by BLDCMS.
HCPNSD440I The Named Saved System (NSS) CMS was successfully defined in fileid *nnnn*
BLDCMS : CONNECT= *nn:nn:nn* VIRTCPU= *nnn:nn:nn* TOTCPU= *nnn:nn:nn*
BLDCMS : LOGOFF AT *hh:mm:ss* EST MONDAY *mm/dd/yy* BY MAINT620
USER DSC LOGOFF AS BLDCMS USERS = *n* FORCED BY MAINT620

AUTO LOGON *** BLDCMS USERS = *n*
HCPCFX6768I SECUSER of BLDCMS initiated for you by BLDCMS.
DMSACC724I 493 replaces Z (493)
HCPNSD440I The Named Saved System (NSS) ZCMS was successfully defined in fileid *nnnn*
BLDCMS : CONNECT= *nn:nn:nn* VIRTCPU= *nnn:nn:nn* TOTCPU= *nnn:nn:nn*
BLDCMS : LOGOFF AT *hh:mm:ss* EST MONDAY *mm/dd/yy* BY MAINT620
USER DSC LOGOFF AS BLDCMS USERS = *n* FORCED BY MAINT620

Run INSTALL to install your new system

Prompt if RSU tape needs to be mounted

HCPICP8389W RSU TAPE NOT FOUND ON TAPE DRIVE 181 OR 182

HCPICP8397R MOUNT THE RSU TAPE ON TAPE DRIVE ADDRESS 181 or 182

AND ENTER ONE OF THE FOLLOWING:

181 OR 182 - ADDRESS OF THE TAPE DRIVE WHERE YOU HAVE
MOUNTED THE RSU TAPE
NORSU - TO SKIP RSU PROCESSING
EXIT - TO QUIT

* NOW EXECUTING SERVICE ALL *tapaddr*

***** SERVICE messages *****

* NOW EXECUTING PUT2PROD *

***** PUT2PROD messages *****

* INSTCOMP NOW ISSUING SHUTDOWN REIPL *

SYSTEM SHUTDOWN STARTED

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

hh:mm:ss HCPWRP963I SHUTDOWN STEP USOAC - JOURNAL USER TERMINATION

:

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

hh:mm:ss z/VM V6 R2.0 SERVICE LEVEL *nnnn* (64-BIT)

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

hh:mm:ss

hh:mm:ss *****

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

hh:mm:ss * 5741-A07 (C) COPYRIGHT IBM CORP. 1983, 2010. ALL RIGHTS *

hh:mm:ss * RESERVED. US GOVERNMENT USERS RESTRICTED RIGHTS - USE *

hh:mm:ss * DUPLICATION OR DISCLOSURE RESTRICTED BY GSA ADP SCHEDULE *

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

hh:mm:ss *

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

hh:mm:ss *****

hh:mm:ss

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

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

hh:mm:ss HCPMLM3016I Management by the Unified Resource Manager is not available for this system

Run INSTALL to install your new system

```
hh:mm:ss The directory on volume lblres 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 timezone weekday mm/dd/yy
```

```
⋮
```

```
hh:mm:ss HCPIOP952I nnnnM system storage
```

```
hh:mm:ss FILES: nnnnnnn RDR, nnnnnnn PRT, NO PUN
```

Message HCP952I tells you the amount of storage available.

The FILES message 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 timezone weekday mm/dd/yy
```

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

ENTER

Press Enter or the Clear key to continue.

Log on to the new system

Step 5. Log on to the new system

In this step, you will:

- Log on to the new system.

1. Log on as MAINT620.

```
logon maint620
```

```
⋮
```

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

The password for MAINT620 is MAINT620.

Step 6. IPL the new system

In this step, you will:

- IPL the V6.2 system.

1. If this is a first-level installation, you are done with the SVS volume.
 - a. Shut down the new system.
`shutdown`
 - b. Shut down the SVS system.
`shutdown system zvm62svs`
 - c. IPL the new system from the HMC.
 - d. You may now return the SVS volume to your DASD pool.
2. If this is a second-level installation, and this is *not* where you plan to run your new system, shut down the system and then IPL where you wish the new system to run.

Note: The default SYSTEM CONFIG file allows the following console addresses: 20, 21, 22, 23, F20, F21, 1020. If your console is *not* one of these addresses, either redefine your console or IPL with the **LOADPARM** *consaddr* option. If you use the **LOADPARM** option, include **cons=consaddr** as an IPL parameter on the z/VM Stand Alone Program Loader (SAPL) panel.

What to do next

Go to Part 3, "Post z/VM system installation," on page 143.

IPL the new system

Chapter 4. SSI tape installation method

In this chapter, you will:

Use step-by-step procedures to either:

- Continue to install the first-level SSI in a new system environment from the z/VM system installation tape, OR
- Install the SSI second-level on an existing z/VM system from the z/VM system installation tape.

Step 1. Load the installation tools from the z/VM system installation tape

In this step, you will

- Log on to a first-level user ID (second-level installation only).
- Mount the z/VM system installation tape and RSU tape.
- Load the installation tools.

If you are continuing a first-level installation, skip to substep 4.

Before you begin: You should have completed tape installation worksheets 1 (Table 1 on page 10) through 6 (Table 6 on page 13). If you have not done so, return to “Step 2. Complete the tape installation worksheets” on page 6.

1. Log on to the first-level user ID that you will use for installation. Make sure the user ID meets the “second-level installation user ID requirements” on page 4.
2. Verify you have both the installation tape and the RSU tape.
3. 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 tools. Verify there are at least 600 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
lb1191	191	A	R/W	nn	3390	4096	nnn	nnnn-nn	600		nnnn

```
Ready;
```

4. Select the tape drive(s) you will use for installation. One tape drive is needed for the installation tape. The RSU tape can be mounted on the same tape drive as the installation tape (stacked), mounted on a second tape drive, or mounted when the installation program prompts you to do so. If the RSU tape is stacked on the same drive as the installation tape or mounted on a separate tape drive, installation will proceed without interruption. Otherwise, the installation process will be stopped and a prompt will be displayed when you need to mount the RSU. Installation will not continue until you answer the prompt.

To display all available tape drives on your system, enter:

```
query tape free
```

Choose one or two tape drive addresses from the list of available drives.

5. Attach an available tape drive for the installation tape at virtual device address 181.

```
attach tapeaddr * 181
```

```
TAPE tapeaddr ATTACHED TO userid 181
```

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

tapeaddr

Address of the tape drive where the z/VM system installation tape will be mounted.

userid

First-level user ID you logged on to. .

Load the installation tools from the z/VM system installation tape

6. Mount the z/VM system installation tape on the tape drive attached at virtual device address 181.
7. If the RSU tape is to be stacked on the same drive as the installation tape, also mount the RSU tape on the tape drive attached as 181.
8. If the RSU tape will be mounted on a separate tape drive, attach another available tape drive for the RSU tape at virtual device address 182.

```
attach tapeaddr * 182  
TAPE tapeaddr ATTACHED TO userid 182  
Ready; T=n.nn/n.nn hh:mm:ss
```

9. If the RSU tape is to be mounted on a separate tape drive, mount it on the tape drive you attached as 182.
10. Load the installation tools from the z/VM system installation tape to your (191) A-disk.

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

```
vmfp1c2 fsf 7  
Ready; T=n.nn/n.nn hh:mm:ss
```

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

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

Step 2. Run INSTPLAN

In this step, you will:

- Run INSTPLAN.

1. Run INSTPLAN with the TAPE operand.

```
instplan tape
```

```

*** z/VM INSTALLATION PLANNING ***

Mark the product(s) selected to be installed into the filepool with an "F"
and those selected to be installed to minidisks with an "M"
M      VM      M      OSA      M      PERFTK
M      VMHCD   M      RACF     M      DIRM
M      RSCS    M      ICKDSF   M      TCPIP

Select a System Default Language.
_ AMENG   _ UCENG   _ KANJI

Select a System DASD model.
_ 3390 Mod 3   _ 3390 Mod 9

Enter name for common service filepool.
Filepool Name: _____

Select a System Type: Non-SSI or SSI (SSI requires the SSI feature)
_ Non-SSI Install:   System Name _____
_ SSI Install:      Number of Members _   SSI Cluster Name _____

F1 = HELP   F3/F12 = QUIT   F5 = Process   ENTER = Refresh

```

Figure 5. Installation Planning Panel

- See tape installation worksheet 1 (Table 1 on page 10) 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 file pool.
- Place a nonblank character next to the *System Default Language* you selected for your system on tape installation worksheet 1 (Table 1 on page 10).
- Place a nonblank character in front of the DASD model that matches the *DASD type and model* recorded on tape installation worksheet 1 (Table 1 on page 10).
- Fill in the *Filepool Name* for the common service filepool.
- Place a nonblank character in front of the type of install you selected for your system on tape installation worksheet 1 (Table 1 on page 10) – in this case *SSI Install*.
- Fill in the *Number of Members* and the *SSI Cluster Name*.
- Press F5 to process your selections.

F5

- Continue with the following step to confirm that you have ordered the IBM z/VM Single System Image Feature, and to accept the licensing terms and conditions.

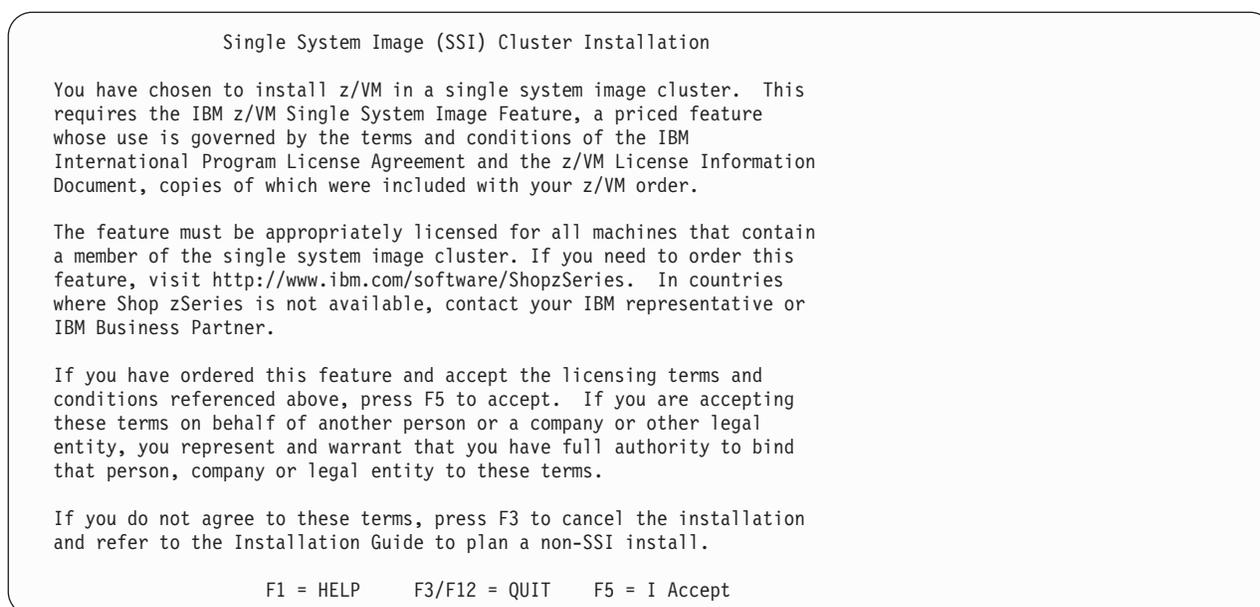


Figure 6. Single System Image Cluster Installation Panel (SSI Only)

- a. Press F5 to accept these terms and continue processing.

F5

3. Complete the Installation Planning Panel 2.

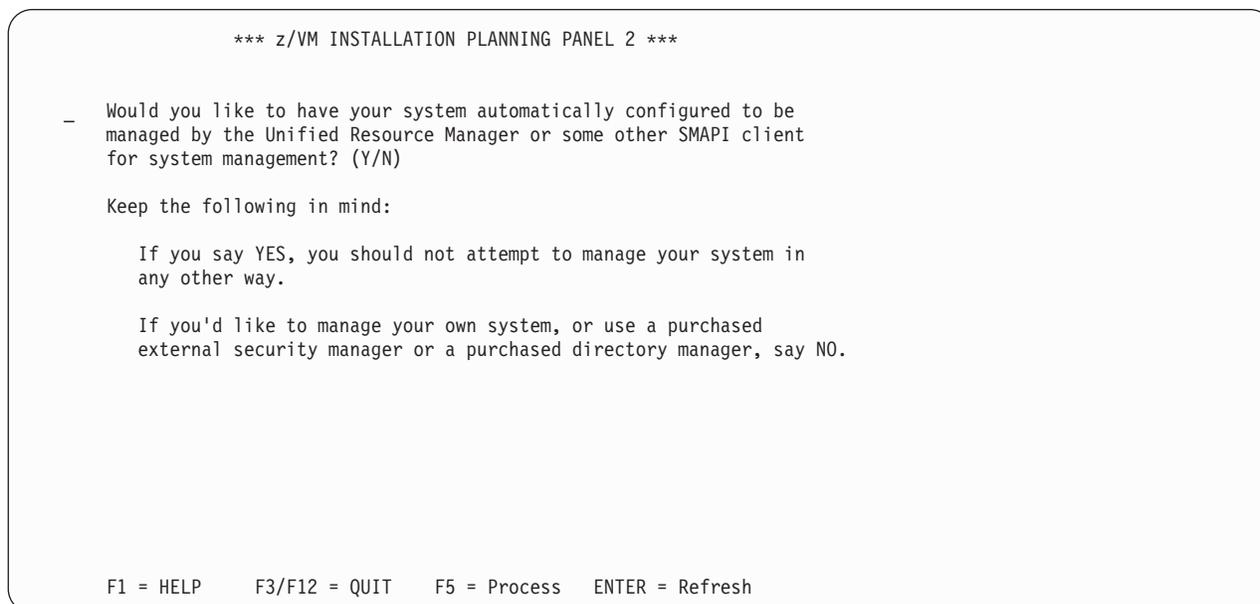


Figure 7. Installation Planning Panel 2

- a. Refer to tape installation worksheet 2 (Table 2 on page 10):
 - If you will be using the System Management Application Programming Interface (SMAPI) function, enter Y. Otherwise, enter N.
- b. Press F5 to process your selections.

Run INSTPLAN

F5

4. Continue with the following steps to fill in the Installation Planning Panel 3.

```
*** z/VM INSTALLATION PLANNING PANEL 3 ***

SSI Cluster Name:  ssiclustername

After installation is complete, the SSI cluster will be IPLed :

-   First-Level
-   Second-Level

SSI Member Name(s):

SLOT #      MEMBER NAME      IPL LPAR/USERID
-----      -
1           _____      _____
2           _____      _____
3           _____      _____
4           _____      _____

F1 = HELP   F3/F12 = QUIT   F5 = Process   ENTER = Refresh
```

Figure 8. Installation Planning Panel 3 (SSI Only)

- a. See tape installation worksheet 3 (Table 3 on page 11) and enter a nonblank character next to:
 - *First-Level* if the SSI will be IPLed first-level after installation is complete.
 - *Second-Level* if the SSI will continue to be IPLed second-level after installation is complete.
- b. Fill in the member name for each member.
- c. If, after installation is complete, the SSI will be IPLed:
 - First-level, fill in the LPAR name for each member.
 - Second-level, fill in the user ID that will be used to IPL each member.
- d. Press F5 to process your selections.

F5

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

HCPIPX8475I THE PRODUCTS YOU SELECTED TO LOAD TO MINIDISK ARE:
VM OSA PERFTK VMHCD RACF DIRM RSCS ICKDSF TCPIP

THE PRODUCTS YOU SELECTED TO LOAD TO SFS ARE:
NONE

THE SYSTEM DEFAULT LANGUAGE SELECTED:
AMENG

THE COMMON SERVICE FILEPOOL NAME IS:
poolname

THE INSTALL TYPE YOU SELECTED IS:
SSI

THE SSI CLUSTER NAME IS:
ssiname

THE NUMBER OF MEMBERS IS:
n

MEMBER NAME 1: <i>memname</i>	LPAR/USERID 1: <i>lparname</i>
MEMBER NAME 2: <i>memname</i>	LPAR/USERID 2: <i>lparname</i>
MEMBER NAME 3: <i>memname</i>	LPAR/USERID 3: <i>lparname</i>
MEMBER NAME 4: <i>memname</i>	LPAR/USERID 4: <i>lparname</i>

AFTER INSTALLATION IS COMPLETE, MEMBERS WILL BE IPLed FROM:
level

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

THE VOLUMES NEEDED TO LOAD z/VM ARE:
COMMON: VMCOM1 VMCOM2
RELEASE: 620RL1 620RL2
MEMBER1: M01RES M01S01 M01P01 M01W01
MEMBER2: M02RES M02S01 M02P01 M02W01
MEMBER3: M03RES M03S01 M03P01 M03W01
MEMBER4: M04RES M04S01 M04P01 M04W01

DO YOU WANT TO CONTINUE ? (Y|N)

Compare the information listed in the response from the INSTPLAN command to the information listed on your tape installation worksheets. Ensure that the information filled in on the worksheets matches what is listed in this response.

y

- Continue with the following steps to fill in the Installation Volume Definition panel.

Run INSTPLAN

```

*** z/VM INSTALLATION VOLUME DEFINITION ***

TYPE LABEL ADDRESS FORMAT (Y/N)
=====
COMMON VMCOM1 _____ -
COMMON2 VMCOM2 _____
RELVOL 620RL1 _____
RELVOL2 620RL2 _____

TYPE LABEL ADDRESS TYPE LABEL ADDRESS
=====
mem1nam mem2nam
RES M01RES _____ RES M02RES _____
SPOOL M01S01 _____ SPOOL M02S01 _____
PAGE M01P01 _____ PAGE M02P01 _____
WORK M01W01 _____ WORK M02W01 _____

mem3nam mem4nam
RES M03RES _____ RES M04RES _____
SPOOL M03S01 _____ SPOOL M04S01 _____
PAGE M03P01 _____ PAGE M04P01 _____
WORK M03W01 _____ WORK M04W01 _____

F1 = HELP F3/12 = QUIT F5 = Process ENTER = Refresh

```

Figure 9. Installation Volume Definition (SSI Only)

- a. If you do not want use a default volume label, then enter a new label (recorded on tape installation worksheet 5, Table 5 on page 12) in the **LABEL** field.
 - b. Fill in the volume addresses using the information from tape installation worksheet 5 (Table 5 on page 12). For more information and help, press F1.
 - c. Fill in the **FORMAT (Y/N)** column with **Y** to CP format your installation volumes or **N** to not format your installation volumes. Specify **N** only if you have already CP formatted your volumes for this installation using ICKDSF or CPFMTXA. If you specify **N**, the volumes will be labeled, but not formatted.
6. Press F5 to process your selections.

F5

If you selected "Second_Level" in answer to the question "After installation is complete, the SSI cluster will be IPLed:" on the z/VM Installation Planning panel 3 (in substep 4 on page 46), proceed to substep 8 on page 49.

7. If you selected "First_Level" in answer to the question "After installation is complete, the SSI cluster will be IPLed:" on the z/VM Installation Planning panel 3 (in substep 4 on page 46), continue with the following steps to fill in the First-Level Configuration panel.

```

*** z/VM INSTALLATION FIRST-LEVEL CONFIGURATION ***

Real addresses for the common volume on each member LPAR:

VOLUME   DASD      mem1name  mem2name  mem3name  mem4name
TYPE     LABEL      ADDRESS   ADDRESS   ADDRESS   ADDRESS
=====  =====  =====  =====  =====  =====
COMMON   lblcom     _____  _____  _____  _____

CTC device addresses:

From: mem1nam                From: mem2nam
  To: mem1name   N/A          To: mem1name   _____
  To: mem2name   _____    To: mem2name   N/A
  To: mem3name   _____    To: mem3name   _____
  To: mem4name   _____    To: mem4name   _____

From: mem3nam                From: mem4nam
  To: mem1name   _____    To: mem1name   _____
  To: mem2name   _____    To: mem2name   _____
  To: mem3name   N/A          To: mem3name   _____
  To: mem4name   _____    To: mem4name   N/A

F1 = HELP      F3/F12 = QUIT    F5 = Process    ENTER = Refresh

```

Figure 10. First-Level Configuration Panel

- a. Fill in the real address of the VMCOM1 volume as it is defined on each LPAR. Use the information from tape installation worksheet 6 (Table 6 on page 13).
- b. Fill in the CTC device addresses for each member using the information from tape installation worksheet 6 (Table 6 on page 13).
- c. Press F5 to process your selections.

F5

8. The output you see may be different due to your planning choices.

HCPIIX8377R YOU HAVE SELECTED TO FORMAT YOUR DASD.
DASD SELECTED ARE:

HCPIIX8377R YOU HAVE SELECTED NOT TO FORMAT YOUR DASD.
THIS ASSUMES THEY HAVE ALREADY BEEN FORMATTED.
DASD SELECTED ARE:

```

lblcom   dasdaddr
lblcm2   dasdaddr
lblrl1   dasdaddr
lblrl2   dasdaddr
lblrl3   dasdaddr
lblres   dasdaddr
lblspl   dasdaddr
lblpag   dasdaddr
lblw01   dasdaddr

```

```

⋮

```

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

Run INSTPLAN

HCPIIX8377R YOU HAVE SELECTED THE FOLLOWING CTC ADDRESSES:

```
MEMBER membnam TO MEMBER membnam      ctcaddr ctcaddr  
MEMBER membnam TO MEMBER membnam      ctcaddr ctcaddr  
MEMBER membnam TO MEMBER membnam      ctcaddr ctcaddr  
MEMBER membnam TO MEMBER membnam      ctcaddr ctcaddr
```

⋮

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

You will receive the CTC address messages only if you choose "IPL from 1st level after installation is complete" .

9. Compare the information listed in the response from the INSTPLAN command to the information listed on your tape installation worksheets. Ensure that the information filled in on the worksheets matches what is listed in this response. The responses from the INSTPLAN command can be found in the file INSTPLAN \$MSGLOG\$.

Step 3. Attach your installation volumes

In this step, you will:

- Attach the volumes for installation,

1. Attach each volume listed on tape installation worksheets 4 (Table 4 on page 11) and 5 (Table 5 on page 12) that is not already attached. Enter the following ATTACH command for each volume:

```

attach dasdaddr *
DASD dasdaddr ATTACHED TO userid dasdaddr
      dasdaddr
      Address of the volume.
      userid
      First-level user ID logged on to
      previously.
Ready; T=n.nn/n.nn hh:mm:ss

```

Attention: Issue the QUERY DASD ATTACH * command to verify there are no volumes attached to your user ID with the same label as those being used for installation. You must detach any duplicate-labeled volumes from your user ID to prevent bringing them online.

Run INSTALL to install your new system

Step 4. Run INSTALL to install your new system

In this step, you will:

- Run INSTALL to install your new system.

1. Run INSTALL to install your new system.

Note: You must *not* disconnect your installation user ID. The installation procedure will IPL the z/VM system a number of times and these will fail if the user ID is running disconnected.

```
install
HCPIIS8381I  CHECKING TAPE VOLUME NUMBER FOR DRIVE 181

HCPIIS8490I  NOW FORMATTING|LABELING VOLUME dasdaddr (1 OF n)
:
:
HCPIIS8490I  NOW FORMATTING|LABELING VOLUME dasdaddr (n OF n)
:
:
HCPIIS8380I  RESTORING VOLUMES FOR memname
HCPIIS8490I  NOW ALLOCATING DASD dasdaddr (COMMON VOLUME)
HCPIIS8490I  NOW ALLOCATING DASD dasdaddr (RELVOL VOLUME)
HCPIIS8490I  NOW ALLOCATING DASD dasdaddr (RES VOLUME)
HCPIIS8490I  NOW ALLOCATING DASD dasdaddr (RES VOLUME)
HCPIIS8490I  NOW ALLOCATING DASD dasdaddr (SPOOLING)
HCPIIS8490I  NOW ALLOCATING DASD dasdaddr (PAGING)

:

HCPIIS8341I  WRITING OWNERSHIP ssiname NOSYS TO comaddr lblcom COMPLETED
              SUCCESSFULLY
HCPIIS8341I  WRITING OWNERSHIP ssiname memname TO resaddr lblres COMPLETED
              SUCCESSFULLY
HCPIIS8341I  WRITING OWNERSHIP ssiname memname TO spladdr lblspl COMPLETED
              SUCCESSFULLY
HCPIIS8341I  WRITING OWNERSHIP ssiname memname TO pagaddr lblpag COMPLETED
              SUCCESSFULLY

HCPIIS8341I  CREATING PDR ON comaddr COMPLETED SUCCESSFULLY

HCPIIS8341I  UPDATING SYSTEM CONFIG

*****
*      NOW IPLing VOLUME dasdaddr      *
*      WITH COMMAND:                    *
*      CP SYSTEM CLEAR                  *
*      TERMINAL CONMODE 3270            *
*      SET MACHINE ESA                   *
*      IPL dasdaddr CLEAR                *
*****
```

Run INSTALL to install your new system

```
hh:mm:ss z/VM V6 R2.0 SERVICE LEVEL 0000 (64-BIT)

hh:mm:ss SYSTEM NUCLEUS CREATED ON yyyy-mm-dd AT hh:mm:ss, LOADED FROM lblres
hh:mm:ss
hh:mm:ss *****
hh:mm:ss * LICENSED MATERIALS - PROPERTY OF IBM* *
hh:mm:ss * 5741-A07 (C) COPYRIGHT IBM CORP. 1983, 2010. ALL RIGHTS *
hh:mm:ss * RESERVED. US GOVERNMENT USERS RESTRICTED RIGHTS - USE *
hh:mm:ss * DUPLICATION OR DISCLOSURE RESTRICTED BY GSA ADP SCHEDULE *
hh:mm:ss * CONTRACT WITH IBM CORP. *
hh:mm:ss * *
hh:mm:ss * * TRADEMARK OF INTERNATIONAL BUSINESS MACHINES *
hh:mm:ss *****
hh:mm:ss *
hh:mm:ss *****
hh:mm:ss * IBM z/VM Single System Image Feature is enabled and active. *
hh:mm:ss *****
hh:mm:ss
hh:mm:ss HCPZC06718I Using parm disk 1 on volume lblcom (device nnnn).
hh:mm:ss HCPZC06718I Parm disk resides on cylinders nnn through nnn.
hh:mm:ss HCPMLM3016I Management by the Unified Resource Manager is not available for this system.
hh:mm:ss
hh:mm:ss
hh:mm:ss
hh:mm:ss
hh:mm:ss The directory on volume lblres 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 memname identified.
hh:mm:ss HCPNET3010I Virtual machine network device configuration changes are permitted
hh:mm:ss HCPPLM1697I The state of SSI system memname has changed from DOWN to JOINED
hh:mm:ss HCPPLM1698I The mode of the SSI cluster is STABLE
hh:mm:ss z/VM Version 6 Release 2.0, 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 timezone weekday mm/dd/yy
hh:mm:ss GRAF nnnn LOGON AS MAINT620 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

DMSIND2015W Unable to access the Y-disk. File mode Y (19E) not accessed
z/VM V6.2.0 yyyy-mm-dd hh:mm

DMSACP113S B(5E5) not attached or invalid device address
DMSACP113S D(51D) not attached or invalid device address
DMSACP113S E(551) not attached or invalid device address
Message DMSACP113S is not a problem at this
time.

hh:mm:ss AUTO LOGON *** OP1 USERS = 2 BY MAINT620
hh:mm:ss HCPCLS6056I XAUTOLOG information for OP1: The IPL command is verified by the
IPL command processor.

DASD 0199 DETACHED

HCPWIN8381I CHECKING TAPE VOLUME NUMBER FOR DRIVE 181
```

Run INSTALL to install your new system

Messages repeated for each disk restored (until total percent loaded reaches 100%)

```
HCPWIN8428I TOTAL PERCENT LOADED -> nn%

HCPWIN8380I RESTORING MINIDISK nnn TO lblnew

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

RESTORING lbldflt
DATA DUMPED mm/dd/yy AT hh.mm.ss GMT FROM lbldflt RESTORED TO SCRATCH
INPUT CYLINDER EXTENTS      OUTPUT CYLINDER EXTENTS
  START      STOP          START      STOP
  nnnnnnnn   nnnnnnnn     nnnnnnnn   nnnnnnnn

END OF RESTORE
BYTES RESTORED nnnnnnnn
END OF JOB
```

```
HCPWIN8319I TAPE LOAD COMPLETED SUCCESSFULLY
HCPPLD8341I POSTLOAD PROCESSING STARTED
DMSACC724I 4CC replaces C (4CC)
```

```
HCPIFP8493I ISSUING XAUTOLOG FOR VMSERVU
AUTO LOGON ***      VMSERVU  USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVU: The IPL command is verified by the IPL
command processor.
```

```
HCPIFP8493I ISSUING XAUTOLOG FOR VMSERVR
AUTO LOGON ***      VMSERVR  USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVR: The IPL command is verified by the IPL
command processor.
```

```
HCPIFP8493I ISSUING XAUTOLOG FOR VMSERVS
AUTO LOGON ***      VMSERVS  USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVS: The IPL command is verified by the IPL
command processor.
```

```
USER DSC LOGOFF AS VMSERVR USERS = n      FORCED BY MAINT620
HCPIFP8493I ISSUING XAUTOLOG FOR VMSERVR
AUTO LOGON ***      VMSERVR  USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVR: The IPL command is verified by the IPL
command processor.
```

```
HCPIFP8493I ISSUING XAUTOLOG FOR VMSERVP
AUTO LOGON ***      VMSERVP  USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVP: The IPL command is verified by the IPL
command processor.
```

```
HCPIFP8338I UPDATING SYSTEM TABLES AND CLEANING UP FILEPOOL DIRECTORIES
```

```
USER DSC LOGOFF AS VMSERVP USERS = n FORCED BY MAINT620
DASD 0917 DETACHED
```

You will receive these messages if you did *not* select VMPSFS as the common service filepool name.

Run INSTALL to install your new system

```
HCPIUF8493I ISSUING XAUTOLOG FOR VMSERVP
AUTO LOGON *** VMSERVP USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVP: The IPL command is verified by
the IPL command processor.

z/VM V6.2.0   yyyy-mm-dd hh:mm
DMSWSP100W Shared S-STAT not available
AUTO LOGON *** OP1 USERS = n
HCPCLS6056I XAUTOLOG information for OP1: The IPL command is verified by the IPL
command processor.

