

z/VM



Installation Guide

Version 6 Release 3

z/VM



Installation Guide

Version 6 Release 3

Note:

Before using this information and the product it supports, read the information in "Notices" on page 379.

This edition applies to the version 6, release 3, 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 GC24-6246-00.

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About this document

This document guides the customer through the installation of version 6 release 3 of IBM® z/VM® using step-by-step installation procedures. The procedures cover traditional 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, and installing z/VM V6.3 as an upgrade to z/VM V6.2.

See Chapter 1, “Installation overview,” on page 3 for an overview of the techniques available for installing z/VM and guidelines for selecting the technique that will best suit your needs.

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:

```
IUGIPX8475I 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 385.

Links to other documents and web sites

The PDF version of this document contains links to other documents and web sites. A link from this document to another document works only when both documents are in the same directory or database, and a link to a web site works only if you have access to the Internet. A document link is to a specific edition. 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.

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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*.

GC24-6246-01, z/VM Version 6 Release 3

This edition supports the general availability of z/VM V6.3.

- A new upgrade installation process, Upgrade Installation, is described in Part 5, “Upgrade installation,” on page 197.
- The following new releases of components and features are preinstalled:
 - Directory Maintenance Facility, function level 630 (disabled)
 - Performance Toolkit for VM™, function level 630 (disabled)
 - RACF Security Server for z/VM, function level 630 (disabled)
 - RSCS Networking for z/VM, function level 630 (disabled)
 - TCP/IP, function level 630
- To ensure that they are available to all members of an SSI cluster containing multiple releases of z/VM, the minidisks associated with the DirMaint user IDs DIRMAINT, DIRMSAT*, DATAMOV*, and 6VMDIR30, and the minidisks associated with the VMHCD user ID 6VMHCD20, have all been moved to volumes designated as COMMON.

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

This part contains an overview of the techniques available for installing z/VM and guidelines for selecting the technique that will best suit your needs.

Chapter 1. Installation overview

There are two techniques available for installing z/VM.

The first technique, **traditional installation**, installs a new z/VM system or a new SSI cluster on a set of DASD which can then be customized according to your needs. If you are a new customer, or a current customer running z/VM V5.4 or V6.1, this is the installation method you should use. If you are a current customer running V5.4 or V6.1, there is a traditional migration procedure that can be used after your new system is installed.

Starting with z/VM V6.3, a second installation technique, **upgrade installation**, is introduced for upgrading from z/VM V6.2 only. In an upgrade installation, a new release system to be used as a temporary work system is installed as a second level guest of the current release system that you wish to upgrade. The new level of code from the work system is then moved to your current system with minimal impact to your current running system. This current running system can be a non-SSI system, the only member of a single member SSI cluster, or any member of a multi-member SSI cluster. In a multi-member SSI cluster, you will upgrade one member at a time so that there is minimum impact to the other members. Note that you must complete the upgrade for one member before starting the upgrade of the next member.

Select the installation technique that best meets your needs, as follows:

- For traditional installation:
 - If performing a traditional installation from tape, follow all of the steps in Part 2, “Traditional installation from tape media,” on page 5.
 - If performing a traditional installation from DVD or electronic media, follow all of the steps in Part 3, “Traditional installation from DVD or electronic media,” on page 69.

For upgrade installation:

- If performing an upgrade installation from tape, DVD, or electronic media, follow all of the steps in Part 5, “Upgrade installation,” on page 197.

Within each part, read and follow all the procedures in the order presented.

Part 2. Traditional installation from tape media

This part contains procedures for the traditional installation of a new z/VM system or SSI cluster from tape distribution media. If you are installing z/VM from DVD distribution media or electronic delivery, use Part 3, “Traditional installation from DVD or electronic media,” on page 69. If you are upgrading a z/VM 6.2 system or SSI cluster, use Part 5, “Upgrade installation,” on page 197.

In this part, you will:

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

Traditional installation from tape media

Chapter 2. Plan your tape installation

In this chapter, you will:

- Plan your installation.
- Complete the tape installation worksheets.
- Optionally complete the TCP/IP configuration worksheets.

Step 1. Review and comply with the requirements

Before you install z/VM version 6 release 3, you must review the following information and ensure 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 3. 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 current information affecting installation, see the "installation information" section in the CP subset of the zvm630 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 4, "Post traditional system installation," on page 143 to migrate from a V5.4 or V6.1 system, you must select a non-SSI installation.

Note: You *cannot* use the migration procedures in Part 4, "Post traditional system installation," on page 143 to migrate from a V6.2 system. If you are migrating from z/VM 6.2, you should use Part 5, "Upgrade installation," on page 197.

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.

Review and comply with the requirements

- User ID requirements:
 - Privilege classes B and G.
 - At least 64 MB of virtual storage.
 - Write access to a 191 minidisk with at least 900 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 14).
 - 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 14).
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 14).
4. Select your default system language and record your choice on tape installation worksheet 1 (Table 1 on page 14). 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 14).
 - 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 left over 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 14). 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 14).

For more information on planning for an 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 14). 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 considered a *permanent* name. In previous releases, selecting a “test” name and then later changing it to a “production” name was a common practice. However, due to numerous dependencies in the current release, this practice should *not* be used. Changing the system name after installation is a complicated process.

9. If you selected SSI:
 - a. On tape installation worksheet 1 (Table 1 on page 14):
 - 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 15):
 - 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 system name you select should be considered a *permanent* name. In previous releases, selecting a “test” name and then later changing it to a “production” name was a common practice. However, due to numerous dependencies in the current release, this practice should *not* be used. Changing the system name after installation is a complicated process.

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

Notes:

1. 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.
2. 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.

Complete the tape installation worksheets

10. Select whether to use a SMAPI client, such as the Extreme Cloud Administration Toolkit (xCAT), or to use other, non-SMAPI system management tools. The installation process can configure and enable your new system to be managed by xCAT 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 xCAT.

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 14).

If you will *only* be using xCAT, 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 14). 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 14). For additional information on using SMAPI clients and xCAT, see *z/VM: Systems Management Application Programming*.

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 ten volumes.
 - For SSI, you will need ten volumes for member 1, plus six 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 nine volumes.
 - For SSI, you will need nine volumes for member 1, plus six 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 2810 or more cylinders, then you will *not* need the RELVOL2 volume:
 - For non-SSI, you will need either nine or ten volumes.
 - For SSI, you will need either nine or ten volumes for member 1, plus six volumes for each additional member.

| Product | Cylinders |
|---------|-----------|
| VM | 2089 |
| OSA | 0 |
| PERFTK | 111 |
| VMHCD | 0 |
| RACF | 182 |
| DIRM | 0 |
| RSCS | 94 |
| ICKDSF | 0 |
| TCPIP | 449 |

- 3390 Model 9, you will *not* need multiple common, release, or work volumes:
 - For non-SSI, you will need six volumes.
 - For SSI, you will need six volumes for member 1, plus four 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 15).
 - If you selected SSI, use tape installation worksheet 5 (Table 5 on page 16).

Note: The address of the VMCOM1 volume is written out by the SALIPL command 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 11, complete worksheet 6 (Table 6 on page 17):
 - 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 18.

Complete the tape installation worksheets

Table 1. Tape Installation Worksheet 1

Installation method (first-level or second level): _____

First-level only address of single volume system (SVS) volume: _____

Record an "M" if you will load the product to a minidisk or an "F" if you will load the product to the VMSYS file pool in the **Install To** column.

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

Default system language: _____

DASD type and model: _____

Common service filepool name: _____

Installation Type:

___ Non-SSI System Name*: _____

___ SSI Number of Members: ___ SSI Cluster Name: _____

* The system name you select should be considered a *permanent* name. Changing the system name after installation is a complicated process.

Table 2. Tape Installation Worksheet 2

Would you like to have your system automatically configured to be managed by a SMAPI client for system management, such as xCAT or IBM Director? (Y/N) _____

Keep the following in mind:

If you say YES, you should not attempt to manage your system in any other way.

If you'd like to manage your own system, or use a purchased external security manager or a purchased directory manager, say NO.

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 | | |
| * The member names you select should be considered <i>permanent</i> names. Changing a member name after installation is a complicated process. | | |

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

| Volume Type | Default Label | New Label | Address |
|---|---------------|-----------|---------|
| COMMON | VMCOM1 | | |
| COMMON2 | VMCOM2 | | |
| RELVOL | 630RL1 | | |
| RELVOL2 | 630RL2 | | |
| RES | M01RES | | |
| SPOOL | M01S01 | | |
| PAGE | M01P01 | | |
| WORK | M01W01 | | |
| WORK | M01W02 | | |
| WORK | M01W03 | | |
| 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. | | | |

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 | 630RL1 | | | | | | |
| RELVOL2 | 630RL2 | | | | | | |
| 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 | | |
| WORK | M01W02 | | | WORK | M02W02 | | |
| WORK | M01W03 | | | WORK | M02W03 | | |
| Member 3: | | | | Member 4: | | | |
| RES | M03RES | | | RES | M04RES | | |
| SPOOL | M03S01 | | | SPOOL | M04S01 | | |
| PAGE | M03P01 | | | PAGE | M04P01 | | |
| WORK | M03W01 | | | WORK | M04W01 | | |
| WORK | M03W02 | | | WORK | M04W02 | | |
| WORK | M03W03 | | | WORK | M04W03 | | |
| 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. | | | | | | | |

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 |
| | | | |
| 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 |

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 19.
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 319.

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 319.

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 14).

| If you chose the. . . | Then see. . . |
|--|---|
| First-level installation method | Chapter 3, "Restore and IPL the single volume system (SVS)," on page 21 |
| Second-level non-SSI installation method | Chapter 4, "Non-SSI tape installation method," on page 29 |
| Second-level SSI installation method | Chapter 5, "SSI tape installation method," on page 45 |

Choose your next step

Chapter 3. 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

Before you begin: You need to complete tape installation worksheets 1 (Table 1 on page 14) through 6 (Table 6 on page 17).

1. Ensure all DASD addresses listed in the tape installation worksheets 4 (Table 4 on page 15) and 5 (Table 5 on page 16) 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 315.
4. IPL the tape drive to load ICKDSF. Specify a LOADPARM of CNSLccuu, 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 ZVMSVS volume using the DASD address (*dasdaddr*) recorded on tape installation worksheet 1 (Table 1 on page 14).

```
ENTER INPUT/COMMAND:  
cpvolume format unit(dasdaddr) novfy volid(zvmsvs) 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 on page 315 in Appendix J, "Using an integrated 3270 console for installation," on page 315.
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 ZVMSVS 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.

```

ENTER:
output dasdaddr dasd zvmsvs

```

dasdaddr

Address of ZVMSVS. This value is recorded on tape installation worksheet 1 (Table 1 on page 14).

The DDR program verifies the DASD label is ZVMSVS.

```

ENTER:
restore all

```

```

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

```

```

RESTORING ZVMSVS
DATA DUMPED mm/dd/yy
  AT hh.mm.ss GMT FROM ZVMSVS
RESTORED TO ZVMSVS

```

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

```

Restore the SVS

ENTER:

ENTER

END OF JOB

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

Step 2. IPL the z/VM SVS system

1. IPL the V6.3 system from the address of ZVMSVS, which you can find on tape installation worksheet 1 (Table 1 on page 14). Specify a LOADPARM 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 on page 316 in Appendix J, "Using an integrated 3270 console for installation," on page 315.

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

```

STAND ALONE PROGRAM LOADER: z/VM VERSION 6 RELEASE 3.0

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. 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 the z/VM SVS system

F10

```
hh:mm:ss z/VM V6 R3.0 SERVICE LEVEL nnnn (64-BIT)

hh:mm:ss SYSTEM NUCLEUS CREATED ON yyyy-mm-dd AT hh:mm:ss, LOADED FROM ZVMSVS
hh:mm:ss
hh:mm:ss *****
hh:mm:ss * LICENSED MATERIALS - PROPERTY OF IBM*
hh:mm:ss * 5741-A07 (C) COPYRIGHT IBM CORP. 1983, 2013. 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 ZVMSVS (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 ZVMSVS at address nnnn has been brought online.  
:  
:  
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                                     The default password for MAINTSVS is  
logon maintsvs                             MAINTSVS.  
z/VM Version 6 Release 3.0, Service Level 0000 (64-bit),  
built on IBM Virtualization Technology  
There is no logmsg data  
FILES:  NO RDR,  NO PRT,  NO PUN  
LOGON AT hh:mm:ss 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 R3.0  
      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 . . | Then. . . |
|------------------|--|
| Non-SSI install | Continue with Chapter 4, "Non-SSI tape installation method," on page 29. |
| SSI install | Go to Chapter 5, "SSI tape installation method," on page 45. |

IPL the z/VM SVS system

Chapter 4. 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

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 14) through 6 (Table 6 on page 17). If you have not done so, return to “Step 2. Complete the tape installation worksheets” on page 10.

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.
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 900 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 | 900 | | 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.

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.

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

```
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
```

```
vmfplc2 fsf 7  
Ready; T=n.nn/n.nn hh:mm:ss
```

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

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

Step 2. Run INSTPLAN

1. Run INSTPLAN with the TAPE operand.

```
instplan tape
```

The installation planning panels are displayed.

```

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

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 2. Tape - Installation Planning Panel

- See tape installation worksheet 1 (Table 1 on page 14) 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 14).
- 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 14).
- 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 14) – in this case, *Non-SSI Install*.
- Fill in the *System Name*.
- Press F5 to process your selections.

F5

```

*** z/VM INSTALLATION PLANNING PANEL 2 ***

- Would you like to have your system automatically configured to be
  managed by a SMAPI client for system management, such as XCAT or
  IBM Director? (Y/N)

Keep the following in mind:

    If you say YES, you should not attempt to manage your system in
    any other way.

    If you'd like to manage your own system, or use a purchased
    external security manager or a purchased directory manager, say NO.


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

```

Figure 3. Tape - Installation Planning Panel 2

- h. Refer to tape installation worksheet 2 (Table 2 on page 14):
 - 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

```
IUGIPX8475I FINAL SELECTIONS DISPLAY
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: 630RL1 630RL2
SYSTEM: M01RES M01S01 M01P01 M01W01 M01W02 M01W03

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

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 | 630RL1 | _____ | |
| RELVOL2 | 630RL2 | _____ | |
| | | | |
| TYPE | LABEL | ADDRESS | |
| sysname | | | |
| RES | M01RES | _____ | |
| SPOOL | M01S01 | _____ | |
| PAGE | M01P01 | _____ | |
| WORK | M01W01 | _____ | |
| WORK | M01W02 | _____ | |
| WORK | M01W03 | _____ | |

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

Figure 4. Tape - 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 15) in the **LABEL** field.
- Fill in the volume addresses using the information from tape installation worksheet 4 (Table 4 on page 15). 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.

F5

IUGIIX8377R YOU HAVE SELECTED TO FORMAT YOUR DASD.
DASD SELECTED ARE:

Depending on whether you chose to format your DASD, you will receive either version of message IUGIIX8377R.

IUGIIX8377R YOU HAVE SELECTED NOT TO FORMAT YOUR DASD.
THIS ASSUMES THEY HAVE ALREADY BEEN FORMATTED.
DASD SELECTED ARE:

| | |
|---------------|-----------------|
| <i>lblcom</i> | <i>dasdaddr</i> |
| <i>lblcm2</i> | <i>dasdaddr</i> |
| <i>lblrl1</i> | <i>dasdaddr</i> |
| <i>lblrl2</i> | <i>dasdaddr</i> |
| <i>lblres</i> | <i>dasdaddr</i> |
| <i>lblspl</i> | <i>dasdaddr</i> |
| <i>lblpag</i> | <i>dasdaddr</i> |
| <i>lblw01</i> | <i>dasdaddr</i> |
| <i>lblw02</i> | <i>dasdaddr</i> |
| <i>lblw03</i> | <i>dasdaddr</i> |

IUGINP8392I 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

1. Attach each volume listed on tape installation worksheet 4 (Table 4 on page 15) that is not already attached. Enter the following ATTACH command for each volume:

| | |
|--|--|
| attach <i>dasdaddr</i> * | <i>dasdaddr</i> |
| DASD <i>dasdaddr</i> ATTACHED TO <i>userid</i> <i>dasdaddr</i> | Address of the volume. |
| : | |
| Ready; T= <i>n.nn/n.nn hh:mm:ss</i> | <i>userid</i> |
| | 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

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
IUGIIS8381I  CHECKING TAPE VOLUME NUMBER FOR DRIVE 181

IUGIIS8490I NOW FORMATTING|LABELING VOLUME dasdaddr (1 OF n)
:
:
IUGIIS8490I NOW FORMATTING|LABELING VOLUME dasdaddr (n OF n)
:
:
IUGIIS8380I RESTORING VOLUMES FOR sysname
IUGIIS8490I NOW ALLOCATING DASD dasdaddr (COMMON VOLUME)
IUGIIS8490I NOW ALLOCATING DASD dasdaddr (RELVOL VOLUME)
IUGIIS8490I NOW ALLOCATING DASD dasdaddr (RES VOLUME)
IUGIIS8490I NOW ALLOCATING DASD dasdaddr (RES VOLUME)
IUGIIS8490I NOW ALLOCATING DASD dasdaddr (SPOOLING)
IUGIIS8490I NOW ALLOCATING DASD dasdaddr (PAGING)
IUGIIS8341I WRITING OWNERSHIP FOR sysname TO spladdr lblspl COMPLETED SUCCESSFULLY
IUGIIS8341I WRITING OWNERSHIP FOR sysname TO pagaddr lblpag COMPLETED SUCCESSFULLY

IUGIIS8341I 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 R3.0 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, 2013. 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 HCPCRC8082I Accounting records are accumulating for userid DISKACNT
```

Run INSTALL to install your new system

DMSIND2015W Unable to access the Y-disk. File mode Y (19E) not accessed
z/VM V6.3.0 *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 MAINT630
hh:mm:ss HCPCLS6056I XAUTOLOG information for OP1: The IPL command is verified by the
 IPL command processor.

DASD 0199 DETACHED
IUGWIN8381I CHECKING TAPE VOLUME NUMBER FOR DRIVE 181

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

IUGWIN8428I TOTAL PERCENT LOADED -> *nn%*

IUGWIN8380I 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

IUGWIN8319I TAPE LOAD COMPLETED SUCCESSFULLY

```
z/VM DASD DUMP/RESTORE PROGRAM
HCPDDR698I DATA DUMPED FROM "0""0 TO BE RESTORED
HCPDDR697I NO VOL1 LABEL FOUND
RESTORING "0""0
DATA DUMPED  mm/dd/yy AT hh.mm.ss  GMT FROM "0""0 RESTORED
INPUT CYLINDER EXTENTS      OUTPUT CYLINDER EXTENTS
      START      STOP      START      STOP
      n          nnnn          n          nnnn
END OF RESTORE
BYTES RESTORED  nnnnnnnnnn
```

```
z/VM DASD DUMP/RESTORE PROGRAM
HCPDDR698I DATA DUMPED FROM "0""0 TO BE RESTORED
HCPDDR697I NO VOL1 LABEL FOUND
RESTORING "0""0
DATA DUMPED  mm/dd/yy AT hh.mm.ss  GMT FROM "0""0 RESTORED
INPUT CYLINDER EXTENTS      OUTPUT CYLINDER EXTENTS
      START      STOP      START      STOP
      n          nnnn          n          nnnn
END OF RESTORE
BYTES RESTORED  nnnnnnnnnn
```

IUGPLD8341I POSTLOAD PROCESSING STARTED
DMSACC724I 4CC replaces C (4CC)

IUGIFP8493I ISSUING XAUTOLOG FOR VMSERVU
AUTO LOGON *** VMSERVU USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVU: The IPL command is verified by the IPL command processor.

IUGIFP8493I ISSUING XAUTOLOG FOR VMSERVER
AUTO LOGON *** VMSERVER USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVER: The IPL command is verified by the IPL command processor.

IUGIFP8493I 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 VMSERVER USERS = n FORCED BY MAINT630
IUGIFP8493I ISSUING XAUTOLOG FOR VMSERVER
AUTO LOGON *** VMSERVER USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVER: The IPL command is verified by the IPL command processor.

IUGIFP8493I ISSUING XAUTOLOG FOR VMSERVP
AUTO LOGON *** VMSERVP USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVP: The IPL command is verified by the IPL command processor.

IUGIFP8338I UPDATING SYSTEM TABLES AND CLEANING UP FILEPOOL DIRECTORIES
USER DSC LOGOFF AS VMSERVP USERS = n FORCED BY MAINT630
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

```
IUGIUF8493I ISSUING XAUTOLOG FOR VMSERV
AUTO LOGON *** VMSERV USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: The IPL command is verified by
the IPL command processor.
z/VM V6.3.0      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
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 MAINT630
USER DSC  LOGOFF AS  BLDCMS  USERS = n      FORCED BY MAINT630

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 MAINT630
USER DSC  LOGOFF AS  BLDCMS  USERS = n      FORCED BY MAINT630
```

Prompt if RSU tape needs to be mounted:

```
IUGICP8389W RSU TAPE NOT FOUND ON TAPE DRIVE 181 OR 182

IUGICP8397R 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 USOAC - JOURNAL USER TERMINATION
:
```

```
hh:mm:ss z/VM SYSTEM RESTART FROM SHUTDOWN REIPL
hh:mm:ss z/VM V6 R3.0 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, 2013. 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 volid (device nnnn).
```

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

```
:
```

```
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 5. Log on to the new system

1. Log on as MAINT630.

```
logon maint630
:
Ready; T=n.nn/n.nn hh:mm:ss
```

The default password for MAINT630 is WD5JU8QP.

Step 6. IPL the new 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 zvmSVS

- 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 4, “Post traditional system installation,” on page 143.

Traditional installation from tape media

Chapter 5. 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

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 14) through 6 (Table 6 on page 17). If you have not done so, return to “Step 2. Complete the tape installation worksheets” on page 10.

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.
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 900 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 | 900 | | 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. .

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.

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

```
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
```

```
vmfplc2 fsf 7  
Ready; T=n.nn/n.nn hh:mm:ss
```

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

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

Step 2. Run INSTPLAN

1. Run INSTPLAN with the TAPE operand.

```
instplan tape
```

The installation planning panels are displayed:

```

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

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 5. Tape - Installation Planning Panel

- a. See tape installation worksheet 1 (Table 1 on page 14) 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 tape installation worksheet 1 (Table 1 on page 14).
- c. 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 14).
- 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 tape installation worksheet 1 (Table 1 on page 14) – in this case *SSI Install*.
- f. Fill in the *Number of Members* and the *SSI Cluster Name*.
- g. Press F5 to process your selections.

F5

2. 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.

Single System Image (SSI) Cluster Installation

You have chosen to install z/VM in a single system image cluster. This 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 which were 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 <http://www.ibm.com/software/ShopzSeries>. In countries where Shop zSeries is not available, contact your IBM representative or IBM Business Partner.

If you have ordered this feature and accept the licensing terms and conditions referenced above, press F5 to accept. If you are accepting these terms on behalf of another person or a company or other legal entity, you represent and warrant that you have full authority to bind that person, company or legal entity to these terms.

If you do not agree to these terms, press F3 to cancel the installation and refer to the Installation Guide to plan a non-SSI install.

F1 = HELP F3/F12 = QUIT F5 = I Accept

Figure 6. Tape - 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.

*** z/VM INSTALLATION PLANNING PANEL 2 ***

- Would you like to have your system automatically configured to be managed by a SMAPI client for system management, such as XCAT or IBM Director? (Y/N)

Keep the following in mind:

If you say YES, you should not attempt to manage your system in any other way.

If you'd like to manage your own system, or use a purchased external security manager or a purchased directory manager, say NO.

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

Figure 7. Tape - Installation Planning Panel 2

- a. Refer to tape installation worksheet 2 (Table 2 on page 14):
 - 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.

F5

Run INSTPLAN

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. Tape - Installation Planning Panel 3 (SSI Only)

- a. See tape installation worksheet 3 (Table 3 on page 15) 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.

```

IUGIPX8475I FINAL SELECTIONS DISPLAY
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: memname      LPAR/USERID 1: lparname
  MEMBER NAME 2: memname      LPAR/USERID 2: lparname
  MEMBER NAME 3: memname      LPAR/USERID 3: lparname
  MEMBER NAME 4: memname      LPAR/USERID 4: lparname

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: 630RL1 630RL2
MEMBER1: M01RES M01S01 M01P01 M01W01 M01W02 M01W03
MEMBER2: M02RES M02S01 M02P01 M02W01 M02W02 M02W03
MEMBER3: M03RES M03S01 M03P01 M03W01 M03W02 M03W03
MEMBER4: M04RES M04S01 M04P01 M04W01 M04W02 M04W03

```

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 | 630RL1 | _____ | | | | |
| RELVOL2 | 630RL2 | _____ | | | | |

| mem1nam | | | mem2nam | | |
|---------|--------|---------|---------|--------|---------|
| TYPE | LABEL | ADDRESS | TYPE | LABEL | ADDRESS |
| RES | M01RES | _____ | RES | M02RES | _____ |
| SPOOL | M01S01 | _____ | SPOOL | M02S01 | _____ |
| PAGE | M01P01 | _____ | PAGE | M02P01 | _____ |
| WORK | M01W01 | _____ | WORK | M02W01 | _____ |
| WORK | M01W02 | _____ | WORK | M02W02 | _____ |
| WORK | M01W03 | _____ | WORK | M02W03 | _____ |

| mem3nam | | | mem4nam | | |
|---------|--------|---------|---------|--------|---------|
| TYPE | LABEL | ADDRESS | TYPE | LABEL | ADDRESS |
| RES | M03RES | _____ | RES | M04RES | _____ |
| SPOOL | M03S01 | _____ | SPOOL | M04S01 | _____ |
| PAGE | M03P01 | _____ | PAGE | M04P01 | _____ |
| WORK | M03W01 | _____ | WORK | M04W01 | _____ |
| WORK | M03W02 | _____ | WORK | M04W02 | _____ |
| WORK | M03W03 | _____ | WORK | M04W03 | _____ |

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

Figure 9. Tape - Installation Volume Definition (SSI Only)

- 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 16) in the **LABEL** field.
 - Fill in the volume addresses using the information from tape installation worksheet 5 (Table 5 on page 16). 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.
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 50), proceed to substep 8 on page 53.

- 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 50), 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. Tape - Installation First-Level Configuration Panel

- 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 17).
- Fill in the CTC device addresses for each member using the information from tape installation worksheet 6 (Table 6 on page 17).
- Press F5 to process your selections.

F5

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

IUGIIX8377R YOU HAVE SELECTED TO FORMAT YOUR DASD.
DASD SELECTED ARE:

IUGIIX8377R 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
lblw02    dasdaddr
lblw03    dasdaddr

```

```

:

```

Depending on whether you chose to format your DASD, you will receive either version of message IUGIIX8377R.

Run INSTPLAN

IUGIIX8377R YOU HAVE SELECTED THE FOLLOWING CTC ADDRESSES:

| | | |
|--|----------------|----------------|
| MEMBER <i>membnam</i> TO MEMBER <i>membnam</i> | <i>ctcaddr</i> | <i>ctcaddr</i> |
| MEMBER <i>membnam</i> TO MEMBER <i>membnam</i> | <i>ctcaddr</i> | <i>ctcaddr</i> |
| MEMBER <i>membnam</i> TO MEMBER <i>membnam</i> | <i>ctcaddr</i> | <i>ctcaddr</i> |
| MEMBER <i>membnam</i> TO MEMBER <i>membnam</i> | <i>ctcaddr</i> | <i>ctcaddr</i> |

⋮

IUGINP8392I 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

1. Attach each volume listed on tape installation worksheets 4 (Table 4 on page 15) and 5 (Table 5 on page 16) that is not already attached. Enter the following ATTACH command for each volume:

| | |
|--|--|
| attach <i>dasdaddr</i> * | |
| DASD <i>dasdaddr</i> ATTACHED TO <i>userid</i> <i>dasdaddr</i> | <i>dasdaddr</i> |
| : | Address of the volume. |
| : | |
| Ready; T= <i>n.nn/n.nn hh:mm:ss</i> | <i>userid</i> |
| | 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

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
IUGIIS8381I  CHECKING TAPE VOLUME NUMBER FOR DRIVE 181

IUGIIS8490I  NOW FORMATTING|LABELING VOLUME dasdaddr (1 OF n)
:
:
IUGIIS8490I  NOW FORMATTING|LABELING VOLUME dasdaddr (n OF n)
:
:
IUGIIS8380I  RESTORING VOLUMES FOR memname
IUGIIS8490I  NOW ALLOCATING DASD dasdaddr (COMMON VOLUME)
IUGIIS8490I  NOW ALLOCATING DASD dasdaddr (RELVOL VOLUME)
IUGIIS8490I  NOW ALLOCATING DASD dasdaddr (RES VOLUME)
IUGIIS8490I  NOW ALLOCATING DASD dasdaddr (RES VOLUME)
IUGIIS8490I  NOW ALLOCATING DASD dasdaddr (SPOOLING)
IUGIIS8490I  NOW ALLOCATING DASD dasdaddr (PAGING)
:
:
IUGIIS8341I  WRITING OWNERSHIP ssiname NOSYS TO comaddr lblcom COMPLETED
              SUCCESSFULLY
IUGIIS8341I  WRITING OWNERSHIP ssiname memname TO resaddr lblres COMPLETED
              SUCCESSFULLY
IUGIIS8341I  WRITING OWNERSHIP ssiname memname TO spladdr lblspl COMPLETED
              SUCCESSFULLY
IUGIIS8341I  WRITING OWNERSHIP ssiname memname TO pagaddr lblpag COMPLETED
              SUCCESSFULLY

IUGIIS8341I  CREATING PDR ON comaddr COMPLETED SUCCESSFULLY

IUGIIS8341I  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 R3.0 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, 2013. 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 HCPCRC8082I Accounting records are accumulating for userid DISKACNT
```

```
DMSIND2015W Unable to access the Y-disk. File mode Y (19E) not accessed
z/VM V6.3.0 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 MAINT630
hh:mm:ss HCPCLS6056I XAUTOLOG information for OP1: The IPL command is verified by the
IPL command processor.
```

```
DASD 0199 DETACHED
```

```
IUGWIN8381I CHECKING TAPE VOLUME NUMBER FOR DRIVE 181
```

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

```
IUGWIN8428I TOTAL PERCENT LOADED -> nn%
```

```
IUGWIN8380I 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

IUGWIN8319I TAPE LOAD COMPLETED SUCCESSFULLY

z/VM DASD DUMP/RESTORE PROGRAM
HCPDDR698I DATA DUMPED FROM "0" TO BE RESTORED
HCPDDR697I NO VOL1 LABEL FOUND
RESTORING "0"
DATA DUMPED mm/dd/yy AT hh.mm.ss GMT FROM "0" RESTORED
INPUT CYLINDER EXTENTS OUTPUT CYLINDER EXTENTS
 START STOP START STOP
 n nnnn n nnnn
END OF RESTORE
BYTES RESTORED nnnnnnnnnn

z/VM DASD DUMP/RESTORE PROGRAM
HCPDDR698I DATA DUMPED FROM "0" TO BE RESTORED
HCPDDR697I NO VOL1 LABEL FOUND
RESTORING "0"
DATA DUMPED mm/dd/yy AT hh.mm.ss GMT FROM "0" RESTORED
INPUT CYLINDER EXTENTS OUTPUT CYLINDER EXTENTS
 START STOP START STOP
 n nnnn n nnnn
END OF RESTORE
BYTES RESTORED nnnnnnnnnn

IUGPLD8341I POSTLOAD PROCESSING STARTED
DMSACC724I 4CC replaces C (4CC)

IUGIFP8493I ISSUING XAUTOLOG FOR VMSERVU
AUTO LOGON *** VMSERVU USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVU: The IPL command is verified by the IPL
 command processor.

IUGIFP8493I ISSUING XAUTOLOG FOR VMSERV
AUTO LOGON *** VMSERV USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: The IPL command is verified by the IPL
 command processor.

IUGIFP8493I 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 VMSERV USERS = n FORCED BY MAINT630
IUGIFP8493I ISSUING XAUTOLOG FOR VMSERV
AUTO LOGON *** VMSERV USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: The IPL command is verified by the IPL
 command processor.

IUGIFP8493I ISSUING XAUTOLOG FOR VMSERV
AUTO LOGON *** VMSERV USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: The IPL command is verified by the IPL
 command processor.

IUGIFP8338I UPDATING SYSTEM TABLES AND CLEANING UP FILEPOOL DIRECTORIES

USER DSC LOGOFF AS VMSERV USERS = n FORCED BY MAINT630
DASD 0917 DETACHED

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

```
IUGIUF8493I ISSUING XAUTOLOG FOR VMSERV
AUTO LOGON *** VMSERV USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: The IPL command is verified by
the IPL command processor.
z/VM V6.3.0    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 MAINT630
USER DSC  LOGOFF AS  BLDCMS  USERS = n      FORCED BY MAINT630

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 MAINT630
USER DSC  LOGOFF AS  BLDCMS  USERS = n      FORCED BY MAINT630
```

Run INSTALL to install your new system

Prompt if RSU tape needs to be mounted:

IUGICP8389W RSU TAPE NOT FOUND ON TAPE DRIVE 181 OR 182

IUGICP8397R 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 PLMLV - LEAVE THE CLUSTER
:
:
hh:mm:ss z/VM SYSTEM RESTART FROM SHUTDOWN REIPL

hh:mm:ss z/VM V6 R3.0 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, 2013. 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 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 62 |
| Multi-member SSI install | Go to “Step 6. Multi-member SSI” on page 63. |

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 MAINT630.

```
!logon maint630
```

```
:
```

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

The default password for MAINT630 is WD5JU8QP.

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 zvm svsvs
```

- 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 4, “Post traditional system installation,” on page 143.

Step 6. Multi-member SSI

1. Processing continues.

```
z/VM V6.3.0    yyyy-mm-dd hh:mm
hh:mm:ss AUTO LOGON ***          OP1          USERS = 2      BY MAINT630
```

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

```
IUGIMB8380I DDRing CYLINDERS 0 - nnnn FROM lbl1res TO lbl2res
DDR OF lbl1res TO lbl2res SUCCESSFUL
IUGIMB8380I DDRing CYLINDERS 0 - nnnn FROM lbl1wrk1 TO lbl2wrk1
DDR OF lbl1wrk1 TO lbl2wrk1 SUCCESSFUL
```

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

```
IUGIMB8380I DDRing CYLINDERS 0 - nnnn FROM lbl1wrk2 TO lbl2wrk2
DDR OF lbl1wrk2 TO lbl2wrk2 SUCCESSFUL
IUGIMB8380I DDRing CYLINDERS 0 - nnnn FROM lbl1wrk3 TO lbl2wrk3
DDR OF lbl1wrk3 TO lbl2wrk3 SUCCESSFUL
```

```
IUGIMB8380I DDRing CYLINDERS 0 - nnnn FROM lbl1res TO lbl3res
DDR OF lbl1res TO lbl3res SUCCESSFUL
:
```

```
IUGIMB8380I DDRing CYLINDERS 0 - nnnn FROM lbl1res TO lbl4res
DDR OF lbl1res TO lbl4res SUCCESSFUL
:
```

```
CPFMTXA LABEL VOLUME FOR lbl2res SUCCESSFUL
CPFMTXA LABEL VOLUME FOR lbl2wrk1 SUCCESSFUL
CPFMTXA LABEL VOLUME FOR lbl2wrk2 SUCCESSFUL
CPFMTXA LABEL VOLUME FOR lbl2wrk3 SUCCESSFUL
```

```
CPFMTXA LABEL VOLUME FOR lbl3res SUCCESSFUL
:
```

```
CPFMTXA LABEL VOLUME FOR lbl4res SUCCESSFUL
:
```

```
DASD 0550 DETACHED
```

```
CPFMTXA OWNERSHIP FOR lbl2res SUCCESSFUL
CPFMTXA OWNERSHIP FOR lbl2spl SUCCESSFUL
CPFMTXA OWNERSHIP FOR lbl2pag SUCCESSFUL
```

```
CPFMTXA OWNERSHIP FOR lbl3res SUCCESSFUL
CPFMTXA OWNERSHIP FOR lbl3spl SUCCESSFUL
CPFMTXA OWNERSHIP FOR lbl3pag SUCCESSFUL
```

```
CPFMTXA OWNERSHIP FOR lbl4res SUCCESSFUL
CPFMTXA OWNERSHIP FOR lbl4spl SUCCESSFUL
CPFMTXA OWNERSHIP FOR lbl4pag 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
*****
IUGISC8403I 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 R3.0 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, 2013. 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 HCPCRC8082I Accounting records are accumulating for userid DISKACNT

DMSWSP327I The installation saved segment could not be loaded
z/VM V6.3.0 yyyy-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 MAINT630
hh:mm:ss HCPCLS6056I XAUTOLOG information for OP1: The IPL command is verified by the
IPL command processor.

AUTO LOGON *** BLD CMS USERS = n
HCPCFX6768I SECUSER of BLD CMS initiated for you by BLD CMS.
HCPNSD440I The Named Saved System (NSS) CMS was successfully defined in fileid nnnn.
BLDCMS : CONNECT= 00:00:nn VIRT CPU= 000:00:nn TOT CPU= 000:00:nn
BLDCMS : LOGOFF AT hh:mm:ss EST WEDNESDAY mm/dd/yy BY MAINT630
USER DSC LOGOFF AS BLD CMS USERS = n FORCED BY MAINT630
```

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

IUGINI8493I ISSUING XAUTOLOG FOR VMSERV
AUTO LOGON *** VMSERV USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: The IPL command is verified by the
IPL command processor.