AUTO LOGON *** BLDCMS USERS = n
HCPCFX6768I SECUSER of BLDCMS initiated for you by BLDCMS.
HCPNSD440I The Named Saved System (NSS) CMS was successfully defined in fileid nnnn
BLDCMS : CONNECT= nn:nn:nn VIRTCPU= nnn:nn:nn TOTCPU= nnn:nn:nn
BLDCMS : LOGOFF AT hh:mm:ss EST MONDAY mm/dd/yy BY MAINT620
USER DSC LOGOFF AS BLDCMS USERS = n FORCED BY MAINT620

AUTO LOGON *** BLDCMS USERS = n
HCPCFX6768I SECUSER of BLDCMS initiated for you by BLDCMS.
DMSACC724I 493 replaces Z (493)
HCPNSD440I The Named Saved System (NSS) ZCMS was successfully defined in fileid nnnn
BLDCMS : CONNECT= nn:nn:nn VIRTCPU= nnn:nn:nn TOTCPU= nnn:nn:nn
BLDCMS : LOGOFF AT hh:mm:ss EST MONDAY mm/dd/yy BY MAINT620
USER DSC LOGOFF AS BLDCMS USERS = n FORCED BY MAINT620
```

Prompt if RSU tape needs to be mounted

```
HCPICP8389W RSU TAPE NOT FOUND ON TAPE DRIVE 181 OR 182

HCPICP8397R MOUNT THE RSU TAPE ON TAPE DRIVE ADDRESS 181 or 182
AND ENTER ONE OF THE FOLLOWING:
    181 OR 182 - ADDRESS OF THE TAPE DRIVE WHERE YOU HAVE
                MOUNTED THE RSU TAPE
    NORSU      - TO SKIP RSU PROCESSING
    EXIT       - TO QUIT
```

```
*****
* NOW EXECUTING SERVICE ALL tapaddr
*****
```

```
***** SERVICE messages *****
```

```
*****
* NOW EXECUTING PUT2PROD *
*****
```

```
***** PUT2PROD messages *****
```

```
*****
* INSTCOMP NOW ISSUING SHUTDOWN REIPL *
*****
```

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

Run INSTALL to install your new system

```
hh:mm:ss HCPWRP963I SHUTDOWN STEP PLMLV - LEAVE THE CLUSTER
:
hh:mm:ss z/VM SYSTEM RESTART FROM SHUTDOWN REIPL

hh:mm:ss z/VM V6 R2.0 SERVICE LEVEL nnnn (64-BIT)

hh:mm:ss SYSTEM NUCLEUS CREATED ON yyyy-mm-dd AT hh:mm:ss, LOADED FROM lblres
hh:mm:ss
hh:mm:ss *****
hh:mm:ss * LICENSED MATERIALS - PROPERTY OF IBM* *
hh:mm:ss * 5741-A07 (C) COPYRIGHT IBM CORP. 1983, 2010. ALL RIGHTS *
hh:mm:ss * RESERVED. US GOVERNMENT USERS RESTRICTED RIGHTS - USE *
hh:mm:ss * DUPLICATION OR DISCLOSURE RESTRICTED BY GSA ADP SCHEDULE *
hh:mm:ss * CONTRACT WITH IBM CORP. *
hh:mm:ss * *
hh:mm:ss * * TRADEMARK OF INTERNATIONAL BUSINESS MACHINES *
hh:mm:ss *****
hh:mm:ss *
hh:mm:ss *****
hh:mm:ss * IBM z/VM Single System Image Feature is enabled and active. *
hh:mm:ss *****
hh:mm:ss
hh:mm:ss HCPZC06718I Using parm disk 1 on volume volid (device nnnn).
hh:mm:ss HCPZC06718I Parm disk resides on cylinders nn through nn.
hh:mm:ss HCPMLM3016I Management by the Unified Resource Manager is not available for this system.
hh:mm:ss The directory on volume lblres 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 timezone weekday mm/dd/yy
:
hh:mm:ss HCPIOP952I nnnnM system storage
hh:mm:ss FILES: nnnnnnn RDR, nnnnnnn PRT, NO PUN
hh:mm:ss HCPCRC8082I Accounting records are accumulating for userid DISKACNT
```

What to do next

If this is a . . .	Then . . .
One-member SSI install	Continue with "Step 5. One-member SSI" on page 57
Multi-member SSI install	Go to "Step 6. Multi-member SSI" on page 58.

Step 5. One-member SSI

1. Processing continues.

```
hh:mm:ss DISCONNECT AT hh:mm:ss timezone weekday mm/dd/yy
hh:mm:ss Press enter or clear key to continue
```

ENTER

Press Enter or the Clear key to continue.

2. Log on as MAINT620.

```
logon maint620
```

```
:
```

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

The password for MAINT620 is MAINT620.

3. If this is a first-level installation, you are done with the SVS volume.

- a. Shut down the new system.

```
shutdown
```

- b. Shut down the SVS system.

```
shutdown system zvm62svs
```

- c. IPL the new system from the HMC.

- d. You may now return the SVS volume to your DASD pool.

4. If this is a second-level installation, and this is *not* where you plan to run your new system, shut down the new system and then IPL it where you wish the new system to run.

Note: The default SYSTEM CONFIG file allows the following console addresses: 20, 21, 22, 23, F20, F21, 1020. If your console is *not* one of these addresses, either redefine your console or IPL with the **LOADPARM** *consaddr* option. If you use the **LOADPARM** option, include **cons=consaddr** as an IPL parameter on the z/VM Stand Alone Program Loader (SAPL) panel.

What to do next

Go to Part 3, "Post z/VM system installation," on page 143.

Step 6. Multi-member SSI

1. Processing continues.

```
z/VM V6.2.0    yyyy-mm-dd hh:mm  
hh:mm:ss AUTO LOGON ***      OP1      USERS = 2      BY MAINT620
```

```
hh:mm:ss HCPCLS6056I XAUTOLOG information for OP1: The IPL command is verified by the  
IPL command processor.
```

```
HCPIMB8380I DDRing CYLINDERS 0 - nnnn FROM lblres1 TO lblres2  
DDR OF lblres1 TO lblres2 SUCCESSFUL  
HCPIMB8380I DDRing CYLINDERS 0 - nnnn FROM lblwrk1 TO lblwrk2  
DDR OF lblwrk1 TO lblwrk2 SUCCESSFUL
```

You will receive these messages for each member (except member 1) that you selected to install.

```
HCPIMB8380I DDRing CYLINDERS 0 - nnnn FROM lblres1 TO lblres3  
DDR OF lblres1 TO lblres3 SUCCESSFUL  
HCPIMB8380I DDRing CYLINDERS 0 - nnnn FROM lblwrk1 TO lblwrk3  
DDR OF lblwrk1 TO lblwrk3 SUCCESSFUL
```

```
HCPIMB8380I DDRing CYLINDERS 0 - nnnn FROM lblres1 TO lblres4  
DDR OF lblres1 TO lblres4 SUCCESSFUL  
HCPIMB8380I DDRing CYLINDERS 0 - nnnn FROM lblwrk1 TO lblwrk4  
DDR OF lblwrk1 TO lblwrk4 SUCCESSFUL  
CPFMTXA LABEL VOLUME FOR lblres2 SUCCESSFUL  
CPFMTXA LABEL VOLUME FOR lblwrk2 SUCCESSFUL
```

```
CPFMTXA LABEL VOLUME FOR lblres3 SUCCESSFUL  
CPFMTXA LABEL VOLUME FOR lblwrk3 SUCCESSFUL
```

```
CPFMTXA LABEL VOLUME FOR lblres4 SUCCESSFUL  
CPFMTXA LABEL VOLUME FOR lblwrk4 SUCCESSFUL  
DASD 0550 DETACHED
```

```
CPFMTXA OWNERSHIP FOR lblres2 SUCCESSFUL  
CPFMTXA OWNERSHIP FOR lblspl2 SUCCESSFUL  
CPFMTXA OWNERSHIP FOR lblpag2 SUCCESSFUL
```

```
CPFMTXA OWNERSHIP FOR lblres3 SUCCESSFUL  
CPFMTXA OWNERSHIP FOR lblspl3 SUCCESSFUL  
CPFMTXA OWNERSHIP FOR lblpag3 SUCCESSFUL
```

```
CPFMTXA OWNERSHIP FOR lblres4 SUCCESSFUL  
CPFMTXA OWNERSHIP FOR lblspl4 SUCCESSFUL  
CPFMTXA OWNERSHIP FOR lblpag4 SUCCESSFUL  
DASD 0550 DETACHED
```

```
SALIPL FOR addr SUCCESSFUL  
SALIPL FOR addr SUCCESSFUL  
SALIPL FOR addr SUCCESSFUL
```

Step 7. Initialize members 2-4

1. Processing continues.

```

*****
*      PROCESSING UPDATE FOR MEMBER nextmemb
*****
HCPISC8403I SYSTEM CONFIG has been updated to allow member nextmemb to be IPL'ed.

        member nextmemb will be IPLed by issuing the command:
        SHUTDOWN REIPL dasdaddr

EXECUTING SHUTDOWN REIPL dasdaddr

hh:mm:ss HCPWRP963I SHUTDOWN STEP PLMLV - LEAVE THE SSI CLUSTER
      ⋮
hh:mm:ss z/VM SYSTEM RESTART FROM SHUTDOWN REIPL

hh:mm:ss z/VM V6 R2.0 SERVICE LEVEL nnnn (64-BIT)

hh:mm:ss SYSTEM NUCLEUS CREATED ON yyyymm-dd AT hh:mm:ss, LOADED FROM lblres
hh:mm:ss
hh:mm:ss *****
hh:mm:ss * LICENSED MATERIALS - PROPERTY OF IBM* *
hh:mm:ss * 5741-A07 (C) COPYRIGHT IBM CORP. 1983, 2010. ALL RIGHTS *
hh:mm:ss * RESERVED. US GOVERNMENT USERS RESTRICTED RIGHTS - USE *
hh:mm:ss * DUPLICATION OR DISCLOSURE RESTRICTED BY GSA ADP SCHEDULE *
hh:mm:ss * CONTRACT WITH IBM CORP. *
hh:mm:ss * *
hh:mm:ss * * TRADEMARK OF INTERNATIONAL BUSINESS MACHINES *
hh:mm:ss *****
hh:mm:ss *
hh:mm:ss *****
hh:mm:ss * IBM z/VM Single System Image Feature is enabled and active. *
hh:mm:ss *****
hh:mm:ss
hh:mm:ss HCPZC06718I Using parm disk n on volume lblcom (device nnnn).
hh:mm:ss HCPZC06718I Parm disk resides on cylinders nnn through nnn.
hh:mm:ss HCPMLM3016I Management by the Unified Resource Manager is not available for this system
      ⋮

hh:mm:ss The directory on volume lblres at address nnnn has been brought online.
hh:mm:ss HCPWRS2513I
hh:mm:ss HCPWRS2513I Spool files available NONE

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 memname identified.
hh:mm:ss HCPFCA040E Device ctcaddr does not exist          You can ignore any HCPFCA040E
                                                         messages you receive.

hh:mm:ss HCPNET3010I Virtual machine network device configuration changes are permitted
hh:mm:ss HCPPLM1697I The state of SSI system memname has changed from DOWN to JOINED
hh:mm:ss HCPPLM1698I The mode of the SSI cluster is STABLE
hh:mm:ss HCPLGB365I Requested system default language lang is unavailable
hh:mm:ss HCPLGB365I Language AMENG in nucleus will be system default language
                                                         You can ignore any HCPLGB365I
                                                         messages you receive.

```

Initialize members 2-4

```
hh:mm:ss z/VM Version 6 Release 2.0, Service Level nnnn (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 timezone weekday mm/dd/yy
hh:mm:ss GRAF nnnn LOGON AS OPERATOR USERS = n
hh:mm:ss HCPFCA040E Device ctcaddr does not exist
```

You can ignore any HCPFCA040E messages you receive.

```
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
```

DMSWSP327I The installation saved segment could not be loaded
z/VM V6.2.0 yyy-mm-dd hh:mm

```
DMSDCS1083E Saved segment CMSPIPES does not exist
DMSDCS1083E Saved segment CMSPIPES does not exist
DMSDCS1083E Saved segment CMSVLIB does not exist
```

```
hh:mm:ss AUTO LOGON *** OP1 USERS = n BY MAINT620
hh:mm:ss HCPCLS6056I XAUTOLOG information for OP1: The IPL command is verified by the
IPL command processor.
```

```
AUTO LOGON *** BLDCMS USERS = n
HCPCFX6768I SECUSER of BLDCMS initiated for you by BLDCMS.
HCPNSD440I The Named Saved System (NSS) CMS was successfully defined in fileid nnnn.
BLDCMS : CONNECT= 00:00:nn VIRTCPU= 000:00.nn TOTCPU= 000:00.nn
BLDCMS : LOGOFF AT hh:mm:ss EST WEDNESDAY mm/dd/yy BY MAINT620
USER DSC LOGOFF AS BLDCMS USERS = n FORCED BY MAINT620
```

```

*****
* PROCESSING MEMBER membername *
*****

HCPINI8493I ISSUING XAUTOLOG FOR VMSERVR
AUTO LOGON *** VMSERVR USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVR: The IPL command is verified by the
IPL command processor.

USER DSC LOGOFF AS VMSERVR USERS = n FORCED BY MAINT620
HCPINI8493I ISSUING XAUTOLOG FOR VMSERVR
AUTO LOGON *** VMSERVR USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVR: The IPL command is verified by the
IPL command processor.

HCPINI8493I ISSUING XAUTOLOG FOR VMSERVP
AUTO LOGON *** VMSERVP USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVP: The IPL command is verified by the
IPL command processor.

HCPINI8493I ISSUING XAUTOLOG FOR VMSERVS
AUTO LOGON *** VMSERVS USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVS: The IPL command is verified by the
IPL command processor.

HCPINI8493I ISSUING XAUTOLOG FOR VMSERVU
AUTO LOGON *** VMSERVU USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVU: The IPL command is verified by the
IPL command processor.

*****
* NOW EXECUTING PUT2PROD SEGMENTS ALL *
*****
.
.
***** PUT2PROD messages *****
.
.
*****
* NOW EXECUTING SERVICE GCS BLDNUC *
*****
.
.
***** SERVICE messages *****
.
.
*****
* NOW EXECUTING PUT2PROD *
*****
.
.
***** PUT2PROD messages *****
.
.

```

2. Substep 1 on page 59 will repeat for members 3-4, if applicable.
3. Once all members have been initialized, processing will finish.

```

HCPMLP8392I INSTALL EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss

```

Step 8. Update the system configuration file

In this step, you will:

- Run INSTSCID to update the system configuration to set up for real IPLs.
- Perform a system shutdown.

When “Step 7. Initialize members 2-4” on page 59 has completed for each installed member (2-4):

1. Run INSTSCID to update the system configuration with the final System_Identifier information. At the completion of “Step 7. Initialize members 2-4” on page 59, the SYSTEM CONFIG file is set up to IPL only the last member you installed. In order to successfully IPL all members of your SSI cluster, the SYSTEM CONFIG file must be updated to include the correct System_Identifier statement for each member. Once the SYSTEM CONFIG file is updated, you will only be able to IPL the members on their respective LPARs/user IDs.

instscid remove

```
*****
* PROCESSING UPDATE FOR ALL MEMBERS
*****
HCPISC8403I SYSTEM CONFIG has been updated to allow all members
           to be ipld only from the LPAR/userid
           defined for each member at install time.

HCPISC8392I INSTSCID EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss
```

Note: If you attempt to IPL any member except the last member installed before running INSTSCID, your system will not IPL with the correct member volumes and results will be unexpected.

2. Perform a system shutdown.

shutdown

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

hh:mm:ss HCPWRP963I SHUTDOWN STEP PLMLV - LEAVE THE SSI CLUSTER
:
hh:mm:ss HCPWRP961W SYSTEM SHUTDOWN COMPLETE
HCPGIR450W CP entered; disabled wait PSW 00020000 00000000 00000000 00000961
```

3. IPL the CMS saved segment if it exists. Otherwise, IPL 190.

ipl cms

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

Step 9. IPL the new SSI cluster

In this step, you will:

- IPL the V6.2 SSI cluster.

1. If you selected that the SSI cluster would be IPLed second-level:
 - a. Retrieve the SSI2ND DIR-PROF file from your 191 (A) disk. This file also exists on the new system's MAINT620 4CC disk.
 - b. Add or update the user IDs defined in SSI2nd DIR-PROF to the system where you plan to IPL your SSI members.

Attention: Make sure to use the DEVNO statement as documented in this file to allow all members access to the other members' volumes.
 - c. Detach all installation volumes from this user ID.
 - d. Logon to each of the IPL user IDs as defined in SSI2ND DIR-PROF.
 - e. Create a PROFILE EXEC as defined in SSI2nd DIR-PROF on each user ID.
 - f. Run the PROFILE EXEC on each user ID.
2. If this is a first-level installation, you are done with the SVS volume.
 - a. Shut down the SVS system.

```
shutdown system zvm62svs
```

- b. You may now return the SVS volume to your DASD pool.

3. IPL each member from its corresponding user ID or LPAR.

Note: The default SYSTEM CONFIG file allows the following console addresses: 20, 21, 22, 23, F20, F21, 1020. If your console is *not* one of these addresses, either redefine your console or IPL with the **LOADPARM** *consaddr* option. If you use the **LOADPARM** option, include **cons=consaddr** as an IPL parameter on the z/VM Stand Alone Program Loader (SAPL) panel.

What to do next

Go to Part 3, "Post z/VM system installation," on page 143.

IPL the new SSI cluster

Part 2. z/VM installation from DVD or electronic media

This part contains procedures for installing z/VM from DVD or electronic distribution media to either a non-SSI or to a SSI cluster. If you are installing z/VM from tape distribution media, use Part 1, “z/VM installation from tape media,” on page 1. If you received the z/VM product electronically, you must first complete the instructions you downloaded with your order before using the procedures here in Part 2 to install z/VM.

In this part, you will:

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

z/VM installation from DVD or electronic media

Chapter 5. Plan your DVD installation

In this chapter, you will

- Plan your installation.
- Fill in the DVD installation worksheets and the TCP/IP configuration worksheets.

Select your installation procedure

Step 1. Select your installation procedure

If your z/VM product was obtained via electronic delivery, you must follow the instructions that accompanied the deliverable to do one of the following before proceeding with your installation:

- Create a physical DVD.
- Load the deliverable into an FTP server directory.

Installation procedures:

- **First-level installation** can be done from:
 - A physical DVD mounted in a DVD drive attached to the Hardware Management Console (HMC).
 - A physical DVD mounted in a DVD drive connected through an FTP server.
 - An FTP server that has access to a directory where the files from the physical DVDs or electronic deliverables have been stored.
- **Second-level installation** can be done from:
 - A physical DVD mounted in a DVD drive connected through an FTP server.
 - An FTP server that has access to a directory where the files from the physical DVDs or electronic deliverables have been stored.
 - A CMS-formatted minidisk that is accessible by your installation user ID.

Step 2. Review and comply with the requirements

Before you install z/VM version 6 release 2, you must review the following information and insure all requirements are satisfied:

1. z/VM media deliverable:

- For physical DVD deliverable, be sure you have both the product installation DVD and the installation RSU DVD.
- For electronic deliverable, be sure you have both the product and RSU zip files.
- You should install the RSU that was shipped with the product and, if additional service is required, install the additional service after your initial installation is complete.

2. General:

- A processor supported by z/VM version 6 release 2. 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.
- For instructions on how to receive current service, see the Program Directory for z/VM.
- For up-to-date information affecting installation, see the "installation information" section in the CP subset of the zvm620 upgrade PSP bucket.
- If you plan to migrate from another z/VM system, review *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.
- A Single System Image (SSI) cluster installation requires the IBM z/VM Single System Image Feature, a priced feature whose use is governed by the terms and conditions of the IBM International Program License Agreement and the z/VM License Information Document. Copies of this document are included with your z/VM order.
The feature must be appropriately licensed for all machines that contain a member of the single system image cluster. If you need to order this feature, visit www.ibm.com/software/ShopzSeries. In countries where Shop zSeries is not available, contact your IBM representative or IBM Business Partner.
- If you plan to use the IBM migration procedures documented in Part 3, "Post z/VM system installation," on page 143, you must select a non-SSI installation.

3. First-Level installation requirements:

- Hardware requirements:
 - Access to the integrated 3270 console on the HMC (CONS=SYSG) for use as the console during first-level installation.
 - At least 768 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. See *z/VM: CP Planning and Administration* for information on determining production storage requirements.

- If installing from a physical DVD mounted in a DVD drive attached to the Hardware Management Console (HMC):
 - The HMC must communicate with the desired support element. An HMC can communicate only with support element versions that are equal to or lower than the version of the HMC. For example, an HMC version 2.10.1 can communicate with a support element at version 2.10.0, or 2.10.1, but it cannot communicate with a support element at version 2.10.2.

Review and comply with the requirements

- If installing from a physical DVD mounted in a DVD drive connected through an FTP server:
 - The FTP server must comply with RFC 959 and RFC 1123.
 - The FTP server must be able to communicate with both the HMC and primary SE of the LPAR where you will install. This means that both the HMC and primary SE must be enabled for TCP/IP communication, including any required firewall authorizations, and authorized to use FTP.
 - The FTP server must be able to access to the DVD drive.
- If installing from an FTP server that has access to a directory where the files from the physical DVDs or electronic deliverables have been stored:
 - The FTP server must comply with RFC 959 and RFC 1123.
 - The FTP server must be able to communicate with both the HMC and primary SE of the LPAR where you will install. This means that both the HMC and primary SE must be enabled for TCP/IP communication, including any required firewall authorizations, and authorized to use FTP.
 - The FTP server must be able to access the directory where the contents of the DVDs will be stored.
 - The contents of the z/VM system DVD and the RSU DVD must be stored in same directory.
 - There must be at least 3 GB of available space to store the contents of the z/VM system DVD and the RSU DVD.

4. Second-level installation requirements:

- Hardware requirements:
 - A supported release of z/VM running on the processor or LPAR on which you are installing.
 - Access to a local non-SNA 3270 terminal, or equivalent, configured with at least 24 lines.
- System software requirements:
 - A first-level system running a supported release of z/VM.
- User ID requirements:
 - You must complete the entire installation using a single installation user ID.
 - Access to the INSTPIPE MODULE on your current system. The module was shipped on the MAINT 2CC disk with pre-V6.2 releases. On z/VM V6.2, the INSTPIPE MODULE is shipped on the MAINT620 4CC disk.
 - Privilege classes of at least B and G.
 - At least 64 MB of virtual storage.
 - A 191 read/write minidisk accessed as file mode A.
 - If installing from a CMS-formatted minidisk (referred to as “From a VM Minidisk”), write access to the disk where the files will be loaded.
 - A 2222 read/write minidisk, matching the supported DASD type (3390 or FBA) of your installation DVD, that is exactly:
 - 10 cylinders (3390)
 - 14400 512-KB blocks (FBA)
 - A 24CC read/write minidisk, matching the supported DASD type (3390 or FBA) of your installation DVD, that is exactly:
 - 10 cylinders (3390)
 - 14400 512-KB blocks (FBA)
 - A 2CF0 read/write minidisk, matching the supported DASD type (3390 or FBA) of your installation DVD, that is exactly:
 - 120 cylinders (3390)
 - 172800 512-KB blocks (FBA)
- If installing from a physical DVD mounted in a DVD drive connected through an FTP server:

Review and comply with the requirements

- The FTP server must comply with RFC 959 and RFC 1123.
- The FTP server must have a TCP/IP communication path to the system you are using to install.
- The FTP server must be able to access a DVD drive.
- If installing from an FTP server that has access to a directory where the files from the physical DVDs or electronic deliverables have been stored:
 - The FTP server must comply with RFC 959 and RFC 1123.
 - The FTP server must have a TCP/IP communication path to the system you are using to install.
 - The FTP server must be able to access the directory where the contents of the DVD will be stored.
 - The contents of the z/VM system DVD and the RSU DVD must be stored in same directory
 - There must be at least 3 GB of available space to store the contents of the z/VM system DVD and the RSU DVD.
- If installing from a CMS-formatted minidisk where the contents of the physical DVD or electronic deliverable will be uploaded:
 - The CMS-formatted minidisk must be the equivalent of at least 4500 cylinders of 3390 DASD.

Step 3. Complete the installation worksheets

1. Determine the installation method you will use, and record the selected installation method on DVD installation worksheet 1 (Table 7 on page 77).
 - 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. Each product on the z/VM system DVD allows file pool directories to be used in place of service minidisks. Determine which products will use the installation file pools for service disks and which products will use minidisks only, and record your choices under the **Install To** column on DVD installation worksheet 1 (Table 7 on page 77).
3. Select your default system language and record your choice on DVD installation worksheet 1 (Table 7 on page 77). The choices are:
 - Mixed Case English (AMENG)
 - Uppercase English (UCENG)
 - Kanji (KANJI)
4. Select the DASD type and model you will use to install, and record the DASD information on DVD installation worksheet 1 (Table 7 on page 77). If you are using the:
 - FBA (SCSI) DVD (FBA cannot be used for an SSI install)
 - Record FBA for the DASD model
 - Record the size in the “SCSI volume size” line. The size of the FBA volumes must be at least 6.0 GB. Note that all FBA volumes must be at least the size recorded in this “SCSI volume size” line.
 - 3390 DVD, record either 3390 Model 3 or 3390 Model 9.

Notes:

- a. If you are using volumes with more cylinders than a Model 9 (10017), select 3390 Model 9. All volumes will be allocated as PERM space to the end of the volume. The spool and paging volumes will be reallocated for spool and page space up to cylinder 65519. Any additional space on those volumes will remain PERM space.
 - 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 10016 cylinders on each DASD and ignores any cylinders beyond 10016.
 - d. If you select FBA DASD, installation will use only the first 10 GB of space and will ignore any space beyond 10 GB. The spool and paging volumes will be reallocated for spool and page space up to block 16777214 (approximately 8 GB). Any additional space on those volumes will remain PERM space.
 - e. IBM strongly suggests that you do *not* use any left over space on the installation volumes.
5. Select a name for the common service filepool and record your choice on DVD installation worksheet 1 (Table 7 on page 77). The common service filepool contains the service minidisks for the products you choose to load into the installation filepools, and will reside on the COMMON volumes. This filepool will exist even if you do not load any product into the filepool. The file ICOMDIR NAMES will be created to map your filepool name to the filepool nickname VMPSFS. If you will *not* be adding this system or SSI cluster to a larger ISFC collection, you can use the name “VMPSFS” as your filepool name. The filepool name:
 - Has no default value. You must enter a name.
 - Must be 1 to 8 alphanumeric characters.
 - Cannot start with the characters “VMS”.
 - Cannot start with a number, i.e. the first character must be non-numeric

- Cannot be either “ALLOW ” or “ANY”.
- Cannot match any user ID on the system.

Note, also, that if at some time in the future you plan on adding this system or SSI cluster to a larger ISFC collection, the common service filepool name must not match any filepool name used by any other system or member in the ISFC collection.

6. Select the installation type, Non-SSI or Single System Image (SSI), and record your choice on DVD installation worksheet 1 (Table 7 on page 77). If installing to FBA, you must select Non-SSI. For more information on planning for your SSI cluster, see *z/VM: CP Planning and Administration*.

Note: To select SSI, you must first order the IBM z/VM Single System Image Feature. This feature must be appropriately licensed for all machines that will contain a member of the single system image cluster.

7. If you selected Non-SSI, record the name of your system on DVD installation worksheet 1 (Table 7 on page 77). Note that the system name:
- Must be 1 to 8 alphanumeric characters
 - Cannot start with a number, i.e. the first character must be non-numeric
 - Cannot contain blanks
 - Cannot be either “NOSSI” or “NOSYS”.

Attention: The system name you select should be permanent. Changing the system name after installation is a difficult process.

8. If you selected SSI:

- a. On DVD installation worksheet 1 (Table 7 on page 77):

- 1) Record the number of members you wish to install (must be 1 to 4).
- 2) Record the name of your SSI cluster (must be 1 to 8 alphanumeric characters).

- b. On DVD installation worksheet 5 (Table 11 on page 78):

- 1) Select “First-level” if you intend to IPL your SSI cluster members in first-level LPARs. Otherwise, select “Second-level”. An SSI cluster can be installed to IPL all members in first-level LPARs or to IPL all members second-level from user IDs on an existing z/VM system.

- 2) For each SSI member, record the following:

- a) A member name, which:

- Must be 1 to 8 alphanumeric characters
- Cannot start with a number, i.e. the first character must be non-numeric
- Cannot contain blanks
- Cannot be either “NOSSI” or “NOSYS”
- Must be unique (from all other member names) in the last 7 characters.

Attention: The member names you select should be permanent. Changing member names after installation is a difficult process.

- b) The LPAR name or the user ID where the SSI member will be IPLed.

Notes:

- a) The LPAR name is the name that is defined on the resource statement of the hardware input output control program (IOCP). See your hardware administrator for more information.

- b) If you are installing a multi-member SSI cluster that will be IPLed second-level, the file SSI2ND DIR-PROF will be generated during installation processing. This file contains the directory definitions and the profile execs needed for these user IDs.

9. Select whether to use the Unified Resource Manager or another SMAPI client for system management, or to use other system management tools. The installation process can configure and enable your new system to be managed by the Unified Resource Manager or some other SMAPI client. With this configuration, you *cannot* use an external security manager program, such as RACF

Complete the installation worksheets

for VM, or a directory manager program, such as DirMaint. All system management must be performed using SMAPI clients, such as IBM Director or Unified Resource Manager.

If you intend to use an external security manager product or a directory manager product from IBM or another vendor, or if you do not have access to any SMAPI clients for system management, you should enter No on DVD installation worksheet 2 (Table 8 on page 77).

If you will *only* be using the Unified Resource Manager, IBM Director, or some other SMAPI client for system management and will *not* use an external security manager product or a directory manager product from IBM or another vendor, then you may want to enter Yes on DVD installation worksheet 2 (Table 8 on page 77). Keep in mind that if you say Yes, you should *not* attempt to manage your system in any other way.

If you are not sure how you will be managing your system, you should enter No on DVD installation worksheet 2 (Table 8 on page 77). For additional information on using SMAPI clients and the Unified Resource Manager, see *z/VM: Systems Management Application Programming* and the “Configuring z/VM for an Ensemble” chapter in *z/VM: CP Planning and Administration*.