USER DSC LOGOFF AS VMSERV USERS = n FORCED BY MAINT630
IUGINI8493I ISSUING XAUTOLOG FOR VMSERV
AUTO LOGON *** VMSERV USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: The IPL command is verified by the
IPL command processor.

IUGINI8493I ISSUING XAUTOLOG FOR VMSERV
AUTO LOGON *** VMSERV USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: The IPL command is verified by the
IPL command processor.

IUGINI8493I ISSUING XAUTOLOG FOR VMSERV
AUTO LOGON *** VMSERV USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: The IPL command is verified by the
IPL command processor.

IUGINI8493I ISSUING XAUTOLOG FOR VMSERV
AUTO LOGON *** VMSERV USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: 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 64 will repeat for members 3-4, if applicable.
3. Once all members have been initialized, processing will finish.

```
IUGMLP8392I INSTALL EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss
```

Step 8. Update the system configuration file

When “Step 7. Initialize members 2-4” on page 64 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 64, 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
*****
IUGISC8403I SYSTEM CONFIG has been updated to allow all members
           to be ipld only from the LPAR/userid
           defined for each member at install time.

IUGISC8392I 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

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 MAINT630 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 SVS volume.
 - a. Shut down the SVS system.

shutdown system zvm

- 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 4, "Post traditional system installation," on page 143.

Traditional installation from tape media

Part 3. Traditional installation from DVD or electronic media

This part contains procedures for the traditional installation of 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 2, “Traditional installation from tape media,” on page 5. 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.
- Complete worksheets.
- Install the z/VM system from DVD.

Traditional installation from DVD or electronic media

Chapter 6. Plan your DVD installation

In this chapter, you will:

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

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 3, you must review the following information and ensure all requirements are satisfied:

1. z/VM media deliverable:
 - For physical DVD deliverable, be sure you have the z/VM product installation DVD.
 - For electronic deliverable, be sure you have the product zip file.
 - Installation will install the RSU shipped as part of the z/VM product DVD. 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 3. 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 current information affecting installation, see the "installation information" section in the CP subset of the zvm630 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 4, "Post traditional system installation," on page 143 to migrate from a V5.4 or V6.1 system, you must select a non-SSI installation.

Note: You *cannot* use the migration procedures in Part 4, "Post traditional system installation," on page 143 to migrate from a V6.2 system. If you are migrating from z/VM 6.2, you should use Part 5, "Upgrade installation," on page 197.

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):

Review and comply with the requirements

- 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.
 - 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 DVD 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 DVD will be stored.
 - There must be at least 4 GB of available space to store the contents of the z/VM product 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. Starting with z/VM V6.2, the INSTPIPE MODULE is shipped on the MAINT*vm* 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:
 - 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.
 - There must be at least 4 GB of available space to store the contents of the z/VM product 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 6000 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 81).
 - 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 product 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 81).
3. Select your default system language and record your choice on DVD installation worksheet 1 (Table 7 on page 81). 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 81). 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:

1. 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.
 2. If you select 3390 Model 3, installation uses the first 3338 cylinders on each DASD and ignores any cylinders beyond 3338.
 3. If you select 3390 Model 9, installation uses the first 10016 cylinders on each DASD and ignores any cylinders beyond 10016.
 4. 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.
 5. 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 81). 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 81). If installing to FBA, you must select Non-SSI.

For more information on planning for an 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 81). 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 considered a *permanent* name. In previous releases, selecting a "test" name and then later changing it to a "production" name was a common practice. However, due to numerous dependencies in the current release, this practice should *not* be used. Changing the system name after installation is a complicated process.

8. If you selected SSI:
 - a. On DVD installation worksheet 1 (Table 7 on page 81):
 - 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 83)):
 - 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 system name you select should be considered a *permanent* name. In previous releases, selecting a "test" name and then later changing it to a "production" name was a common practice. However, due to numerous dependencies in the current release, this practice should *not* be used. Changing the system name after installation is a complicated process.

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

Complete the installation worksheets

Notes:

1. 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.
 2. 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 a SMAPI client, such as the Extreme Cloud Administration Toolkit (xCAT), or to use other, non-SMAPI system management tools. The installation process can configure and enable your new system to be managed by xCAT 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 xCAT.

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 81).

If you will *only* be using xCAT, 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 81). 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 81). For additional information on using SMAPI clients and xCAT, see *z/VM: Systems Management Application Programming*.

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 82) for non-SSI or DVD installation worksheet 6 (Table 12 on page 83) for SSI.
- a. If you choose:
- 3390 Model 3:
 - If you choose to load all products to minidisk:
 - For non-SSI, you will need ten volumes.
 - For SSI, you will need ten volumes for member 1, plus six 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 nine volumes.
 - For SSI, you will need nine volumes for member 1, plus six 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 2810 or more cylinders, then you will *not* need the RELVOL2 volume:
 - For non-SSI, you will need either nine or ten volumes.
 - For SSI, you will need either nine or ten volumes for member 1, plus six volumes for each additional member.

| Product | Cylinders |
|---------|-----------|
| VM | 2089 |
| OSA | 0 |
| PERFTK | 111 |
| VMHCD | 0 |
| RACF | 182 |
| DIRM | 0 |
| RSCS | 94 |
| ICKDSF | 0 |
| TCPIP | 449 |

- 3390 Model 9 you will *not* need multiple common, release, or work volumes:
 - For non-SSI, you will need six volumes.
 - For SSI, you will need six volumes for member 1, plus four 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 82).
 - If you selected SSI, use DVD installation worksheet 6 (Table 12 on page 83).

Note: The address of the VMCOM1 volume is written out by the SALIPL command 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.

11. If you are installing to FBA (SCSI) volumes, use DVD installation worksheet 4 (Table 10 on page 82). 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.
 - If the size of your FBA volumes is greater than 9.5 GB:
 - You will need five volumes. You will *not* need the M01W01 volume.
 - If the size of your FBA volumes is less than 9.5 GB:
 - You will need six volumes.
 - Volume labels must be 1 to 6 alphanumeric characters.

Complete the installation worksheets

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 82). 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 77, complete worksheet 7 (Table 13 on page 84):
 - 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.
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 84).
 - 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 product DVD will be uploaded on DVD installation worksheet 8 (Table 14 on page 84).

What to do next

Go to “Step 4. Complete the basic TCP/IP connectivity worksheets” on page 85.

Table 7. DVD Installation Worksheet 1

Installation method (first-level or second level): _____

Record an “M” if you will load the product to a minidisk or an “F” if you will load the product to the VMSYS file pool in the **Install To** column.

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

Default system language: _____

DASD type and model: _____

SCSI volume size: _____

Common service filepool name: _____

Installation Type:

___ Non-SSI System Name*: _____

___ SSI Number of Members: ___ SSI Cluster Name: _____

Table 8. DVD Installation Worksheet 2

Would you like to have your system automatically configured to be managed by a SMAPI client for system management, such as xCAT or IBM Director? (Y/N) _____

Keep the following in mind:

If you say YES, you should not attempt to manage your system in any other way.

If you'd like to manage your own system, or use a purchased external security manager or a purchased directory manager, say NO.

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 | 630RL1 | | |
| RELVOL2 | 630RL2 | | |
| RES | M01RES | | |
| SPOOL | M01S01 | | |
| PAGE | M01P01 | | |
| WORK | M01W01 | | |
| WORK | M01W02 | | |
| WORK | M01W03 | | |
| 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. | | | |

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

| Volume Type | Default Label | New Label | Address | FCP Address | WWPN | LUN |
|---|---------------|-----------|---------|-------------|------|-----|
| COMMON | VMCOM1 | | | | | |
| RELVOL | 630RL1 | | | | | |
| RES | M01RES | | | | | |
| SPOOL | M01S01 | | | | | |
| PAGE | M01P01 | | | | | |
| WORK | M01W01 | | | | | |
| Channel path (CHPID): _____ Valid FCP addresses: _____ | | | | | | |
| 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. | | | | | | |

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 | | |
| * The member names you select should be considered <i>permanent</i> names. Changing a member name after installation is a complicated process. | | |

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

| Volume Type | Default Label | New Label | Address | | | | |
|---|---------------|-----------|---------|------------------|---------------|-----------|---------|
| COMMON | VMCOM1 | | | | | | |
| COMMON2 | VMCOM2 | | | | | | |
| RELVOL | 630RL1 | | | | | | |
| RELVOL2 | 630RL2 | | | | | | |
| 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 | | |
| WORK | M01W02 | | | WORK | M02W02 | | |
| WORK | M01W03 | | | WORK | M02W03 | | |
| Member 3: | | | | Member 4: | | | |
| RES | M03RES | | | RES | M04RES | | |
| SPOOL | M03S01 | | | SPOOL | M04S01 | | |
| PAGE | M03P01 | | | PAGE | M04P01 | | |
| WORK | M03W01 | | | WORK | M04W01 | | |
| WORK | M03W02 | | | WORK | M04W02 | | |
| WORK | M03W03 | | | WORK | M04W03 | | |
| 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. | | | | | | | |

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 86.
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 319.

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 319.

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 7, "DVD installation for first level," on page 87 |
| Second-level installation method | Chapter 8, "Set up for DVD installation for second level," on page 93 |

Chapter 7. DVD installation for first level

In this chapter, you will:

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

Step 1. Load the RAMDISK

Before you begin: You need to complete DVD installation worksheets 1 (Table 7 on page 81) through 8 (Table 14 on page 84). If you have not done so, return to Chapter 5, “Step 3. Complete the installation worksheets” on page 76.

1. Prepare to access the installation files.

If installing from an:

- HMC DVD drive, load the z/VM product DVD in the HMC DVD drive.
- FTP server DVD drive, load the z/VM product DVD in the FTP connected DVD drive.
- FTP server directory, load the contents of the z/VM product 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 4 GB of free space.
 - b. Load the contents of the z/VM product DVD to the directory.

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

Attention: 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**.

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 product 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 **630VM.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 R3.0
        SERVICE LEVEL nnnn (64-BIT)

hh:mm:ss SYSTEM NUCLEUS CREATED ON yyyy-mm-dd AT hh:mm:ss, LOADED FROM $RAMD$
hh:mm:ss
hh:mm:ss *****
hh:mm:ss * LICENSED MATERIALS - PROPERTY OF IBM* *
hh:mm:ss * 5741-A07 (C) COPYRIGHT IBM CORP. 1983, 2013. 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 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 V6.3.0 yyyy-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
Ready; T=n.nn/n.nn hh:mm:ss

```

Step 2. 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
```

```
IUGDVP8327I ** NOW EXECUTING DVDPRIME EXEC ON date AT time **
IUGDVP8440I NOW LOADING 4CC DISK
:
IUGDVP8392I 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 9, “Non-SSI DVD installation method,” on page 109. |
| SSI install | Go to Chapter 10, “SSI DVD installation method,” on page 123. |

Choose your next step

Chapter 8. Set up for DVD installation for second level

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 94 |
| FTP server directory | "From an FTP server directory" on page 98 |
| VM minidisk | "From a VM minidisk" on page 102 |

From a DVD drive

Step 1. Set up the user ID for installation

Before you begin: You need to complete DVD installation worksheets 1 (Table 7 on page 81) through 8 (Table 14 on page 84). If you have not done so, return to Chapter 6, “Plan your DVD installation,” on page 71, “Step 3. Complete the installation worksheets” on page 76.

1. Load the z/VM product 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.
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. Starting with z/VM V6.2, the INSTPIPE MODULE is shipped on the MAINT*vrn* 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 84).

```
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.

ftpdirdir

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

vmftpdirdir/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 TCPIP DATA * not found might not receive this message.
```

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

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

From a DVD drive - run DVDPRIME

Step 2. Run DVDPRIME

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

```
ipl cms
z/VM Vv.r.m      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.
IUGDVP8327I ** 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 84).

*** 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 94. The maximum length is 40 characters. For example:

```
mydvddrive/CPDVD
cpdvd
e:/cpdvd
vmftpdire/CPDVD
```

PORT NUMBER:

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

6. Press F5 to process.

F5

```
IUGDVP8440I 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

IUGDVP8440I 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

IUGDVP8392I 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 107.

From an FTP server directory

Step 1. Set up the user ID for installation

Before you begin: You need to complete DVD installation worksheets 1 (Table 7 on page 81) through 8 (Table 14 on page 84). If you have not done so, return to Chapter 6, “Plan your DVD installation,” on page 71, “Step 3. Complete the installation worksheets” on page 76.

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 4 GB of free space.
 - b. Load the contents of the z/VM product DVD to the directory.
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.
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. Starting with z/VM V6.2, the INSTPIPE MODULE is shipped on the MAINT*vrn* 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 84).

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

From an FTP server directory - set up 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.

ftkdir

Path to the FTP server directory where you loaded the contents of the DVD in substep 1 on page 98. 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 ftkdir -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.

Step 2. Run DVDPRIME

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

```
ipl cms
z/VM Vv.r.m      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.
IUGDVP8327I ** 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 84).

*** 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**

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

FTP USERID:

From an FTP server directory - run DVDPRIME

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

```
IUGDVP8440I NOW LOADING 24CC DISK  
{FBA222*|CKD222*}  
DMSRXS1408W File TCP/IP DATA * not found          You might not receive this message  
  
{MDREST|ECKDREST}: WROTE nnnn {BLOCKS|TRACKS} ON 24CC, RC=0  
  
IUGDVP8440I NOW LOADING 2CF0 DISK  
{FBACF0*|CKDCF0*}  
DMSRXS1408W File TCP/IP DATA * not found          You might not receive this message.  
  
{MDREST|ECKDREST}: WROTE nnnn {BLOCKS|TRACKS} ON 2CF0, RC=0  
  
IUGDVP8392I 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 107.

From a VM minidisk

Step 1. Set up the user ID for installation

Before you begin: You need to complete DVD installation worksheets 1 (Table 7 on page 81) through 8 (Table 14 on page 84). If you have not done so, return to Chapter 6, “Plan your DVD installation,” on page 71, “Step 3. Complete the installation worksheets” on page 76.

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.
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 6000 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 84).

```
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. If the z/VM product code has already been loaded to the minidisk you are using, skip to substep 12 on page 104.
5. Link to the 592 TCP/IP client code minidisk.

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

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

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

7. 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;
```

8. Copy the contents of the z/VM product 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 product DVD to the minidisk. See Appendix K, “Using a terminal emulator to upload files from a DVD,” on page 317. After uploading the files using your terminal emulator, continue with substep 11 on page 104.

- a. Load the z/VM product 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 84).

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 *ftpd*/CPDVD

>>>CWD *ftpd*/CPDVD
250 Directory changed to *ftpd*/CPDVD

- e. Change the local directory to W.

Command:
lcd 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 product DVD.

mget *ddd**

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).
nnnnnnn bytes transferred.
226 Transfer complete.
nnnnnnn 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;
```

9. Verify that all of the files copied from the z/VM product 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 product DVD again, using the correct parameters. Repeat substep 8 on page 102.

```
filelist * $default w
```

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

:
```

10. 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;
```

11. 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;
```

12. 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

13. 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

14. 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. Starting with z/VM V6.2, the INSTPIPE MODULE is shipped on the MAINTorm 4CC disk.

access diskaddr c

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

15. 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

Step 2. Run DVDPRIME

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

```
ipl cms
z/VM Vv.r.m      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.

IUGDVP8327I ** NOW EXECUTING DVDPRIME EXEC  ON date AT time **
IUGDVP8440I 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
IUGDVP8440I 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
IUGDVP8392I 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 9, “Non-SSI DVD installation method,” on page 109. |
| SSI install | Go to Chapter 10, “SSI DVD installation method,” on page 123. |

Choose your next step

Chapter 9. Non-SSI DVD installation method

In this chapter, you will:

- Install a non-SSI z/VM system

Step 1. Run INSTPLAN for non-SSI

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 82) 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 82).

3. Run INSTPLAN with the DVD operand.

instplan DVD

The installation planning panels are displayed.

*** 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 | DIRM | M | ICKDSF |
| M | OSA | M | PERFTK | M | RACF |
| M | RSCS | M | TCPIP | M | VMHCD |

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. DVD - Installation Planning Panel

- a. See DVD installation worksheet 1 (Table 7 on page 81) 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 81).
- 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 81). 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 81) – in this case, *Non-SSI Install*.
- f. Fill in the *System Name*.
- g. Press F5 to process your selections.

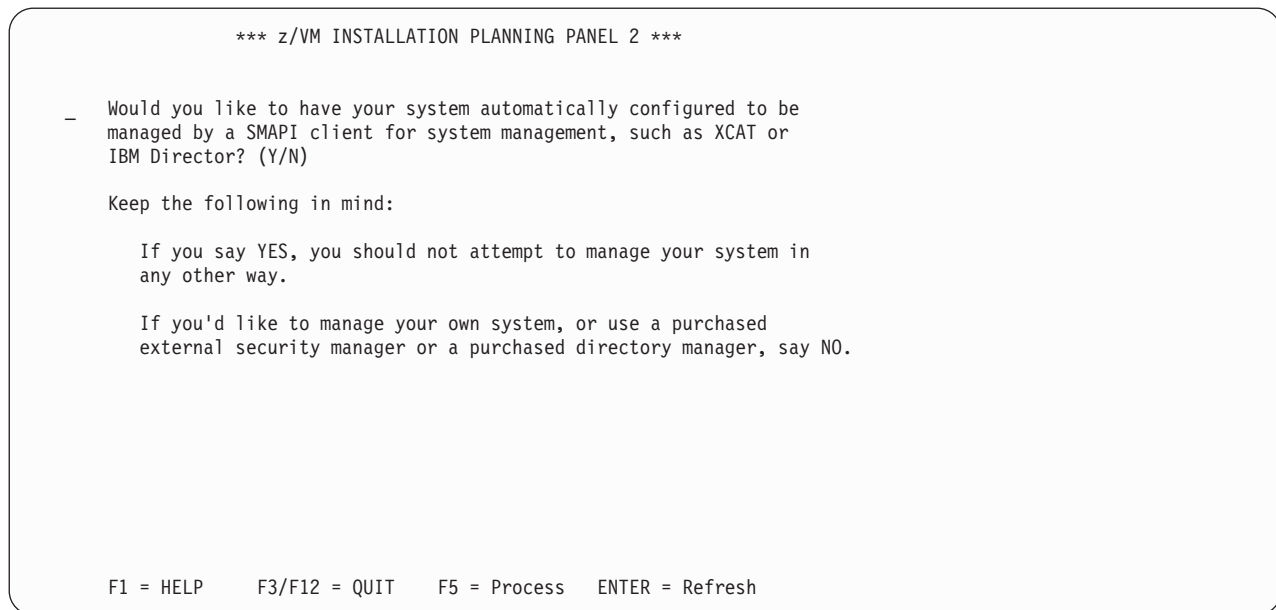
F5

Figure 14. DVD - Installation Planning Panel 2

- h. Refer to DVD installation worksheet 2 (Table 8 on page 81):
 - 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 for non-SSI

```
IUGIPX8475I FINAL SELECTIONS DISPLAY
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: 630RL1 630RL2
SYSTEM: M01RES M01S01 M01P01 M01W01 M01W02 M01W03

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 | 630RL1 | _____ | |
| RELVOL2 | 630RL2 | _____ | |
| | | | |
| TYPE | LABEL | ADDRESS | |
| sysname | | | |
| RES | M01RES | _____ | |
| SPOOL | M01S01 | _____ | |
| PAGE | M01P01 | _____ | |
| WORK | M01W01 | _____ | |
| WORK | M01W02 | _____ | |
| WORK | M01W03 | _____ | |

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

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

- 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 82) in the **LABEL** field.

- b. Fill in the volume addresses using the information from DVD installation worksheet 3 (Table 9 on page 82) for 3390, or DVD installation worksheet 4 (Table 10 on page 82) 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

IUGIIX8377R YOU HAVE SELECTED TO FORMAT YOUR DASD.
DASD SELECTED ARE:

Depending on whether you chose to format your DASD, you will receive either version of message IUGIIX8377R.

IUGIIX8377R YOU HAVE SELECTED NOT TO FORMAT YOUR DASD.
THIS ASSUMES THEY HAVE ALREADY BEEN FORMATTED.
DASD SELECTED ARE:

| | |
|---------------|-----------------|
| <i>lblcom</i> | <i>dasdaddr</i> |
| <i>lblcm2</i> | <i>dasdaddr</i> |
| <i>lblrl1</i> | <i>dasdaddr</i> |
| <i>lblrl2</i> | <i>dasdaddr</i> |
| <i>lblres</i> | <i>dasdaddr</i> |
| <i>lblspl</i> | <i>dasdaddr</i> |
| <i>lblpag</i> | <i>dasdaddr</i> |
| <i>lblw01</i> | <i>dasdaddr</i> |
| <i>lblw02</i> | <i>dasdaddr</i> |
| <i>lblw03</i> | <i>dasdaddr</i> |

IUGINP8392I INSTPLAN EXEC ENDED SUCCESSFULLY
Ready; T=*n.nn/n.nn hh:mm:ss*

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

1. If you are installing to 3390 skip to substep 8 on page 115.
2. If the SCSI volumes you are installing to are defined as minidisks on your installation user ID, skip to substep 7.
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 82).

For each DASD volume:

- a. Select and record a free FCP address for each *edev*. You should use one FCP device for the 630RES 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 83).

- b. Define the device address.

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

dasdaddr

The edevice address from DVD installation worksheet 6 (Table 12 on page 83).

fcpn

FCP address (you should use one FCP device for the 630RES and a different, or multiple different, FCPs for the other disks).

www

World Wide port number.

lll

LUN address.

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

```
vary on dasdaddr
```

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

Verify the volumes needed for installation are available

- 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 82) or 4 (Table 10 on page 82) that is not already attached. Enter the following ATTACH command for each volume:

| | |
|--|--|
| attach <i>dasdaddr</i> * | <i>dasdaddr</i> |
| DASD <i>dasdaddr</i> ATTACHED TO <i>userid</i> <i>dasdaddr</i> | Address of the DASD volume. |
| : | <i>userid</i> |
| Ready; T= <i>n.nn/n.nn hh:mm:ss</i> | 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 3. 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

```
IUGIIS8490I NOW FORMATTING|LABELING VOLUME dasdaddr (1 OF n)
:
:
IUGIIS8490I NOW FORMATTING|LABELING VOLUME dasdaddr (n OF n)
:
:
IUGIIS8380I RESTORING IIS TO lblcom lblrl1 lblres and lblspl

IUGIIS8341I LOAD OF THE SYSTEM IIS TO COMMON VOLUME COMPLETED SUCCESSFULLY
:
:
IUGIIS8490I NOW ALLOCATING DASD dasdaddr (COMMON VOLUME)
:
:
IUGIIS8341I WRITING OWNERSHIP FOR sysname TO spladdr lblspl COMPLETED SUCCESSFULLY
IUGIIS8341I WRITING OWNERSHIP FOR sysname TO pagaddr lblpag COMPLETED SUCCESSFULLY
IUGIDV8341I CREATION OF USER DIRECTORY COMPLETED SUCCESSFULLY

IUGILB8440I NOW LOADING userid cuu (alias) DISK 1 OF nnn
IUGILB8440I NOW LOADING userid cuu (alias) DISK 2 OF nnn
IUGILB8440I NOW LOADING userid cuu (alias) DISK 3 OF nnn
:
:
IUGILB8440I NOW LOADING userid cuu (alias) DISK nnn OF nnn
```

Messages received if installing first-level:

```
IUGIDV8341I USER DIRECTORY HAS BEEN BROUGHT ONLINE SUCCESSFULLY
IUGIDV8341I SALIPL COMMAND HAS COMPLETED SUCCESSFULLY
:
:
IUGIWF8338I NOW EXECUTING COPY OF CF0 and 4CC STEP
:
:
IUGIDV8392I INSTDVD EXEC ENDED SUCCESSFULLY
```


Messages received if installing second-level:

```

IUGIDV8341I USER DIRECTORY HAS BEEN BROUGHT ONLINE SUCCESSFULLY
IUGIDV8341I SALIPL COMMAND HAS COMPLETED SUCCESSFULLY
IUGIWF8341I {MDDUMP|ECKDDUMP} OF 2CF0 COMPLETED SUCCESSFULLY
IUGIWF8338I NOW EXECUTING COPY OF 24CC TO 4CC STEP
IUGIWF8341I {MDDUMP|ECKDDUMP} OF 24CC COMPLETED SUCCESSFULLY
IUGIDV8392I 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 R3.0 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, 2013. 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 HCPCRC8082I Accounting records are accumulating for userid DISKACNT

Run INSTALL to install your new system

```
z/VM V6.3.0    yyyy-mm-dd hh:mm

hh:mm:ss AUTO LOGON *** OP1 USERS = 2 BY MAINT630
hh:mm:ss HCPCLS6056I XAUTOLOG information for OP1: The IPL command is verified by the
      IPL command processor.

z/VM DASD DUMP/RESTORE PROGRAM
HCPDDR698I DATA DUMPED FROM "0" TO BE RESTORED
HCPDDR697I NO VOL1 LABEL FOUND
RESTORING "0"
DATA DUMPED   mm/dd/yy AT hh.mm.ss  GMT FROM "0" RESTORED
INPUT CYLINDER EXTENTS      OUTPUT CYLINDER EXTENTS
      START      STOP      START      STOP
      n          nnnn      n          nnnn
END OF RESTORE
BYTES RESTORED  nnnnnnnnnn

z/VM DASD DUMP/RESTORE PROGRAM
HCPDDR698I DATA DUMPED FROM "0" TO BE RESTORED
HCPDDR697I NO VOL1 LABEL FOUND
RESTORING "0"
DATA DUMPED   mm/dd/yy AT hh.mm.ss  GMT FROM "0" RESTORED
INPUT CYLINDER EXTENTS      OUTPUT CYLINDER EXTENTS
      START      STOP      START      STOP
      n          nnnn      n          nnnn
END OF RESTORE
BYTES RESTORED  nnnnnnnnnn

IUGPLD8341I POSTLOAD PROCESSING STARTED

DMSACC724I 4CC replaces C (4CC)
IUGIFP8493I ISSUING XAUTOLOG FOR VMSERVU
AUTO LOGON ***      VMSERVU  USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVU: The IPL command is verified by the IPL
      command processor.

IUGIFP8493I ISSUING XAUTOLOG FOR VMSERV
AUTO LOGON ***      VMSERV  USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: The IPL command is verified by the IPL
      command processor.

IUGIFP8493I 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 VMSERV  USERS = n      FORCED BY MAINT630
IUGIFP8493I ISSUING XAUTOLOG FOR VMSERV
AUTO LOGON ***      VMSERV  USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: The IPL command is verified by the IPL
      command processor.

IUGIFP8493I ISSUING XAUTOLOG FOR VMSERV
AUTO LOGON ***      VMSERV  USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: The IPL command is verified by the IPL
      command processor.

IUGIFP8338I UPDATING SYSTEM TABLES AND CLEANING UP FILEPOOL DIRECTORIES
```

Run INSTALL to install your new system

```
USER DSC LOGOFF AS VMSEVP USERS = n FORCED BY MAINT630
DASD 917 DETACHED
IUGIFP8493I ISSUING XAUTOLOG FOR VMSEVP
AUTO LOGON *** VMSEVP USERS = n
HCPCLS6056I XAUTOLOG information for VMSEVP: The IPL command is verified by the
    IPL command processor.

DASD 0193 DETACHED
z/VM V6.3.0    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 : CONNECT= nn:nn:nn VIRTCPU= nnn:nn:nn TOTCPU= nnn:nn:nn
BLDCMS : LOGOFF AT hh:mm:ss EST MONDAY mm/dd/yy BY MAINT630
USER DSC LOGOFF AS BLDCMS USERS = n FORCED BY MAINT630

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 MAINT630
USER DSC LOGOFF AS BLDCMS USERS = n FORCED BY MAINT630

*****
*   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 R3.0  SERVICE LEVEL nnnn (64-BIT)
```

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

Run INSTALL to install your new system

```
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, 2013. 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 volid (device nnnn).
hh:mm:ss HCPZC06718I Parm disk resides on cylinders nn through nn.
:
:
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

1. Log on as MAINT630.

```
logon maint630
:
Ready; T=n.nn/n.nn hh:mm:ss
```

The default password for MAINT630 is WD5JU8QP.

Step 5. IPL the new 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 4, “Post traditional system installation,” on page 143.

Chapter 10. SSI DVD installation method

In this chapter, you will:

- Install a z/VM SSI cluster.

Step 1. Run INSTPLAN for SSI

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

The installation planning panels are displayed.

*** 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 | DIRM | M | ICKDSF |
| M | OSA | M | PERFTK | M | RACF |
| M | RSCS | M | TCPIP | M | VMHCD |

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. DVD - Installation Planning Panel

- a. See DVD installation worksheet 1 (Table 7 on page 81) 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 81).
- 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 81).
- 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 81) – 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.

Single System Image (SSI) Cluster Installation

You have chosen to install z/VM in a single system image cluster. This 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 which were 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 <http://www.ibm.com/software/ShopzSeries>. In countries where Shop zSeries is not available, contact your IBM representative or IBM Business Partner.

If you have ordered this feature and accept the licensing terms and conditions referenced above, press F5 to accept. If you are accepting these terms on behalf of another person or a company or other legal entity, you represent and warrant that you have full authority to bind that person, company or legal entity to these terms.

If you do not agree to these terms, press F3 to cancel the installation and refer to the Installation Guide to plan a non-SSI install.

F1 = HELP F3/F12 = QUIT F5 = I Accept

Figure 17. DVD - 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.

*** z/VM INSTALLATION PLANNING PANEL 2 ***

- Would you like to have your system automatically configured to be managed by a SMAPI client for system management, such as XCAT or IBM Director? (Y/N)

Keep the following in mind:

If you say YES, you should not attempt to manage your system in any other way.

If you'd like to manage your own system, or use a purchased external security manager or a purchased directory manager, say NO.

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

Figure 18. DVD - Installation Planning Panel 2

- a. Refer to DVD installation worksheet 2 (Table 8 on page 81):
 - 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.

F5

Run INSTPLAN for SSI

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. DVD - Installation Planning Panel 3 (SSI Only)

- See DVD installation worksheet 5 (Table 11 on page 83) 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.
- Fill in the member name for each member.
- 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.
- Press F5 to process your selections.

F5

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

```

IUGIPX8475I FINAL SELECTIONS DISPLAY
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: memname      LPAR/USERID 1: lparname
  MEMBER NAME 2: memname      LPAR/USERID 2: lparname
  MEMBER NAME 3: memname      LPAR/USERID 3: lparname
  MEMBER NAME 4: memname      LPAR/USERID 4: lparname

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: 630RL1 630RL2
MEMBER1: M01RES M01S01 M01P01 M01W01 M01W02 M01W03
MEMBER2: M02RES M02S01 M02P01 M02W01 M02W02 M02W03
MEMBER3: M03RES M03S01 M03P01 M03W01 M03W02 M03W03
MEMBER4: M04RES M04S01 M04P01 M04W01 M04W02 M04W03

```

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

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

Run INSTPLAN for SSI

| *** z/VM INSTALLATION VOLUME DEFINITION *** | | | | | | |
|---|--------|---------|--------------|--|--|--|
| TYPE | LABEL | ADDRESS | FORMAT (Y/N) | | | |
| COMMON | VMCOM1 | _____ | - | | | |
| COMMON2 | VMCOM2 | _____ | | | | |
| RELVOL | 630RL1 | _____ | | | | |
| RELVOL2 | 630RL2 | _____ | | | | |

| mem1nam | | | mem2nam | | |
|---------|--------|---------|---------|--------|---------|
| TYPE | LABEL | ADDRESS | TYPE | LABEL | ADDRESS |
| RES | M01RES | _____ | RES | M02RES | _____ |
| SPOOL | M01S01 | _____ | SPOOL | M02S01 | _____ |
| PAGE | M01P01 | _____ | PAGE | M02P01 | _____ |
| WORK | M01W01 | _____ | WORK | M02W01 | _____ |
| WORK | M01W02 | _____ | WORK | M02W02 | _____ |
| WORK | M01W03 | _____ | WORK | M02W03 | _____ |

| mem3nam | | | mem4nam | | |
|---------|--------|---------|---------|--------|---------|
| TYPE | LABEL | ADDRESS | TYPE | LABEL | ADDRESS |
| RES | M03RES | _____ | RES | M04RES | _____ |
| SPOOL | M03S01 | _____ | SPOOL | M04S01 | _____ |
| PAGE | M03P01 | _____ | PAGE | M04P01 | _____ |
| WORK | M03W01 | _____ | WORK | M04W01 | _____ |
| WORK | M03W02 | _____ | WORK | M04W02 | _____ |
| WORK | M03W03 | _____ | WORK | M04W03 | _____ |

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

Figure 20. DVD - Installation Volume Definition (SSI Only)

- 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 83) in the **LABEL** field.
 - Fill in the volume addresses using the information from DVD installation worksheet 6 (Table 12 on page 83). 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.
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 126), proceed to substep 9 on page 129.

- 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 126), 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. DVD - 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 84).
 - b. Fill in the CTC device addresses for each member using the information from DVD installation worksheet 7 (Table 13 on page 84).
9. Press F5 to process your selections.

F5

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

IUGIIX8377R YOU HAVE SELECTED TO FORMAT YOUR DASD.
DASD SELECTED ARE:

IUGIIX8377R 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
lblw02   dasdaddr
lblw03   dasdaddr

```

⋮

Depending on whether you chose to format your DASD, you will receive either version of message IUGIIX8377R.