10. If installing to 3390, determine the number of volumes required to install and record that information on DVD installation worksheet 3 (Table 9 on page 78) for non-SSI or DVD installation worksheet 6 (Table 12 on page 79) for SSI.

a. If you choose:

- 3390 Model 3:

- If you choose to load all products to minidisk:
 - For non-SSI, you will need eight volumes.
 - For SSI, you will need eight volumes for member 1, plus four volumes for each additional member.
- If you choose to load all products to filepool, you will *not* need the RELVOL2 volume:
 - For non-SSI, you will need seven volumes.
 - For SSI, you will need seven volumes for member 1, plus four volumes for each additional member.
- If you choose to load some products to minidisk and some products to filepool, you may or may not need the RELVOL2 volume. Use the following table to make the determination by totalling the cylinders for all of the products that you will load to the filepool. If the products you selected total 2119 or more cylinders, then you will *not* need the RELVOL2 volume:
 - For non-SSI, you will need either seven or eight volumes.
 - For SSI, you will need either seven or eight volumes for member 1, plus four volumes for each additional member.

Product	Cylinders
VM	1515
OSA	0
PERFTK	100
VMHCD	559
RACF	182
DIRM	0
RSCS	94
ICKDSF	0
TCPIP	449

- 3390 Model 9 – you will *not* need the COMMON2, RELVOL2, or WORK volumes:
 - For non-SSI, you will need five volumes.
 - For SSI, you will need five volumes for member 1, plus three volumes for each additional member.

Notes:

- 1) INSTPLAN, which is run early in the installation procedure, will tell you exactly how many volumes are required.
 - 2) IBM strongly suggests that you do *not* use any left over space on the installation volumes.
- b. Record the address for each 3390 volume in the **Address** column. If you are changing any of the default installation labels, record the new labels in the **New Label** column. Disregard any volumes that you do not need. Note that you must *not* use any of IBM's default volume labels for a volume other than the volume for which it is originally defined.
- Volume labels must be 1 to 6 alphanumeric characters.
 - If you selected non-SSI, use DVD installation worksheet 3 (Table 9 on page 78).
 - If you selected SSI, use DVD installation worksheet 6 (Table 12 on page 79).

Note: The address of the VMCOM1 DASD volume is written out by SALIPL to cylinder 0 of the M01RES volume, to be used at IPL time to locate the SYSTEM CONFIG file. Because of this, the address of the VMCOM1 volume cannot be redefined to a different address without rewriting SALIPL.

11. If you are installing to FBA (SCSI) volumes, use DVD installation worksheet 4 (Table 10 on page 78). Record the address for each volume in the **Address** column. If you are changing any of the default installation labels, record the new labels in the **New Label** column. Note that you must *not* use any of IBM's default volume labels for a volume other than the volume for which it is originally defined.
- FBA (SCSI) can be used for non-SSI installation only.
 - You will need five volumes.
 - Volume labels must be 1 to 6 alphanumeric characters.

Note: IBM strongly suggests that you do *not* use any left over space on the installation volumes.

12. If you are using FBA (SCSI) disks, and they are already defined, you need only the 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 on DVD installation worksheet 4 (Table 10 on page 78). Also make a note of the valid FCP address(es) or CHPID.

13. If you selected SSI and "First-level" in substep 8b1 on page 73, complete worksheet 7 (Table 13 on page 80):
- a. Enter the real addresses of the COMMON volume as it is defined to each LPAR. The COMMON volume must be available to each LPAR where your SSI cluster will run.
 - b. If installing more than one member, specify the CTCA addresses that will be used to communicate between members of the SSI cluster.

Notes:

- 1) Each SSI member must have at least one CTC connection to every other SSI member.
- 2) Installation allows you to define up to two connections between any two members. More connections may be defined after installation is complete.
- 3) The number of CTC device addresses defined for communication between two members must be the same.

Complete the installation worksheets

14. If you are installing with an FTP server (using a physical DVD or the server directory), record the path information required to access the DVD drive or FTP directory on DVD installation worksheet 8 (Table 14 on page 80).
 - a. Record the IP address or host name of the FTP server.
 - b. Record the user ID and password of the FTP server.
 - c. Record the DVD or FTP directory path name for the FTP server.
15. If you are installing from a VM minidisk, then record the VM user ID and address of the VM minidisk where contents of the z/VM system DVD and the RSU DVD will be uploaded on DVD installation worksheet 8 (Table 14 on page 80).

What to do next

Go to “Step 4. Complete the basic TCP/IP connectivity worksheets” on page 81.

Complete the installation worksheets

Table 9. DVD Installation Worksheet 3 (3390 Non-SSI Only)

Volume Type	Default Label	New Label	Address
COMMON	VMCOM1		
COMMON2	VMCOM2		
RELVOL	620RL1		
RELVOL2	620RL2		
RES	M01RES		
SPOOL	M01S01		
PAGE	M01P01		
WORK	M01W01		

Note: You must *not* use any of IBM's default volume labels for a volume other than the volume for which it is originally defined.

Table 10. DVD Installation Worksheet 4 (FBA Non-SSI Only)

Volume Type	Default Label	New Label	Address	FCP Address	WWPN	LUN
COMMON	VMCOM1					
RELVOL	620RL1					
RES	M01RES					
SPOOL	M01S01					
PAGE	M01P01					

Channel path (CHPID): _____
Valid FCP addresses: _____

Note: You must *not* use any of IBM's default volume labels for a volume other than the volume for which it is originally defined.

Table 11. DVD Installation Worksheet 5 (3390 SSI Only)

After installation is complete, SSI will be IPLed:

___ First-Level
___ Second-Level

SSI Member Name(s) / IPL LPAR Name(s) or User ID Name(s):

Slot Number	Member Name	IPL LPAR/User ID
1		
2		
3		
4		

Table 12. DVD Installation Worksheet 6 (3390 SSI Only)

Volume Type	Default Label	New Label	Address				
COMMON	VMCOM1						
COMMON2	VMCOM2						
RELVOL	620RL1						
RELVOL2	620RL2						
Volume Type	Default Label	New Label	Address	Volume Type	Default Label	New Label	Address
Member 1:				Member 2:			
RES	M01RES			RES	M02RES		
SPOOL	M01S01			SPOOL	M02S01		
PAGE	M01P01			PAGE	M02P01		
WORK	M01W01			WORK	M02W01		
Member 3:				Member 4:			
RES	M03RES			RES	M04RES		
SPOOL	M03S01			SPOOL	M04S01		
PAGE	M03P01			PAGE	M04P01		
WORK	M03W01			WORK	M04W01		
<p>Note: You must <i>not</i> use any of IBM's default volume labels for a volume other than the volume for which it is originally defined.</p>							

Complete the installation worksheets

Table 13. DVD Installation Worksheet 7 (SSI First-Level Configuration Only)

Real addresses for the COMMON volume on each member LPAR:			
Member 1 Address	Member 2 Address	Member 3 Address	Member 4 Address
CTC device addresses:			
From: Member 1		From: Member 2	
To: Member 1	N/A	To: Member 1	_____
To: Member 2	_____	To: Member 2	N/A
To: Member 3	_____	To: Member 3	_____
To: Member 4	_____	To: Member 4	_____
From: Member 3		From: Member 4	
To: Member 1	_____	To: Member 1	_____
To: Member 2	_____	To: Member 2	_____
To: Member 3	N/A	To: Member 3	_____
To: Member 4	_____	To: Member 4	N/A

Table 14. DVD Installation Worksheet 8

IP address or host name:	_____
FTP server user ID and password:	_____
DVD/FTP directory path name:	_____
VM user ID and address of VM minidisk to upload DVD:	_____

Step 4. Complete the basic TCP/IP connectivity worksheets

1. This step is optional. If you do not wish to create a minimal TCP/IP configuration that establishes basic connectivity to your IP network, skip to “Step 5. Choose your next step” on page 82.
2. 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 necessary information from your network system administrator and record the information in the tables in Appendix L, “Basic TCP/IP Connectivity Worksheets,” on page 229.

If you are installing a multi-member SSI, the TCP/IP configuration must be done separately on each SSI member. Fill out a set of configuration worksheets for each member on which you will create a minimal TCP/IP configuration. Configuration worksheets can be found in Appendix L, “Basic TCP/IP Connectivity Worksheets,” on page 229.

Choose your next step

Step 5. Choose your next step

What to do next

Base your choice on the installation method that fits your situation.

If you chose the . . .

Then go to . . .

First-level installation method

Chapter 6, "IPL the RAMDISK and run DVDPRIME," on page 83

Second-level installation method

Chapter 7, "Set up for DVD installation," on page 89

Chapter 6. IPL the RAMDISK and run DVDPRIME

In this chapter, you will:

- Use step-by-step procedures to IPL the RAMDISK and run DVDPRIME.

Step 1. Load the RAMDISK

In this step, you will:

- Load the RAM disk from DVD.
- Start the RAMDISK system.

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

Before you begin: You need to complete DVD installation worksheets 1 (Table 7 on page 77) through 8 (Table 14 on page 80). If you have not done so, return to Chapter 5, “Step 3. Complete the installation worksheets” on page 72.

1. Prepare to access the installation files.

If installing from an:

- HMC DVD drive, load the z/VM system DVD in the HMC DVD drive.
- FTP server DVD drive, load the z/VM system DVD in the FTP connected DVD drive.
- FTP server directory, load the contents of both the z/VM system DVD and the RSU DVD to a new directory on 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. Load the contents of each DVD to the directory. After the contents of the z/VM system DVD have been loaded, load the contents of the RSU DVD to the same directory, overwriting any duplicate files.

2. On the HMC, open an integrated 3270 console for the LPAR you are going to use for installation.

- a. In the Hardware Management Console Workplace window, double-click the **Groups** icon in the Views pane.
- b. In the Groups Work Area pane, double-click the **CPC Images** icon.
- c. In the CPC Images Work Area pane, select the LPAR you are going to use for installation.
- d. In the Recovery pane, double-click the **Integrated 3270 Console** icon. The Integrated 3270 Console window for that LPAR opens. Messages are displayed in the Integrated 3270 Console window when the system IPLs.

3. Select the icon labeled either **Load from CD-ROM, DVD or Server** or **Load from Removable Media or Server** in the Recovery pane for the LPAR you are going to use for installation.

- a. In the Groups Work Area pane, double-click the **CPC Images** icon.
- b. In the CPC Images Work Area pane, select the LPAR you are going to use for installation.
- c. In the Recovery pane, double-click the icon labeled either **Load from CD-ROM, DVD or Server** or **Load from Removable Media or Server**. The **Load Task Window** is displayed.

4. In the task window, select one of the following:

- Hardware Management Console CD-ROM / DVD
- FTP Source

Important

Do *not* select **Hardware Management Console CD-ROM / DVD and assign for operating system use**.

If you are installing from the HMC DVD drive, select **Hardware Management Console CD-ROM / DVD**. If you are installing from an FTP server DVD drive or from an FTP server directory, select **FTP Source**.

Note: If you are installing from an FTP server directory, both the z/VM system DVD and the RSU DVD must have already been copied into the same directory on the FTP server.

5. Fill in the fields in the task window.
 - If you selected **Hardware Management Console CD-ROM / DVD**, enter /CPDVD as the file location.
 - If you selected **FTP Source** and you are using an FTP server DVD drive:
 - Specify the FTP connection information for the server (host computer, user ID, and password).
 - Enter the path information required by your FTP server (e.g. DVD drive letter or blank) to access the DVD drive, followed by /CPDVD.
 - If you selected **FTP Source** and you are using an FTP server directory:
 - Specify the FTP connection information for the server (host computer, user ID, and password).
 - Enter the path to the directory where you uploaded the z/VM system DVD and RSU DVD as the file location.

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

6. Click OK to continue. The **Select Software to Install** task window will be displayed.
7. Load the RAMDISK.
 - a. In the task window, select **620VM.ins**, and click **OK**. One or more **Confirm the Action** prompts are displayed.
 - b. Click **Yes** to continue.
 - c. Messages indicating the status of the load are displayed in the task progress window. When a message is displayed indicating the load is successful, click **OK** to close the window and return to the Integrated 3270 Console window for the LPAR you are going to use for installation.
8. The RAMDISK IPLs and the system loads with the MAINT user ID logged on. System messages are displayed in the Integrated 3270 Console window.

```

hh:mm:ss z/VM V6 R2.0
          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 *****
hh:mm:ss * LICENSED MATERIALS - PROPERTY OF IBM* *
hh:mm:ss * 5741-A07 (C) COPYRIGHT IBM CORP. 1983, 2010. ALL RIGHTS *
hh:mm:ss * RESERVED. US GOVERNMENT USERS RESTRICTED RIGHTS - USE *
hh:mm:ss * DUPLICATION OR DISCLOSURE RESTRICTED BY GSA ADP SCHEDULE *
hh:mm:ss * CONTRACT WITH IBM CORP. *
hh:mm:ss * *
hh:mm:ss * * TRADEMARK OF INTERNATIONAL BUSINESS MACHINES *
hh:mm:ss *****
hh:mm:ss
hh:mm:ss HCPZC06718I Using parm disk 1 on volume $RAMD$ (device nnnn).
hh:mm:ss HCPZC06718I Parm disk resides on blocks nnn through nnn.
hh:mm:ss HCPMLM3016I Management by the Unified Resource Manager is not available for this system
          The system logs on the MAINT user ID.

```

Load the RAMDISK

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 6 Release 2.0, 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* *timezone weekday mm/dd/yy*

hh:mm:ss SYSG LOGON AS MAINT USERS = *n*

hh:mm:ss HCPIOP952I *nnnn*M system storage

hh:mm:ss FILES: *nnnnnnnn* RDR, *nnnnnnnn* PRT, NO PUN

hh:mm:ss HCPCRC8082I Accounting records are accumulating for userid OPERACCT

hh:mm:ss HCPCRC8082I EREP records are accumulating for userid OPERACCT

DMSIND2015W Unable to access the Y-disk. File mode Y (19E) not accessed

DMSWSP327I The installation saved segment could not be loaded

z/VM V6.2.0 *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*

Step 2. Run DVDPRIME

In this step, you will:

- Run DVDPRIME

1. Run DVDPRIME with the *dasdtype* and *source* you are using to install.

```
dvdprime dasdtype (source
```

```
dasdtype
```

```
3390 or FBA
```

```
source
```

```
One of the following:
```

```
dvd           if installing from a physical  
                DVD
```

```
server       if installing from an FTP server  
                directory
```

```
**** NOW EXECUTING DVDPRIME EXEC ON date AT time ****  
HCPDVP8392I DVDPRIME EXEC ENDED SUCCESSFULLY  
Ready; T=n.nn/n.nn hh:mm:ss
```

Choose your next step

Step 3. Choose your next step

What to do next	
If this is a . . .	Then. . .
Non-SSI install	Continue with Chapter 8, "Non-SSI DVD installation method," on page 107.
SSI install	Go to Chapter 9, "SSI DVD installation method," on page 121.

Chapter 7. Set up for DVD installation

In this chapter, you will:

- Set up the user ID for installation.
- Use DVDPRIME to load the 24CC and 2CF0 minidisks.

Base your choice on which source you will use to perform a second-level installation.

If you chose to install from a . . .	Then see . . .
Physical DVD	"From a DVD drive" on page 90
FTP server directory	"From an FTP server directory" on page 94
VM minidisk	"From a VM minidisk" on page 98

From a DVD drive

Step 1. Set up the user ID for installation

In this step, you will

- Load the z/VM system DVD in the DVD drive.
- Log on to your first-level user ID.
- Restore the 2222 minidisk.

Before you begin: You need to complete DVD installation worksheets 1 (Table 7 on page 77) through 8 (Table 14 on page 80). If you have not done so, return to Chapter 5, “Step 3. Complete the installation worksheets” on page 72.

1. 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.
2. Log on to the first-level user ID that you will use for installation. Make sure the user ID meets the user ID requirements listed under Second-level installation requirements on page 70.
3. Spool the console to make sure it is empty, started, and spooled to the reader.

```
spool console close start *
RDR FILE filenum SENT FROM userid CON WAS nnnn RECS nnnn CPY nnn T NOHOLD NOKEEP
Ready;
```

4. Verify you have a 2222 read/write minidisk with exactly 10 cylinders if installing to 3390 or 14400 512-KB blocks if installing to FBA.

```
query v 2222
DASD 2222 3390 xxxxxx R/W 10 CYL ON DASD nnnn SUBCHANNEL = nnnn
Ready; T=n.nn/n.nn hh:mm:ss
```

5. Access the minidisk (*diskaddr*) that contains the INSTPIPE MODULE as file mode C. The INSTPIPE MODULE was shipped on the MAINT 2CC disk with pre-V6.2 releases. On z/VM V6.2, the INSTPIPE MODULE is shipped on the MAINT620 4CC disk.

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

6. Copy the files needed to run DVDPRIME from the DVD to the 2222 minidisk.
 - a. Run INSTPIPE.

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

- b. Copy the files from the DVD to the 2222 minidisk.

Note: The information for *host*, *userid*, *password*, and *ftpd* was recorded in DVD installation worksheet 8 (Table 14 on page 80).

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

From a DVD drive - setup the user ID for installation

host

IP address or FTP host name. An IP address is in dotted-decimal form for your IP version 4 interface. For example:

129.42.16.99

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

userid

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

password

Password for the user ID used to log on to the FTP server. Must be 40 or less alphanumeric characters.

ftpd

Path to the DVD drive with /CPDVD appended to the end of the path. The maximum length is 40 characters. For example:

mydvddrive/CPDVD
cpdvd
e:/cpdvd
vmftpd/CPDVD

ddd

CKD for 3390 or **FBA** for FBA. They must be entered in uppercase.

restcmd

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
```

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

```
DMSRXS1408W File TCP/IP DATA * not found
```

```
{MDREST|ECKDREST}: WROTE nnn {BLOCKS|TRACKS} ON 2222, RC=0
```

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

You might not receive this message.

From a DVD drive - run DVDPRIME

Step 2. Run DVDPRIME

In this step, you will:

- Run DVDPRIME to load the 24CC and 2CF0 minidisks.

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

```
ipl cms
z/VM V6.2.0   yyyy-mm-dd hh:mm
```

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

2. Access the 2222 minidisk as file mode 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 minidisk access as file mode C. 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
                                     3390 or FBA.
**** NOW EXECUTING DVDPRIME EXEC ON date AT time ****
```

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

Note: The information for HOSTNAME OR IP ADDRESS, FTP USERID, FTP PASSWORD, and DVD PATHNAME was recorded in DVD installation worksheet 8 (Table 14 on page 80).

```
*** DVDPRIME PANEL ***

Enter information in empty fields and press F5 to process.

HOSTNAME OR IP ADDRESS: _____
FTP USERID:             _____
FTP PASSWORD:           _____
DVD PATHNAME:           _____
PORT NUMBER:            21_____

F1 = HELP  F3/F12 = QUIT  F5 = Process  ENTER = Refresh
```

Figure 11. DVDPRIME Panel

HOSTNAME OR IP ADDRESS:

This field should be filled in with the IP ADDRESS or HOSTNAME of your FTP server. 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 on to the FTP server. Must be 40 or less alphanumeric characters.

FTP PASSWORD:

Password used to log on to 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. This should be the same path name used on the ftpget command in Step 1, substep 6 on page 90. The maximum length is 40 characters. For example:

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

PORT NUMBER:

The FTP server's port number. The default port number is 21.

6. Press F5 to process.

F5

```
HCPDVP8440I NOW LOADING 24CC DISK  
{FBA222*|CKD222*}  
DMSRXS1408W File TCPIP DATA * not found           You might not receive this message.  
  
{MDREST|ECKDREST}: WROTE nnnn {BLOCKS|TRACKS} ON 24CC, RC=0  
  
HCPDVP8440I NOW LOADING 2CF0 DISK  
{FBACF0*|CKDCF0*}  
DMSRXS1408W File TCPIP DATA * not found           You might not receive this message.  
  
{MDREST|ECKDREST}: WROTE nnnn {BLOCKS|TRACKS} ON 2CF0, RC=0  
  
HCPDVP8392I DVDPRIME EXEC ENDED SUCCESSFULLY  
Ready; T=n.nn/n.nn hh:mm:ss
```

What to do next

Go to "Step 3. Choose your next step" on page 105.

From an FTP server directory

Step 1. Set up the user ID for installation

In this step, you will

- Load the contents of the z/VM system DVD and the RSU DVD to an FTP server directory.
- Log on to your first-level user ID.
- Restore the 2222 minidisk.

Before you begin: You need to complete DVD installation worksheets 1 (Table 7 on page 77) through 8 (Table 14 on page 80). If you have not done so, return to Chapter 5, “Step 3. Complete the installation worksheets” on page 72.

1. Load the contents of the DVD to the FTP server directory.
 - 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. Load the contents of each DVD to the directory. After the contents of the z/VM system DVD have been loaded, load the contents of the RSU DVD to the same directory, overwriting any duplicate files.
2. Log on to the first-level user ID that you will use for installation. Make sure the user ID meets the Second-level installation requirements on page 70.
3. Spool the console to make sure it is empty, started, and spooled to the reader.

```
spool console close start *  
RDR FILE filenum SENT FROM userid CON WAS nnnn RECS nnnn CPY nnn T NOHOLD NOKEEP  
Ready;
```

4. Verify you have a 2222 read/write minidisk with exactly 10 cylinders if installing to 3390 or 14400 512-KB blocks if installing to FBA.

```
query v 2222  
DASD 2222 3390 xxxxxx R/W 10 CYL ON DASD nnnn SUBCHANNEL = nnnn  
Ready; T=n.nn/n.nn hh:mm:ss
```

5. Access the minidisk (*diskaddr*) that contains the INSTPIPE MODULE as file mode C. The INSTPIPE MODULE was shipped on the MAINT 2CC disk with pre-V6.2 releases. On z/VM V6.2, the INSTPIPE MODULE is shipped on the MAINT620 4CC disk.

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

6. Copy the files needed to run DVDPRIME to the 2222 minidisk from the FTP server.
 - a. Run INSTPIPE.

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

- b. Copy the files from the FTP server to the 2222 minidisk.

Note: The information for *host*, *userid*, *password*, and *ftpdir* was recorded in DVD installation worksheet 8 (Table 14 on page 80).

From an FTP server directory - set up the user ID for installation

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

host

IP address or FTP host name. An IP address is in dotted-decimal form for your IP version 4 interface. For example:

129.42.16.99

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

userid

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

password

Password for the user ID used to log on to the FTP server. Must be 40 or less alphanumeric characters.

ftpdir

Path to the FTP server directory where you loaded the contents of the DVD in substep 1 on page 94. The maximum length is 40 characters.

ddd

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

restcmd

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 -v BEF -DVDEOF -f ddd222*
!UNPACK! restcmd 2222
```

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

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

```
{MDREST|ECKDREST}: WROTE nnn {BLOCKS|TRACKS} ON 2222, RC=0
```

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

You might not receive this message.

From an FTP server directory - run DVDPRIME

Step 2. Run DVDPRIME

In this step, you will:

- Run DVDPRIME to load the 24CC and 2CF0 minidisks.

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

```
ipl cms
z/VM V6.2.0   yyyy-mm-dd hh:mm
```

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

2. Access the 2222 minidisk as file mode 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 minidisk access as file mode C. 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
                                     3390 or FBA.
**** NOW EXECUTING DVDPRIME EXEC ON date AT time ****
```

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

Note: The information for HOSTNAME OR IP ADDRESS, FTP USERID, FTP PASSWORD, and DVD PATHNAME was recorded in DVD installation worksheet 8 (Table 14 on page 80).

```
*** DVDPRIME PANEL ***

Enter information in empty fields and press F5 to process.

HOSTNAME OR IP ADDRESS: _____
FTP USERID:             _____
FTP PASSWORD:           _____
DVD PATHNAME:           _____
PORT NUMBER:            21_____

F1 = HELP  F3/F12 = QUIT  F5 = Process  ENTER = Refresh
```

Figure 12. DVDPRIME Panel

HOSTNAME OR IP ADDRESS:

This field should be filled in with the IP ADDRESS or HOSTNAME of your FTP server. 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**

From an FTP server directory - run DVDPRIME

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 on to the FTP server. Must be 40 or less alphanumeric characters.

FTP PASSWORD:

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

DVD PATHNAME:

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

```
mydvddrive/ftpdir  
e:/dirname  
vmftpdir
```

PORT NUMBER:

The FTP server's port number. The default port number is 21.

6. Press F5 to process.

F5

```
HCPDVP8440I NOW LOADING 24CC DISK  
{FBA222*|CKD222*}  
DMSRXS1408W File TCPIP DATA * not found           You might not receive this message  
  
{MDREST|ECKDREST}: WROTE nnnn {BLOCKS|TRACKS} ON 24CC, RC=0  
  
HCPDVP8440I NOW LOADING 2CF0 DISK  
{FBACF0*|CKDCF0*}  
DMSRXS1408W File TCPIP DATA * not found           You might not receive this message.  
  
{MDREST|ECKDREST}: WROTE nnnn {BLOCKS|TRACKS} ON 2CF0, RC=0  
  
HCPDVP8392I DVDPRIME EXEC ENDED SUCCESSFULLY  
Ready; T=n.nn/n.nn hh:mm:ss
```

What to do next

Go to "Step 3. Choose your next step" on page 105.

From a VM minidisk

Step 1. Set up the user ID for installation

In this step, you will

- Log on to your first-level user ID.
- Copy the contents of the z/VM system DVD and the RSU DVD to a VM minidisk.
- Restore the 2222 minidisk.

Before you begin: You need to complete DVD installation worksheets 1 (Table 7 on page 77) through 8 (Table 14 on page 80). If you have not done so, return to Chapter 5, “Step 3. Complete the installation worksheets” on page 72.

1. Log on to the first-level user ID that you will use for installation. Make sure the user ID meets the user ID requirements listed under Second-level installation requirements on page 70.
2. Link to the VM minidisk that you will use to load files from the DVD. The VM minidisk needs to have the equivalent of at least 4500 cylinders of available 3390 DASD. The minidisk must not contain any other image files. You must link the minidisk in write mode.

Note: The information for *userid* and *diskaddr* was recorded in DVD installation worksheet 8 (Table 14 on page 80).

```
link userid diskaddr diskaddr MR
Ready; T=n.nn/n.nn hh:mm:ss
```

3. Access the VM minidisk as file mode W.

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

```
diskaddr
Address of the CMS-formatted VM minidisk
where the DVD files are to be copied.
```

4. Link to the 592 TCP/IP client code minidisk.

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

5. Access the 592 TCP/IP client code minidisk as file mode Z.

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

6. Set the terminal to alert you one second after CP issues the MORE... status and to clear one second after the alert.

```
terminal more 1 1
Ready;
```

7. Copy the contents of the z/VM system DVD to the VM minidisk accessed as file mode W.

Note: If you have an FTP server with access to a DVD drive, continue with this substep. If you do not have an FTP server with access to a DVD drive, you can use the upload function of your terminal emulator to copy the contents of the z/VM system DVD and the RSU DVD to the

From a VM minidisk - set up the user ID for installation

minidisk. See Appendix K, "Using a terminal emulator to upload files from a DVD," on page 227. After uploading the files using your terminal emulator, continue with substep 12 on page 102.

- 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. Start an FTP session.

```
ftp
VM TCP/IP FTP Level nnn
```

- c. Connect to the FTP server. Enter the FTP server IP address or host name (*host*), the user ID used to log on to the FTP server (*userid*), and the password for the user ID used to log on to the FTP server (*password*).

Note: The information for *host*, *userid*, *password*, and *ftpd* was recorded in DVD installation worksheet 8 (Table 14 on page 80).

```
OPEN (name of foreign host):
host

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

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

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

- d. Change the remote directory to the FTP path of the DVD drive (*ftpd*) with /CPDVD appended to the end of the path. For example, *e:/CPDVD*.

```
Command:
cd ftpdir/CPDVD

>>>CWD ftpdir/CPDVD
250 Directory changed to ftpdir/CPDVD
```

- e. Change the local directory to *W*.

```
Command:
!cd w

Local directory mode is 'W'
```

- f. Set the file transfer mode to **binary**, the record format to **fixed**, and the record length to **1028**.

```
Command:
binary f 1028

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

- g. Copy all required files from the z/VM system DVD.

From a VM minidisk - set up the user ID for installation

```
mget ddd*
```

```
ddd
```

CKD for 3390 or FBA for FBA (SCSI). They 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.
>>>PORT host
200 PORT Command successful.
>>>RETR dddnnnnn
150 Opening BINARY mode data connection for dddnnnnn (nnnnnn Bytes).
nnnnnn bytes transferred.
226 Transfer complete.
nnnnnn bytes transferred in nn.nnn seconds. Transfer rate nnn.nn Kbytes/sec.
:
```

- h. When all files have been transferred, quit the FTP session.

```
Command:
```

```
quit
```

```
>>>QUIT
221 Goodbye!
Ready;
```

8. Verify that all of the files copied from the z/VM system DVD have a **fixed** (F) file format and a logical record length (LRECL) of **1028**.

If the file format or logical record length of any file is incorrect, then the files were copied incorrectly. Erase all of the files from the minidisk and copy the contents of the z/VM system DVD again, using the correct parameters. Repeat substep 7 on page 98.

```
filelist * $default w
```

```
Cmd  Filename Filetype Fm Format Lrecl  Records  Blocks  Date  Time
    xxx22200 $DEFAULT W1 F    1028    nnnn     nnn     dddd   tttt
    :
```

9. If you used your terminal emulator to upload the contents of the RSU DVD, skip to substep 12 on page 102. Otherwise, copy the contents of the RSU DVD to the same VM minidisk used for the z/VM system DVD.
- Load the 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.
 - Start an FTP session.

```
ftp
```

```
VM TCP/IP FTP Level nnn
```

- C. Connect to the FTP server. Enter the FTP server IP address or host name (*host*), the user ID used to log on to the FTP server (*userid*), and the password for the user ID used to log on to the FTP server (*password*).

From a VM minidisk - set up the user ID for installation

Note: The information for *host*, *userid*, *password*, and *ftplib* was recorded in DVD installation worksheet 8 (Table 14 on page 80).

```
OPEN (name of foreign host):
host

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

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

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

- d. Change the remote directory to the FTP path of the DVD drive (*ftplib*) with */CPDVD* appended to the end of the path. For example, *e:/CPDVD*.

```
Command:
cd ftplib/CPDVD

>>>CWD ftplib/CPDVD
250 Directory changed to ftplib/CPDVD
```

- e. Change the local directory to *W*.

```
Command:
!cd w

Local directory mode is 'W'
```

- f. Set the file transfer mode to **binary**, the record format to **fixed**, and the record length to **1028**.

```
Command:
binary f 1028

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

- g. Copy all required files from the RSU DVD.