Run INSTPLAN for SSI

IUGIIX8377R YOU HAVE SELECTED THE FOLLOWING CTC ADDRESSES:

| | | |
|--|----------------|----------------|
| MEMBER <i>membnam</i> TO MEMBER <i>membnam</i> | <i>ctcaddr</i> | <i>ctcaddr</i> |
| MEMBER <i>membnam</i> TO MEMBER <i>membnam</i> | <i>ctcaddr</i> | <i>ctcaddr</i> |
| MEMBER <i>membnam</i> TO MEMBER <i>membnam</i> | <i>ctcaddr</i> | <i>ctcaddr</i> |
| MEMBER <i>membnam</i> TO MEMBER <i>membnam</i> | <i>ctcaddr</i> | <i>ctcaddr</i> |

⋮

IUGINP8392I 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

1. Attach each volume listed on DVD installation worksheet 6 (Table 12 on page 83) 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.
:
:                                                    userid
Ready; T=n.nn/n.nn hh:mm:ss                    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
IUGIIS8490I NOW FORMATTING|LABELING VOLUME dasdaddr (1 OF n)
:
IUGIIS8490I NOW FORMATTING|LABELING VOLUME dasdaddr (n OF n)
:
:
IUGIIS8380I RESTORING IIS TO lblcom lblrl1 lblres and lblspl
IUGIIS8341I LOAD OF THE SYSTEM IIS TO COMMON VOLUME COMPLETED SUCCESSFULLY
:
:
IUGIIS8490I NOW ALLOCATING DASD dasdaddr (COMMON VOLUME)
:
:
IUGIIS8341I WRITING OWNERSHIP ssiname NOSYS TO comaddr lblcom COMPLETED SUCCESSFULLY
IUGIIS8341I WRITING OWNERSHIP ssiname memlname TO resaddr lblres COMPLETED SUCCESSFULLY
IUGIIS8341I WRITING OWNERSHIP ssiname memlname TO spladdr lblspl COMPLETED SUCCESSFULLY
IUGIIS8341I WRITING OWNERSHIP ssiname memlname TO pagaddr lblpag COMPLETED SUCCESSFULLY
IUGIIS8341I CREATING PDR ON comaddr COMPLETED SUCCESSFULLY
IUGIDV8341I CREATION OF USER DIRECTORY COMPLETED SUCCESSFULLY

IUGILB8440I NOW LOADING userid cuu (alias) DISK 1 OF nnn
IUGILB8440I NOW LOADING userid cuu (alias) DISK 2 OF nnn
IUGILB8440I NOW LOADING userid cuu (alias) DISK 3 OF nnn
:
:
IUGILB8440I NOW LOADING userid cuu (alias) DISK nnn OF nnn
```

Run INSTALL to install your new system

Messages received if installing first-level:

```
IUGIDV8341I USER DIRECTORY HAS BEEN BROUGHT ONLINE SUCCESSFULLY
IUGIDV8341I SALIPL COMMAND HAS COMPLETED SUCCESSFULLY
:
:
IUGIWF8338I NOW EXECUTING COPY OF CF0 and 4CC STEP
:
:
IUGIDV8392I INSTDVD EXEC ENDED SUCCESSFULLY
```

Messages received if installing second-level:

```
IUGIDV8341I USER DIRECTORY HAS BEEN BROUGHT ONLINE SUCCESSFULLY
IUGIDV8341I SALIPL COMMAND HAS COMPLETED SUCCESSFULLY
IUGIWF8341I {MDDUMP|ECKDDUMP} OF 2CF0 COMPLETED SUCCESSFULLY
IUGIWF8338I NOW EXECUTING COPY OF 24CC TO 4CC STEP
IUGIWF8341I {MDDUMP|ECKDDUMP} OF 24CC COMPLETED SUCCESSFULLY
IUGIDV8392I 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 R3.0 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, 2013. 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 HCPCRC8082I Accounting records are accumulating for userid DISKACNT

z/VM V6.3.0 yyyy-mm-dd hh:mm

hh:mm:ss AUTO LOGON *** OP1 USERS = 2 BY MAINT630

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

z/VM DASD DUMP/RESTORE PROGRAM
HCPDDR698I DATA DUMPED FROM "0" TO BE RESTORED
HCPDDR697I NO VOL1 LABEL FOUND
RESTORING "0"
DATA DUMPED mm/dd/yy AT hh.mm.ss GMT FROM "0" RESTORED
INPUT CYLINDER EXTENTS OUTPUT CYLINDER EXTENTS
 START STOP START STOP
 n nnnn n nnnn
END OF RESTORE
BYTES RESTORED nnnnnnnnnn

z/VM DASD DUMP/RESTORE PROGRAM
HCPDDR698I DATA DUMPED FROM "0" TO BE RESTORED
HCPDDR697I NO VOL1 LABEL FOUND
RESTORING "0"
DATA DUMPED mm/dd/yy AT hh.mm.ss GMT FROM "0" RESTORED
INPUT CYLINDER EXTENTS OUTPUT CYLINDER EXTENTS
 START STOP START STOP
 n nnnn n nnnn
END OF RESTORE
BYTES RESTORED nnnnnnnnnn

IUGPLD8341I POSTLOAD PROCESSING STARTED

DMSACC724I 4CC replaces C (4CC)
IUGIFP8493I ISSUING XAUTOLOG FOR VMSERVU
AUTO LOGON *** VMSERVU USERS = n
HCPCLS6056I XAUTOLOG information for VMSERVU: The IPL command is verified by the IPL
command processor.

IUGIFP8493I ISSUING XAUTOLOG FOR VMSERV
AUTO LOGON *** VMSERV USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: The IPL command is verified by the IPL
command processor.

IUGIFP8493I 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 VMSERV USERS = n FORCED BY MAINT630
IUGIFP8493I ISSUING XAUTOLOG FOR VMSERV
AUTO LOGON *** VMSERV USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: The IPL command is verified by the IPL
command processor.

IUGIFP8493I ISSUING XAUTOLOG FOR VMSERV
AUTO LOGON *** VMSERV USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: The IPL command is verified by the IPL
command processor.

IUGIFP8338I UPDATING SYSTEM TABLES AND CLEANING UP FILEPOOL DIRECTORIES

Run INSTALL to install your new system

```
USER DSC LOGOFF AS VMSRVP USERS = n FORCED BY MAINT630
DASD 917 DETACHED
IUGIFP8493I ISSUING XAUTOLOG FOR VMSRVP
AUTO LOGON *** VMSRVP USERS = n
HCPCLS6056I XAUTOLOG information for VMSRVP: The IPL command is verified by the
  IPL command processor.
DASD 0193 DETACHED
z/VM V6.3.0   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 : 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 MAINT630
USER DSC LOGOFF AS BLDCMS USERS = n FORCED BY MAINT630

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 : 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 MAINT630
USER DSC LOGOFF AS BLDCMS USERS = n FORCED BY MAINT630

*****
*   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 R3.0 SERVICE LEVEL nnnn (64-BIT)
```

Run INSTALL to install your new system

```
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, 2013. 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 HCPCRC8082I Accounting records are accumulating for userid DISKACNT
```

What to do next

| If this is a . . | Then. . . |
|--------------------------|--|
| One-member SSI install | Continue with “Step 3. One-member SSI” on page 136 |
| Multi-member SSI install | Go to “Step 4. Multi-member SSI” on page 137. |

Step 3. 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 MAINT630.

```
!logon maint630
```

```
:
```

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

The default password for MAINT630 is WD5JU8QP.

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 4, "Post traditional system installation," on page 143.

Step 4. Multi-member SSI

1. Processing continues.

```
z/VM V6.3.0    yyyy-mm-dd hh:mm
hh:mm:ss AUTO LOGON ***          OP1          USERS = 2      BY MAINT630
```

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

```
IUGIMB8380I DDRing CYLINDERS 0 - nnnn FROM lbl1res TO lbl2res
DDR OF lbl1res TO lbl2res SUCCESSFUL
IUGIMB8380I DDRing CYLINDERS 0 - nnnn FROM lbl1wrk1 TO lbl2wrk1
DDR OF lbl1wrk1 TO lbl2wrk1 SUCCESSFUL
```

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

```
IUGIMB8380I DDRing CYLINDERS 0 - nnnn FROM lbl1wrk2 TO lbl2wrk2
DDR OF lbl1wrk2 TO lbl2wrk2 SUCCESSFUL
IUGIMB8380I DDRing CYLINDERS 0 - nnnn FROM lbl1wrk3 TO lbl2wrk3
DDR OF lbl1wrk3 TO lbl2wrk3 SUCCESSFUL
```

```
IUGIMB8380I DDRing CYLINDERS 0 - nnnn FROM lbl1res TO lbl3res
DDR OF lbl1res TO lbl3res SUCCESSFUL
:
```

```
IUGIMB8380I DDRing CYLINDERS 0 - nnnn FROM lbl1res TO lbl4res
DDR OF lbl1res TO lbl4res SUCCESSFUL
:
```

```
CPFMTXA LABEL VOLUME FOR lbl2res SUCCESSFUL
CPFMTXA LABEL VOLUME FOR lbl2wrk1 SUCCESSFUL
CPFMTXA LABEL VOLUME FOR lbl2wrk2 SUCCESSFUL
CPFMTXA LABEL VOLUME FOR lbl2wrk3 SUCCESSFUL
```

```
CPFMTXA LABEL VOLUME FOR lbl3res SUCCESSFUL
:
```

```
CPFMTXA LABEL VOLUME FOR lbl4res SUCCESSFUL
:
```

```
DASD 0550 DETACHED
```

```
CPFMTXA OWNERSHIP FOR lbl2res SUCCESSFUL
CPFMTXA OWNERSHIP FOR lbl2spl SUCCESSFUL
CPFMTXA OWNERSHIP FOR lbl2pag SUCCESSFUL
```

```
CPFMTXA OWNERSHIP FOR lbl3res SUCCESSFUL
CPFMTXA OWNERSHIP FOR lbl3spl SUCCESSFUL
CPFMTXA OWNERSHIP FOR lbl3pag SUCCESSFUL
```

```
CPFMTXA OWNERSHIP FOR lbl4res SUCCESSFUL
CPFMTXA OWNERSHIP FOR lbl4spl SUCCESSFUL
CPFMTXA OWNERSHIP FOR lbl4pag 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
*****
IUGISC8403I 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 R3.0 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, 2013. 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 HCPCRC8082I Accounting records are accumulating for userid DISKACNT

DMSWSP327I The installation saved segment could not be loaded
z/VM V6.3.0 yyyy-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 MAINT630
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 : 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 MAINT630
USER DSC LOGOFF AS BLDCMS USERS = n FORCED BY MAINT630
```

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

IUGINI8493I ISSUING XAUTOLOG FOR VMSERV
AUTO LOGON *** VMSERV USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: The IPL command is verified by the
IPL command processor.

USER DSC LOGOFF AS VMSERV USERS = n FORCED BY MAINT630
IUGINI8493I ISSUING XAUTOLOG FOR VMSERV
AUTO LOGON *** VMSERV USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: The IPL command is verified by the
IPL command processor.

IUGINI8493I ISSUING XAUTOLOG FOR VMSERV
AUTO LOGON *** VMSERV USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: The IPL command is verified by the
IPL command processor.

IUGINI8493I ISSUING XAUTOLOG FOR VMSERV
AUTO LOGON *** VMSERV USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: The IPL command is verified by the
IPL command processor.

IUGINI8493I ISSUING XAUTOLOG FOR VMSERV
AUTO LOGON *** VMSERV USERS = n
HCPCLS6056I XAUTOLOG information for VMSERV: 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 138 will repeat for members 3-4, if applicable.
3. Once all members have been initialized, processing will finish.

```
IUGMLP8392I INSTALL EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss
```

Step 6. Update the system configuration file

When “Step 5. Initialize members 2-4” on page 138 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 138, 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
*****
IUGISC8403I SYSTEM CONFIG has been updated to allow all members
           to be ipled only from the LPAR/userid
           defined for each member at install time.

IUGISC8392I 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

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 MAINT630 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 4, "Post traditional system installation," on page 143.

Part 4. Post traditional 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 11. Default system information

This section provides a summary of important information about your default system setup. Additional information can also be found in Appendix C, “Contents of the z/VM system,” on page 293. Detailed information about configuring your system can be found in *z/VM: CP Planning and Administration*.

User directory defaults passwords

The USER DIRECT file contains default passwords for all user IDs defined by the installation process. All passwords that are not NOLOG, AUTOONLY, or LBYONLY have been set to the default of WD5JU8QP, except for the password for ZVMMAPLX, which is MAINT.

Default information for IPLing your system

The SYSTEM CONFIG file resides on the CF0 PARM disk, owned by PMAINT.

The CPLOAD MODULE resides on the CF1 PARM disk, owned by MAINT.

During installation, the system is set up to IPL the CPLOAD 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 pdnum=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

Default system information

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
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 MAINT630, 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 |
| 630RL1 | No ownership |
| 630RL2 | No ownership |
| M01RES | No ownership |
| M01W01 | No ownership |
| M01W02 | No ownership |
| M01W03 | No ownership |
| M01S01 | VM SSI owner: none |
| | System owner: <i>systemname</i> |

M01P01 VM SSI owner: none
System owner: *systemname*

- **SSI:**

VMCOM1 VM SSI owner: *SSIname*
System owner: none

VMCOM2 No ownership

630RL1 No ownership

630RL2 No ownership

M0xRES VM SSI owner: *SSIname*
System owner: *memberxname*

M0xW01 No ownership

M0xW02 No ownership

M0xW03 No ownership

M0xS01 VM SSI owner: *SSIname*
System owner: *memberxname*

M0xP01 VM SSI owner: *SSIname*
System owner: *memberxname*

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.

- **MAINT**

```
MDISK 122 3390 000 END M01S01 MR
MDISK 123 3390 000 END M01RES MR
MDISK 124 3390 000 END M01W01 MR
MDISK 125 3390 000 END M01W02 MR
MDISK 126 3390 000 END M01W03 MR
```

- **MAINT630**

```
MDISK 131 3390 000 END 630RL1 MR
MDISK 132 3390 000 END 630RL2 MR
```

```
LINK MAINT 122 122 MR
LINK MAINT 123 123 MR
LINK MAINT 124 124 MR
LINK MAINT 125 125 MR
LINK MAINT 126 126 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
```

Chapter 12. Create IPLable utilities

In this chapter, you will:

- Create IPLable utilities.

Step 1. Create a stand-alone dump device

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 DASD or tape for emergency use. If, after a system failure, CP cannot create an abend dump, you can use the stand-alone dump on DASD or tape to dump all of storage.

For instructions on creating a stand-alone dump utility, 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 V6.3 system.

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.

Note: IBM has included the DDR MODULE on the MAINT CF1 minidisk. This DDR MODULE can be selected and IPLed from the SALIPL screen. For information, see *z/VM: System Operation*.

1. Attach a tape drive (*tapeaddr*) to MAINT630 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
IUGWUT8317I MOVING IPL DDRXA TO TAPE
IUGWUT8318I 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 V6.3.0    yyyy-mm-dd hh:mm
```

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

8. Rewind the tape and store for future use.

```
tape run
```

Step 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 device” on page 150.

Note: IBM has included the ICKSADSF MODULE on the MAINT CF1 minidisk. This ICKSADSF MODULE can be selected and IPLed from the SALIPL screen. For information, see *z/VM: System Operation*.

1. Attach a tape drive (*tapeaddr*) to MAINT630 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
IUGWUT8317I MOVING IPL ICKDSF TO TAPE
IUGWUT8318I 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.

Wait a few moments for ICKDSF to prompt you. If a prompt does not appear, press Enter.

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

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

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

7. IPL CMS.

```
#cp ip1 cms  
z/VM V6.3.0    yyyy-mm-dd hh:mm
```

ENTER

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

8. Rewind the tape and store for future use.

```
tape run
```

Create an IPLable ICKDSF utility tape

Chapter 13. 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

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 299.

Note: If you are using QDIO Layer 2 for the network interface in IPWIZARD, you need to add or update the VMLAN MACPREFIX statement in your SYSTEM CONFIG file to define a unique MAC address prefix for this system. If you are installing a multi-member SSI, the VMLAN MACPREFIX and USERPREFIX must be configured in each SSI member. For more information, see “Media Access Control (MAC) Address” in *z/VM: Connectivity*, and the VMLAN statement in *z/VM: CP Planning and Administration*. If changes are made to your SYSTEM CONFIG file, the z/VM image must be re-IPLed so that the statements take effect.

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 299.

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 319. 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 MAINT630.

```
logon maint630
:
:
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
```

4. Using the information you gathered in the TCP/IP configuration worksheets (in Appendix L, “Basic TCP/IP Connectivity Worksheets,” on page 319), fill in the z/VM TCP/IP Configuration Wizard panel and press F8 to continue.
5. 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.
6. Fill in the Interface Configuration Panel and press F5 to process. The panel content will depend on which interface type is to be used.
7. 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*.

8. If you have a multi-member SSI cluster, log on as MAINT630 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 319.

Step 2. 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 299
- Appendix E, “Back up the z/VM system to tape,” on page 301
- Appendix F, “Back up the z/VM system to DASD,” on page 305.

What to do next

If you wish to use the IBM migration procedure, continue to Chapter 14, “Plan your traditional migration,” on page 159. Otherwise, skip to Chapter 18, “Preinstalled licensed products and features,” on page 193.

Chapter 14. Plan your traditional migration

In this chapter, you will:

- Review migration requirements for a traditional migration.
- Complete migration worksheets.

Traditional 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 MIGP_{orm}*)
- 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 MIGD_{orm}*)

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 traditional 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 V5.4 or V6.1 system. The procedure should be run immediately after completing your traditional 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 18, "Preinstalled licensed products and features," on page 193.

1. To use this migration procedure you must meet these requirements on your first-level V5.4 or V6.1 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.
 - You must not have 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 SERV2P \$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 MAINT630 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 V6.3 system (referred to as your new system).
 - The new system must be running second level on the current system in order to run the migration tools.
 - If you have increased the size of any disk shipped on the z/VM installation media on the current system (unless instructed to do so by IBM Service), you 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 V5.4 are 540RES, 540W01, and 540W02
 - z/VM V6.1 are 610RES, 610W01, and 610W02
 - z/VM V6.3 are M01RES, M01W01, M01W02, M01W03, 630RL1, 630RL2, VMCOM1, and VMCOM2.

Step 2. Complete the migration worksheet

1. Record the addresses of your V6.3 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

Complete the migration worksheet

Table 15. Migration Worksheet

| | | |
|---|--|---|
| z/VM V6.3 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 |

Chapter 15. Set up for traditional migration

In this chapter, you will:

- IPL the new z/VM V6.3 system.
- Run MIGSETUP.
- Run MIGLINK.

Step 1. IPL the new z/VM system

Before you begin: You need to complete the migration worksheet (Table 15 on page 164) and review all migration requirements listed in “Step 1. Review and comply with the requirements” on page 161.

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” on page 161, substep 2 on page 161.

2. Attach the DASD used to install the new z/VM V6.3 system.

Issue the following ATTACH command for each DASD listed on the migration worksheet (Table 15 on page 164):

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

3. IPL the new z/VM V6.3 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 R3.0, 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, 2013. 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 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 HCPCRC8082I Accounting records are accumulated 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 MAINT630.