```
mget ddd* (replace
```

ddd

CKD for 3390 or **FBA** for FBA (SCSI). They must be entered in uppercase.

From a VM minidisk - set up the user ID for installation

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

h. When all files have been transferred, quit the FTP session.

```
Command:
quit

>>>QUIT
221 Goodbye!
Ready;
```

10. Verify that all of the files copied from the RSU DVD have a **fixed** (F) file format and a logical record length (LRECL) of **1028**.

If the file format or logical record length of any file is incorrect, then the files were copied incorrectly. Erase all of the *500* files from the minidisk and copy the contents of the RSU DVD again, using the correct parameters. Repeat substep 9 on page 100.

```
filelist *500* $default w
```

```
Cmd  Filename Filetype Fm Format Lrecl  Records  Blocks  Date  Time
      CKD50000 $DEFAULT W1 F    1028   nnnn    nnn    dddd  tttt
      :
```

11. The FTP 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;
```

12. Set the terminal to alert you 50 seconds after CP issues the MORE... status and to clear 10 seconds after the alert.

```
terminal more 50 10
Ready;
```

13. Spool the console to make sure it is empty, started, and spooled to the reader.

```
spool console close start *
RDR FILE filenum SENT FROM userid CON WAS nnnn RECS nnnn CPY nnn T NOHOLD NOKEEP
Ready;
```

From a VM minidisk - set up the user ID for installation

14. Verify you have a 2222 read/write minidisk of exactly 10 cylinders if installing to 3390 or 14400 512-KB blocks if installing to FBA .

```
query v 2222
DASD 2222 3390 xxxxxx R/W      10 CYL ON DASD  nnnn SUBCHANNEL = nnnn
Ready; T=n.nn/n.nn hh:mm:ss
```

15. Access the minidisk (*diskaddr*) that contains the INSTPIPE MODULE as file mode C. The INSTPIPE MODULE was shipped on the MAINT 2CC disk with pre-V6.2 releases. On z/VM V6.2, the INSTPIPE MODULE is shipped on the MAINT620 4CC disk.

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

16. Copy the files needed to run DVDPRIME to the 2222 minidisk.

- a. Run INSTPIPE.

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

- b. Decode, unpack, and write the files needed to run DVDPRIME to the 2222 minidisk.

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

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

ddd

CKD for 3390 or **FBA** for FBA. They must be entered in uppercase.

restcmd

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
```

From a VM minidisk - run DVDPRIME

Step 2. Run DVDPRIME

In this step, you will:

- Run DVDPRIME to load the 24CC and 2CF0 minidisks.

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

```
ipl cms
z/VM V6.2.0   yyyy-mm-dd hh:mm
```

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

2. Access the minidisk that contains the image files as file mode W.

```
access diskaddr w                               diskaddr
Ready; T=n.nn/n.nn hh:mm:ss                    Address of the minidisk where the image files
                                                were copied.
```

3. Access the 2222 minidisk as file mode 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 minidisk access as file mode C.
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                          dasdtype
                                                3390 or FBA.

**** NOW EXECUTING DVDPRIME EXEC  ON date AT time ****
HCPDVP8440I NOW LOADING 24CC DISK
DMSRXS1408W File TCPIP DATA * not found          You might not receive this message.
{MDREST|ECKDREST}: WROTE nnnn {BLOCKS|TRACKS} ON 24CC, RC=0
HCPDVP8440I NOW LOADING 2CF0 DISK
DMSRXS1408W File TCPIP DATA * not found          You might not receive this message.
{MDREST|ECKDREST}: WROTE nnnn {BLOCKS|TRACKS} ON 2CF0, RC=0
HCPDVP8392I DVDPRIME EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss
```

Step 3. Choose your next step**What to do next**

If this is a . . .	Then. . .
Non-SSI install	Continue with Chapter 8, "Non-SSI DVD installation method," on page 107.
SSI install	Go to Chapter 9, "SSI DVD installation method," on page 121.

Choose your next step

Chapter 8. Non-SSI DVD installation method

In this chapter, you will:

- Install a non-SSI z/VM system

Step 1. Run INSTPLAN

In this step, you will:

- Run INSTPLAN.

1. Verify that the correct minidisk (VDEV) is accessed as file mode C. If installing second-level, the disk address is 24CC. If installing first-level, the disk address is 4CC.

```
query disk c
```

```
LABEL  VDEV  M  ...
MNT4CC addr  C  ...
Ready; T=n.nn/n.nn hh:mm:ss
```

2. If you are installing to FBA (SCSI) volumes, see DVD installation worksheet 4 (Table 10 on page 78) and query each address to verify it is not already defined for a different device (see example below). If the address is already in use, either detach the device or choose a different *dasdaddr* and verify that address does not exist.

For each address:

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

Record any changed addresses in the **Address** column in DVD installation worksheet 4 (Table 10 on page 78).

3. Run INSTPLAN with the DVD operand.

```
instplan DVD
```

```

*** z/VM INSTALLATION PLANNING ***

Mark the product(s) selected to be installed into the filepool with an "F"
and those selected to be installed to minidisks with an "M"
M      VM      M      OSA      M      PERFTK
M      VMHCD   M      RACF     M      DIRM
M      RSCS    M      ICKDSF   M      TCPIP

Select a System Default Language.
_ AMENG      _ UCENG      _ KANJI

Select a System DASD model. FBA size can be changed.
_ 3390 Mod 3  _ 3390 Mod 9  _ FBA DASD 6.0

Enter name for common service filepool.
Filepool Name: _____

Select a System Type: Non-SSI or SSI (SSI requires the SSI feature)
_ Non-SSI Install:   System Name _____
_ SSI Install:      Number of Members _   SSI Cluster Name _____

F1 = HELP      F3/F12 = QUIT      F5 = Process      ENTER = Refresh

```

Figure 13. Installation Planning Panel

- a. See DVD installation worksheet 1 (Table 7 on page 77) 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 file pool.
- b. Place a nonblank character next to the *System Default Language* you selected for your system on DVD installation worksheet 1 (Table 7 on page 77).
 - c. Place a nonblank character in front of the DASD model that matches the *DASD type and model* you will use, recorded on DVD installation worksheet 1 (Table 7 on page 77). For FBA, update the volume size if you are using an FBA volume other than 6.0 GB.
 - d. Fill in the *Filepool Name* for the common service filepool.
 - e. Place a nonblank character in front of the type of install you selected for your system on DVD installation worksheet 1 (Table 7 on page 77) – in this case, *Non-SSI Install*.
 - f. Fill in the *System Name*.
 - g. Press F5 to process your selections.

F5

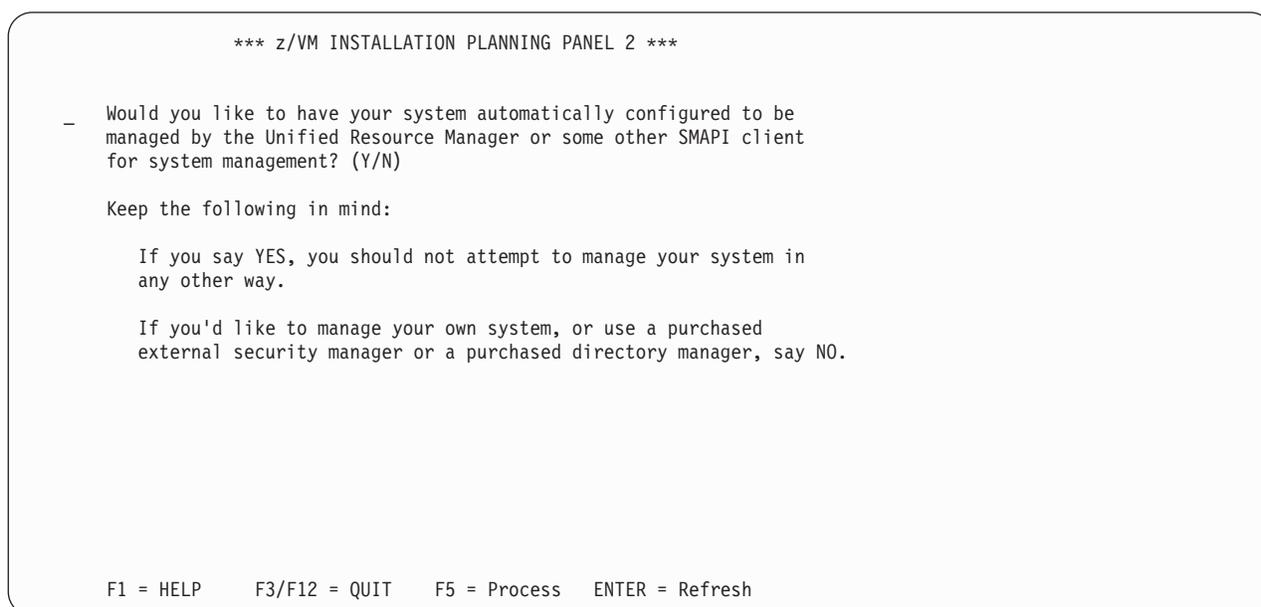


Figure 14. Installation Planning Panel 2

- h. Refer to DVD installation worksheet 2 (Table 8 on page 77):
 - If you will be using the System Management Application Programming Interface (SMAPI) function, enter Y. Otherwise, enter N.
- i. Press F5 to process your selections.

F5

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

Run INSTPLAN

HCPIPX8475I THE PRODUCTS YOU SELECTED TO LOAD TO MINIDISK ARE:
VM OSA PERFTK VMHCD RACF DIRM RSCS ICKDSF TCPIP

THE PRODUCTS YOU SELECTED TO LOAD TO SFS ARE:
NONE

THE SYSTEM DEFAULT LANGUAGE SELECTED:
AMENG

THE COMMON SERVICE FILEPOOL NAME IS:
poolname

THE INSTALL TYPE YOU SELECTED IS:
Non-SSI

SYSTEM NAME IS:
sysname

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

THE VOLUMES NEEDED TO LOAD z/VM ARE:
COMMON: VMCOM1 VMCOM2
RELEASE: 620RL1 620RL2
SYSTEM: M01RES M01S01 M01P01 M01W01

DO YOU WANT TO CONTINUE ? (Y|N)

Compare the information listed in the response from the INSTPLAN command to the information listed in your DVD installation worksheets. Ensure that the information filled in on the worksheets matches what is listed in this response.

y

4. Continue with the following steps to fill in the Installation Volume Definition panel.

```
*** z/VM INSTALLATION VOLUME DEFINITION ***

TYPE LABEL ADDRESS FORMAT (Y/N)
=====
COMMON VMCOM1 _____ -
COMMON2 VMCOM2 _____
RELVOL 620RL1 _____
RELVOL2 620RL2 _____

TYPE LABEL ADDRESS
=====
sysname
RES M01RES _____
SPOOL M01S01 _____
PAGE M01P01 _____
WORK M01W01 _____

F1 = HELP F3/F12 = QUIT F5 = Process ENTER = Refresh
```

Figure 15. Installation Volume Definition (Non-SSI Only)

- a. If you do not want use a default volume label, then enter a new label (recorded on DVD installation worksheet 3, Table 9 on page 78) in the **LABEL** field.
- b. Fill in the volume addresses using the information from DVD installation worksheet 3 (Table 9 on page 78) for 3390, or DVD installation worksheet 4 (Table 10 on page 78) for FBA. For more information and help, press F1.
- c. Fill in the **FORMAT (Y/N)** column with **Y** to CP format your installation volumes or **N** to not format your installation volumes. Specify **N** only if you have already CP formatted your volumes for this installation using ICKDSF or CPFMTXA. If you specify **N**, the volumes will be labeled, but not formatted.
- d. Press F5 to process.

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

F5

```
HCPIIX8377R YOU HAVE SELECTED TO FORMAT YOUR DASD.
           DASD SELECTED ARE:
```

```
HCPIIX8483R YOU HAVE SELECTED NOT TO FORMAT YOUR DASD.
           THIS ASSUMES THEY HAVE ALREADY BEEN FORMATTED.
           DASD SELECTED ARE:
```

```
      lblcom      dasdaddr
      lblcm2      dasdaddr
      lblrl1      dasdaddr
      lblrl2      dasdaddr
      lblres      dasdaddr
      lblspl      dasdaddr
      lblpag      dasdaddr
      lblw01      dasdaddr
```

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

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

5. Compare the information listed in the response from the INSTPLAN command to the information on your DVD installation worksheets. Ensure that the information filled in on the worksheets matches what is listed in this response.

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 8 on page 113.
2. If the SCSI volumes you are installing to are defined as minidisks on your installation user ID, skip to substep 7 on page 113.
3. If the SCSI volumes you are installing to have already been defined either in the SYSTEM CONFIG or by using the SET EDEVICE command, skip to substep 6. If not yet defined, continue with the next substep.

4. To define the SCSI volumes, you need to know which FCP addresses are valid for your SCSI volumes.

If you know the FCP address or the range of addresses associated with your SCSI volume addresses skip this substep.

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
```

5. To define the SCSI volumes, use the information recorded in DVD installation worksheet 4 (Table 10 on page 78).

For each DASD volume:

- a. Select and record a free FCP address for each *edev*. You should use one FCP device for the 620RES and a different (or multiple different) FCPs for the other volumes.

query fcp free

Choose a device from the output. Record a FCP address for each *edev* in the **FCP Address** column on DVD installation worksheet 6 (Table 12 on page 79).

- b. Define the device address.

```
set edevice dasdaddr type fba attr scsi fcp_dev fcpn wwpn www lun l11
```

dasdaddr

The *edev* address from DVD installation worksheet 6 (Table 12 on page 79).

fcpn

FCP address (you should use one FCP device for the 620RES and a different, or multiple different, FCPs for the other disks).

www

World Wide port number.

l11

LUN address.

6. Vary on any SCSI volumes not already online. Repeat this substep for each volume.

Verify the volumes needed for installation are available

vary on *dasdaddr*

7. Note the following changes needed in the SYSTEM CONFIG file for future IPLs.
 - When performing a second-level installation to SCSI volume, 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 volumes 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, see *z/VM: CP Planning and Administration*.

8. Attach each DASD volume listed on DVD installation worksheet 3 (Table 9 on page 78) or 4 (Table 10 on page 78) that is not already attached. Enter the following ATTACH command for each volume:

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

dasdaddr
Address of the DASD volume.

userid
First-level user ID logged on to
previously.

Attention: Issue the QUERY DASD ATTACH * command to verify there are no DASD attached to your user ID with the same label as those being used for installation. You must detach any duplicate-labeled DASD from your user ID to prevent bringing them online.

Run INSTALL to install your new system

Step 3. Run INSTALL to install your new system

In this step, you will:

- Run INSTALL to install your new system.

1. Run INSTALL to install your new system.

Note: You must *not* disconnect your installation user ID. The installation procedure will IPL the z/VM system a number of times and these will fail if the user ID is running disconnected.

```
install
HCPIIS8490I NOW FORMATTING|LABELING VOLUME dasdaddr (1 OF n)
:
HCPIIS8490I NOW FORMATTING|LABELING VOLUME dasdaddr (n OF n)
:
HCPIIS8380I RESTORING IIS TO lblcom lblrll lblres and lblspl

HCPIIS8341I LOAD OF THE SYSTEM IIS TO COMMON VOLUME COMPLETED SUCCESSFULLY
HCPIIS8341I LOAD OF THE SYSTEM IIS TO RELEASE VOLUME COMPLETED SUCCESSFULLY
HCPIIS8341I LOAD OF THE SYSTEM IIS TO MEMBER RES VOLUME COMPLETED SUCCESSFULLY
HCPIIS8341I LOAD OF THE SYSTEM SPOOL SPACE COMPLETED SUCCESSFULLY

HCPIIS8490I NOW ALLOCATING DASD dasdaddr (COMMON VOLUME)
HCPIIS8490I NOW ALLOCATING DASD dasdaddr (RELVOL VOLUME)
HCPIIS8490I NOW ALLOCATING DASD dasdaddr (RES VOLUME)
HCPIIS8490I NOW ALLOCATING DASD dasdaddr (RES VOLUME)
HCPIIS8490I NOW ALLOCATING DASD dasdaddr (SPOOLING)
HCPIIS8490I NOW ALLOCATING DASD dasdaddr (PAGING)
HCPIIS8341I WRITING OWNERSHIP FOR sysname TO spladdr lblspl COMPLETED SUCCESSFULLY
HCPIIS8341I WRITING OWNERSHIP FOR sysname TO pagaddr lblpag COMPLETED SUCCESSFULLY
HCPIIDV8341I CREATION OF USER DIRECTORY COMPLETED SUCCESSFULLY

HCPILB8440I NOW LOADING userid cuu (alias) DISK 1 OF nnn
HCPILB8440I NOW LOADING userid cuu (alias) DISK 2 OF nnn
HCPILB8440I NOW LOADING userid cuu (alias) DISK 3 OF nnn
:
HCPILB8440I NOW LOADING userid cuu (alias) DISK nnn OF nnn
```

Messages received if installing from a physical DVD

```
HCPIRU8484R PLEASE PLACE THE SYSTEM RSU DVD
IN THE DRIVE, THEN TYPE GO TO
CONTINUE OR TYPE EXIT TO QUIT.
```

```
go
```

```
HCPIRU8440I NOW LOADING MAINT620 500 DISK
HCPIRU8341I LOAD OF SYSTEM RSU COMPLETED SUCCESSFULLY
```

Place the RSU DVD in the DVD drive and wait until the light on the DVD drive goes out or stops blinking, then enter **go**.

If you enter **exit**, your installation will *not* be complete. You must rerun the INSTALL command and enter **go** to load the RSU files before you can continue to the next step.

If the installation fails while loading the RSU DVD, issue INSTALL to try again.

Messages received if installing first-level

```

HCPIDV8341I USER DIRECTORY HAS BEEN BROUGHT ONLINE SUCCESSFULLY
HCPIDV8341I SALIPL COMMAND HAS COMPLETED SUCCESSFULLY
:
:
HCPIWF8338I NOW EXECUTING COPY OF CF0 and 4CC STEP
:
:
HCPIDV8392I INSTDVD EXEC ENDED SUCCESSFULLY
    
```

Messages received if installing second-level

```

HCPIDV8341I USER DIRECTORY HAS BEEN BROUGHT ONLINE SUCCESSFULLY
HCPIDV8341I SALIPL COMMAND HAS COMPLETED SUCCESSFULLY
HCPIWF8341I {MDDUMP|ECKDDUMP} OF 2CF0 COMPLETED SUCCESSFULLY
HCPIWF8338I NOW EXECUTING COPY OF 24CC TO 4CC STEP
HCPIWF8341I {MDDUMP|ECKDDUMP} OF 24CC COMPLETED SUCCESSFULLY
HCPIDV8392I INSTDVD EXEC ENDED SUCCESSFULLY
    
```

```

*****
*      NOW IPLing VOLUME dasdaddr      *
*      WITH COMMAND:                    *
*      CP SYSTEM CLEAR                  *
*      TERMINAL CONMODE 3270            *
*      SET MACHINE ESA                  *
*      IPL dasdaddr CLEAR                *
*****
    
```

hh:mm:ss z/VM V6 R2.0 SERVICE LEVEL 0000 (64-BIT)

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

hh:mm:ss

hh:mm:ss *****

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

hh:mm:ss * 5741-A07 (C) COPYRIGHT IBM CORP. 1983, 2010. ALL RIGHTS *

hh:mm:ss * RESERVED. US GOVERNMENT USERS RESTRICTED RIGHTS - USE *

hh:mm:ss * DUPLICATION OR DISCLOSURE RESTRICTED BY GSA ADP SCHEDULE *

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

hh:mm:ss *

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

hh:mm:ss *****

hh:mm:ss

hh:mm:ss HCPZC06718I Using parm disk 1 on volume *lblcom* (device *nnnn*).

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

:

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

hh:mm:ss HCPWRS2513I

hh:mm:ss HCPWRS2513I Spool files available *nnnn*

Run INSTALL to install your new system

```
hh:mm:ss HCPWRS2512I Spooling initialization is complete.
hh:mm:ss DASD nnnn dump unit CP IPL pages nnnn
hh:mm:ss HCPMLM3016I Management by the Unified Resource Manager is not available for this system
hh:mm:ss HCPAAU2700I System gateway sysname identified.
hh:mm:ss HCPLNM101E DASD 0CF1 forced R/O; R/O by SYSTEM; stable by SYSTEM
hh:mm:ss HCPLNM101E DASD 0CF3 forced R/O; R/O by SYSTEM; stable by SYSTEM
hh:mm:ss z/VM Version 6 Release 2.0, 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 timezone weekday mm/dd/yy
hh:mm:ss GRAF nnnn LOGON AS MAINT620 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
```

```
z/VM V6.2.0 yyyy-mm-dd hh:mm
```

```
hh:mm:ss AUTO LOGON *** OP1 USERS = 2 BY MAINT620
hh:mm:ss HCPCLS6056I XAUTOLOG information for OP1: The IPL command is verified by the
IPL command processor.
```

```
HCPPLD8341I POSTLOAD PROCESSING STARTED
```

```
DMSACC724I 4CC replaces C (4CC)
HCPiFP8493I ISSUING XAUTOLOG FOR VMSERVU
AUTO LOGON *** VMSERVU USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVU: The IPL command is verified by the IPL
command processor.
```

```
HCPiFP8493I ISSUING XAUTOLOG FOR VMSERVR
AUTO LOGON *** VMSERVR USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVR: The IPL command is verified by the IPL
command processor.
```

```
HCPiFP8493I ISSUING XAUTOLOG FOR VMSERVS
AUTO LOGON *** VMSERVS USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVS: The IPL command is verified by the IPL
command processor.
```

```
USER DSC LOGOFF AS VMSERVR USERS = n FORCED BY MAINT620
HCPiFP8493I ISSUING XAUTOLOG FOR VMSERVR
AUTO LOGON *** VMSERVR USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVR: The IPL command is verified by the IPL
command processor.
```

```
HCPiFP8493I ISSUING XAUTOLOG FOR VMSERVP
AUTO LOGON *** VMSERVP USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVP: The IPL command is verified by the IPL
command processor.
```

```
HCPiFP8338I UPDATING SYSTEM TABLES AND CLEANING UP FILEPOOL DIRECTORIES
```

```
USER DSC LOGOFF AS VMSERVP USERS = n FORCED BY MAINT620 You will receive these messages if you did
DASD 917 DETACHED not select VMPSFS as the common service
HCPiFP8493I ISSUING XAUTOLOG FOR VMSERVP filepool name.
AUTO LOGON *** VMSERVP USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVP: The IPL command is verified by the
IPL command processor.
```

Run INSTALL to install your new system

DASD 0193 DETACHED
z/VM V6.2.0 *yyyy-mm-dd hh:mm*
DMSWSP100W Shared S-STAT not available

AUTO LOGON *** BLDCMS USERS = *n*
HPCPCFX6768I SECUSER of BLDCMS initiated for you by BLDCMS.
HCPNSD440I The Named Saved System (NSS) CMS was successfully defined in fileid *nnnn*
BLDCMS : CONNECT= *nn:nn:nn* VIRTCPU= *nnn:nn:nn* TOTCPU= *nnn:nn:nn*
BLDCMS : LOGOFF AT *hh:mm:ss* EST MONDAY *mm/dd/yy* BY MAINT620
USER DSC LOGOFF AS BLDCMS USERS = *n* FORCED BY MAINT620

AUTO LOGON *** BLDCMS USERS = *n*
HPCPCFX6768I SECUSER of BLDCMS initiated for you by BLDCMS.
DMSACC724I 493 replaces Z (493)
HCPNSD440I The Named Saved System (NSS) ZCMS was successfully defined in fileid *nnnn*
BLDCMS : CONNECT= *nn:nn:nn* VIRTCPU= *nnn:nn:nn* TOTCPU= *nnn:nn:nn*
BLDCMS : LOGOFF AT *hh:mm:ss* EST MONDAY *mm/dd/yy* BY MAINT620
USER DSC LOGOFF AS BLDCMS USERS = *n* FORCED BY MAINT620

* NOW EXECUTING SERVICE ALL *rsuname*

***** SERVICE messages *****

* NOW EXECUTING PUT2PROD *

***** PUT2PROD messages *****

* INSTCOMP NOW ISSUING SHUTDOWN REIPL *

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

hh:mm:ss HCPWRP963I SHUTDOWN STEP USOAC - JOURNAL USER TERMINATION

⋮

hh:mm:ss z/VM SYSTEM RESTART FROM SHUTDOWN REIPL
hh:mm:ss z/VM V6 R2.0 SERVICE LEVEL *nnnn* (64-BIT)

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

hh:mm:ss

hh:mm:ss *****

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

hh:mm:ss * 5741-A07 (C) COPYRIGHT IBM CORP. 1983, 2010. ALL RIGHTS *

hh:mm:ss * RESERVED. US GOVERNMENT USERS RESTRICTED RIGHTS - USE *

hh:mm:ss * DUPLICATION OR DISCLOSURE RESTRICTED BY GSA ADP SCHEDULE *

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

hh:mm:ss * *

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

hh:mm:ss *****

hh:mm:ss

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

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

hh:mm:ss HCPMLM3016I Management by the Unified Resource Manager is not available for this system

Run INSTALL to install your new system

```
hh:mm:ss The directory on volume lblres 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 timezone weekday mm/dd/yy
:
hh:mm:ss HCPIOP952I nnnnM system storage
hh:mm:ss FILES: nnnnnnn RDR, nnnnnnn PRT, NO PUN
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 timezone weekday mm/dd/yy
hh:mm:ss Press enter or clear key to continue
```

ENTER

Press Enter or the Clear key to continue.

Step 4. Log on to the new system

In this step, you will:

- Log on to the new system.

1. Log on as MAINT620.

```
logon maint620
:
Ready; T=n.nn/n.nn hh:mm:ss
```

The password for MAINT620 is MAINT620.

Step 5. IPL the new system

In this step, you will:

- IPL the V6.2 system.

1. If this is a first-level installation, you are done with the RAMDISK.

a. Shut down the new system.

```
shutdown
```

b. Shut down the RAMDISK system.

```
shutdown system ibmvmram
```

c. IPL the new system from the HMC.

2. If this is a second-level installation, and this is *not* where you plan to run your new system, shut down the system and then IPL where you wish the new system to run.

Note: The default SYSTEM CONFIG file allows the following console addresses: 20, 21, 22, 23, F20, F21, 1020. If your console is *not* one of these addresses, either redefine your console or IPL with the **LOADPARM** *consaddr* option. If you use the **LOADPARM** option, include **cons=consaddr** as an IPL parameter on the z/VM Stand Alone Program Loader (SAPL) panel.

What to do next

Go to Part 3, "Post z/VM system installation," on page 143.

Chapter 9. SSI DVD installation method

In this chapter, you will:

- Install a z/VM SSI cluster.

Step 1. Run INSTPLAN

In this step, you will:

- Run INSTPLAN.

1. Verify that the correct minidisk (VDEV) is accessed as file mode C. If second-level, the disk address is 24CC. If first-level, the disk address is 4CC.

query disk c

```
LABEL  VDEV  M  ...
MNT4CC addr  C  ...
Ready; T=n.nn/n.nn hh:mm:ss
```

2. Run INSTPLAN with the DVD operand.

instplan DVD

*** z/VM INSTALLATION PLANNING ***

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

M	VM	M	OSA	M	PERFTK
M	VMHCD	M	RACF	M	DIRM
M	RSCS	M	ICKDSF	M	TCPIP

Select a System Default Language.

_ AMENG _ UCENG _ KANJI

Select a System DASD model. FBA size can be changed.

_ 3390 Mod 3 _ 3390 Mod 9 _ FBA DASD 6.0

Enter name for common service filepool.

Filepool Name: _____

Select a System Type: Non-SSI or SSI (SSI requires the SSI feature)

_ Non-SSI Install: System Name _____
_ SSI Install: Number of Members _ SSI Cluster Name _____

F1 = HELP F3/F12 = QUIT F5 = Process ENTER = Refresh

Figure 16. Installation Planning Panel

- a. See DVD installation worksheet 1 (Table 7 on page 77) 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 file pool.
- b. Place a nonblank character next to the *System Default Language* you selected for your system on DVD installation worksheet 1 (Table 7 on page 77).
- c. Place a nonblank character in front of the DASD model that matches the *DASD type and model* you will use, recorded on DVD installation worksheet 1 (Table 7 on page 77).
- d. Fill in the *Filepool Name* for the common service filepool.
- e. Place a nonblank character in front of the type of install you selected for your system on DVD installation worksheet 1 (Table 7 on page 77) – in this case *SSI Install*.
- f. Fill in the *Number of Members* and the *SSI Cluster Name*.

- g. Press F5 to process your selections.
3. Continue with the following step to confirm that you have ordered the IBM z/VM Single System Image Feature, and to accept the licensing terms and conditions.

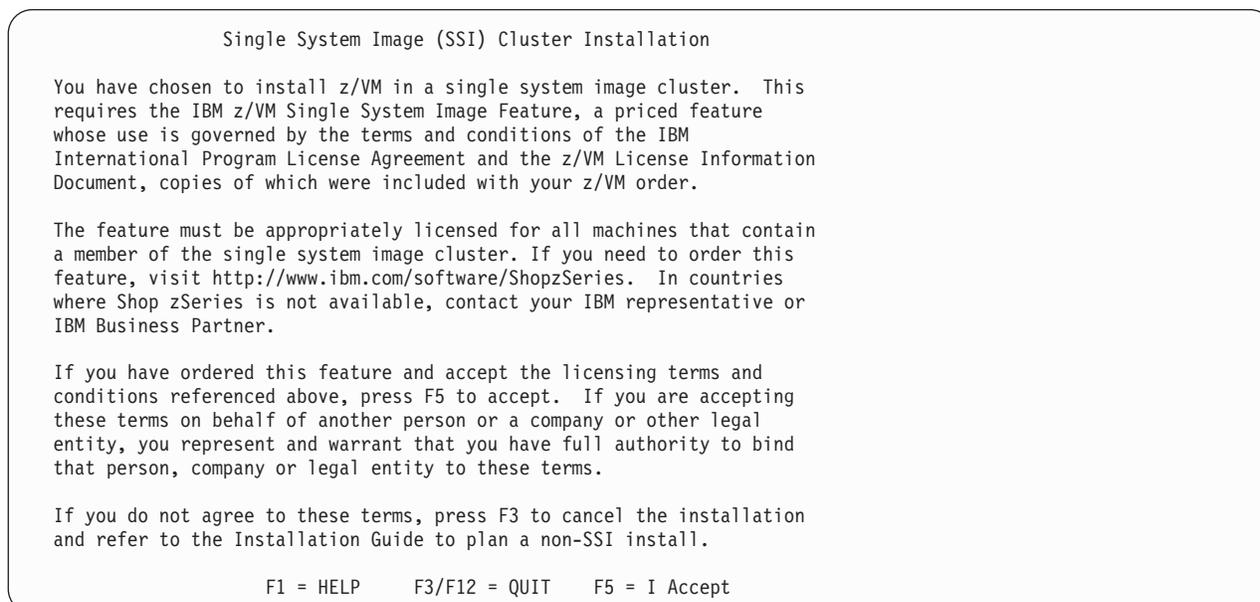


Figure 17. Single System Image Cluster Installation Panel (SSI Only)

- a. Press F5 to accept these terms and continue processing.
4. Complete the Installation Planning Panel 2, as appropriate to your system.

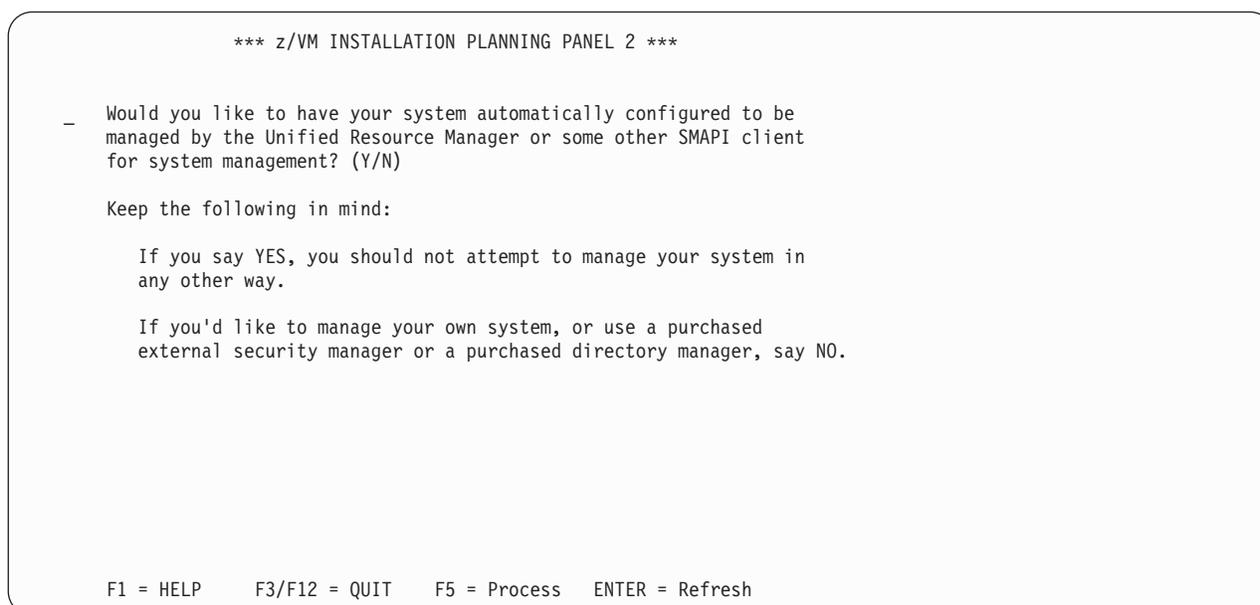


Figure 18. Installation Planning Panel 2

- a. Refer to DVD installation worksheet 2 (Table 8 on page 77):
 - If you will be using the System Management Application Programming Interface (SMAPI) function, enter Y. Otherwise, enter N.

Run INSTPLAN

- b. Press F5 to process your selections.

F5

5. Continue with the following steps to fill in the Installation Planning Panel 3.

```
*** z/VM INSTALLATION PLANNING PANEL 3 ***

SSI Cluster Name:  ssiclustername

After installation is complete, the SSI cluster will be IPLed :

_  First-Level
_  Second-Level

SSI Member Name(s):

SLOT #      MEMBER NAME      IPL LPAR/USERID
=====
 1          _____
 2          _____
 3          _____
 4          _____

F1 = HELP  F3/F12 = QUIT  F5 = Process  ENTER = Refresh
```

Figure 19. Installation Planning Panel 3 (SSI Only)

- a. See DVD installation worksheet 5 (Table 11 on page 78) and enter a nonblank character next to:
- *First-Level* if the SSI will be IPLed first-level after installation is complete.
 - *Second-Level* if the SSI will continue to be IPLed second-level after installation is complete.
- b. Fill in the member name for each member.
- c. If, after installation is complete, the SSI will be IPLed:
- First-level, fill in the LPAR name for each member.
 - Second-level, fill in the user ID that will be used to IPL each member.
- d. Press F5 to process your selections.

F5

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

HCPIPX8475I THE PRODUCTS YOU SELECTED TO LOAD TO MINIDISK ARE:
VM OSA PERFTK VMHCD RACF DIRM RSCS ICKDSF TCPIP

THE PRODUCTS YOU SELECTED TO LOAD TO SFS ARE:
NONE

THE SYSTEM DEFAULT LANGUAGE SELECTED:
AMENG

THE COMMON SERVICE FILEPOOL NAME IS:
poolname

THE INSTALL TYPE YOU SELECTED IS:
SSI

THE SSI CLUSTER NAME IS:
ssiname

THE NUMBER OF MEMBERS IS:
n

MEMBER NAME 1:	<i>memname</i>	LPAR/USERID 1:	<i>lparname</i>
MEMBER NAME 2:	<i>memname</i>	LPAR/USERID 2:	<i>lparname</i>
MEMBER NAME 3:	<i>memname</i>	LPAR/USERID 3:	<i>lparname</i>
MEMBER NAME 4:	<i>memname</i>	LPAR/USERID 4:	<i>lparname</i>

AFTER INSTALLATION IS COMPLETE, MEMBERS WILL BE IPLed FROM:
level

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

THE VOLUMES NEEDED TO LOAD z/VM ARE:
COMMON: VMCOM1 VMCOM2
RELEASE: 620RL1 620RL2
MEMBER1: M01RES M01S01 M01P01 M01W01
MEMBER2: M02RES M02S01 M02P01 M02W01
MEMBER3: M03RES M03S01 M03P01 M03W01
MEMBER4: M04RES M04S01 M04P01 M04W01

DO YOU WANT TO CONTINUE ? (Y|N)

Compare the information listed in the response from the INSTPLAN command to the information listed on your DVD installation worksheets. Ensure that the information filled in on the worksheets matches what is listed in this response.

y

6. Continue with the following steps to fill in the Installation Volume Definition panel.

Run INSTPLAN

```

*** z/VM INSTALLATION VOLUME DEFINITION ***

TYPE LABEL ADDRESS FORMAT (Y/N)
=====
COMMON VMCOM1 _____ -
COMMON2 VMCOM2 _____
RELVOL 620RL1 _____
RELVOL2 620RL2 _____

TYPE LABEL ADDRESS TYPE LABEL ADDRESS
=====
mem1nam mem2nam
RES M01RES _____ RES M02RES _____
SPOOL M01S01 _____ SPOOL M02S01 _____
PAGE M01P01 _____ PAGE M02P01 _____
WORK M01W01 _____ WORK M02W01 _____

mem3nam mem4nam
RES M03RES _____ RES M04RES _____
SPOOL M03S01 _____ SPOOL M04S01 _____
PAGE M03P01 _____ PAGE M04P01 _____
WORK M03W01 _____ WORK M04W01 _____

F1 = HELP F3/12 = QUIT F5 = Process ENTER = Refresh

```

Figure 20. Installation Volume Definition (SSI Only)

- a. If you do not want use a default volume label, then enter a new label (recorded on DVD installation worksheet 6, Table 12 on page 79) in the **LABEL** field.
 - b. Fill in the volume addresses using the information from DVD installation worksheet 6 (Table 12 on page 79). For more information and help, press F1.
 - c. Fill in the **FORMAT (Y/N)** column with **Y** to CP format your installation volumes or **N** to not format your installation volumes. Specify **N** only if you have already CP formatted your volumes for this installation using ICKDSF or CPFMTXA. If you specify **N**, the volumes will be labeled, but not formatted.
7. Press F5 to process your selections.

F5

If you selected "Second_Level" in answer to the question "After installation is complete, the SSI cluster will be IPLed:" on the z/VM Installation Planning panel 3 (in substep 5 on page 124), proceed to substep 9 on page 127.

8. If you selected "First_Level" in answer to the question "After installation is complete, the SSI cluster will be IPLed:" on the z/VM Installation Planning panel 3 (in substep 5 on page 124), continue with the following steps to fill in the First-Level Configuration panel.

```

*** z/VM INSTALLATION FIRST-LEVEL CONFIGURATION ***

Real addresses for the common volume on each member LPAR:

VOLUME   DASD      mem1name  mem2name  mem3name  mem4name
TYPE     LABEL      ADDRESS   ADDRESS   ADDRESS   ADDRESS
=====  =====  =====  =====  =====  =====
COMMON   lblcom     _____  _____  _____  _____

CTC device addresses:

From: mem1nam                From: mem2nam
  To: mem1name   N/A          To: mem1name   _____
  To: mem2name   _____      To: mem2name   N/A
  To: mem3name   _____      To: mem3name   _____
  To: mem4name   _____      To: mem4name   _____

From: mem3nam                From: mem4nam
  To: mem1name   _____      To: mem1name   _____
  To: mem2name   _____      To: mem2name   _____
  To: mem3name   N/A            To: mem3name   _____
  To: mem4name   _____      To: mem4name   N/A

F1 = HELP      F3/F12 = QUIT      F5 = Process      ENTER = Refresh

```

Figure 21. Installation DASD Definitions 2 (SSI Only)

- a. Fill in the real address of the VMCOM1 volume as it is defined on each LPAR. Use the information from DVD installation worksheet 7 (Table 13 on page 80).
 - b. Fill in the CTC device addresses for each member using the information from DVD installation worksheet 7 (Table 13 on page 80).
9. Press F5 to process your selections.

F5

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

HCPIIX8377R YOU HAVE SELECTED TO FORMAT YOUR DASD.
DASD SELECTED ARE:

HCPIIX8377R YOU HAVE SELECTED NOT TO FORMAT YOUR DASD.
THIS ASSUMES THEY HAVE ALREADY BEEN FORMATTED.
DASD SELECTED ARE:

```

lblcom   dasdaddr
lblcm2   dasdaddr
lblrl1   dasdaddr
lblrl2   dasdaddr
lblres   dasdaddr
lblspl   dasdaddr
lblpag   dasdaddr
lblw01   dasdaddr

```

⋮

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

Run INSTPLAN

HCPIIX8377R YOU HAVE SELECTED THE FOLLOWING CTC ADDRESSES:

```
MEMBER membnam TO MEMBER membnam      ctcaddr ctcaddr
```

⋮

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

You will receive the CTC address messages only if you selected "IPL from 1st level after installation is complete" .

10. Compare the information listed in the response from the INSTPLAN command to the information listed on your DVD installation worksheets. Ensure that the information filled in on the worksheets matches what is listed in this response.

Step 2. Run INSTALL to install your new system

In this step, you will:

- Attach the volumes needed for installation.
- Run INSTALL to install your new system.

1. Attach each volume listed on DVD installation worksheet 6 (Table 12 on page 79) that is not already attached. Enter the following ATTACH command for each volume:

```
attach dasdaddr *
DASD dasdaddr ATTACHED TO userid dasdaddr      dasdaddr
:                                                Address of the DASD volume.
:
Ready; T=n.nn/n.nn hh:mm:ss                    userid
                                                First-level user ID logged on to
                                                previously.
```

Attention: Issue the QUERY DASD ATTACH * command to verify there are no volumes attached to your user ID with the same label as those being used for installation. You must detach any duplicate-labeled volumes from your user ID to prevent bringing them online.

2. Run INSTALL to install your new system.

Note: You must *not* disconnect your installation user ID. The installation procedure will IPL the z/VM system a number of times and these will fail if the user ID is running disconnected.

```
install
HCPIIS8490I NOW FORMATTING|LABELING VOLUME dasdaddr (1 OF n)
:
HCPIIS8490I NOW FORMATTING|LABELING VOLUME dasdaddr (n OF n)
:
HCPIIS8380I RESTORING IIS TO lblcom lblrll lblres and lblspl

HCPIIS8341I LOAD OF THE SYSTEM IIS TO COMMON VOLUME COMPLETED SUCCESSFULLY
HCPIIS8341I LOAD OF THE SYSTEM IIS TO RELEASE VOLUME COMPLETED SUCCESSFULLY
HCPIIS8341I LOAD OF THE SYSTEM IIS TO MEMBER RES VOLUME COMPLETED SUCCESSFULLY
HCPIIS8341I LOAD OF THE SYSTEM SPOOL SPACE COMPLETED SUCCESSFULLY

HCPIIS8490I NOW ALLOCATING DASD dasdaddr (COMMON VOLUME)
HCPIIS8490I NOW ALLOCATING DASD dasdaddr (RELVOL VOLUME)
HCPIIS8490I NOW ALLOCATING DASD dasdaddr (RES VOLUME)
HCPIIS8490I NOW ALLOCATING DASD dasdaddr (RES VOLUME)
HCPIIS8490I NOW ALLOCATING DASD dasdaddr (SPOOLING)
HCPIIS8490I NOW ALLOCATING DASD dasdaddr (PAGING)
:
HCPIIS8341I WRITING OWNERSHIP ssiname NOSYS TO comaddr lblcom COMPLETED SUCCESSFULLY
HCPIIS8341I WRITING OWNERSHIP ssiname memlname TO resaddr lblres COMPLETED SUCCESSFULLY
HCPIIS8341I WRITING OWNERSHIP ssiname memlname TO spladdr lblspl COMPLETED SUCCESSFULLY
HCPIIS8341I WRITING OWNERSHIP ssiname memlname TO pagaddr lblpag COMPLETED SUCCESSFULLY
HCPIIS8341I CREATING PDR ON comaddr COMPLETED SUCCESSFULLY
HCPIIDV8341I CREATION OF USER DIRECTORY COMPLETED SUCCESSFULLY

HCPILB8440I NOW LOADING userid cuu (alias) DISK 1 OF nnn
HCPILB8440I NOW LOADING userid cuu (alias) DISK 2 OF nnn
HCPILB8440I NOW LOADING userid cuu (alias) DISK 3 OF nnn
:
HCPILB8440I NOW LOADING userid cuu (alias) DISK nnn OF nnn
```

Run INSTALL to install your new system

Messages received if installing from a physical DVD

```
HCPIRU8484R PLEASE PLACE THE SYSTEM RSU DVD
              IN THE DRIVE, THEN TYPE GO TO
              CONTINUE OR TYPE EXIT TO QUIT.
```

```
go
```

```
HCPIRU8440I NOW LOADING MAINT620 500 DISK
HCPIRU8341I LOAD OF SYSTEM RSU COMPLETED SUCCESSFULLY
```

Place the RSU DVD in the DVD drive and wait until the light on the DVD drive goes out or stops blinking, then enter **go**.

If you enter **exit**, your installation will *not* be complete. You must rerun the **INSTALL** command and enter **go** to load the RSU files before you can continue to the next step.

If the installation fails while loading the RSU DVD, issue **INSTALL** to try again.

Messages received if installing first-level

```
HCPIDV8341I USER DIRECTORY HAS BEEN BROUGHT ONLINE SUCCESSFULLY
HCPIDV8341I SALIPL COMMAND HAS COMPLETED SUCCESSFULLY
:
:
HCPIWF8338I NOW EXECUTING COPY OF CF0 and 4CC STEP
:
:
HCPIDV8392I INSTDVD EXEC ENDED SUCCESSFULLY
```

Messages received if installing second-level

```
HCPIDV8341I USER DIRECTORY HAS BEEN BROUGHT ONLINE SUCCESSFULLY
HCPIDV8341I SALIPL COMMAND HAS COMPLETED SUCCESSFULLY
HCPIWF8341I {MDDUMP|ECKDDUMP} OF 2CF0 COMPLETED SUCCESSFULLY
HCPIWF8338I NOW EXECUTING COPY OF 24CC TO 4CC STEP
HCPIWF8341I {MDDUMP|ECKDDUMP} OF 24CC COMPLETED SUCCESSFULLY
HCPIDV8392I INSTDVD EXEC ENDED SUCCESSFULLY
```

```
*****
*      NOW IPLing VOLUME dasdaddr      *
*      WITH COMMAND:                    *
*      CP SYSTEM CLEAR                  *
*      TERMINAL CONMODE 3270           *
*      SET MACHINE ESA                  *
*      IPL dasdaddr CLEAR                *
*****
```

Run INSTALL to install your new system

```
hh:mm:ss z/VM V6 R2.0 SERVICE LEVEL 0000 (64-BIT)

hh:mm:ss SYSTEM NUCLEUS CREATED ON yyyy-mm-dd AT hh:mm:ss, LOADED FROM lblres
hh:mm:ss
hh:mm:ss *****
hh:mm:ss * LICENSED MATERIALS - PROPERTY OF IBM* *
hh:mm:ss * 5741-A07 (C) COPYRIGHT IBM CORP. 1983, 2010. ALL RIGHTS *
hh:mm:ss * RESERVED. US GOVERNMENT USERS RESTRICTED RIGHTS - USE *
hh:mm:ss * DUPLICATION OR DISCLOSURE RESTRICTED BY GSA ADP SCHEDULE *
hh:mm:ss * CONTRACT WITH IBM CORP. *
hh:mm:ss * *
hh:mm:ss * * TRADEMARK OF INTERNATIONAL BUSINESS MACHINES *
hh:mm:ss *****
hh:mm:ss
hh:mm:ss *****
hh:mm:ss * IBM z/VM Single System Image Feature is enabled and active.
hh:mm:ss *****

hh:mm:ss HCPZC06718I Using parm disk 1 on volume lblcom (device nnnn).
hh:mm:ss HCPZC06718I Parm disk resides on cylinders nnn through nnn.
:

hh:mm:ss The directory on volume lblres 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 HCPMLM3016I Management by the Unified Resource Manager is not available for this system
hh:mm:ss HCPAAU2700I System gateway memlname identified.
hh:mm:ss HCPNET3010I Virtual machine network device configuration changes are permitted
hh:mm:ss HCPPLM1697I The state of SSI system memlname has changed from DOWN to JOINED
hh:mm:ss HCPPLM1698I The mode of the SSI cluster is STABLE
hh:mm:ss HCPLNM101E DASD 0CF1 forced R/O; R/O by SYSTEM; stable by SYSTEM
hh:mm:ss HCPLNM101E DASD 0CF3 forced R/O; R/O by SYSTEM; stable by SYSTEM
hh:mm:ss z/VM Version 6 Release 2.0, 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 timezone weekday mm/dd/yy
hh:mm:ss GRAF nnnn LOGON AS MAINT620 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

z/VM V6.2.0 yyyy-mm-dd hh:mm

hh:mm:ss AUTO LOGON *** OP1 USERS = 2 BY MAINT620
hh:mm:ss HCPCLS6056I XAUTOLOG information for OP1: The IPL command is verified by the
IPL command processor.
```

Run INSTALL to install your new system

```
HCPPLD8341I POSTLOAD PROCESSING STARTED

DMSACC724I 4CC replaces C (4CC)
HCP1FP8493I ISSUING XAUTOLOG FOR VMSERVU
AUTO LOGON *** VMSERVU USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVU: The IPL command is verified by the IPL
command processor.

HCP1FP8493I ISSUING XAUTOLOG FOR VMSERVR
AUTO LOGON *** VMSERVR USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVR: The IPL command is verified by the IPL
command processor.

HCP1FP8493I ISSUING XAUTOLOG FOR VMSERVS
AUTO LOGON *** VMSERVS USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVS: The IPL command is verified by the IPL
command processor.

USER DSC LOGOFF AS VMSERVR USERS = n FORCED BY MAINT620
HCP1FP8493I ISSUING XAUTOLOG FOR VMSERVR
AUTO LOGON *** VMSERVR USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVR: The IPL command is verified by the IPL
command processor.

HCP1FP8493I ISSUING XAUTOLOG FOR VMSERV
AUTO LOGON *** VMSERV USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: The IPL command is verified by the IPL
command processor.

HCP1FP8338I UPDATING SYSTEM TABLES AND CLEANING UP FILEPOOL DIRECTORIES
USER DSC LOGOFF AS VMSERV USERS = n FORCED BY MAINT620 You will receive these messages if you did
DASD 917 DETACHED not select VMPSFS as the common service
HCP1FP8493I ISSUING XAUTOLOG FOR VMSERV pool name.
AUTO LOGON *** VMSERV USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: The IPL command is verified by the
IPL command processor.
DASD 0193 DETACHED
z/VM V6.2.0 yyyy-mm-dd hh:mm
DMSWSP100W Shared S-STAT not available

AUTO LOGON *** BLDCMS USERS = n
HCPCFX6768I SECUSER of BLDCMS initiated for you by BLDCMS.
HCPNSD440I The Named Saved System (NSS) CMS was successfully defined in fileid nnnn
BLDCMS : HCPNSS440I Named Saved System (NSS) CMS was successfully saved
BLDCMS : CONNECT= nn:nn:nn VIRTCPU= nnn:nn:nn TOTCPU= nnn:nn:nn
BLDCMS : LOGOFF AT hh:mm:ss EST MONDAY mm/dd/yy BY MAINT620
USER DSC LOGOFF AS BLDCMS USERS = n FORCED BY MAINT620

AUTO LOGON *** BLDCMS USERS = n
HCPCFX6768I SECUSER of BLDCMS initiated for you by BLDCMS.
DMSACC724I 493 replaces Z (493)
HCPNSD440I The Named Saved System (NSS) ZCMS was successfully defined in fileid nnnn
BLDCMS : HCPNSS440I Named Saved System (NSS) ZCMS was successfully saved
BLDCMS : CONNECT= nn:nn:nn VIRTCPU= nnn:nn:nn TOTCPU= nnn:nn:nn
BLDCMS : LOGOFF AT hh:mm:ss EST MONDAY mm/dd/yy BY MAINT620
USER DSC LOGOFF AS BLDCMS USERS = n FORCED BY MAINT620
```

Run INSTALL to install your new system

```
*****
* NOW EXECUTING SERVICE ALL rsuname
*****

**** SERVICE messages *****

*****
* NOW EXECUTING PUT2PROD *
*****

***** PUT2PROD messages *****

*****
* INSTCOMP NOW ISSUING SHUTDOWN REIPL *
*****

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

hh:mm:ss HCPWRP963I SHUTDOWN STEP PLMLL - LEAVE THE SSI CLUSTER
:
hh:mm:ss z/VM SYSTEM RESTART FROM SHUTDOWN REIPL
hh:mm:ss z/VM V6 R2.0 SERVICE LEVEL nnnn (64-BIT)

hh:mm:ss SYSTEM NUCLEUS CREATED ON yyyy-mm-dd AT hh:mm:ss, LOADED FROM lblres
hh:mm:ss
hh:mm:ss *****
hh:mm:ss * LICENSED MATERIALS - PROPERTY OF IBM* *
hh:mm:ss * 5741-A07 (C) COPYRIGHT IBM CORP. 1983, 2010. ALL RIGHTS *
hh:mm:ss * RESERVED. US GOVERNMENT USERS RESTRICTED RIGHTS - USE *
hh:mm:ss * DUPLICATION OR DISCLOSURE RESTRICTED BY GSA ADP SCHEDULE *
hh:mm:ss * CONTRACT WITH IBM CORP. *
hh:mm:ss * *
hh:mm:ss * * TRADEMARK OF INTERNATIONAL BUSINESS MACHINES *
hh:mm:ss *****
hh:mm:ss
hh:mm:ss *****
hh:mm:ss * IBM z/VM Single System Image Feature is enabled and active.
hh:mm:ss *****

hh:mm:ss HCPZC06718I Using parm disk 1 on volume volid (device nnnn).
hh:mm:ss HCPZC06718I Parm disk resides on cylinders nn through nn.
hh:mm:ss HCPMLM3016I Management by the Unified Resource Manager is not available for this system
hh:mm:ss The directory on volume lblres 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 timezone weekday mm/dd/yy
:
:
hh:mm:ss HCPiop952I nnnnM system storage
hh:mm:ss FILES: nnnnnnn RDR, nnnnnnn PRT, NO PUN
```

Run INSTALL to install your new system

What to do next

If this is a . . .	Then . . .
One-member SSI install	Continue with "Step 3. One-member SSI" on page 135
Multi-member SSI install	Go to "Step 4. Multi-member SSI" on page 136.

Step 3. One-member SSI

1. Processing continues.

```
hh:mm:ss HCPUS0967I Disconnect OPERATOR - system
          restarted SHUTDOWN and system console
          not VM operator console
hh:mm:ss HPCRC8082I Accounting records are accumulating for userid DISKACNT
```

```
hh:mm:ss DISCONNECT AT hh:mm:ss timezone weekday mm/dd/yy
```

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

ENTER

Press Enter or the Clear key to continue.

2. Log on as MAINT620.

```
logon maint620
```

```
⋮
```

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

The password for MAINT620 is MAINT620.

3. If this is a first-level installation, you are done with the RAMDISK.

- a. Shut down the new system.

```
shutdown
```

- b. Shut down the RAMDISK system.

```
shutdown system ibmvmram
```

- c. IPL the new system from the HMC.

4. If this is a second-level installation, and this is *not* where you plan to run your new system, shut down the system and then IPL where you wish the new system to run.

Note: The default SYSTEM CONFIG file allows the following console addresses: 20, 21, 22, 23, F20, F21, 1020. If your console is *not* one of these addresses, either redefine your console or IPL with the **LOADPARM** *consaddr* option. If you use the **LOADPARM** option, include **cons=consaddr** as an IPL parameter on the z/VM Stand Alone Program Loader (SAPL) panel.

What to do next

Go to Part 3, "Post z/VM system installation," on page 143.

Step 4. Multi-member SSI

1. Processing continues.

```
z/VM V6.2.0    yyyy-mm-dd hh:mm  
hh:mm:ss AUTO LOGON ***      OP1      USERS = 2      BY MAINT620
```

```
hh:mm:ss HCPCLS6056I XAUTOLOG information for OP1: The IPL command is verified by the  
IPL command processor.
```

```
HCPIMB8380I DDRing CYLINDERS 0 - nnnn FROM lblres1 TO lblres2  
DDR OF lblres1 TO lblres2 SUCCESSFUL  
HCPIMB8380I DDRing CYLINDERS 0 - nnnn FROM lblwrk1 TO lblwrk2  
DDR OF lblwrk1 TO lblwrk2 SUCCESSFUL
```

You will receive these messages for each member (except member 1) that you selected to install.

```
HCPIMB8380I DDRing CYLINDERS 0 - nnnn FROM lblres1 TO lblres3  
DDR OF lblres1 TO lblres3 SUCCESSFUL  
HCPIMB8380I DDRing CYLINDERS 0 - nnnn FROM lblwrk1 TO lblwrk3  
DDR OF lblwrk1 TO lblwrk3 SUCCESSFUL
```

```
HCPIMB8380I DDRing CYLINDERS 0 - nnnn FROM lblres1 TO lblres4  
DDR OF lblres1 TO lblres4 SUCCESSFUL  
HCPIMB8380I DDRing CYLINDERS 0 - nnnn FROM lblwrk1 TO lblwrk4  
DDR OF lblwrk1 TO lblwrk4 SUCCESSFUL  
CPFMTXA LABEL VOLUME FOR lblres2 SUCCESSFUL  
CPFMTXA LABEL VOLUME FOR lblwrk2 SUCCESSFUL
```

```
CPFMTXA LABEL VOLUME FOR lblres3 SUCCESSFUL  
CPFMTXA LABEL VOLUME FOR lblwrk3 SUCCESSFUL
```

```
CPFMTXA LABEL VOLUME FOR lblres4 SUCCESSFUL  
CPFMTXA LABEL VOLUME FOR lblwrk4 SUCCESSFUL  
DASD 0550 DETACHED
```

```
CPFMTXA OWNERSHIP FOR lblres2 SUCCESSFUL  
CPFMTXA OWNERSHIP FOR lblspl2 SUCCESSFUL  
CPFMTXA OWNERSHIP FOR lblpag2 SUCCESSFUL
```

```
CPFMTXA OWNERSHIP FOR lblres3 SUCCESSFUL  
CPFMTXA OWNERSHIP FOR lblspl3 SUCCESSFUL  
CPFMTXA OWNERSHIP FOR lblpag3 SUCCESSFUL
```

```
CPFMTXA OWNERSHIP FOR lblres4 SUCCESSFUL  
CPFMTXA OWNERSHIP FOR lblspl4 SUCCESSFUL  
CPFMTXA OWNERSHIP FOR lblpag4 SUCCESSFUL  
DASD 0550 DETACHED
```

```
SALIPL FOR addr SUCCESSFUL  
SALIPL FOR addr SUCCESSFUL  
SALIPL FOR addr SUCCESSFUL
```

Step 5. Initialize members 2-4

1. Processing continues.