```
logon maint630  
:  
:  
Ready; T=n.nn/n.nn hh:mm:ss
```

The default password for MAINT630 is WD5JU8QP.

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
IUGMSU8392I MIGSETUP EXEC ENDED SUCCESSFULLY
Ready;
```

2. Shut down the V6.3 system.

```
shutdown
SYSTEM SHUTDOWN STARTED
HCPWRP963I STARTING SHUTDOWN STEP ..... - .....

:
:
HCPWRP963I STARTING SHUTDOWN STEP ..... - .....

HCPWRP962I VM SHUTDOWN COMPLETED IN n SEC
HCPWRP963I STARTING SHUTDOWN STEP SVADV - DEACTIVATE TERMINATION SAVE AREAS
HCPWRP961W SYSTEM SHUTDOWN COMPLETE
HCPGIR450W CP entered; disabled wait PSW 00020000 00000000 00000000 00000961
```

3. IPL CMS on your current system user ID.

```
ipl cms
z/VM Vn.n.0
```

```
ENTER
Ready;
```

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)

IUGMLK8309R 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}
IUGMLK8392I MIGLINK EXEC ENDED SUCCESSFULLY
Ready;
```

Note: If you log off 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 z/VM 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 R3.0, 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, 2013. 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) (DIsable) (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 HCPCRC8082I Accounting records are accumulated 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 MAINT630.

```
logon maint630  
:  
:  
Ready; T=n.nn/n.nn hh:mm:ss
```

The default password for MAINT630 is WD5JU8QP.

IPL the new z/VM system

Chapter 16. Migrate

In this chapter, you will:

- Run MIGRATE.
- View the MIGRATE message log.

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 17, “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"> 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 that start with 'VMF' are documented in <i>z/VM: Other Components Messages and Codes</i> and messages that start with 'DTC' are documented in <i>z/VM: TCP/IP Messages and Codes</i>. Messages that start with 'VMF' may be viewed by issuing HELP followed by the message number. 2. Go to Chapter 17, "Place migrated parts into production," on page 179. |
| Return code 6 | <ol style="list-style-type: none"> 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 that start with 'VMF' are documented in <i>z/VM: Other Components Messages and Codes</i> and messages that start with 'DTC' are documented in <i>z/VM: TCP/IP Messages and Codes</i>. Messages that start with 'VMF' may be viewed by issuing HELP followed by the message number. For messages VMFMGR2308I and VMFSUI2308W for CP local modification 99999, simply mark them reworked with the VMFUPDAT SYSLMOD command. 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>. 3. After you complete the rework, use the VMFUPDAT SYSLMOD command to flag the customized parts and local modification as REWORKED. 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"> 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 that start with 'VMF' are documented in <i>z/VM: Other Components Messages and Codes</i> and messages that start with 'DTC' are documented in <i>z/VM: TCP/IP Messages and Codes</i>. Messages that start with 'VMF' may be viewed by issuing HELP followed by the message number. 2. Correct all errors reported in the error messages. 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 17. Place migrated parts into production

In this chapter, you will:

- Run PUT2PROD, MIGCLEAN, and MIGR51D.

Step 1. Run PUT2PROD

1. Log on as MAINT630.

```
logon maint630
:
Ready; T=n.nn/n.nn hh:mm:ss
```

The default password for MAINT630 is WD5JU8QP.

2. IPL CMS.

```
ipl cms
z/VM V6.3.0    yyyy-mm-dd hh:mm
```

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

3. Run PUT2PROD.

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

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

| If you received . . . | Then . . . |
|------------------------------|--|
| Return code 4 | <ul style="list-style-type: none"> • 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 MAINT630.

```
logon maint630
:
Ready; T=n.nn/n.nn hh:mm:ss
```

The default password for MAINT630 is WD5JU8QP.

2. IPL CMS.

```
ipl cms
z/VM V6.3.0    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.

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  
IUGMCL8392I 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 z/VM 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 R3.0, 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, 2013. 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, HCPISU951I, 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) (DIsable) (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 ZVMSVS at address *nnnn* has been brought online.

•

```
hh:mm:ss HPCRC8082I Accounting records are accumulated 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

1. Log on as MAINT630.