```

*****
*      PROCESSING UPDATE FOR MEMBER nextmemb
*****
HCPISC8403I SYSTEM CONFIG has been updated to allow member nextmemb to be IPL'ed.

                member nextmemb will be IPLed by issuing the command:
                SHUTDOWN REIPL dasdaddr

EXECUTING SHUTDOWN REIPL dasdaddr

hh:mm:ss HCPWRP963I SHUTDOWN STEP PLMLV - LEAVE THE SSI CLUSTER
      ⋮
hh:mm:ss z/VM SYSTEM RESTART FROM SHUTDOWN REIPL

hh:mm:ss z/VM V6 R2.0 SERVICE LEVEL nnnn (64-BIT)

hh:mm:ss SYSTEM NUCLEUS CREATED ON yyyymm-dd AT hh:mm:ss, LOADED FROM lblres
hh:mm:ss
hh:mm:ss *****
hh:mm:ss * LICENSED MATERIALS - PROPERTY OF IBM* *
hh:mm:ss * 5741-A07 (C) COPYRIGHT IBM CORP. 1983, 2010. ALL RIGHTS *
hh:mm:ss * RESERVED. US GOVERNMENT USERS RESTRICTED RIGHTS - USE *
hh:mm:ss * DUPLICATION OR DISCLOSURE RESTRICTED BY GSA ADP SCHEDULE *
hh:mm:ss * CONTRACT WITH IBM CORP. *
hh:mm:ss * *
hh:mm:ss * * TRADEMARK OF INTERNATIONAL BUSINESS MACHINES *
hh:mm:ss *****
hh:mm:ss *
hh:mm:ss *****
hh:mm:ss * IBM z/VM Single System Image Feature is enabled and active. *
hh:mm:ss *****
hh:mm:ss
hh:mm:ss HCPZC06718I Using parm disk n on volume lblcom (device nnnn).
hh:mm:ss HCPZC06718I Parm disk resides on cylinders nnn through nnn.
hh:mm:ss HCPMLM3016I Management by the Unified Resource Manager is not available for this system
      ⋮

hh:mm:ss The directory on volume lblres at address nnnn has been brought online.
hh:mm:ss HCPWRS2513I
hh:mm:ss HCPWRS2513I Spool files available NONE

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 memname identified.
hh:mm:ss HCPFCA040E Device ctcaddr does not exist          You can ignore any HCPFCA040E
                                                         messages you receive.

hh:mm:ss HCPNET3010I Virtual machine network device configuration changes are permitted
hh:mm:ss HCPPLM1697I The state of SSI system memname has changed from DOWN to JOINED
hh:mm:ss HCPPLM1698I The mode of the SSI cluster is STABLE
hh:mm:ss HCPLGB365I Requested system default language lang is unavailable
hh:mm:ss HCPLGB365I Language AMENG in nucleus will be system default language
                                                         You can ignore any HCPLGB365I
                                                         messages you receive.

```

Initialize members 2-4

```
hh:mm:ss z/VM Version 6 Release 2.0, Service Level nnnn (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 timezone weekday mm/dd/yy
hh:mm:ss GRAF nnnn LOGON AS OPERATOR USERS = n
hh:mm:ss HCPFCA040E Device ctcaddr does not exist          You can ignore any HCPFCA040E
                                                           messages you receive.

hh:mm:ss HCPIOP952I nnnnM system storage
hh:mm:ss FILES: nnnnnnnn RDR, nnnnnnnn PRT, NO PUN
hh:mm:ss HPCRC8082I Accounting records are accumulating for userid DISKACNT

DMSWSP327I The installation saved segment could not be loaded
z/VM V6.2.0   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

hh:mm:ss AUTO LOGON ***      OP1      USERS = n      BY MAINT620
hh:mm:ss HCPCLS6056I XAUTOLOG information for OP1: The IPL command is verified by the
        IPL command processor.

AUTO LOGON ***      BLDCMS  USERS = n
HPCPCFX6768I SECUSER of BLDCMS initiated for you by BLDCMS.
HCPNSD440I The Named Saved System (NSS) CMS was successfully defined in fileid nnnn.
BLDCMS : HCPNSS440I Named Saved System (NSS) CMS was successfully saved
BLDCMS : CONNECT= 00:00:nn VIRTCPU= 000:00.nn TOTCPU= 000:00.nn
BLDCMS : LOGOFF AT hh:mm:ss EST WEDNESDAY mm/dd/yy BY MAINT620
USER DSC LOGOFF AS BLDCMS  USERS = n      FORCED BY MAINT620
```

```

*****
* PROCESSING MEMBER membername *
*****

HCPINI8493I ISSUING XAUTOLOG FOR VMSERVR
AUTO LOGON *** VMSERVR USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVR: The IPL command is verified by the
IPL command processor.

USER DSC LOGOFF AS VMSERVR USERS = n FORCED BY MAINT620
HCPINI8493I ISSUING XAUTOLOG FOR VMSERVR
AUTO LOGON *** VMSERVR USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVR: The IPL command is verified by the
IPL command processor.

HCPINI8493I ISSUING XAUTOLOG FOR VMSERVP
AUTO LOGON *** VMSERVP USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVP: The IPL command is verified by the
IPL command processor.

HCPINI8493I ISSUING XAUTOLOG FOR VMSERVS
AUTO LOGON *** VMSERVS USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVS: The IPL command is verified by the
IPL command processor.

HCPINI8493I ISSUING XAUTOLOG FOR VMSERVU
AUTO LOGON *** VMSERVU USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVU: The IPL command is verified by the
IPL command processor.

*****
* NOW EXECUTING PUT2PROD SEGMENTS ALL *
*****
.
.
***** PUT2PROD messages *****
.
.
*****
* NOW EXECUTING SERVICE GCS BLDNUC *
*****
.
.
***** SERVICE messages *****
.
.
*****
* NOW EXECUTING PUT2PROD *
*****
.
.
***** PUT2PROD messages *****
.
.

```

2. Substep 1 on page 137 will repeat for members 3-4, if applicable.
3. Once all members have been initialized, processing will finish.

```

HCPMLP8392I INSTALL EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss

```

Step 6. Update the system configuration file

In this step, you will:

- Run INSTSCID to update the system configuration to set up for real IPLs.
- Perform a system shutdown.

When “Step 5. Initialize members 2-4” on page 137 has completed for each installed member (2-4):

1. Run INSTSCID to update the system configuration with the final System_Identifier information. At the completion of “Step 5. Initialize members 2-4” on page 137, the SYSTEM CONFIG file is set up to IPL only the last member you installed. In order to successfully IPL all members of your SSI cluster, the SYSTEM CONFIG file must be updated to include the correct System_Identifier statement for each member. Once the SYSTEM CONFIG file is updated, you will only be able to IPL the members on their respective LPARs/user IDs.

instscid remove

```
*****
* PROCESSING UPDATE FOR ALL MEMBERS
*****
HCPISC8403I SYSTEM CONFIG has been updated to allow all members
          to be ipld only from the LPAR/userid
          defined for each member at install time.

HCPISC8392I INSTSCID EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss
```

Note: If you attempt to IPL any member except the last member installed before running INSTSCID, your system will not IPL with the correct member volumes and results will be unexpected.

2. Perform a system shutdown.

shutdown

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

hh:mm:ss HCPWRP963I SHUTDOWN STEP PLMLV - LEAVE THE SSI CLUSTER
:
hh:mm:ss HCPWRP961W SYSTEM SHUTDOWN COMPLETE
HCPGIR450W CP entered; disabled wait PSW 00020000 00000000 00000000 00000961
```

3. IPL the CMS saved segment if it exists. Otherwise, IPL 190.

ipl cms

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

Step 7. IPL the new SSI cluster

In this step, you will:

- IPL the V6.2 SSI cluster.

1. If you indicated that the SSI cluster members would be IPLed second-level:
 - a. Retrieve the SSI2ND DIR-PROF file from the 191 (A) disk of the user ID you used for installation. This file also exists on the new system's MAINT620 4CC disk. This file contains sample user directory information for the user IDs where you will IPL your SSI members.
Attention: Make sure to use the DEVNO statement as documented in this file to allow all members access to the other members' volumes.
 - b. On the system where you plan to IPL your SSI members, add or update the user directory information for the user IDs according to the information defined in the SSI2ND DIR-PROF file.
 - c. Detach all installation volumes from your installation user ID.
 - d. Log on to each of the IPL user IDs as defined in SSI2ND DIR-PROF and create or update the PROFILE EXEC according to the information in the SSI2ND DIR-PROF file.
 - e. Run the PROFILE EXEC on each user ID.
2. If this is a first-level installation, you are done with the RAMDISK.
 - a. Shut down the RAMDISK system.

```
shutdown system ibmvmram
```

3. IPL each member from its corresponding user ID or LPAR.

Note: The default SYSTEM CONFIG file allows the following console addresses: 20, 21, 22, 23, F20, F21, 1020. If your console is *not* one of these addresses, either redefine your console or IPL with the **LOADPARM** *consaddr* option. If you use the **LOADPARM** option, include **cons=consaddr** as an IPL parameter on the z/VM Stand Alone Program Loader (SAPL) panel.

What to do next

Go to Part 3, "Post z/VM system installation," on page 143.

IPL the new SSI cluster

Part 3. Post z/VM system installation

This part contains the following:

- Default system Information
- Procedures for creating IPLable utility tapes
- Procedures for configuring a basic TCP/IP network connection
- Procedures for backing up the z/VM system
- 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 10. Default system information

This section provides a summary of important information about your default system setup. Detailed information about configuring your system can be found in *z/VM: CP Planning and Administration*.

Default information for IPLing your system

The SYSTEM CONFIG file resides on the CF0 PARM disk, owned by PMAINT.

The CLOAD MODULE resides on the CF1 PARM disk, owned by MAINT.

During installation, the system is set up to IPL the CLOAD MODULE from MAINT's CF1 PARM disk (located on the M0xRES volume) and to read the SYSTEM CONFIG file from PMAINT's CF0 PARM disk (located on the VMCOM1 volume).

In an SSI cluster, the installation default is to have a single SYSTEM CONFIG file that is shared by all member systems.

If you change the address of the VMCOM1 volume, you will need to run SALIPL to rewrite the IPL record for the system to point to the new VMCOM1 volume address:

```
SALIPL m0xresaddr (EXTENT 1 IPLPARMS fn=SYSTEM ft=CONFIG pnum=1 pdvol=newvmcom1addr
```

Where you can IPL your systems

When installation is complete the following System_Identifier statements exist in the SYSTEM CONFIG file on the CF0 PARM disk:

- **Non-SSI:**

```
System_Identifier * * systemname
```

This statement allows the system to be IPLed from any LPAR or user ID.

- **One-member SSI:**

```
/* System_Identifier LPAR system1 member1name */  
/* System_Identifier LPAR @@LU-2 @@MEMSLOT2 */  
/* System_Identifier LPAR @@LU-3 @@MEMSLOT3 */  
/* System_Identifier LPAR @@LU-4 @@MEMSLOT4 */
```

```
System_Identifier * * member1name
```

The SYSTEM CONFIG file contains a System_Identifier statement that allows the member to be IPLed from any LPAR or user ID. To prevent the member from being IPLed from anywhere else except on the LPAR/user ID you designated during installation, remove the comments from the appropriate System_Identifier statement and add comments around the System_Identifier * * member1name statement.

- **Multi-member SSI:**

```
System_Identifier LPAR lpar1 member1  
System_Identifier LPAR lpar2 member2  
System_Identifier LPAR lpar3 member3
```

Default system information

```
System_Identifier LPAR lpar4 member4  
/* System_Identifier * * member4 */
```

For a multi-member SSI, the members can be IPLed only from the LPAR/user ID designated during installation.

For emergency purposes, the CF0 also contains the file INSTALL CONFIG, which will allow member one to be IPLed anywhere:

```
INSTALL CONFIG  
  
System_Identifier LPAR lpar1 member1  
System_Identifier LPAR lpar2 member2  
System_Identifier LPAR lpar3 member3  
System_Identifier LPAR lpar4 member4  
  
System_Identifier * * member1
```

Default PARM disk information

The default PARM disks are owned and utilized as follows:

CF1	Owned by MAINT, holds the default production CPLOAD MODULE.
CF3	Owned by MAINT, used as a backup of the CF1 PARM disk.
CFD	Owned by MAINT, a dummy parm disk designed to maintain the EXTENT 1 and 3 values for CF1 and CF3.
CF2	Owned by MAINT620, used by SERVICE to hold the test CPLOAD MODULE.
CF0	Owned by PMAINT, holds the SYSTEM CONFIG file.

Volume ownership

z/VM allows DASD volumes to be owned by an SSI cluster or by a specific member of a SSI cluster or non-SSI system. Installation volumes contain the following ownership information:

- **Non-SSI:**

VMCOM1	No ownership
VMCOM2	No ownership
620RL1	No ownership
620RL2	No ownership
M01RES	No ownership
M01W01	No ownership
M01S01	VM SSI owner: none System owner: <i>systemname</i>
M01P01	VM SSI owner: none System owner: <i>systemname</i>

- **SSI:**

VMCOM1	VM SSI owner: <i>SSIname</i> System owner: none
VMCOM2	No ownership
620RL1	No ownership

620RL2	No ownership
M0xRES	VM SSI owner: <i>SSIname</i> System owner: <i>memberxname</i>
M0xW01	No ownership
M0xS01	VM SSI owner: <i>SSIname</i> System owner: <i>memberxname</i>
M0xP01	VM SSI owner: <i>SSIname</i> System owner: <i>memberxname</i>

For more information on volume ownership, see *z/VM: CP Planning and Administration*.

Full-pack minidisk definitions

Each volume used for installation, except those used for paging space, has a full-pack minidisk defined in the default user directory. Full-pack minidisk definitions are required for DDR backups. The 123 minidisk is required to create the object user directory. If your installation uses a second common volume (VMCOM2), you should update the directory entry for MAINT620 to remove the asterisk from the LINK statement for the PMAINT 142 minidisk.

- **MAINT**

```
MDISK 122 3390 000 END M01S01 MR
MDISK 123 3390 000 END M01RES MR
MDISK 124 3390 000 END M01W01 MR
```

- **MAINT620**

```
MDISK 131 3390 000 END 620RL1 MR
MDISK 132 3390 000 END 620RL2 MR
```

```
LINK MAINT 122 122 MR
LINK MAINT 123 123 MR
LINK MAINT 124 124 MR
LINK PMAINT 141 141 MR
* LINK PMAINT 142 142 MR
```

- **PMAINT**

```
MDISK 141 3390 000 END VMCOM1 MR
MDISK 142 3390 000 END VMCOM2 MR
```

Default system information

Chapter 11. Create utility tapes

In this chapter, you will:

- Create IPLable utility tapes.

Create a stand-alone dump tape

Step 1. 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 install 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, see *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 V6.2 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 V6.2.

Step 2. 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 3. Create an IPLable ICKDSF utility tape” on page 152.

1. Attach a tape drive (*tapeaddr*) to MAINT620 at virtual device address 181.

```
attach tapeaddr * 181
TAPE 0181 ATTACHED
Ready; T=n.nn/n.nn hh:mm:ss
```

2. Mount a tape, to be used for the IPLable DDR utility, on the tape drive attached at virtual device address 181.
3. Access the 193 minidisk in read/write mode as file mode Z.

```
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 DDR utility tape attached at virtual device address 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 *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 Enter.

This message verifies that IPLable DDRXA has been written to the tape.

7. IPL CMS.

```
#cp ipl cms
z/VM V6.2.0   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
```

Create an IPLable ICKDSF utility tape

Step 3. 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 1. Create a stand-alone dump tape” on page 150.

1. Attach a tape drive (*tapeaddr*) to MAINT620 at virtual device address 181.

```
attach tapeaddr * 181
TAPE      0181 ATTACHED
Ready; T=n.nn/n.nn hh:mm:ss
```

2. Mount a tape, to be used for the IPLable ICKDSF utility, on the tape drive attached at virtual device address 181.
3. Access the 193 minidisk in read/write mode as file mode Z.

```
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 ICKDSF utility tape attached at virtual device address 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 *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 Enter.

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

7. IPL CMS.

```
#cp ip1 cms  
z/VM V6.2.0   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
```

Create an IPLable ICKDSF utility tape

Chapter 12. Configure an initial network connection and back up the system

In this chapter, you will:

- Configure a basic TCP/IP network connection.
- Optionally back up the system.

Step 1. Configure TCP/IP for an initial network connection

In this step, you will:

- Configure a basic IP network connection.

You can optionally create a minimal TCP/IP configuration that establishes basic connectivity to your IP network. 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.

Note: The IP configuration wizard supports real network devices only. If you plan on using virtual network devices for TCP/IP, they must be configured manually. See *z/VM: TCP/IP Planning and Customization*.

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 Appendix D, “Back up the named saved systems and segments to tape,” on page 209.

For details about any DTCIPW messages you might receive while running IPWIZARD, see *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 Appendix D, “Back up the named saved systems and segments to tape,” on page 209.

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*.

Perform the following steps to configure TCP/IP for an initial network connection.

Before you begin: You should have completed the TCP/IP configuration worksheets in Appendix L, “Basic TCP/IP Connectivity Worksheets,” on page 229. If you have not done so, gather the necessary information from your network system administrator and complete the worksheets before you continue.

1. Log on to the system/member you are going to configure as MAINT620.

```
logon maint620 ...  
Ready; T=n.nn/n.nn hh:mm:ss
```

2. Access the minidisk 193 as file mode E.

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

3. Run IPWIZARD.

```
ipwizard
```

Configure TCP/IP for an initial network connection

```
*** 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
```

- Using the information you gathered in the TCP/IP configuration worksheets (in Appendix L, “Basic TCP/IP Connectivity Worksheets,” on page 229), fill in the z/VM TCP/IP Configuration Wizard panel and press F8 to continue.
- Fill in the General Interface Configuration Panel and press F8 to continue. The panel content will depend on whether IPv4 or IPv6 is to be used.
- Fill in the Interface Configuration Panel and press F5 to process. The panel content will depend on which interface type is to be used.
- IPWIZARD attempts to create the TCP/IP configuration files. If the TCPIP user ID is logged on, IPWIZARD asks if you want to restart TCP/IP and continue processing.

```
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 errors that occurred. If no errors are encountered, TCP/IP configuration files containing the network information you provided are created. For additional information on configuring TCP/IP, see *z/VM: TCP/IP Planning and Customization*.

- If you have a multi-member SSI cluster, log on as MAINT620 on the next member and configure a basic IP network connection for that member using the corresponding tables from Appendix L, “Basic TCP/IP Connectivity Worksheets,” on page 229.

Step 2. Optionally back up the system

In this step, you will:

- Optionally back up the system.

If you choose to back up your system at this time, use your site backup procedures or else see one of the following:

- Appendix D, “Back up the named saved systems and segments to tape,” on page 209
- Appendix E, “Back up the z/VM system to tape,” on page 211
- Appendix F, “Back up the z/VM system to DASD,” on page 215.

What to do next

If you wish to use the IBM migration procedure, continue to Chapter 13, “Plan your migration,” on page 159. Otherwise, skip to Chapter 17, “Preinstalled licensed products and features,” on page 193.

Chapter 13. Plan your migration

In this chapter, you will:

- Gain an understanding for planning your migration.
- Review migration requirements.
- Complete migration worksheets.

Migration overview

Rather than starting from scratch when you upgrade from your current system, you probably want to transfer and adjust your current information for use on the new system. Migration is the transfer and adjustment of information required to upgrade from one release to another.

Information you might want to transfer includes:

- Customized files
- Local modifications
- Service
- User-created files
- Saved segment definitions
- Spool files
- User directory entries
- SFS file pool servers
- Application programs

The z/VM migration procedure automates the transfer of the following types of files from the current to new system:

- Customized files as defined in the product's migration part table (*prodid MIGPvrm*)
- Local modifications 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*)

During the migration process, you will be informed of additional actions required to complete migration (such as reworking local modifications 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:

- 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

For more information, see *z/VM: Migration Guide* and product-specific program directories.

Step 1. Review and comply with the requirements

Restrictions:

The z/VM migration procedure is supported only on a non-SSI installation. If you installed to a system type of SSI, you cannot use this procedure.

The z/VM migration procedure supports only the components and products that comprise the z/VM deliverable and can be used only to transfer files from a V5.3 or later system. The procedure should be run immediately after completing your installation, prior to enabling or customizing any components on the new system.

If you are not going to use this procedure or do not satisfy these restrictions, skip to Chapter 17, "Preinstalled licensed products and features," on page 193.

1. To use this migration procedure you must meet these requirements on your first-level V5.3 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.
 - 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.
 - 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.
 - Enroll the user ID MAINT620 as an administrator of the filepool where your products are installed. (The default is VMSYS.)
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.

Review and comply with the requirements

- If any preinstalled products reside in SFS, the user ID must have SFS administration authority to all file pools that contains these products. Use the command `QUERY ENROLL ADMIN filepool` to determine which user IDs are enrolled as administrators for filepool *filepool*.
3. Considerations for the V6.2 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 might 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. To maintain migration compliance and be able to use the z/VM migration procedure 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.
 - If you want to use an IBM-supplied SFS for your own data, use VMSYSU. Do not use VMSYS, VMPSFS, or VMSYSR.
 - Additional minidisks should not be defined on the DASD volumes used for the installation defined volumes. The default labels for:
 - z/VM V5.3 are 530RES, 530W01, and 530W02
 - z/VM V5.4 are 540RES, 540W01, and 540W02
 - z/VM V6.1 are 610RES, 610W01, and 610W02
 - z/VM V6.2 are M01RES, M01W01, 620RL1, 620RL2, and VMCOM1

Step 2. Complete the migration worksheet

1. Record the addresses of your V6.2 DASD.
2. Select the current system user ID you will use to run these procedures. Verify that this user ID meets the following requirements:
 - 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 *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 auto-recall question; otherwise record *no* in the table

Table 15. Migration Worksheet

z/VM V6.2 system DASD addresses: _____		
Current system user ID you will use to run these procedures	_____	
SFS questions: (current system)		
Preinstalled products reside in SFS (yes or no)	_____	If yes, answer the remaining SFS questions.
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.
Additional questions:		
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

Complete the migration worksheet

Chapter 14. Set up for migration

In this chapter, you will:

- IPL the new z/VM V6.2 system.
- Run MIGSETUP.
- Run MIGLINK.

Step 1. IPL the new system

Before you begin: You need to complete the migration worksheet (Table 15 on page 163) and review all migration requirements listed in Step 1. Review and comply with the requirements.

1. Log on to the current system user ID you have selected to use for the migration process. Make sure the user ID meets the migration user ID requirements in Step 1. Review and comply with the requirements, substep 2 on page 161.
2. Attach the DASD used to install the new z/VM V6.2 system.

Issue the following ATTACH command for each DASD listed on the migration worksheet (Table 15 on page 163):

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

3. IPL the new z/VM V6.2 system.

- a. Reset the virtual machine.

```
system clear  
Storage cleared - system reset.
```

- b. Make sure the z/VM system will recognize your terminal as a 3277, 3278, or 3279.

```
terminal conmode 3270
```

- c. Verify you have 64 MB of virtual storage. If you have less than 64 MB of virtual storage, issue the DEFINE command to set your virtual storage to 64 MB.

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

- d. Set the virtual machine mode to ESA.

```
set machine esa
```

- e. 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
```

- f. Define the console to virtual address 20.

```
define consaddr 20  
CONS 0020 DEFINED
```

g. IPL the new z/VM system that was loaded to system residence device (M01RES).

```
ipl dasdaddr clear
```

CLEAR is necessary. Do not omit it.

```
dasdaddr
```

Address of the system residence device (M01RES).

```
hh:mm:ss z/VM V6 R2.0, SERVICE LEVEL nnnn (64-BIT)
```

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

```
hh:mm:ss
```

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

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

```
hh:mm:ss * 5741-A07 (C) COPYRIGHT IBM CORP. 1983, 2010. ALL RIGHTS *
```

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

```
hh:mm:ss * DUPLICATION OR DISCLOSURE RESTRICTED BY GSA ADP SCHEDULE *
```

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

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

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

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

```
hh:mm:ss
```

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

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

```
hh:mm:ss HCPMLM3016I Management by the Unified Resource Manager is not available for this system
```

```
:
```

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

Attention: If you received informational message HCPIIS954I, you have volumes with duplicate labels. You must correct this error before continuing.

To correct this error:

1. Make a note of the DASD addresses of the volumes with duplicate labels.
2. At the start prompt, issue SHUTDOWN.
3. Detach or relabel the volumes with duplicate labels that are not to be used.
4. IPL the system again. See substep 3a on page 166.

```
hh:mm:ss Start ((Warm|Force|COLD|CLEAN) (DRain) (DIsable) (NODIRect)
```

```
hh:mm:ss (NOAUTOlog)) or (SHUTDOWN)
```

h. Start the system using FORCE NOAUTOLOG.

```
force noautolog
```

i. Do not set the TOD clock at this time. Enter **no** at the prompt.

```
NOW hh:mm:ss timzone weekday yyyy-mm-dd
```

```
Change TOD clock (yes|no)
```

```
no
```

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

IPL the new z/VM system

```
hh:mm:ss The directory on volume lblres 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 ZVMV6R20 identified.
hh:mm:ss z/VM Version 6 Release 2.0, 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 timezone weekday 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
```

j. Disconnect from the OPERATOR user ID.

```
disconnect
DISCONNECT AT hh:mm:ss timezone weekday mm/dd/yy
```

Press enter or clear key to continue

ENTER

k. Log on as MAINT620.

```
logon maint620 The default password for MAINT620 is MAINT620.
z/VM Version 6 Release 2.0, 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 timezone weekday mm/dd/yy
z/VM V6 R2.0 yyyy-mm-dd hh:mm
```

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

Step 2. Run MIGSETUP

1. Run MIGSETUP 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 run the command again.

```
access 493 c
DMSACC724I 493 replaces C(2CC)
Ready;
```

```
migsetup
HCPMSU8392I MIGSETUP EXEC ENDED SUCCESSFULLY
Ready;
```

2. Shut down the V6.2 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 Vn.n.0
```

```
ENTER
Ready;
```

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 MIGLINK 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 run the command again.

```
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}
HCPMLK8392I MIGLINK EXEC ENDED SUCCESSFULLYReady;
```

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 establish your environment.

Step 4. IPL the new system

1. Reset the virtual machine.

```
system clear
Storage cleared - system reset.
```

2. Make sure the z/VM system will recognize your terminal as a 3277, 3278, or 3279.

```
terminal conmode 3270
```

3. Verify you have 64 MB of virtual storage. If you have less than 64 MB of virtual storage, issue the DEFINE command to set your virtual storage to 64 MB.

```
query virtual storage
STORAGE = nnnnM

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

4. Set the virtual machine mode to ESA.

```
set machine esa
```

5. 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
```

6. Define the console to virtual address 20.

```
define consaddr 20
CONS 0020 DEFINED
```

7. IPL the new z/VM system that was loaded to the system residence device (M01RES).

```
ipl dasdaddr clear
```

CLEAR is necessary. Do not omit it.

```
dasdaddr
```

Address of the system residence device (M01RES).

IPL the new z/VM system

```
hh:mm:ss z/VM V6 R2.0, SERVICE LEVEL nnnn (64-BIT)
```

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

```
hh:mm:ss
```

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

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

```
hh:mm:ss * 5741-A07 (C) COPYRIGHT IBM CORP. 1983, 2010. ALL RIGHTS *
```

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

```
hh:mm:ss * DUPLICATION OR DISCLOSURE RESTRICTED BY GSA ADP SCHEDULE *
```

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

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

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

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

```
hh:mm:ss
```

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

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

```
hh:mm:ss HCPMLM3016I Management by the Unified Resource Manager is not available for this system
```

```
⋮
```

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

Attention: If you received informational message HCPIIS954I, you have volumes with duplicate labels. You must correct this error before continuing.

To correct this error:

1. Make a note of the DASD addresses of the volumes with duplicate labels.
2. At the start prompt, issue SHUTDOWN.
3. Detach or relabel the volumes with duplicate labels that are not to be used.
4. IPL the system again. See substep 1 on page 171.

```
hh:mm:ss Start ((Warm|Force|COLD|CLEAN) (DRain) (DIisable) (NODIRect)
```

```
hh:mm:ss (NOAUTOlog)) or (SHUTDOWN)
```

8. Start the system using FORCE DRAIN NOAUTOLOG.

```
force drain noautolog
```

Use NOAUTOLOG because you cannot have the servers and all user IDs logged on.

9. Do not set the TOD clock at this time. Enter **no** at the prompt.

```
NOW hh:mm:ss timzone weekday yyyy-mm-dd
```

```
Change TOD clock (yes|no)
```

```
no
```

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

```

hh:mm:ss The directory on volume lblres 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 ZVMV6R20 identified.
hh:mm:ss z/VM Version 6 Release 2.0, 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 timezone weekday 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

```

10. Disconnect from the OPERATOR user ID.

```

disconnect
DISCONNECT AT hh:mm:ss timezone weekday mm/dd/yy

```

Press enter or clear key to continue

ENTER

11. Log on as MAINT620.

```

logon maint620 The default password for MAINT620 is MAINT620.
z/VM Version 6 Release 2.0 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 timezone weekday mm/dd/yy

```

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

IPL the new z/VM system

Chapter 15. Migrate

In this chapter, you will:

- Run MIGRATE.
- View the MIGRATE message log.

Run MIGRATE

Step 1. Run MIGRATE

Run MIGRATE to migrate minidisk and shared file data for all preinstalled products.

```
migrate all vrm  
Ready;
```

vrm

Current version, release, and modification level you are migrating from. For example, if you are migrating from V6.1, enter 610.

Messages received from MIGRATE are logged in the \$VMFMIG \$MSGLOG file.

If you receive a return code of zero, skip to Chapter 16, “Place migrated parts into production,” on page 179. Otherwise, continue with “Step 2. View the MIGRATE message log” on page 177.

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>2. Go to Chapter 16, "Place migrated parts into production," on page 179.
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>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>3. After you complete the rework, use the VMFUPDAT SYSLMOD command to flag the customized parts and local modification as REWORKED. <li>4. Return to "Step 1. Run MIGRATE" on page 176 and reissue the MIGRATE ALL command.
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>2. Correct all errors reported in the error messages. <li>3. Return to "Step 1. Run MIGRATE" on page 176 and reissue the MIGRATE ALL command.

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

View the MIGRATE message log

Chapter 16. Place migrated parts into production

In this chapter, you will:

- Run PUT2PROD, MIGCLEAN, and MIGR51D.

Run PUT2PROD

Step 1. Run PUT2PROD

1. Log on as MAINT620.

```
logon maint620
:
Ready; T=n.nn/n.nn hh:mm:ss
```

The default password for MAINT620 is MAINT620.

2. IPL CMS.

```
ipl cms
z/VM V6.2.0   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">• Issue VMFVIEW PUT2PROD. You can ignore any warning messages in the notes below. Take appropriate action based on other warning messages you receive.
A return code greater than 4	<ol style="list-style-type: none">1. Issue VMFVIEW PUT2PROD and check for warning and error messages.2. You can ignore any warning messages in the notes below. Take appropriate action based on other warning messages you receive.3. Correct all errors reported in the error messages.4. Issue IPL CMS.5. Issue PUT2PROD.6. If you receive a nonzero return code, repeat substep 4.

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. Run PUT2PROD to re-save CMS

1. Log on as MAINT620.

```
logon maint620
:
Ready; T=n.nn/n.nn hh:mm:ss
```

The default password for MAINT620 is MAINT620.

2. IPL CMS.

```
ipl cms
z/VM V6.2.0   yyyy-mm-dd hh:mm
```

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

3. Run PUT2PROD to re-save CMS.

```
put2prod savecms
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"> • Issue VMFVIEW PUT2PROD. You can ignore any warning messages in the notes below. Take appropriate action based on other warning messages you receive.
A return code greater than 4	<ol style="list-style-type: none"> 1. Issue VMFVIEW PUT2PROD and check for warning and error messages. 2. You can ignore any warning messages in the notes below. Take appropriate action based on other warning messages you receive. 3. Correct all errors reported in the error messages. 4. Issue IPL CMS. 5. Issue PUT2PROD. 6. If you receive a nonzero return code, repeat substep 4.

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.

Shut down the new system

Step 3. Shut down the new system

1. Shut down the 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 Vv.r.m  yyyy-mm-dd hh:mm
```

```
ENTER
Ready;
```

Step 4. Run MIGCLEAN

Run MIGCLEAN to establish 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 run the command again.

```
migclean  
HCPMCL8392I MIGCLEAN EXEC ENDED SUCCESSFULLY  
Ready;
```

Step 5. Access the current system software inventory disk

1. Link to the software inventory disk.

```
link maint 51d 51d rr
Ready; T=n.nn/n.nn hh:mm:ss
```

The default owner and disk address are MAINT and 51D. If your software inventory disk has a different user ID or address, substitute that user ID and address for MAINT and 51D respectively.

2. Define the current software inventory disk as address FFF.

```
define 51D FFF
DASD 0FFF DEFINED
Ready; T=n.nn/n.nn hh:mm:ss
```

If your software inventory disk has an address other than 51D, substitute that disk address for 51D.

Step 6. IPL the new system

1. Reset the virtual machine.

```
system clear
Storage cleared - system reset.
```

2. Make sure the z/VM system will recognize your terminal as a 3277, 3278, or 3279.

```
terminal conmode 3270
```

3. Verify you have 64 MB of virtual storage. If you have less than 64 MB of virtual storage, issue the DEFINE command to set your virtual storage to 64 MB.

```
query virtual storage
STORAGE = nnnnM

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

4. Set the virtual machine mode to ESA.

```
set machine esa
```

5. 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
```

6. Define the console to virtual address 20.

```
define consaddr 20
CONS 0020 DEFINED
```

7. IPL the new z/VM system that was loaded to the system residence device (M01RES).

```
ipl dasdaddr clear
CLEAR is necessary. Do not omit it.
dasdaddr
Address of the system residence device
(M01RES).
```

IPL the new system

```
hh:mm:ss z/VM V6 R2.0, SERVICE LEVEL nnnn (64-BIT)
```

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

```
hh:mm:ss
```

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

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

```
hh:mm:ss * 5741-A07 (C) COPYRIGHT IBM CORP. 1983, 2010. ALL RIGHTS *
```

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

```
hh:mm:ss * DUPLICATION OR DISCLOSURE RESTRICTED BY GSA ADP SCHEDULE *
```

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

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

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

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

```
hh:mm:ss
```

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

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

```
hh:mm:ss HCPMLM3016I Management by the Unified Resource Manager is not available for this system
```

```
⋮
```

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

Attention: If you received informational message HCPIIS954I, you have volumes with duplicate labels. You must correct this error before continuing.

To correct this error:

1. Make a note of the DASD addresses of the volumes with duplicate labels.
2. At the start prompt, issue SHUTDOWN.
3. Detach or relabel the volumes with duplicate labels that are not to be used.
4. IPL the system again. See substep 1 on page 185.

```
hh:mm:ss Start ((Warm|Force|COLD|CLEAN) (DRain) (DIisable) (NODIRect)
```

```
hh:mm:ss (NOAUTOlog)) or (SHUTDOWN)
```

8. Start the system using FORCE DRAIN.

```
force drain
```

9. Do not set the TOD clock at this time. Enter **no** at the prompt.

```
NOW hh:mm:ss timezone weekday yyyy-mm-dd
```

```
Change TOD clock (yes|no)
```

```
no
```

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

```
hh:mm:ss The directory on volume lblres 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 ZVMV6R20 identified.  
hh:mm:ss z/VM Version 6 Release 2.0, 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 timezone weekday 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
```

10. Disconnect from the OPERATOR user ID.

disconnect

DISCONNECT AT *hh:mm:ss timezone weekday mm/dd/yy*

Press enter or clear key to continue

ENTER

Step 7. Run MIGR51D

In this step, you will:

- Migrate the 51D minidisk from your current system.

1. Log on as MAINT620.

```
logon maint620
```

The default password for MAINT620 is MAINT620.

```
z/VM Version 6 Release 2.0 Service Level 0000 (64-bit)
built on IBB Virtualization Technology
There is no logmsg data
FILES: nnn RDR, NO PRT, NO PUN
LOGON AT hh:mm:ss timezone weekday mm/dd/yy
```

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

2. Create a backup copy of the your new system software inventory disk (default is 51D) using your site's normal backup procedures.
3. Attach the software inventory 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
```

4. Access the software inventory FFF minidisk as file mode Z.

```
access FFF z
```

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

5. Access the new system 51D minidisk as file mode D.

```
access 51D d
```

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

6. Access the 493 minidisk as file mode W.

```
access 493 w
```

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

7. Run MIGR51D to update the system software inventory files.

```
migr51d
```

```
HCPMIX8478R Please enter filemode letter of the
Software Inventory Disk (51D) from
the previous release. Press enter
to Exit.
```

```
z
```

The VM Software Inventory Disk (51D) Product Migration panel is 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
M	DITTO	5654029C	NONE	DITTO/ESA VM 1.2.0
D		5735NFSQ	ENABLED	
D	CMS	6VMCMS10	BUILT	CMS component for z/VM 6.1.0
D	CP	6VMCPR10	BUILT	CP component for z/VM 6.1.0
D	TCPIP	6VMTCP10	BUILT	TCP/IP LEVEL 610 - TCP/IP Feature
I	ICKDSF	5684042J	BUILT	ICKDSF DEVICE SUPPORT FACILITIES R17 for CMS

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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 F1.

Notes:

- 1) This Product Migration panel is only a sample. Your panels will not list the same products, action codes, status, and description.
 - 2) Products that are preselected as **D** (Do Not Migrate) should not be changed.
 - 3) If a product is not supported on the new z/VM release, you should enter **D** (Do Not Migrate) for that product.
 - 4) 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.
- b. Press F8 to select action codes for all Software Inventory Migration panels before continuing to the next step.
- c. Press F5 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.

Run MIGR51D

```
*** 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-> 6VMCMS10 CMS          B0D-B37 SR    PPF(ZVM
      New-> 6VMCMS20 CMS          B0D-B37 SR    PPF(SERVP2P
      ***** Mig-> 6VMCMS20 CMS          B0D-B37 SR    PPF(SERVP2P
D  CMSDOS      01d-> 6VMCMS10 CMS          B00-B0C SR    PPF(ZVM
      New-> 6VMCMS20 CMS          B00-B0C SR    PPF(SERVP2P
      ***** Mig-> 6VMCMS20 CMS          B00-B0C SR    PPF(SERVP2P
D  CMSFILES    01d-> 6VMCMS10 CMS          1900-1BFF SR  PPF(ZVM
      New-> 6VMCMS20 CMS          1900-1BFF SR  PPF(SERVP2P
      ***** Mig-> 6VMCMS20 CMS          1900-1BFF SR  PPF(SERVP2P
D  CMSPIPES    01d-> 6VMCMS10 CMS          1800-18FF SR  PPF(ZVM
      New-> 6VMCMS20 CMS          1800-18FF SR  PPF(SERVP2P
      ***** Mig-> 6VMCMS20 CMS          1800-18FF SR  PPF(SERVP2P
                                           Page 1 of 4

PF1=HELP PF3/PF12=Quit PF5=Process PF8=Forward
```

- d. Enter an action code for each segment listed. For information about the panel and action codes, press F1.

This Segment Migration panel is only a sample. Your panels will not list the same segments, action codes, status, and description.

- e. Press F8 to select action codes for all Software Inventory Segment Migration panels before continuing to the next step.
- f. Press F5 to process. Depending on the size of your software inventory files, it may take several minutes to process.

8. MIGR51D updated the V6.2 VMSES/E system software inventory files on your new 51D minidisk 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. See 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 MAINT620 and enter the following to update some of the other segment files on the system software inventory disk:

- a. Issue VMFSGMAP.

```
vmfsgmap segbld esasegs segblist
```

At this time, you can make further changes to any segment.

- b. On the first panel, enter:

```
segmerge
```

- c. Press F5 to save your changes and exit from VMFSGMAP.

The VMFSGMAP and SEGMERGE commands 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 “Running stand-alone builds” chapter of *z/VM: Service Guide*.
For example:

```
put2prod segments all
```

Note: You need to rebuild all of the segments on the new system to update the SYSTEM SEGID file.

You have now completed the automated migration procedure.

Additional information

Additional migration information that you should be aware of:

1. In addition to the customizable files that were moved from your current system to your new V6.2 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. When these files are migrated, message VMFMGR1319W is included in the migration message log, \$VMFMIG \$MSGLOG.

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 (OSASF, ICKDSF), 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, DIRMAINT, GCS, LE, PERFTK, RACF, RSCS, TCPIP, TSAF/AVS, VMHCD, VMSES), 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. See *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 17. 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 16. 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?
Directory Maintenance Facility	6.2.0	5741-A07	Disabled ¹	Yes ²
EREP	3.5.0	5654-260	Enabled	No
HCD and HCM for z/VM	6.2.0	5741-A07	Enabled	No ³
ICKDSF	1.17.0	5684-042	Enabled	No
OSA/SF	4.4.0	5741-A07	Enabled	Yes ²
Performance Toolkit for VM	6.2.0	5741-A07	Disabled ¹	Yes ²
RACF Security Server for z/VM	6.2.0	5741-A07	Disabled ¹	Yes ²
RSCS Networking for z/VM	6.2.0	5741-A07	Disabled ¹	Yes ²
TCP/IP	6.2.0	5741-A07	Enabled	Yes ²

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, see its own documentation. See the “Bibliography” on page 245.

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. See 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, see 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, see 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. See 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. See section “1.0 Introduction” in Resource Access Control Facility (RACF) Security Server program directory.

RACF database requirements:

- For z/VM non-Single System Image (SSI) installation, the primary and backup RACF databases were defined during the install.
- For z/VM SSI installation, you must *manually* define the primary and backup RACF databases as two 3390 full-pack minidisks. For SSI, it is required that the RACF database be shared between the members of an SSI cluster. See the Sharing RACF Databases in a z/VM Single System Image Cluster section of the *z/VM: RACF Security Server System Programmer's Guide*. See also *z/VM: CP Planning and Administration* for more information on DASD sharing.

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.

Preinstalled licensed products and features

Installation Instructions: The installation of RSCS is complete. To use RSCS, it must be enabled and configured. See 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. See 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 and there are several planning and administration guides available to aid you. See “Bibliography” on page 245.

Return to the z/VM System Delivery Offering program directory when you are ready to install other licensed products.

Part 4. Appendixes

Appendix A. 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 and components that are installed on the system.

Table 17 lists the component names for components, features, and products supported by the SERVICE and the PUT2PROD commands.

Table 17. Component names for components, features, and products supported by SERVICE and PUT2PROD

Product	Component Name
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

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.

To determine the RSU level of a component, issue the SERVICE command as follows:

```
service compname status
```

compname
A component listed in Table 17 or any other component defined in the VM SYSSUF table.

Example: In this example, “1101” represents the RSU level that you would use when ordering service for CP.

```
VMFSRV2195I SERVICE CP STATUS
VMFSRV2760I SERVICE processing started
VMFSRV1225I CP (6VMCPR20%CP) status:
VMFSRV1225I   Service Level   RSU-1101
VMFSRV1225I   Production Level sysname.RSU-1101
1101VMFSRV2760I SERVICE processing completed successfully
```

For more information, see the SERVICE command in *z/VM: VMSES/E Introduction and Reference*.

Appendix B. Migrate 51D from the old system

You can use the MIGR51D command to migrate your current system inventory disk to your new system. If your current system is at least z/VM V5.3, you can do this as part of the migration procedure (documented in Chapter 13, “Plan your migration,” on page 159 through Chapter 16, “Place migrated parts into production,” on page 179). If your current system is older than z/VM V5.3, or if you do not wish to follow the entire migration procedure, you can run MIGR51D as an independent activity.

To run MIGR51D as an independent activity, complete the steps listed here and then go to Chapter 16, “Place migrated parts into production” and complete “Step 5. Access the current system software inventory disk” on page 184 through “Step 7. Run MIGR51D” on page 188, as directed, in step 2 below.

1. Create a backup of the z/VM version 6 release 2 system software inventory disk (default is MAINT620 51D) using your site's normal backup procedures.
2. On your new system, obtain access to the system software inventory (SI) files (MAINT 51D) on your current system.

If your new system can be IPLed as a second level system on your current system, then go to Chapter 16, “Place migrated parts into production” and complete “Step 5. Access the current system software inventory disk” on page 184 through “Step 7. Run MIGR51D” on page 188.

If your new system is running first level, see your system programmer for assistance in making a copy of the current system SI files accessible on your new system. On your new system, create a new minidisk owned by the MAINT620 user ID, FFF, to store the SI files from your current system. Once the current system SI files are stored on minidisk FFF on your new system, go to Chapter 16, “Place migrated parts into production,” “Step 7. Run MIGR51D” on page 188.

Migrate 51D from the old system

Appendix C. Contents of the z/VM system

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
 - 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

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 common parm disk (PMAINT CF0). These files contain the system configuration data used by CP.
The CP system control file (SYSTEM CONFIG) describes the system residence device (M0xRES) and various system parameters, defining the configuration of your system.
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 (MAINT's CF1 and CF3).
4. The CP nucleus is IPLed with the system default language, mixed case American English (AMENG), uppercase English (UCENG), or Kanji (KANJI), which was selected during installation.
5. The default USER DIRECT file on the PMAINT 2CC minidisk contains entries defining each virtual machine (user) permitted to log on to your system.

CP defaults

If there is no machine mode defined for a user ID, the default machine mode definition is ESA. However, issuing the SET MACHINE command overrides the default setting. The USER DIRECT file which was built during installation contains a SET MACHINE XA, SET MACHINE ESA, or SET MACHINE 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 three help disks.
7. The USER DIRECT file contains default passwords for all user IDs defined by the installation process. Before moving your system into production, you should ensure all passwords conform to your corporate security policies.
8. 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.

9. 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, see 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, see *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 might be displayed in a different order.

```

query nss all map
:
:
FILE FILENAME FILETYPE MINSIZE BEGPAG ENDPAG TYPE CL #USERS PARMREGS VMGROUP
nnnn ZCMS      NSS      0000256K 00000 0000D EW  A  nnnnn  00-15  NO
                00020 00023 EW
                00F00 013FF SR
nnnn CMS       NSS      0000256K 00000 0000D EW  A  nnnnn  00-15  NO
                00020 00023 EW
                00F00 013FF SR
nnnn GCS       NSS      0000256K 00000 0000C EW  R  nnnnn  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  nnnnn  N/A    N/A
nnnn CMSBAM   DCSS-M   N/A      00B0D 00B37 SR  A  nnnnn  N/A    N/A
nnnn DOSBAM   DCSS-S   N/A      00B00 00B37 --  A  nnnnn  N/A    N/A
nnnn MONDCSS  CPDCSS   N/A      09000 0CFFF SC  R  nnnnn  N/A    N/A
nnnn GUICSLIB DCSS     N/A      01F00 01FFF SR  A  nnnnn  N/A    N/A
nnnn CMSFILES DCSS     N/A      01900 01BFF SR  A  nnnnn  N/A    N/A
nnnn SVM      DCSS     N/A      01900 019FF SR  A  nnnnn  N/A    N/A
nnnn CMSPIPES DCSS     N/A      01800 018FF SR  A  nnnnn  N/A    N/A
nnnn CMSVMLIB DCSS     N/A      01700 017FF SR  A  nnnnn  N/A    N/A
nnnn INSTSEG  DCSS     N/A      01400 016FF SR  A  nnnnn  N/A    N/A
nnnn HELPSEG  DCSS     N/A      00C00 00CFF SR  A  nnnnn  N/A    N/A
nnnn PERFOUT  DCSS     N/A      08A00 08FFF SN  A  nnnnn  N/A    N/A
nnnn DOSINST  DCSS     N/A      00900 0090F SR  A  nnnnn  N/A    N/A
nnnn SCEE     DCSS     N/A      00900 009FF SR  A  nnnnn  N/A    N/A
nnnn SCEEX    DCSS     N/A      02100 029FF SR  A  nnnnn  N/A    N/A
nnnn NLSKANJI DCSS     N/A      02000 020FF SR  A  nnnnn  N/A    N/A
nnnn NLSUCENG DCSS     N/A      02000 020FF SR  A  nnnnn  N/A    N/A
nnnn NLSAMENG DCSS     N/A      02000 020FF SR  A  nnnnn  N/A    N/A
Ready; T=n.nn/n.nn hh:mm:ss

```

VMSYS, VMSYSU, VMSYSR, and VMPSFS file pool defaults

The z/VM system incorporates four prebuilt file pools:

VMSYS

- System/member specific file pool
 - BFS directories defined for Shell and Utilities, and for SSL
 - System specific work disks in SFS
- Managed by the VMSESRV server machine
- Administrators – MAINT, MAINT620, MIGMAINT, VSMGUARD, and 6VMTCP20

VMSYS, VMSYSU, VMSYSR, and VMPSFS file pool defaults

Note: User IDs always enrolled in the VMSYS file pool are: DTCSEAPI, GSKADMIN, GSKSSLDB, LDAPSRV, MAINT, MAINT620, OPERATNS, PERSEAPI, ROOT, SSLSERV, SSL00001, SSL00002, SSL00003, SSL00004, SSL00005, TCPMAINT, VMRMSVM, VSMEVSRV, VSMGUARD, VSMPROXY, VSMREQIM, VSMREQIN, VSMREQI6, VSMREQIU, VSMWORK1, VSMWORK2, and VSMWORK3.

VMSYSU

- User data repository file pool
 - SFS storage space for general use by the system user population
 - SFS directories defined for use by SSL pool servers
- Managed by the VMSEVRU server machine
- Administrators – MAINT, MAINT620, and MIGMAINT

Note: User IDs always enrolled in the VMSYSU file pool are: ETC, MAINT, MAINT620, TMP, and VAR.

VMSYSR

- Coordinated resource recovery (CRR) file pool
- Managed by the VMSEVR server machine
- Administrators – MAINT, MAINT620, and MIGMAINT

VMPSFS

- Product service file pool
- Managed by the VMSEVRP server machine
- Administrators – MAINT, MAINT620, AUTOLOG1, AUTOLOG2, and MIGMAINT
- MAINT620's default file pool is set to VMPSFS

Note: User IDs always enrolled in the VMPSFS file pool are: DATAMOVE, DATAMOV2, DATAMOV3, DATAMOV4, DIRMAINT, DIRMSAT, DIRMSAT2, DIRMSAT3, DIRMSAT4, MAINT, MAINT620, and VSMGUARD.

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.

For more information and examples on tailoring these files and on BFS root directory definitions, see *z/VM: CMS File Pool Planning, Administration, and Operation*.

VMSYS/VMPSFS file pool

If you chose to load these products into the file pool, the following user IDs are also enrolled in the following file pools:

Table 18. VMSYS/VMPSFS File Pool User IDs

Product	File Pool	User IDs
VM	VMPSFS	BLDSEG
	VMPSFS	6VMLEN20

VMSYS, VMSYSU, VMSYSR, and VMPSFS file pool defaults

Table 18. VMSYS/VMPSFS File Pool User IDs (continued)

Product	File Pool	User IDs
RSCS	VMPSFS	6VMRSC20
	VMPSFS	RSCSAUTH
	VMPSFS	RSCSDNS
	VMPSFS	XCHANGE
	VMSYS	6VMRSC20
	VMSYS	XCHANGE
OSA/SF	VMPSFS	4OSASF40
	VMPSFS	OSADMIN1
	VMPSFS	OSADMIN2
	VMPSFS	OSADMIN3
	VMPSFS	OSAMAIN1
	VMPSFS	OSASF
TCP/IP	VMPSFS	6VMTCP20
ICKDSF	VMPSFS	5684042J
DIRM	VMPSFS	6VMDIR20
RACF	VMPSFS	6VMRAC20
PERFTK	VMPSFS	6VMPTK20
	VMPSFS	PERFSVM
	VMPSFS	PERSMAPI
	VMSYS	PERFSVM
VMHCD	VMPSFS	6VMHCD20
	VMPSFS	CBDIODSP

VMSYS, VMSYSU, VMSYSR, and VMPSFS file pool defaults

Appendix D. Back up the named saved systems and segments to tape

In this procedure, you will:

- On your system or each member of your SSI cluster, back up all the named saved systems and segments, including CMS, to tape.

1. Log on the system or member you are backing up as MAINT620.

```
logon maint620
:
Ready; T=n.nn/n.nn hh:mm:ss
```

2. Attach a tape drive (*tapeaddr*) to MAINT620 at virtual device address 181.

```
attach tapeaddr * 181
TAPE 0181 ATTACHED
Ready; T=n.nn/n.nn hh:mm:ss
```

3. Mount a tape, to be used for back up, on the tape drive attached at virtual device address 181.

4. Spool the console.

```
spool console * start
```

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

```
spxtape dump tapeaddr sdf all run
SPXTAPE DUMP INITIATED ON VDEV tapeaddr
Ready; T=n.nn/n.nn hh:mm:ss
```

The operand RUN specifies that the SPXTAPE rewinds and unloads the tape after the operation.

```
DUMPING tapeaddr :      nnn FILES, PAGES      nnnn nn% COMPLETE
:
DUMPING tapeaddr :      nnn FILES, PAGES      nnnn nn% COMPLETE
RDR FILE fileno1 SENT FROM MAINT620 CON WAS fileno1 RECS nnnn CPY 001 T NOHOLD NOKEEP
SPXTAPE DUMP COMMAND COMPLETED ON VDEV tapeaddr
TIME STARTED:      hh:mm:ss
TIME ENDED:        hh:mm:ss
TAPE COUNT:        nnn
FILES PROCESSED:   nnn
SPOOL PAGES:       nnnn
RDR FILE fileno2 SENT FROM MAINT620 CON WAS fileno2 RECS nnnn CPY 001 T NOHOLD NOKEEP
```

tapeaddr

Address of the tape drive attached to MAINT620.

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

fileno1

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

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

Back up the named saved systems and segments to tape

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 *z/VM: CP Commands and Utilities Reference*. For information on how to restore this tape to your system, see Appendix G, “Restore the named saved systems and segments from tape,” on page 217.
7. If you have a multi-member SSI cluster, repeat substeps 1-6 for each remaining member to back up the NSSs and segments for that member.

Appendix E. Back up the z/VM system to tape

In this procedure, 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 worksheets 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, see Appendix F, “Back up the z/VM system to DASD,” on page 215.

1. Log on the system or member you are going to back up to tape as MAINT620.

```
logon maint620
⋮
Ready; T=n.nn/n.nn hh:mm:ss
```

2. Ensure you have a link to all of the full-pack minidisks for all of the volumes you are backing up, as per the following table.

Default Label	Full-pack Minidisk	Owner	Member Specific or Common
M01RES	123	MAINT	Member Specific
M01W01	124	MAINT	Member Specific
620RL1	131	MAINT620	Common
620RL2	132	MAINT620	Common
VMCOM1	141	PMAINT	Common
VMCOM2	142	PMAINT	Common

```
q v 122-142
DASD 0122 3390 M01S01 R/O      3339 CYL ON DASD  nnnn SUBCHANNEL = nnnn
DASD 0123 3390 M01RES R/O      3339 CYL ON DASD  nnnn SUBCHANNEL = nnnn
DASD 0124 3390 M01W01 R/O      3339 CYL ON DASD  nnnn SUBCHANNEL = nnnn
⋮
DASD 0131 3390 620RL1 R/W       3339 CYL ON DASD  nnnn SUBCHANNEL = nnnn
DASD 0132 3390 620RL2 R/W       3339 CYL ON DASD  nnnn SUBCHANNEL = nnnn
DASD 0141 3390 VMCOM1 R/O       3339 CYL ON DASD  nnnn SUBCHANNEL = nnnn
DASD 0142 3390 VMCOM2 R/O       3339 CYL ON DASD  nnnn SUBCHANNEL = nnnn
Ready; T=n.nn/n.nn hh:mm:ss
```

3. Attach a tape drive (*tapeaddr*) to MAINT620 at virtual device address 181.

```
attach tapeaddr * 181
TAPE 0181 ATTACHED
Ready; T=n.nn/n.nn hh:mm:ss
```

4. Mount a tape, to be used for back up, on the tape drive attached at virtual device address 181.
5. Access the 193 minidisk as file mode Z.

Back up the z/VM system to tape

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

6. 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
```

7. Rewind the backup tape attached at virtual device address 181.

```
rewind 181
Rewind complete
```

8. 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 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.

You must back up all your installation volumes, except the paging volume.

devno

Full-pack minidisk address of the volume you are backing up.

valid

Volume label – for example M01RES.

```
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 at virtual device address 181 and an alternate tape attached at virtual device address 182, the OUTPUT control statement would be:

```
output 181 tape 182 (compact
```

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.

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:
```

DDRXA prompts when finishes dumping the volume.

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.
- 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.

9. 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.
10. Press Enter to end the program.

```
ENTER
END OF JOB
```

11. IPL CMS.

```
#cp ip1 cms
z/VM V6.2.0   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 H, “Restore the z/VM system backup from tape,” on page 219.

12. If you have a multi-member SSI cluster, repeat substeps 1-11 for each remaining member to back up the member-specific volumes.

Back up the z/VM system to tape

Appendix F. Back up the z/VM system to DASD

In this procedure, 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 worksheets 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, see Appendix E, “Back up the z/VM system to tape,” on page 211.

1. Log on the system or member you are going to back up to DASD as MAINT620.

```
logon maint620
:
Ready; T=n.nn/n.nn hh:mm:ss
```

2. Ensure you have a link to all of the full-pack minidisks for all of the volumes you are backing up, as per the following table.

Default Label	Full-pack Minidisk	Owner	Member Specific or Common
M01RES	123	MAINT	Member Specific
M01W01	124	MAINT	Member Specific
620RL1	131	MAINT620	Common
620RL2	132	MAINT620	Common
VMCOM1	141	PMAINT	Common
VMCOM2	142	PMAINT	Common

```
q v 122-142
DASD 0122 3390 M01S01 R/O      3339 CYL ON DASD  nnnn SUBCHANNEL = nnnn
DASD 0123 3390 M01RES R/O     3339 CYL ON DASD  nnnn SUBCHANNEL = nnnn
DASD 0124 3390 M01W01 R/O     3339 CYL ON DASD  nnnn SUBCHANNEL = nnnn
:
DASD 0131 3390 620RL1 R/W     3339 CYL ON DASD  nnnn SUBCHANNEL = nnnn
DASD 0132 3390 620RL2 R/W     3339 CYL ON DASD  nnnn SUBCHANNEL = nnnn
DASD 0141 3390 VMCOM1 R/O     3339 CYL ON DASD  nnnn SUBCHANNEL = nnnn
DASD 0142 3390 VMCOM2 R/O     3339 CYL ON DASD  nnnn SUBCHANNEL = nnnn
Ready; T=n.nn/n.nn hh:mm:ss
```

3. Access the 193 minidisk as file mode Z.

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

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

Back up the z/VM system to DASD

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.

You must back up all your installation volumes, except the paging volume.

devno

Full-pack minidisk address of the volume you are backing up.

valid

Volume label – for example M01RES.

output devno dasd scratch

ENTER:

You need a separate volume for each volume you are backing up.

devno

Full-pack minidisk address of the volume you are using to backup.

copy all

This control statement dumps the specified volume to the new 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.

The exact cylinder extents vary according to the device type.

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

⋮
END OF DUMP
BYTES IN *nnnnnnnnnn* BYTES OUT *nnnnnnnnnn*
TRACKS NOT COMPACTED ON TAPE - *nnnnnnnnnn*
ENTER:

When DDR finishes dumping the volume, it prompts.

5. If you have any more DASD volumes to back up, repeat the INPUT, OUTPUT, and COPY ALL statements for each volume.
6. Press Enter to end the program.

ENTER

END OF JOB

7. If you have a multi-member SSI cluster, repeat substeps 1-6 for each remaining member to back up the member-specific volumes.

Appendix G. Restore the named saved systems and segments from tape

In this procedure, you will:

- Restore the CMS named saved systems and segments.

If you created a loadable tape of the named saved systems and segments during your system installation, perform the following steps to restore the named saved system and segments.

1. Log on as MAINT620.

```
ENTER
logon maint620
:
Ready; T=n.nn/n.nn hh:mm:ss
```

The default password for MAINT620 is MAINT620.

2. Attach a tape drive (*tapeaddr*) to MAINT620.

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

3. Mount the backup tape on the attached tape drive (*tapeaddr*).

4. Spool the console.

```
spool console *
```

5. Enter the SPXTAPE command to load the system data files.

```
spxtape load tapeaddr sdf all run
```

tapeaddr
Address of the tape drive attached to
MAINT620.

```
SPXTAPE LOAD INITIATED ON VDEV tapeaddr
Ready; T=n.nn/n.nn hh:mm:ss

LOADING tapeaddr :      nnn FILES,  PAGES  nnnn
:
LOADING tapeaddr :      nnn FILES,  PAGES  nnnn
SPXTAPE LOAD END-OF-TAPE ON VDEV tapeaddr;
MOUNT NEXT TAPE
TAPE NUMBER:      tapeaddr-001
FILES PROCESSED:  nnn
SPOOL PAGES:      nnnn
LOADING tapeaddr :      nnn FILES,  PAGES  nnnn
:
LOADING tapeaddr :      nnn FILES,  PAGES  nnnn
RDR FILE fileno1 SENT FROM MAINT620 CON WAS fileno RECS nnnn CPY 001 T NOHOLD NOKEEP
```

fileno1
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.

6. When all volumes have been loaded, use the SPXTAPE END command to end the SPXTAPE load.

Restore the named saved systems and segments from tape

```
spxtape end tapeaddr
SPXTAPE END      INITIATED ON VDEV tapeaddr
SPXTAPE LOAD COMMAND ENDED      ON VDEV tapeaddr
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 MAINT620 CON WAS fileno RECS nnnn CPY 001 T NOHOLD NOKEEP
```

fileno2
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 *z/VM: CP Commands and Utilities Reference*.

7. IPL the CMS named saved system.