```
logon maint630
:
Ready; T=n.nn/n.nn hh:mm:ss
```

The default password for MAINT630 is WD5JU8QP.

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
IUGMIX8478R 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 | 6VMCPRI0 | 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  Old-> 6VMCMS10 CMS      B00-B37 SR      PPF(ZVM
New-> 6VMCMS30 CMS      B00-B37 SR      PPF(SERV2P
***** Mig-> 6VMCMS30 CMS      B00-B37 SR      PPF(SERV2P
D CMSDOS  Old-> 6VMCMS10 CMS      B00-B0C SR      PPF(ZVM
New-> 6VMCMS30 CMS      B00-B0C SR      PPF(SERV2P
***** Mig-> 6VMCMS30 CMS      B00-B0C SR      PPF(SERV2P
D CMSFILES Old-> 6VMCMS10 CMS      1900-1BFF SR      PPF(ZVM
New-> 6VMCMS30 CMS      1900-1BFF SR      PPF(SERV2P
***** Mig-> 6VMCMS30 CMS      1900-1BFF SR      PPF(SERV2P
D CMSPIPES Old-> 6VMCMS10 CMS      1800-18FF SR      PPF(ZVM
New-> 6VMCMS30 CMS      1800-18FF SR      PPF(SERV2P
***** Mig-> 6VMCMS30 CMS      1800-18FF SR      PPF(SERV2P
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.

Note: With z/VM V6.3, segments HELPSEG and NLSAMENG have been deleted. You should *not* migrate these segments from your current system.

- f. Press F5 to process. Depending on the size of your software inventory files, it may take several minutes to process.
8. Release the software inventory disk for your current system (attached as FFF and accessed as filemode Z).

release z

9. MIGR51D updated the V6.3 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 MAINT630 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 V6.3 system, some minidisks were migrated. When a minidisk is migrated, all of the files that exist on the minidisk on your current system that did NOT exist on the minidisk on your new system are copied to the minidisk on the new system. 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 18. 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 | 6.3.0 | 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 | 6.3.0 | 5741-A07 | Disabled ¹ | Yes ² |
| RACF Security Server for z/VM | 6.3.0 | 5741-A07 | Disabled ¹ | Yes ² |
| RSCS Networking for z/VM | 6.3.0 | 5741-A07 | Disabled ¹ | Yes ² |
| TCP/IP | 6.3.0 | 5741-A07 | Enabled | Yes ² |
| Notes: <ol style="list-style-type: none">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 385.

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.

Preinstalled licensed products and features

RSCS provides the full range of all possible print service connectivity options. Instead of LPSERVE, the RSCS server may be chosen to provide an enhanced level of TCP/IP print support, including LPR and LPD. These services allow for intranet and internet print delivery for a system, and also accept print output from those networks. The ability to print data at a workstation printer in a transparent manner is available to end users regardless of how the printer is accessed.

The enhanced level of TCP/IP print support provided by RSCS (LPR, LPD, UFT, and TN3270E) may be used without obtaining a license for RSCS and enabling RSCS. All other RSCS features can only be used after obtaining a license and enabling RSCS.

Installation Instructions: The installation of RSCS is complete. To use RSCS, it must be enabled and configured. 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 385.

Return to the z/VM System Delivery Offering program directory when you are ready to install other licensed products.

Part 5. Upgrade installation

This part contains the procedures to be followed if you are upgrading a z/VM V6.2 system or member of an SSI cluster to z/VM V6.3.

Attention: This procedure can only be used to upgrade from z/VM V6.2. If you wish to migrate from z/VM V5.4 or V6.1, you must use Part 2, “Traditional installation from tape media,” on page 5 or Part 3, “Traditional installation from DVD or electronic media,” on page 69 to install a z/VM V6.3 system and then follow the migration procedures in Part 4, “Post traditional system installation,” on page 143, referring to the *z/VM: Migration Guide*, as necessary.

In this part, you will:

- Plan your upgrade installation.
- Complete the upgrade installation worksheets.
- Install the z/VM V6.3 work system.
- Upgrade your current system to V6.3.

Chapter 19. Upgrade installation overview

Starting with z/VM V6.3, a new installation technique called **upgrade installation** is introduced for upgrading from z/VM V6.2 only. In a traditional installation, the new release is installed on a separate set of volumes, after which the users and data from the current running system are migrated to the system running the new release. In an upgrade installation, a new release system to be used as a temporary work system is installed as a second level guest of the current release system that you wish to upgrade. The new level of code from the work system is then moved to your current system with minimal impact to your current running system. This current running system can be a non-SSI system, the only member of a single member SSI cluster, or any member of a multi-member SSI cluster. In a multi-member SSI cluster, you will upgrade one member at a time so that there is minimum impact to the other members. Note that you must complete the upgrade for one member before starting the upgrade of the next member.

Restrictions on using the upgrade installation procedure: This procedure cannot be used if any of the following changes were made to the system to be upgraded:

- The format of the user directory shipped by IBM was changed by replacing identity/subconfig definitions with user entries.
- IBM supplied USER or IDENTITY names were changed.
- IBM supplied minidisk addresses were changed,
- IBM supplied minidisks were moved under different user IDs.
- The default values in VMSESE PROFILE or VMFINS DEFAULTS files were changed.

An upgrade installation is performed using a two-stage approach, with two separate sets of changes being defined and then made on your current system. The first set of changes, STAGE1, can be made to your current system without disrupting your production workload. After the STAGE1 changes are made, you must stop all normal production work on your current system, or else move that workload to another system. In an SSI cluster environment, you can relocate production Linux workloads from your current system to other members of your cluster before performing STAGE2 activities. Once you have relocated or stopped your workloads, you should create a backup of the system you are upgrading, using your normal backup procedures. You will then be ready to proceed to STAGE2. When the STAGE2 changes are complete, you will IPL your current system and restart your normal workloads.

In an SSI environment, you can run multiple levels of z/VM on the members of the SSI cluster. This allows you to upgrade one member at a time, and to thoroughly test your current workloads on the new level of z/VM before upgrading additional members.

The overall workflow of an upgrade installation is as follows:

- **Plan your upgrade installation.** Plan your installation and complete the upgrade installation worksheets.
- **Create a backup of your current system.**
- **Install a z/VM V6.3 work system for your upgrade installation.** Run INSTPLAN, verify your upgrade installation volumes, and then run INSTALL.
- **Generate the STAGE1 changes file.** Run INSTUPGR with the STAGE1 operand and the PRIME option to create a file containing the specific STAGE1 changes to be made to the current system or member being upgraded.
- **Make the STAGE1 changes.** Run INSTUPGR with the STAGE1 operand and the COMMIT option to update the current system or member with the changes previously identified. Note that you have the option to complete these changes manually.

Upgrade installation overview

- **Finish STAGE1 upgrade.** Before running STAGE2, you may need to rework any local modifications to components that are upgraded to the new release. You must also review user directory considerations.
- **Back up your system.** At this point, all production work running on the current system or member being upgraded must be stopped or relocated to another member of your cluster, and a backup of the current system that you are upgrading must be created.
- **Generate the STAGE2 changes file.** Run INSTUPGR with the STAGE2 operand and the PRIME option to create a file containing the specific STAGE2 changes to be made to the current system or member being upgraded.
- **Make the STAGE2 changes.** Run INSTUPGR with the STAGE2 operand and the COMMIT option to update the current system or member with the STAGE2 changes previously identified. Note that, as with the STAGE1 changes, you have the option to complete these changes manually.
- **Post-installation.** IPL your upgraded system or member.

If you are upgrading a single system or a single member SSI cluster, you are done and can resume your normal production work. If you have additional members in an SSI cluster to upgrade, then when you are ready, repeat the process outlined above for each additional member. z/VM supports running multiple levels of z/VM in one cluster, so you can run the new level of VM on just one member until you are satisfied. Then when you are ready, you can upgrade the next member.

When all members of your cluster have been upgraded to the new level of z/VM, follow the procedure in “Step 1. Remove an obsolete release” on page 286.

Chapter 20. Plan your upgrade installation

In this chapter, you will:

- Plan your installation.
- Complete the upgrade installation worksheets.

Step 1. Select your upgrade installation media type

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.

An upgrade installation can be done from:

- Tape.
- 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 DVD or electronic deliverable have been stored.
- A CMS-formatted minidisk that can be accessed by installation user ID MIGMAINT.

Step 2. Review and comply with the requirements

Before performing the z/VM V6.3 upgrade installation, you must review the following information and ensure all requirements are satisfied:

1. z/VM media deliverable:

- For tape deliverable, be sure you have both the z/VM product installation tape and the latest RSU tape.
- For physical DVD deliverable, be sure you have the z/VM product installation DVD.
- For electronic deliverable, you must follow the instructions that accompanied the deliverable to either create a physical DVD or load the deliverable into an FTP server directory.

Note: For DVD or electronic deliverable, the initial RSU is included as part of the product deliverable.

2. General:

- For current information affecting installation, see the “installation information” section in the CP subset of the zvm630 upgrade PSP bucket.
- Installation will install the RSU that is shipped as part of the z/VM product. If additional service is required, install the additional service after your upgrade installation is complete.
- 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.
- User IDs MAINT, PMAINT and MAINT_{orm} must *not* be logged on to the system you are upgrading. If you are upgrading a member of a multimember SSI cluster, these user IDs must *not* be logged on to any member of the cluster.

3. Hardware requirements:

- A processor supported by z/VM version 6 release 3. 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.
- Access to a local non-SNA 3270 terminal, or equivalent, configured with at least 24 lines.

4. System software requirements:

- z/VM 6.2.0 running in the LPAR you are upgrading.
- You must ensure that you have the appropriate licenses for z/VM V6.3, for all the optional features that are enabled in your z/VM V6.2 environment before you upgrade your system. You will be required to verify that you have the licenses needed during upgrade installation processing for:
 - DirMaint (Directory Maintenance Facility)
 - PERFKIT (Performance Toolkit)
 - RACF (RACF Security Server)
 - RSCS (RSCS Networking for z/VM)
 - SSI (IBM z/VM Single System Image Feature).

5. MIGMAINT user ID requirements:

- You must complete the upgrade installation from the MIGMAINT user ID logged on to the system/member you are upgrading. The user ID requirements are:
 - Privilege classes of at least B and G
 - Authority to issue the DEFINE MDISK command
 - Administrator authority for the VMSYS, VMPSFS, and VMSYSU filepools
 - At least 256 MB of virtual storage
 - A 191 read/write minidisk accessed as file mode A

Review and comply with the requirements

- A 2222 read/write minidisk, matching the installation DASD type (3390 or FBA) of the system you are upgrading, that is exactly:
 - 10 cylinders (3390)
 - 14400 512-KB blocks (FBA)
- A 24CC read/write minidisk, matching the installation DASD type (3390 or FBA) of the system you are upgrading. This disk cannot be defined on a temp disk and must be exactly:
 - 10 cylinders (3390)
 - 14400 512-KB blocks (FBA)
- A 2CF0 read/write minidisk, matching the installation DASD type (3390 or FBA) of the system you are upgrading. This disk cannot be defined on a temp disk and must be exactly:
 - 120 cylinders (3390)
 - 172800 512-KB blocks (FBA)

Note: The MIGMAINT user ID was defined when z/VM V6.2 was installed and the default definition for that ID meets all the requirements defined above.

6. Conditional requirements for the MIGMAINT user ID:

- If your current system has products loaded to the VMPSFS filepool:
 - A 2191 read/write minidisk, which:
 - Must be formatted with 4K blocks.
 - Cannot be defined on a temp disk.
 - Must have 300 000 free 4K blocks:
 - 1670 cylinders (3390)
 - 2 400 000 FB-512 blocks.
- If you will install using a CMS-formatted minidisk:
 - Access to the CMS-formatted minidisk where the installation files are or will be loaded. If you will be loading the files to the minidisk, you must have read/write access to the disk.
 - Access to the INSTPIPE MODULE that was shipped with your current release of z/VM. The module was shipped on the MAINT_{orm} 4CC disk.
- If you will install using DVD or electronic media:
 - Access to the INSTPIPE MODULE that was shipped with your current release of z/VM. The module was shipped on the MAINT_{orm} 4CC disk.
- If you are using a directory manager program, such as DirMaint:
 - MIGMAINT must be authorized to issue directory manager commands on behalf of other users without the need to supply a password.
- If you are using a security manager program, such as RACF:
 - MIGMAINT must be authorized to link to any minidisk on the system without the need to supply a password.
 - MIGMAINT must be authorized to link to the following disks in write mode:
 - MAINT620 51D
 - MAINT630 51D
 - PMAINT 41D

7. DVD installation 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 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 DVD or electronic deliverable has 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.
 - There must be at least 4 GB of available space to store the contents of the z/VM product DVD.
 - If installing from a CMS-formatted minidisk where the contents of the physical DVD or electronic deliverable will be uploaded (also referred to as “From a VM Minidisk”):
 - The CMS-formatted minidisk must be the equivalent of at least 6000 cylinders of 3390 DASD.
 - You must be able to write to the CMS-formatted minidisk to load the files.
8. Other system requirements:
- If upgrading a multi-member SSI:
 - There must be a shared source for the user directory file.
 - There must be a shared SYSTEM CONFIG file for all members of the cluster.
 - If upgrading the first member of a multi-member SSI, the DASD volumes that will be used as the release volumes for your work system will need to be available and online to all members of your cluster.
 - If any members of your cluster are running as a second level guest, you should use LINK statements with the DEVNO option in the user directory definitions to attach the DASD volumes to all members of your cluster in write mode at the end of your upgrade. See *z/VM: CP Planning and Administration* for more information on storage management.
 - If upgrading a non-SSI, a one-member SSI, or the first member of a multi-member SSI, upgrade installation will add the following user IDs to the system. If you have any of these user IDs already defined on your system, you must rename them:
 - MAINT630
 - 6VMPTK30
 - 6VMRAC30
 - 6VMRSC30
 - 6VMTCP30
 - 6VMDIR30
 - ZHCP
 - XCAT
 - If upgrading a non-SSI, a one-member SSI, or the first member of a multi-member SSI, and your current system has products loaded to the VMPSFS filepool:
 - The VMPSFS filepool needs free space to hold the new filespace:
 - The amount of free space needed in storage group 2 is determined by which products you have installed to the VMPSFS filepool. To calculate the amount of free space the VMPSFS filepool must have available, use the following table. Total the 4K blocks needed for all of the products that you loaded to the filepool.

Review and comply with the requirements

| Product | Free 4K Blocks |
|---------|----------------|
| VM | 320 000 |
| OSA | 0 |
| PERFTK | 22 000 |
| VMHCD | 0 |
| RACF | 42 000 |
| DIRM | 17 000 |
| RSCS | 16 000 |
| ICKDSF | 0 |
| TCPIP | 65 000 |

- Ensure that storage group 1 for VMPSFS has sufficient free space to hold the additional index records for the new data that is being added to VMPSFS. If you have never added additional space to storage group 1, you should add an additional 50 cylinder minidisk.
- If you are *not* using a directory manager program:
 - INSTUPGR will remove sequence numbers from the directory, if they exist.
- If you are using a directory manager program:
 - Directory changes must be made available (or put online) to all systems immediately.
 - If the directory manager program supplies an installation upgrade exit, refer to the program's documentation for program-specific requirements to use the exit provided.
 - If the directory manager program does *not* supply an installation upgrade exit, then you will need to either:
 - Make the directory changes yourself during commit processing, or
 - Create a flat directory file on a disk MIGMAINT can access in write mode. During planning, select the option to edit your directory file manually.
 - If upgrading a non-SSI, a one-member SSI, or the first member of a multi-member SSI:
 - The DASD volumes you will use to contain the release volumes (620RL1, 630RL2) must be included in the control files that define the DASD pool available to the directory manager.
 - The appropriate directory manager control files must be configured such that the directory manager will ignore fullpack minidisk definitions for user IDs MAINT, PMAINT, MAINT620, MAINT630, SYSDUMP1, SYSDMP-1, SYSDMP-2, SYSDMP-3, and SYSDMP-4.
 - If you are using DirMaint as your directory manager, you must have DATAMOV* servers configured and available.
 - If you have minidisk password checking enabled, you may need to disable it during the upgrade as user IDs will be added to the directory that may have minidisk passwords that are considered trivial.
- If you are using an external security manager (ESM) program:
 - Ensure that the MIGMAINT user ID is authorized to perform security authorizations on behalf of other users.
 - If you are managing SFS with your security manager, MIGMAINT must be authorized to perform all SFS administration functions.

Step 3. Complete the upgrade installation worksheets

1. Before you begin the upgrade installation procedure, you should create a backup copy of your current system following your normal backup procedures.
2. The information you provide during this step will be used for the entire upgrade process. If you discover at some point during the upgrade process that the planning information you provided was incorrect, you must return to this step and start over with the entire upgrade process. If updates were made to the current system that could not be backed out, restore the backup created in substep 1.
3. 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 upgrade installation worksheet 1 (Table 19 on page 212):
 - a. The IP address or host name of the FTP server.
 - b. The user ID and password of the FTP server.
 - c. The DVD or FTP directory path name for the FTP server.
4. If you are installing from a VM minidisk, record the VM user ID and address of the VM minidisk where contents of the z/VM product DVD will be uploaded on upgrade installation worksheet 1 (Table 19 on page 212).
5. Determine the name and location of the system configuration file for your current system. Record the filename and filetype of your system configuration file on upgrade installation worksheet 2 (Table 20 on page 212). Also record the minidisk address where the file is stored and the user ID that owns the minidisk.

Note: The default file ID and location are SYSTEM CONFIG, located on the PMAINT CF0 disk.

6. If you edit your CP user directory file manually to update, record YES on upgrade installation worksheet 2 (Table 20 on page 212). If you use a directory manager program that provides an upgrade installation exit, enter NO on upgrade installation worksheet 2 (Table 20 on page 212). If you use a directory manager program that does *not* provide an upgrade installation exit, and you will make the directory changes yourself during commit processing, enter NO on upgrade installation worksheet 2 (Table 20 on page 212).
If you use a directory manager program that does *not* provide an upgrade installation exit, and you will create a flat directory file on a disk MIGMAINT can access in write mode, enter YES on upgrade installation worksheet 2 (Table 20 on page 212).
If you entered YES, also record the filename and filetype of your user directory file, the minidisk address where it is stored and the user ID that owns the minidisk. Record the CP directory file information on upgrade installation worksheet 2 (Table 20 on page 212).

Note: The default file ID and location are USER DIRECT, located on the PMAINT 2CC disk.

7. Determine if you are running a security manager other than RACF on your system. Record either a YES or NO on update installation worksheet 2 (Table 20 on page 212).
8. Record information for MIGMAINT's 2191 minidisk on upgrade installation worksheet 2 (Table 20 on page 212).
 - If your current system has no products loaded to the VMPSFS filepool enter NO on the "Is a 2191 minidisk required?" line.
 - If your current system does have products loaded to the VMPSFS filepool:
 - Enter YES on the "Is a 2191 minidisk required?" line.
 - On the same line, enter the minidisk size you calculated in substep 6 on page 204.

Complete the upgrade installation worksheets

9. Select the DASD type and model you will use to install your z/VM work system. The DASD type must match the installation DASD type of the current system you are upgrading. Record the DASD information on upgrade installation worksheet 2 (Table 20 on page 212). If you are using:

- FBA (SCSI), record the size in the “SCSI volume size” line. The size of the 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, record either Model 3 or Model 9 in the “3390 DASD Model” line.

Notes:

1. If you are using volumes with more cylinders than a Model 9 (10017), select 3390 Model 9.
 2. If you select 3390 Model 3, installation uses the first 3338 cylinders on each DASD and ignores any cylinders beyond 3338.
 3. If you select 3390 Model 9, installation uses the first 10016 cylinders on each DASD and ignores any cylinders beyond 10016.
 4. If you select FBA DASD, installation will use only the first 10 GB of space and will ignore any space beyond 10 GB.
10. If you are installing your z/VM work system to 3390 DASD, determine the number of volumes required to install and record that information on upgrade installation worksheet 3 (Table 21 on page 212):
- a. If you choose:
 - 3390 Model 3:
 - If your current system has all products loaded to minidisk, you will need ten volumes.
 - If your current system has all products loaded to the filepool, you will need nine volumes. You will *not* need multiple release volumes.
 - If your current system has some products loaded to minidisk and some products loaded to the filepool, you will need either nine or ten volumes. You may or may not need multiple release volumes. 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 2810 or more cylinders, then you will *not* need the RELVOL2 volume:

| Product | Cylinders |
|---------|-----------|
| VM | 2089 |
| OSA | 0 |
| PERFTK | 111 |
| VMHCD | 0 |
| RACF | 182 |
| DIRM | 0 |
| RSCS | 94 |
| ICKDSF | 0 |
| TCPIP | 449 |

- 3390 Model 9:
 - You will need five volumes. You will *not* need multiple common, release or work volumes.

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

- b. Record the address for each 3390 volume in the **Address** column on the upgrade installation worksheet 3 (Table 21 on page 212). 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.

Notes:

1. The volumes where the new release code is installed on your z/VM work system (default labels 630RL1 and 630RL2) will be added to your current system. You should choose labels for these volumes that adhere to any local policies for volume labels for your organization. All other volumes may be returned to your DASD pool after the upgrade installation is complete.
 2. In a multimember SSI cluster, only the first member upgraded to V6.3 will add the release volumes to your current system. For subsequent members, the release volumes will *not* be added and the default labels will be IBMRL1 and IBMRL2.
11. If you are installing to FBA (SCSI) volumes, use upgrade installation worksheet 4 (Table 22 on page 213). 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.
 - If the DASD size of your FBA volumes is greater than 9.5 GB:
 - You will need five volumes. You will *not* need the M01W01 volume.
 - If the DASD size of your FBA volumes is less than 9.5 GB:
 - You will need six volumes.
 - Volume labels must be 1 to 6 alphanumeric characters.
 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 upgrade installation worksheet 4 (Table 22 on page 213). Also make a note of the valid FCP address(es) or CHPID.
 13. Additional space needs to be allocated on your current system for new minidisks. Some of the space must be defined on volumes that are designated as MEMBER volumes for the system you are upgrading, and some of the space must be defined on volumes that are designated as COMMON volumes. A MEMBER volume, such as the WORK volume with default label M01W01, is one that is assigned to and is usually accessible to just one member of an SSI cluster. On a non-SSI system, these volumes may also be referred to as SYSTEM volumes. A COMMON volume, such as the COMMON volume with default label VMCOM1, is one that is not assigned to any specific member and is accessed by all members of an SSI cluster. If the system you are upgrading is *not* a member of an SSI cluster, you should still allocate this new space on volumes that would be considered MEMBER volumes and COMMON volumes in an SSI cluster to minimize rework should you decide in the future to convert your non-SSI system to a single member SSI cluster.
 - a. Space that will be needed on MEMBER volumes is listed in Table 17 on page 210, for 3390 and for FBA. You *must* allocate the space for these minidisks on the same type of DASD you used when you installed your z/VM system. The table lists the user IDs that will own the minidisks to be added, the product associated with each user ID, and the minimum amount of space needed

Complete the upgrade installation worksheets

on a MEMBER volume to define the minidisks for each user ID. The amount of space needed is dependent on where the associated product is installed (on minidisks or in the VMPSFS filepool) on your current system.

Determine where each product was loaded and record either an **M** (for minidisks) or an **F** (for filepool) in the **Location** column in Upgrade Installation Worksheet 5 (Table 23 on page 213). Use Table 17 to determine the amount of space needed for each user ID and record the space needed on Upgrade Installation Worksheet 5 (Table 23 on page 213), in the **Minimum** column.

Determine which MEMBER volumes assigned to the system you are upgrading have sufficient space available to define each user ID's minidisks. All of the space needed for all of the user IDs need not be on the same MEMBER volume. If there is not sufficient free space on any of your current MEMBER volumes, you should add a new MEMBER volume to your system. See *z/VM: CP Planning and Administration* for more information on adding additional MEMBER volumes to your system.

On Upgrade Installation Worksheet 5 (Table 23 on page 213), for each user ID, record the label of the MEMBER volume where that user ID's minidisks should be defined. If you edit your CP user directory file manually, i.e. you recorded YES on upgrade installation worksheet 2 (Table 20 on page 212), also record the start and end cylinders or block extents where the user ID's disks are to be defined.

If you use a directory manager product, i.e. you recorded NO on upgrade installation worksheet 2 (Table 20 on page 212), the directory manager will be furnished with the volume information so that it can define the minidisks on the correct volume. You must ensure that all member volumes you are using are included in the control files that define the DASD pool for your directory manager product.

Table 17. Minimum Space Requirements for MEMBER Volumes

| MEMBER Volumes Installing on: | | Minimum Space Needed: | | | |
|-------------------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|
| | | 3390 (Cylinders) | | FBA (512K Blocks) | |
| USERID | Product/ Component | Product in Filepool | Product on Minidisk | Product in Filepool | Product on Minidisk |
| ZHCP | VM | 3331 | 3331 | 4 796 640 | 4 796 640 |
| XCAT | VM | 3331 | 3331 | 4 796 640 | 4 796 640 |
| VSMGUARD | VM | 5 | 5 | 7200 | 7200 |
| VSMWORK1 | VM | 5 | 5 | 7200 | 7200 |
| VSMWORK2 | VM | 5 | 5 | 7200 | 7200 |
| VSMWORK3 | VM | 5 | 5 | 7200 | 7200 |

- b. If you are upgrading a member of an SSI cluster and this is *not* the first member to be upgraded, you do *not* need to allocate any additional space on COMMON volumes. Ensure that the common volume you used for previous upgrades is available to this member. Skip the next substep and continue to Chapter 21, "Set up for your upgrade installation," on page 215. If are upgrading a non-SSI system or the first member of an SSI cluster, continue to substep 13c.
- c. Space that will be needed on COMMON volumes is listed in Table 18 on page 211, for 3390 and for FBA. You *must* allocate the space for these minidisks on the same type of DASD you used when you installed your z/VM system. The table lists the user IDs that will own the minidisks to be added, the product associated with each user ID, and the minimum amount of space needed on a COMMON volume to define the minidisks for each user ID. The amount of space needed is dependent on where the associated product is installed (on minidisks or in the VMPSFS filepool) on your current system.

Determine where each product was loaded and record either an **M** (for minidisks) or an **F** (for filepool) in the **Location** column on Upgrade Installation Worksheet 5 (Table 23 on page 213). Use

Table 18 to determine the amount of space needed for each user ID and record the space needed on Upgrade Installation Worksheet 5 (Table 23 on page 213), in the **Minimum** column.

Determine which COMMON volumes on your current system have sufficient space available to define each user ID's minidisks. All of the space needed for all the user IDs need not be on the same COMMON volume. If there is not sufficient free space on your current COMMON volumes, you should add a new COMMON volume to your system. See *z/VM: CP Planning and Administration* for more information on adding additional COMMON volumes to your system.

On Upgrade Installation Worksheet 5 (Table 23 on page 213), for each user ID, record the label of the COMMON volume where that user ID's minidisks should be defined. If you edit your CP user directory file manually, also record the start and end cylinders or block extents where the user ID's disks are to be defined.

If you use a directory manager product, the directory manager will be furnished with the volume information so that it can define the minidisks on the correct volume.

Table 18. Minimum Space Requirements for COMMON Volumes

| COMMON Volumes Installing on: | | Minimum Space Needed: | | | |
|-------------------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|
| | | 3390 (Cylinders) | | FBA (512K Blocks) | |
| USERID | Product/ Component | Product in Filepool | Product on Minidisk | Product in Filepool | Product on Minidisk |
| 6VMDIR30 | DirMaint | 69 | 172 | 99 360 | 247 680 |
| 6VMHCD20 | VMHCD | 0 | 559 | 0 | 804 960 |

What to do next

Go to Chapter 21, "Set up for your upgrade installation," on page 215.

Complete the upgrade installation worksheets

Table 19. Upgrade Installation Worksheet 1 (DVD Only)

| | |
|--|-------|
| 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: | _____ |

Table 20. Upgrade Installation Worksheet 2

| Current System Information: | | | |
|---|-------|----------------|----------------|
| System configuration file: | | | |
| Name: _____ | _____ | User ID: _____ | Address: _____ |
| Do you edit your CP directory file manually? | | _____ | |
| If YES, then CP directory file: | | | |
| Name: _____ | _____ | User ID: _____ | Address: _____ |
| Are you using a security manager other than RACF? | | _____ | |
| Is a 2191 minidisk required? | | _____ | Size: _____ |
| 3390 DASD model: | | _____ | |
| SCSI volume size: | | _____ | |

Table 21. Upgrade Installation Worksheet 3 (3390 Only)

| Installation Volumes for z/VM Work System (3390): | | | |
|---|---------------|-----------|---------|
| Volume Type | Default Label | New Label | Address |
| COMMON | IBMCM1 | | |
| COMMON2 | IBMCM2 | | |
| RELVOL | xxxRL1 | | |
| RELVOL2 | xxxRL2 | | |
| RES | IBMRES | | |
| SPOOL | IBMS01 | | |
| PAGE | IBMP01 | | |
| WORK | IBMWK1 | | |
| WORK | IBMWK2 | | |
| WORK | IBMWK3 | | |
| 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. | | | |

Table 22. Upgrade Installation Worksheet 4 (FBA Only)

| Installation Volumes for z/VM Work System (FBA): | | | | | | |
|--|---------------|-----------|---------|-------------|------|-----|
| Volume Type | Default Label | New Label | Address | FCP Address | WWPN | LUN |
| COMMON | IBMCM1 | | | | | |
| RELVOL | 630RL1 | | | | | |
| RES | IBMRES | | | | | |
| SPOOL | IBMS01 | | | | | |
| PAGE | IBMP01 | | | | | |
| WORK | IBMWK1 | | | | | |
| <p>Channel path (CHPID): _____</p> <p>Valid FCP addresses: _____</p> | | | | | | |
| <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> | | | | | | |

Table 23. Upgrade Installation Worksheet 5

| Additional Space Needed on Current System: | | | | | | |
|--|----------|----------------|---------|-------|-------|-----|
| Space is needed in your existing environment to create minidisks for the following user IDs: | | | | | | |
| MEMBER Volume(s): | | | | | | |
| User ID | Product | Location (M/F) | Minimum | Label | Start | End |
| ZHCP | VM | | | | | |
| XCAT | VM | | | | | |
| VSMGUARD | VM | | | | | |
| VSMWORK1 | VM | | | | | |
| VSMWORK2 | VM | | | | | |
| VSMWORK3 | VM | | | | | |
| COMMON Volume(s): | | | | | | |
| User ID | Product | Location (M/F) | Minimum | Label | Start | End |
| 6VMDIR30 | DirMaint | | | | | |
| 6VMHCD20 | VMHCD | | | | | |
| | | | | | | |

Complete the upgrade installation worksheets

Chapter 21. Set up for your upgrade installation

In this chapter, you will:

- Set up the environment for an upgrade installation.

Choose your next step based on which source you will use to perform your installation.

| If you chose to install from a . . | Then see. . . |
|------------------------------------|--|
| Tape | "Step 1. Set up to install from tape" on page 216 |
| Physical DVD | "Step 2. Set up to install from a DVD drive" on page 218 |
| FTP server directory | "Step 3. Set up to install from an FTP server directory" on page 222 |
| VM minidisk | "Step 4. Set up to install from a VM minidisk" on page 226 |

Step 1. Set up to install from tape

Before you begin: You should have completed the upgrade installation worksheets 1 (Table 19 on page 212) through 5 (Table 23 on page 213). If you have not done so, return to “Step 3. Complete the upgrade installation worksheets” on page 207.

1. Log on to the MIGMAINT user ID on the system being upgraded. Make sure the user ID meets the MIGMAINT user ID requirements.

Note: The default password for the MIGMAINT user ID in V6.2 is MIGMAINT.

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 900 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 | 900 | | 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.

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

vmfplc2 fsf 7
Ready; T=n.nn/n.nn hh:mm:ss

vmfplc2 load * * a
Loading ...

:
End-of-file or end-of-tape
Ready; T=n.nn/n.nn hh:mm:ss

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

What to do next

Go to Chapter 22, “Install a z/VM V6.3 work system for your upgrade installation,” on page 231.

Step 2. Set up to install from a DVD drive

Before you begin: You should have completed the upgrade installation worksheets 1 (Table 19 on page 212) through 5 (Table 23 on page 213). If you have not done so, return to “Step 3. Complete the upgrade installation worksheets” on page 207.

1. Load the z/VM product 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 MIGMAINT user ID on the system being upgraded. Make sure the user ID meets the MIGMAINT user ID requirements.
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. Starting with z/VM V6.2, the INSTPIPE MODULE is shipped on the MAINT_{vrn} 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 upgrade installation worksheet 1 (Table 19 on page 212).