```
ipl cmsname
:
z/VM V6.2.0   yyyy-mm-dd hh:mm
ENTER
Ready; T=n.nn/n.nn hh:mm:ss
```

cmsname
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 H. Restore the z/VM system backup from tape

In this procedure, 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.

If you created a backup of your new z/VM system on tape during your system installation, perform the following steps to restore the system.

1. Mount the backup tape on a tape drive.
2. IPL the tape drive.

```
ipl tapeaddr clear
```

tapeaddr

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 tapeaddr tape  
ENTER:
```

The second control statement is the input control statement.

tapeaddr

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 at virtual device address 181 and an alternate tape attached at virtual device address 182, the INPUT control statement would be:

```
input 181 tape 182
```

If you are using a 3590 tape, and multiple DASD volumes 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 from tape

```
output devaddr dasd volid
ENTER:
```

This output statement specifies the DASD device to which you are restoring the system.

```
devaddr
    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 (620SPL), 123 (620RES) 124 (620W01), 125 (620W02), ...

By typing **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 volid
DATA DUMPED mm/dd/yy
    AT hh.mm.ss GMT FROM volid
    RESTORED TO volid
INPUT CYLINDER EXTENTS      OUTPUT CYLINDER EXTENTS
      START      STOP          START      STOP
      nnnnnnnn   nnnnnnnn     nnnnnnnn   nnnnnnnn
:
END OF RESTORE
BYTES RESTORED nnnnnnnnnn
```

The exact cylinder extents vary according to the device type.

Repeat INPUT, OUTPUT, and RESTORE statements for each DASD you are restoring.

```
ENTER:
:
```

When DDRXA finishes, it prompts you with ENTER. Press Enter to end the program.

```
ENTER:
```

```
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 I. Recover a file or minidisk

In this procedure, 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 as MAINT620.

```
ENTER  
logon maint620
```

The default password for MAINT620 is MAINT620.

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

2. If you want to recover an entire minidisk, skip this substep and go to substep 3.

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 3. Otherwise, check the minidisk map file. If you loaded z/VM to the file pool, the minidisk map file is on the directory VMPSFS:MAINT620.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.

3. 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 4CC 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
Address of the temporary disk.

mdisksize
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.

4. Continue to the appropriate substep depending on the type of installation media.

- DDR tape, continue to substep 5.
- DVD, continue to substep 8 on page 222.

5. Attach a tape drive (*tapeaddr*) to the MAINT620 user ID at virtual device address 181.

Recover a file or minidisk

```
attach tapeaddr * 181
tapeaddr attached to MAINT620
Ready; T=n.nn/n.nn hh:mm:ss
```

6. Mount the z/VM system installation tape on tape drive 181.
7. Restore the chosen minidisk by using the INSTTAPE command and RECOVER option.

```
access 4CC C
Ready; T=n.nn/n.nn hh:mm:ss
```

```
insttape tape (recover mdiskaddr loadaddr          mdiskaddr
                                                    Address of the minidisk to be loaded from the
                                                    z/VM system installation tape.
                                                    loadaddr
                                                    Address to which you restore the minidisk.
```

Notes:

- a. If the minidisk belongs to MAINT620, *mdiskaddr* is the actual minidisk address. If the minidisk does not belong to MAINT620, *mdiskaddr* is the alias address. See the \$ITEMMD\$ \$TABLE\$ on the 4CC 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. Because this disk does not belong to MAINT620, the INSTTAPE command would be: INSTAPE TAPE (RECOVER 801 801
- 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 4CC minidisk directly to the 4CC minidisk. You can recover the 4CC to an address other than 4CC and copy the files you wish to recover to the 4CC minidisk.
- e. The INSTALL command requires a full screen terminal with at least 24 lines.

8. 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 an 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 ftpdrct -v BEF -DVDEOF -f dddcuu* |UNPACK|
restcmd loadaddr
```

<i>IPaddress</i>	IP address or FTP HOSTNAME.	<i>cuu*</i>	Address of the minidisk to be recovered from the DVD, with an asterisk (*) appended to the end.
<i>userid</i>		<i>restcmd</i>	ECKDREST for 3390 or MDREST for FBA.
<i>password</i>	User ID and password used to log on to the FTP server.	<i>loadaddr</i>	Address to which you are restoring the minidisk.
<i>ftpdrcrct</i>	Path to the DVD drive or server directory. If using a DVD drive, append /CPDVD to the end of the path.		
<i>ddd</i>	CKD for 3390 or FBA for FBA.		

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 MAINT620, *cuu* is the actual minidisk address. If the minidisk does not belong to MAINT620, *cuu* is the alias address. See the \$ITEMMD\$ \$TABLE\$ on the 4CC 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.

C. Recover from a VM minidisk. Access the VM minidisk address as file mode C.

access <i>diskaddr c</i>	
Ready; T= <i>n.nn/n.nn hh:mm:ss</i>	
pipe <i>dvddecod dddcuu image c UNPACK restcmd loadaddr</i>	
<i>ddd</i>	<i>restcmd</i>
CKD for 3390 or FBA for FBA.	ECKDREST for 3390 or MDREST for FBA.
<i>cuu</i>	<i>loadaddr</i>
Address of the minidisk to be recovered from the DVD.	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 MAINT620, *cuu* is the actual minidisk address. If the minidisk does not belong to MAINT620, *cuu* is the alias address. See the \$ITEMMD\$ \$TABLE\$ on the 4CC 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.

9. If you restored the minidisk to a temporary disk, copy the file or files that you want to recover from the temporary disk to the target disk.

access <i>loadaddr fm-1</i>	<i>loadaddr</i>
Ready; T= <i>n.nn/n.nn hh:mm:ss</i>	Address of the temporary disk.
	<i>fm-1</i>
	Any available file mode.

Recover a file or minidisk

access *mdiskaddr fm-2*
Ready; T=*n.nn/n.nn hh:mm:ss*

copyfile *fn ft fm-1 = = fm-2 (olddate*
Ready; T=*n.nn/n.nn hh:mm:ss*

mdiskaddr
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
Any available file mode.

fn File name of the file you want to recover.

ft File type of the file you want to recover. Repeat the COPYFILE command for each file you want to recover.

Appendix J. Using an integrated 3270 console for installation

Perform the following steps to install the z/VM system in a new system environment using an integrated 3270 console on the HMC.

1. Open the CPC Image Work Area pane.
 - a. In the Hardware Management Console Workplace window, double-click the **Task List** icon in the Views pane.
 - b. In the Task List Work Area pane, double-click the **Recovery** icon.
 - c. In the Views pane, double-click the **Groups** icon.
 - d. In the Groups Work Area pane, double-click the **CPC Images** icon.
2. IPL the tape drive to load ICKDSF.
 - a. In the CPC Images Work Area pane, select the LPAR you are going to use for installation.
 - b. In the Recovery pane, double-click the **Load** icon. The Load window opens.
 - c. In the Load window, ensure that a Load Type of "Normal" is selected, enter the device address of your tape drive in the **Load address** field, and enter CNSLSCLP in the **Load parameter** field.
 - d. Click **OK**. The Load Task Confirmation prompt is displayed.
 - e. Click **Yes** to continue.
 - f. Messages indicating the status of the load are displayed in the Load Progress window. When a message is displayed indicating the load is successful, click **OK** to close the window.
 - g. In the Hardware Management Console Workplace window, double-click the **Operating System Messages** icon in the Recovery pane. The Operating System Messages window opens. ICKDSF will load in the Operating System Messages window. It might take a few minutes for the messages to appear.
 - h. Go back to "Step 1. Restore the SVS" on page 18 and follow substeps 6 through 8 to use ICKDSF to initialize, format, and label the volumes needed for installation. Return here when instructed.
3. Close the Operating System Messages window.
4. Open an integrated 3270 console and IPL the tape drive to load the DDR program. The Integrated 3270 Console window must remain open, even if it is in the background.
 - a. In the Hardware Management Console Workplace window, if not already highlighted, select the LPAR you are using for installation in the CPC Images Work Area pane.
 - b. In the Recovery pane, double-click the **Integrated 3270 Console** icon. The Integrated 3270 Console window for that LPAR opens.
 - c. In the Hardware Management Console Workplace window, select the LPAR you are using for installation in the CPC Images Work Area pane again.
 - d. In the Recovery pane, double-click the **Load** icon. The Load window opens.
 - e. In the Load window, enter the device address of your tape drive in the **Load address** field and enter SYSG in the **Load parameter** field. Ensure the **Load parameter** field is empty before entering SYSG.
 - f. Click **OK**. The Load Task Confirmation prompt is displayed.
 - g. Click **Yes** to continue.

Appendix K. Using a terminal emulator to upload files from a DVD

Note: Using a terminal emulator to upload files from a DVD can take several hours to complete.

The following procedure will guide you through using IBM Personal Communications to upload files from the z/VM system DVD and the RSU DVD to a VM minidisk. If Personal Communications is not your preferred terminal emulator, this procedure can be used as a model for using the upload function provided with your preferred terminal emulator.

Requirement: Files must be uploaded with a **fixed** record format, a logical record length of **1028**, and a **binary** transfer type. These options must be used to ensure file attributes are maintained.

1. Start a new Personal Communications session and log on to a user ID with access to the minidisk where you will transfer the DVD files.
2. If you have already set up a “dvdbinary” transfer type, skip to substep 3. Otherwise, create a new transfer type called “dvdbinary ”.
 - a. From the **Edit** menu, click **Preferences** then **Transfer**.
 - b. In the File Transfer Settings window, click the **General** tab and verify that the **Host Type** is **VM/CMS**. If not, select **VM/CMS** from the **Host Type** list.
 - c. Click the **VM** tab.
 - 1) In the **Transfer Type** field, enter “dvdbinary”.
 - 2) Select **Fixed** in the **Record Format** list.
 - 3) In the **Logical Record Length** field, enter “1028”.
 - 4) Click **Save**.
 - 5) Click **OK**.
3. Load the z/VM system DVD in the DVD drive.

Note: If your DVD drive is not labeled drive letter D, copy the 620prod.srl file from the DVD to your workstation. Open the file, and change “D:” to match your DVD drive letter for each entry. Save the modified file and use it instead of the copy on the DVD for the following steps.

4. Upload the contents of the DVD to the VM minidisk (previously accessed as file mode W).

- a. Set messages off in your VM session:

```
set msg off
set emsg off
set imsg off
set wng off
```

- b. From the **Actions** menu, click **Send File To Host**.

- c. In the Send Files to Host window, click **Open List**.

- 1) In the Open File-Transfer List File window, navigate to the CPDVD directory on the DVD and select the 620prod.srl file.

Note: If you created a modified 620prod.srl file in the previous substep, navigate to the location on your workstation where the modified file is saved and select it instead.

- 2) Click **Open**. Each file to be copied is added to the transfer list.

Using a terminal emulator to upload files from a DVD

- d. Click **Send**.
5. Repeat this procedure using the RSU DVD. Substitute one of the following *.srl files in place of the 620prod.srl file used for the z/VM system DVD.

If installing to . . .	Then substitute . . .
3390	62ckdrsu.srl
FBA	62fbarsu.srl

6. When all files have been transferred, restore your message settings in your VM session:

```
set msg on
set emsg on
set imsg on
set wng on
```

7. Verify that all of the files transferred have a **fixed** (F) file format and a logical record length (LRECL) of **1028**.

If the file format or logical record length of any file is incorrect, then the files were uploaded incorrectly. Erase all of the files from the minidisk and upload the contents of the z/VM system DVD and installation RSU DVD again, using the correct parameters:

```
filelist * image w
```

```
Cmd Filename Filetype Fm Format Lrecl Records Blocks Date Time
xxx 22200 IMAGE W1 F 1028 nnnn nnn dddd tttt
:
```

8. Return to Chapter 7, From a VM Minidisk, Step 1, Substep 12 on page 102.

Appendix L. Basic TCP/IP Connectivity Worksheets

Gather the TCP/IP configuration information from your network system administrator and record the information in the following tables.

If you are installing a multi-member SSI, the TCP/IP configuration must be done separately on each SSI member. Therefore, you will need a separate set of configuration worksheets for each member (1-4) on which you will create a minimal TCP/IP configuration.

In these worksheets, a number in parentheses following a field description – for example, Host name (20) – is the maximum length for that field.

Note: The IP configuration wizard supports real network devices only. If you plan on using virtual network devices for TCP/IP, they must be configured manually. See *z/VM: TCP/IP Planning and Customization*.

Member 1

Table 19. Installation TCP/IP Configuration Worksheet – Member 1

z/VM user ID of the z/VM TCP/IP stack virtual machine: (The default user ID is TCPIP. If you change this user ID, you must define the user ID in your user directory before issuing 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):	
(IPv4 only) Path MTU discovery:	<input type="checkbox"/> Enabled <input type="checkbox"/> Disabled
Choose the interface you will be using (select one):	<input type="checkbox"/> QDIO (layer 2) <input type="checkbox"/> QDIO (layer 3) <input type="checkbox"/> LCS <input type="checkbox"/> HiperSockets <input type="checkbox"/> CLAW <input type="checkbox"/> CTC See the appropriate interface worksheet to record additional information. IPv6 is available only for QDIO and HiperSockets devices.

Basic TCP/IP Connectivity Worksheets

Table 20. QDIO Interface Worksheet – Member 1

Router type (select one):	<input type="checkbox"/> Primary <input type="checkbox"/> Secondary <input type="checkbox"/> None Router type is not available for layer 2 transport.
(IPv6 only) Router advertisements:	<input type="checkbox"/> On <input type="checkbox"/> Off
Maximum transmission unit (MTU) size:	
(Optional) Port number:	
(Optional) VLAN ID:	
Note: As of V6.2, only Ethernet network types are allowed.	

Table 21. LCS Interface Worksheet – Member 1

Port/adaptor number:	
Maximum transmission unit (MTU) size:	
Note: As of V6.2, only Ethernet network types are allowed.	

Table 22. HiperSockets Interface Worksheet – Member 1

(IPv6 only) Router advertisements:	<input type="checkbox"/> On <input type="checkbox"/> Off
Maximum frame size (MFS) in kilobytes:	
(Optional) VLAN ID:	

Table 23. CLAW Interface Worksheet – Member 1

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 24. CTC Interface Worksheet – Member 1

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 one.
Maximum transmission unit (MTU) size:	
Peer IP address:	

Member 2

Table 25. Installation TCP/IP Configuration Worksheet – Member 2

z/VM user ID of the z/VM TCP/IP stack virtual machine: (The default user ID is TCPIP. If you change this user ID, you must define the user ID in your user directory before issuing 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):	
(IPv4 only) Path MTU discovery:	<input type="checkbox"/> Enabled <input type="checkbox"/> Disabled
Choose the interface you will be using (select one):	<input type="checkbox"/> QDIO (layer 2) <input type="checkbox"/> QDIO (layer 3) <input type="checkbox"/> LCS <input type="checkbox"/> HiperSockets <input type="checkbox"/> CLAW <input type="checkbox"/> CTC See the appropriate interface worksheet to record additional information. IPv6 is available only for QDIO and HiperSockets devices.

Basic TCP/IP Connectivity Worksheets

Table 26. QDIO Interface Worksheet – Member 2

Router type (select one):	<input type="checkbox"/> Primary <input type="checkbox"/> Secondary <input type="checkbox"/> None Router type is not available for layer 2 transport.
(IPv6 only) Router advertisements:	<input type="checkbox"/> On <input type="checkbox"/> Off
Maximum transmission unit (MTU) size:	
(Optional) Port number:	
(Optional) VLAN ID:	
Note: As of V6.2, only Ethernet network types are allowed.	

Table 27. LCS Interface Worksheet – Member 2

Port/adaptor number:	
Maximum transmission unit (MTU) size:	
Note: As of V6.2, only Ethernet network types are allowed.	

Table 28. HiperSockets Interface Worksheet – Member 2

(IPv6 only) Router advertisements:	<input type="checkbox"/> On <input type="checkbox"/> Off
Maximum frame size (MFS) in kilobytes:	
(Optional) VLAN ID:	

Table 29. CLAW Interface Worksheet – Member 2

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 30. CTC Interface Worksheet – Member 2

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 one.
Maximum transmission unit (MTU) size:	
Peer IP address:	

Member 3

Table 31. Installation TCP/IP Configuration Worksheet – Member 3

z/VM user ID of the z/VM TCP/IP stack virtual machine: (The default user ID is TCPIP. If you change this user ID, you must define the user ID in your user directory before issuing 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):	
(IPv4 only) Path MTU discovery:	<input type="checkbox"/> Enabled <input type="checkbox"/> Disabled
Choose the interface you will be using (select one):	<input type="checkbox"/> QDIO (layer 2) <input type="checkbox"/> QDIO (layer 3) <input type="checkbox"/> LCS <input type="checkbox"/> HiperSockets <input type="checkbox"/> CLAW <input type="checkbox"/> CTC See the appropriate interface worksheet to record additional information. IPv6 is available only for QDIO and HiperSockets devices.

Basic TCP/IP Connectivity Worksheets

Table 32. QDIO Interface Worksheet – Member 3

Router type (select one):	<input type="checkbox"/> Primary <input type="checkbox"/> Secondary <input type="checkbox"/> None Router type is not available for layer 2 transport.
(IPv6 only) Router advertisements:	<input type="checkbox"/> On <input type="checkbox"/> Off
Maximum transmission unit (MTU) size:	
(Optional) Port number:	
(Optional) VLAN ID:	
Note: As of V6.2, only Ethernet network types are allowed.	

Table 33. LCS Interface Worksheet – Member 3

Port/adaptor number:	
Maximum transmission unit (MTU) size:	
Note: As of V6.2, only Ethernet network types are allowed.	

Table 34. HiperSockets Interface Worksheet – Member 3

(IPv6 only) Router advertisements:	<input type="checkbox"/> On <input type="checkbox"/> Off
Maximum frame size (MFS) in kilobytes:	
(Optional) VLAN ID:	

Table 35. CLAW Interface Worksheet – Member 3

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 36. CTC Interface Worksheet – Member 3

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 one.
Maximum transmission unit (MTU) size:	
Peer IP address:	

Member 4

Table 37. Installation TCP/IP Configuration Worksheet – Member 4

z/VM user ID of the z/VM TCP/IP stack virtual machine: (The default user ID is TCPIP. If you change this user ID, you must define the user ID in your user directory before issuing 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):	
(IPv4 only) Path MTU discovery:	<input type="checkbox"/> Enabled <input type="checkbox"/> Disabled
Choose the interface you will be using (select one):	<input type="checkbox"/> QDIO (layer 2) <input type="checkbox"/> QDIO (layer 3) <input type="checkbox"/> LCS <input type="checkbox"/> HiperSockets <input type="checkbox"/> CLAW <input type="checkbox"/> CTC See the appropriate interface worksheet to record additional information. IPv6 is available only for QDIO and HiperSockets devices.

Basic TCP/IP Connectivity Worksheets

Table 38. QDIO Interface Worksheet – Member 4

Router type (select one):	<input type="checkbox"/> Primary <input type="checkbox"/> Secondary <input type="checkbox"/> None Router type is not available for layer 2 transport.
(IPv6 only) Router advertisements:	<input type="checkbox"/> On <input type="checkbox"/> Off
Maximum transmission unit (MTU) size:	
(Optional) Port number:	
(Optional) VLAN ID:	
Note: As of V6.2, only Ethernet network types are allowed.	

Table 39. LCS Interface Worksheet – Member 4

Port/adaptor number:	
Maximum transmission unit (MTU) size:	
Note: As of V6.2, only Ethernet network types are allowed.	

Table 40. HiperSockets Interface Worksheet – Member 4

(IPv6 only) Router advertisements:	<input type="checkbox"/> On <input type="checkbox"/> Off
Maximum frame size (MFS) in kilobytes:	
(Optional) VLAN ID:	

Table 41. CLAW Interface Worksheet – Member 4

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 42. CTC Interface Worksheet – Member 4

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 one.
Maximum transmission unit (MTU) size:	
Peer IP address:	

Appendix M. IPLing z/VM from a SCSI device

When IPLing z/VM from a SCSI device, the following parameters need to be entered in the HMC Load window

1. Select the **radio button for SCSI**.
2. In the **Load address** field, enter the address of the FCP device (that is, the FCP address, not the EDEV address) used to define the residence volume for the system you are IPLing.
3. In the **Load parameter** field, enter the address of your system console – either SYSG for the Integrated 3270 Console on the HMC, or some other address (for example, 20) that represents your system console.
4. In the **Worldwide port name** field, enter the world wide port name (WWPN) used to define the residence volume for the system you are IPLing.
5. In the **Logical unit number** field, enter the 16-character logical unit number (LUN) of the residence volume for the system you are IPLing.
6. In the **Boot program selector** field, enter 0 (zero).
7. In the **Boot record logical block address** field, enter the 16-character value 00000000000000C8.
8. Click **OK**. Confirmation prompts will be displayed.

Once you have confirmed your IPL, the z/VM Stand Alone Program Loader (SAPL) panel will be displayed on the console that you specified. Verify that your FCP device address is displayed in the **DEVICE NUMBER** field. In the **IPL PARAMETERS** area, enter “cons=” followed by your console address, and “pdvo1=” followed by the EDEVICE number used to define the residence volume for the system you are IPLing. When you have entered all your data, press F10 to complete your IPL.

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Glossary

For a list of z/VM terms and their definitions, see *z/VM: Glossary*.

The z/VM glossary is also available through the online z/VM HELP Facility. For example, to display the definition of the term “dedicated device”, issue the following HELP command:

```
help glossary dedicated device
```

While you are in the glossary help file, you can do additional searches:

- To display the definition of a new term, type a new HELP command on the command line:

```
help glossary newterm
```

This command opens a new help file inside the previous help file. You can repeat this process many times. The status area in the lower right corner of the screen shows how many help files you have open. To close the current file, press the Quit key (PF3/F3). To exit from the HELP Facility, press the Return key (PF4/F4).

- To search for a word, phrase, or character string, type it on the command line and press the Clocate key (PF5/F5). To find other occurrences, press the key multiple times.

The Clocate function searches from the current location to the end of the file. It does not wrap. To search the whole file, press the Top key (PF2/F2) to go to the top of the file before using Clocate.

Bibliography

See the following publications for additional information about z/VM. For abstracts of the z/VM publications, see *z/VM: General Information*.

Where to Get z/VM Information

z/VM product information is available from the following sources:

- z/VM V6R2 Information Center (publib.boulder.ibm.com/infocenter/zvm/v6r2/)
- IBM: z/VM Internet Library (www.ibm.com/vm/library/)
- IBM Publications Center (www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss)
- *IBM Online Library: z/VM Collection*, SK5T-7054

z/VM Base Library

Overview

- *z/VM: General Information*, GC24-6193
- *z/VM: Glossary*, GC24-6195
- *z/VM: License Information*, GC24-6200

Installation, Migration, and Service

- *z/VM: Installation Guide*, GC24-6246
- *z/VM: Migration Guide*, GC24-6201
- *z/VM: Service Guide*, GC24-6247
- *z/VM: VMSES/E Introduction and Reference*, GC24-6243

Planning and Administration

- *z/VM: CMS File Pool Planning, Administration, and Operation*, SC24-6167
- *z/VM: CMS Planning and Administration*, SC24-6171
- *z/VM: Connectivity*, SC24-6174
- *z/VM: CP Planning and Administration*, SC24-6178
- *z/VM: Getting Started with Linux on System z*, SC24-6194
- *z/VM: Group Control System*, SC24-6196
- *z/VM: I/O Configuration*, SC24-6198
- *z/VM: Running Guest Operating Systems*, SC24-6228

- *z/VM: Saved Segments Planning and Administration*, SC24-6229
- *z/VM: Secure Configuration Guide*, SC24-6230
- *z/VM: TCP/IP LDAP Administration Guide*, SC24-6236
- *z/VM: TCP/IP Planning and Customization*, SC24-6238
- *z/OS and z/VM: Hardware Configuration Manager User's Guide*, SC33-7989

Customization and Tuning

- *z/VM: CP Exit Customization*, SC24-6176
- *z/VM: Performance*, SC24-6208

Operation and Use

- *z/VM: CMS Commands and Utilities Reference*, SC24-6166
- *z/VM: CMS Pipelines Reference*, SC24-6169
- *z/VM: CMS Pipelines User's Guide*, SC24-6170
- *z/VM: CMS Primer*, SC24-6172
- *z/VM: CMS User's Guide*, SC24-6173
- *z/VM: CP Commands and Utilities Reference*, SC24-6175
- *z/VM: System Operation*, SC24-6233
- *z/VM: TCP/IP User's Guide*, SC24-6240
- *z/VM: Virtual Machine Operation*, SC24-6241
- *z/VM: XEDIT Commands and Macros Reference*, SC24-6244
- *z/VM: XEDIT User's Guide*, SC24-6245
- *CMS/TSO Pipelines: Author's Edition*, SL26-0018

Application Programming

- *z/VM: CMS Application Development Guide*, SC24-6162
- *z/VM: CMS Application Development Guide for Assembler*, SC24-6163
- *z/VM: CMS Application Multitasking*, SC24-6164
- *z/VM: CMS Callable Services Reference*, SC24-6165
- *z/VM: CMS Macros and Functions Reference*, SC24-6168
- *z/VM: CP Programming Services*, SC24-6179
- *z/VM: CPI Communications User's Guide*, SC24-6180

- *z/VM: Enterprise Systems Architecture/Extended Configuration Principles of Operation*, SC24-6192
- *z/VM: Language Environment User's Guide*, SC24-6199
- *z/VM: OpenExtensions Advanced Application Programming Tools*, SC24-6202
- *z/VM: OpenExtensions Callable Services Reference*, SC24-6203
- *z/VM: OpenExtensions Commands Reference*, SC24-6204
- *z/VM: OpenExtensions POSIX Conformance Document*, GC24-6205
- *z/VM: OpenExtensions User's Guide*, SC24-6206
- *z/VM: Program Management Binder for CMS*, SC24-6211
- *z/VM: Reusable Server Kernel Programmer's Guide and Reference*, SC24-6220
- *z/VM: REXX/VM Reference*, SC24-6221
- *z/VM: REXX/VM User's Guide*, SC24-6222
- *z/VM: Systems Management Application Programming*, SC24-6234
- *z/VM: TCP/IP Programmer's Reference*, SC24-6239
- *Common Programming Interface Communications Reference*, SC26-4399
- *Common Programming Interface Resource Recovery Reference*, SC31-6821
- *z/OS: IBM Tivoli Directory Server Plug-in Reference for z/OS*, SA76-0148
- *z/OS: Language Environment Concepts Guide*, SA22-7567
- *z/OS: Language Environment Debugging Guide*, GA22-7560
- *z/OS: Language Environment Programming Guide*, SA22-7561
- *z/OS: Language Environment Programming Reference*, SA22-7562
- *z/OS: Language Environment Run-Time Messages*, SA22-7566
- *z/OS: Language Environment Writing Interlanguage Communication Applications*, SA22-7563
- *z/OS MVS Program Management: Advanced Facilities*, SA22-7644
- *z/OS MVS Program Management: User's Guide and Reference*, SA22-7643

Diagnosis

- *z/VM: CMS and REXX/VM Messages and Codes*, GC24-6161
- *z/VM: CP Messages and Codes*, GC24-6177
- *z/VM: Diagnosis Guide*, GC24-6187
- *z/VM: Dump Viewing Facility*, GC24-6191
- *z/VM: Other Components Messages and Codes*, GC24-6207
- *z/VM: TCP/IP Diagnosis Guide*, GC24-6235
- *z/VM: TCP/IP Messages and Codes*, GC24-6237
- *z/VM: VM Dump Tool*, GC24-6242
- *z/OS and z/VM: Hardware Configuration Definition Messages*, SC33-7986

z/VM Facilities and Features

Data Facility Storage Management Subsystem for VM

- *z/VM: DFSMS/VM Customization*, SC24-6181
- *z/VM: DFSMS/VM Diagnosis Guide*, GC24-6182
- *z/VM: DFSMS/VM Messages and Codes*, GC24-6183
- *z/VM: DFSMS/VM Planning Guide*, SC24-6184
- *z/VM: DFSMS/VM Removable Media Services*, SC24-6185
- *z/VM: DFSMS/VM Storage Administration*, SC24-6186

Directory Maintenance Facility for z/VM

- *z/VM: Directory Maintenance Facility Commands Reference*, SC24-6188
- *z/VM: Directory Maintenance Facility Messages*, GC24-6189
- *z/VM: Directory Maintenance Facility Tailoring and Administration Guide*, SC24-6190

Open Systems Adapter/Support Facility

- *zEnterprise System, System z10, System z9 and eServer zSeries: Open Systems Adapter-Express Customer's Guide and Reference*, SA22-7935
- *System z9 and eServer zSeries 890 and 990: Open Systems Adapter-Express Integrated Console Controller User's Guide*, SA22-7990

- *System z: Open Systems Adapter-Express Integrated Console Controller 3215 Support*, SA23-2247
- *System z10: Open Systems Adapter-Express3 Integrated Console Controller Dual-Port User's Guide*, SA23-2266

Performance Toolkit for VM

- *z/VM: Performance Toolkit Guide*, SC24-6209
- *z/VM: Performance Toolkit Reference*, SC24-6210

RACF Security Server for z/VM

- *z/VM: RACF Security Server Auditor's Guide*, SC24-6212
- *z/VM: RACF Security Server Command Language Reference*, SC24-6213
- *z/VM: RACF Security Server Diagnosis Guide*, GC24-6214
- *z/VM: RACF Security Server General User's Guide*, SC24-6215
- *z/VM: RACF Security Server Macros and Interfaces*, SC24-6216
- *z/VM: RACF Security Server Messages and Codes*, GC24-6217
- *z/VM: RACF Security Server Security Administrator's Guide*, SC24-6218
- *z/VM: RACF Security Server System Programmer's Guide*, SC24-6219
- *z/VM: Security Server RACROUTE Macro Reference*, SC24-6231

Remote Spooling Communications Subsystem Networking for z/VM

- *z/VM: RSCS Networking Diagnosis*, GC24-6223
- *z/VM: RSCS Networking Exit Customization*, SC24-6224
- *z/VM: RSCS Networking Messages and Codes*, GC24-6225
- *z/VM: RSCS Networking Operation and Use*, SC24-6226
- *z/VM: RSCS Networking Planning and Configuration*, SC24-6227
- *Network Job Entry: Formats and Protocols*, SA22-7539

Prerequisite Products

Device Support Facilities

- *Device Support Facilities: User's Guide and Reference*, GC35-0033

Environmental Record Editing and Printing Program

- *Environmental Record Editing and Printing Program (EREP): Reference*, GC35-0152
- *Environmental Record Editing and Printing Program (EREP): User's Guide*, GC35-0151

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