```
pipe ftpget -h host -u userid -p password -d ftpd/CPDVD  
-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.

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.

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

```
ipl cms
```

```
:
```

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

8. Access the 2222 minidisk as file mode C.

```
access 2222 c
```

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

9. Verify the first occurrence of the INSTPIPE MODULE is on the minidisk access as file mode C. Remove or rename all other copies.

Set up to install from a DVD drive

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

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

```
dvdprime dasdtype (dvd dasdtype
3390 or FBA.
IUGDVP8327I ** NOW EXECUTING DVDPRIME EXEC ON date AT time **
```

11. 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 upgrade installation worksheet 1 (Table 19 on page 212).

*** 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 22. 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 substep 6 on page 218. 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.

12. Press F5 to process.

F5

```
IUGDVP8440I NOW LOADING 24CC DISK
{FBA222*|CKD222*}
DMSRXS1408W File TCP/IP DATA * not found          You might not receive this message.

{MDREST|ECKDREST}: WROTE nnnn {BLOCKS|TRACKS} ON 24CC, RC=0

IUGDVP8440I NOW LOADING 2CF0 DISK
{FBACF0*|CKDCF0*}
DMSRXS1408W File TCP/IP DATA * not found          You might not receive this message.

{MDREST|ECKDREST}: WROTE nnnn {BLOCKS|TRACKS} ON 2CF0, RC=0

IUGDVP8392I DVDPRIME EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss
```

What to do next

Go to Chapter 22, “Install a z/VM V6.3 work system for your upgrade installation,” on page 231.

Step 3. Set up to install from an FTP server directory

Before you begin: You should have completed the upgrade installation worksheets 1 (Table 19 on page 212) through 5 (Table 23 on page 213). If you have not done so, return to “Step 3. Complete the upgrade installation worksheets” on page 207.

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 4 GB of free space.
 - b. Load the contents of the z/VM product DVD to the directory.
2. Log on to the MIGMAINT user ID on the system being upgraded. Make sure the user ID meets the MIGMAINT user ID requirements.
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. Starting with z/VM V6.2, the INSTPIPE MODULE is shipped on the MAINT*vm* 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 *ftpd* was recorded in upgrade installation worksheet 1 (Table 19 on page 212).

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

Set up to install from an FTP server directory

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 FTP server directory where you loaded the contents of the DVD in substep 1 on page 222. 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.

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

```
ipl cms
```

```
:
```

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

8. Access the 2222 minidisk as file mode C.

```
access 2222 c
```

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

9. 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
```

Set up to install from an FTP server directory

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

```
dvdprime dasdtype (server                               dasdtype
                                     3390 or FBA.
IUGDVP8327I ** NOW EXECUTING DVDPRIME EXEC  ON date AT time **
```

11. 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 upgrade installation worksheet 1 (Table 19 on page 212).

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

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

PORT NUMBER:

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

12. Press F5 to process.

F5

```
IUGDVP8440I NOW LOADING 24CC DISK
{FBA222*|CKD222*}
```

Set up to install from an FTP server directory

DMSRXS1408W File TCP/IP DATA * not found You might not receive this message.

{MDREST|ECKDREST}: WROTE nnnn {BLOCKS|TRACKS} ON 24CC, RC=0

IUGDVP8440I NOW LOADING 2CF0 DISK
{FBACF0*|CKDCF0*}

DMSRXS1408W File TCP/IP DATA * not found You might not receive this message.

{MDREST|ECKDREST}: WROTE nnnn {BLOCKS|TRACKS} ON 2CF0, RC=0

IUGDVP8392I DVDPRIME EXEC ENDED SUCCESSFULLY
Ready; T=*n.nn/n.nn hh:mm:ss*

What to do next

Go to Chapter 22, “Install a z/VM V6.3 work system for your upgrade installation,” on page 231.

Step 4. Set up to install from a VM minidisk

Before you begin: You should have completed the upgrade installation worksheets 1 (Table 19 on page 212) through 5 (Table 23 on page 213). If you have not done so, return to “Step 3. Complete the upgrade installation worksheets” on page 207.

1. Log on to the MIGMAINT user ID on the system being upgraded. Make sure the user ID meets the MIGMAINT user ID requirements.
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 6000 cylinders of available 3390 DASD. The minidisk must not contain any other files with filetype IMAGE. You must link the minidisk in write mode.

Note: The information for *userid* and *diskaddr* was recorded in upgrade installation worksheet 1 (Table 19 on page 212).

```
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. If the z/VM product code has already been loaded to the minidisk you are using, skip to substep 12 on page 228.
5. Link to the 592 TCP/IP client code minidisk.

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

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

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

7. 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;
```

8. Copy the contents of the z/VM product 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 product DVD to the minidisk. See Appendix K, “Using a terminal emulator to upload files from a DVD,” on page 317. After uploading the files using your terminal emulator, continue with substep 11 on page 228.

- a. Load the z/VM product 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 upgrade installation worksheet 1 (Table 19 on page 212).

```
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:
lcd 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* product DVD.

```
mget ddd*
```

```
ddd
```

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

Set up to install from a VM minidisk

```
>>>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).
nnnnnnn bytes transferred.
226 Transfer complete.
nnnnnnn 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;
```

9. Verify that all of the files copied from the z/VM product 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 product DVD again, using the correct parameters. Repeat substep 8 on page 226.

```
filelist * $default w
```

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

:
```

10. 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;
```

11. 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;
```

12. 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;
```


13. 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
```

14. Access the minidisk (*diskaddr*) that contains the INSTPIPE MODULE as file mode C. The INSTPIPE MODULE is shipped on the MAINT_{vr}m 4CC disk.

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

15. 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
```

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

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

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

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

diskaddr

Address of the minidisk where the image files were copied.

18. Access the 2222 minidisk as file mode C.

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

19. Verify the first occurrence of the INSTPIPE MODULE is on the minidisk access as file mode C. Remove or rename all other copies.

Set up to install from a VM minidisk

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

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

```
dvdprime dasdtype (disk                               dasdtype
                                           3390 or FBA.
IUGDVP8327I ** NOW EXECUTING DVDPRIME EXEC  ON date AT time **
IUGDVP8440I 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
IUGDVP8440I 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
IUGDVP8392I DVDPRIME EXEC ENDED SUCCESSFULLY
Ready; T=n.nn/n.nn hh:mm:ss
```

What to do next

Go to Chapter 22, “Install a z/VM V6.3 work system for your upgrade installation,” on page 231.

Chapter 22. Install a z/VM V6.3 work system for your upgrade installation

In this chapter, you will:

- Run INSTPLAN.
- Verify your upgrade installation volumes.
- Run INSTALL.

Step 1. Run INSTPLAN

1. Verify that the correct installation tools minidisk is accessed. If installing from tape, the disk address is 191 accessed as (A). If installing from DVD, the disk address is 24CC accessed as (C).

```
query disk a
```

```
LABEL VDEV M ...  
MIG191 191 A ...
```

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

```
query disk c
```

```
LABEL VDEV M ...  
MNT4CC 24CC C ...
```

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

2. If you are installing to FBA (SCSI) volumes, see upgrade installation worksheet 4 (Table 22 on page 213) 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
```

```
HCPQVD0040E Device voladdr does not exist  
Ready(00040);
```

Record any changed addresses in the **Address** column in upgrade installation worksheet 4 (Table 22 on page 213).

3. Run INSTPLAN with either the TAPE or DVD operand, and the UPGRADE option.

```
instplan media (upgrade
```

media is **tape** if you are installing your work system from tape or **dvd** if you are installing from DVD, FTP server or VM minidisk.

The installation planning panels are displayed.

```

*** z/VM UPGRADE - EXISTING ENVIRONMENT INFORMATION ***

System Type: type      System/Member Name: name      Cluster Name: name

Members in this cluster:
SLOT #    MEMBER NAME    RELEASE LEVEL
-----
1         Member1       vrm
2         Member2       vrm
3         Member3       vrm
4         Member4       vrm

Common Service Filepool Name: fpname

Current z/VM Product Information for name:
COMPONENT LOCATION  ENABLEMENT      COMPONENT LOCATION  ENABLEMENT
-----
VM          MINIDISK
ICKDSF      FILEPOOL
PERFTK      FILEPOOL  ENABLED
RSCS        FILEPOOL  ENABLED
VMHCD       FILEPOOL
DIRM        FILEPOOL  ENABLED
OSA         FILEPOOL
RACF        FILEPOOL  ENABLED
TCPIP       FILEPOOL

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

```

Figure 24. z/VM Upgrade - Existing Environment Information Panel

The Existing Environment Information panel is displayed. Review this information to verify that this is the system you are intending to upgrade.

- a. The system type is either SSI or Non-SSI. If the system being upgraded is a member of an SSI cluster, then *System Type* is SSI and the other fields displayed are *Member Name*, which contains the name of the member being upgraded, and *Cluster Name*, which contains the name of the SSI cluster.

If the system being upgraded is not a member of an SSI cluster, then *System Type* is Non-SSI and the other field displayed is *System Name*, which contains the name of the system being upgraded.

- b. If the system being upgraded is a member of an SSI cluster, the *Members in this Cluster* fields are displayed. For each member in the cluster, the slot number, member name, and current release level of that member are displayed
- c. The *Common Service Filepool Name* field contains the name of the common service filepool, as defined to the system being upgraded. This is either the IBM default name VMPSFS or the name you selected in ICOMDIR NAMES to map your filepool name to the filepool nickname VMPSFS.
- d. The *Current z/VM Product Information* fields display the z/VM pre-installed products and where they are installed (filepool or minidisk). It also indicates which products are enabled or disabled. A blank in this field indicates that enabled/disabled does not apply to that product.
- e. Press PF5 to continue if this is the system you intend to upgrade.

F5

4. The License Validation panel will be displayed if you have priced components or features enabled on your current system. If you do, a list of the features that are enabled on the system you intend to upgrade will be displayed. Upgrade installation will enable these same features on the new level of z/VM. Confirm that you have all the necessary licenses for each pre-installed component and feature that is enabled on your system. If you do not have any IBM pre-installed products or features enabled on your system, the license validation panel will not be displayed and you should skip to substep 5 on page 234.

Run INSTPLAN

```
*** z/VM UPGRADE - LICENSE VALIDATION ***

Upgrade Installation will automatically enable the same features for your
new system that are enabled on your current system. The features that are
enabled on your current system are listed below. The new features must be
appropriately licensed for all machines that will run your new system.

If you have ordered these features and accept the licensing terms and
conditions, press F5 to acknowledge your agreement and acceptance of the
terms and conditions. If you are accepting these terms on behalf of
another person or company or other legal entity, you represent and
warrant that you have full authority to bind that person, company, or legal
entity to these conditions.

If you do not agree to these terms, or you do not have licenses for all the
features listed below, press F3 to cancel the installation.
SSI Feature: ENABLED
DirMaint:    ENABLED
PERFTK:      ENABLED
RACF:        ENABLED
RSCS:        ENABLED

F1 = HELP      F3/12 = QUIT      F5 = I Agree      ENTER = Refresh
```

Figure 25. z/VM Upgrade - License Validation Panel

- a. This panel shows which z/VM components and features are enabled on the system that is being upgraded. You must verify that you have appropriate licenses for each of these components and features for the release to which you are upgrading.
- b. Press F5 to agree that you have appropriate licenses on the new release of z/VM.

F5

If you do not have all the required licenses, press F3 or F12 to exit. Rerun the upgrade procedure once you have obtained the necessary licenses.

5. Complete the User Supplied Environment Information panel using the information you entered in Upgrade Planning Worksheet 2 (Table 20 on page 212).

```
*** z/VM UPGRADE - USER SUPPLIED ENVIRONMENT INFORMATION ***

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

If you changed the name or location of your system configuration file,
change the values below.
System Configuration Name: SYSTEM  CONFIG  UserID: PMAINT  Addr: CF0

Do you edit your CP directory file manually?
_ YES  User Directory Name: USER  DIRECT  UserID: PMAINT  Addr: 2CC
_ NO

RACF is disabled for the system you are upgrading.
Are you using a different security manager?
_ YES
_ NO

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

Figure 26. z/VM Upgrade - User Supplied Environment Information Panel

- a. The *Select a System DASD type* field will display only the installation DASD type for the system you are upgrading.

If your IBM installed minidisks reside on 3390 volumes: You may select either 3390 Mod 3 or 3390 Mod 9. Place any nonblank character in front of the DASD model where the new upgrade work system will be loaded. Only one DASD model can be selected.

If your IBM installed minidisks reside on FBA volumes: FBA DASD with the default minimum DASD size of 6.0 gigabytes will be displayed. Place any nonblank character in front of the FBA DASD field. If you are using FBA DASD with a size larger than the default minimum, change the size field.

- b. The *System Configuration Name* fields are preloaded with the default filename, filetype, and location of the file as shipped by IBM. If the system you are upgrading changed any of these values, enter the actual filename, filetype and/or location of your system configuration file.
- c. If you make changes to the user definitions on your system by directly editing the CP user directory file, place a nonblank character in front of YES. If you have changed the defaults shipped by IBM, update the filename, filetype and/or location of your user directory with the actual file information. Otherwise, enter a nonblank character in front of NO.
- d. If the RACF/VM Security Server is enabled on the system you are upgrading, this panel will not display any information related to the security manager. If you are using any security manager other than RACF, place a nonblank character in front of YES. If you are not using a security manager, place a nonblank character in front of NO.
- e. Press F5 to process your selections.

F5

6. Complete the Installation Volume Definition panel using the information you entered on Upgrade Installation Worksheet 3 for 3390 (Table 21 on page 212) or Upgrade Installation Worksheet 4 for FBA (Table 22 on page 213).

```

*** z/VM UPGRADE - INSTALLATION VOLUME DEFINITION ***

COMMON AND RELEASE VOLUMES
  TYPE      LABEL      ADDRESS      FORMAT (Y/N)
  =====  =====  =====
COMMON      IBMCM1      _____  -
COMMON2     IBMCM2      _____
RELVOL      xxxRL1      _____
RELVOL2     xxxRL2      _____

MEMBER VOLUMES
  TYPE      LABEL      ADDRESS
  =====  =====  =====
RES         IBMRES      _____
SPOOL       IBMS01      _____
PAGE        IBMP01      _____
WORK        IBMWK1      _____
WORK        IBMWK2      _____
WORK        IBMWK3      _____

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

```

Figure 27. z/VM Upgrade - Installation Volume Definition Panel

- a. If you do not want use a default volume label, then enter a new label in the *LABEL* field. See upgrade installation worksheet 3 (Table 21 on page 212) or upgrade installation worksheet 4 (Table 22 on page 213) for the labels you selected during planning.
- b. Fill in the volume addresses in the *ADDRESS* fields. See upgrade installation worksheet 3 (Table 21 on page 212) or upgrade installation worksheet 4 (Table 22 on page 213) for the addresses you selected during planning.

Run INSTPLAN

- c. Fill in the *FORMAT* (Y/N) column with Y to let the installation program 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 your selections.

F5

7. Complete the Additional Space Requirements panel.

*** z/VM UPGRADE - ADDITIONAL SPACE REQUIREMENTS ***

Space is needed in your existing environment to load minidisks for the following user IDs. Supply the volume label and free space on each volume.

| MEMBER | VOLUME USER ID | MINIMUM | LABEL | START | END |
|--------|-------------------|---------|-------|-------|-------|
| | ----- | ----- | ----- | ----- | ----- |
| | ZHCP | nnnn | _____ | _____ | _____ |
| | XCAT | nnnn | _____ | _____ | _____ |
| | VSMGUARD | nnnn | _____ | _____ | _____ |
| | VSMWORK1 | nnnn | _____ | _____ | _____ |
| | VSMWORK2 | nnnn | _____ | _____ | _____ |
| | VSMWORK3 | nnnn | _____ | _____ | _____ |

| COMMON | VOLUME USER ID | MINIMUM | LABEL | START | END |
|--------|-------------------|---------|-------|-------|-------|
| | ----- | ----- | ----- | ----- | ----- |
| | 6VMDIR30 | nnnn | _____ | _____ | _____ |
| | 6VMHCD20 | nnnn | _____ | _____ | _____ |

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

Figure 28. z/VM Upgrade - Additional Space Requirements Panel

- a. Using Upgrade Installation Worksheet 5 (Table 23 on page 213), fill in:
 - The labels of the volumes where the space for each user ID will be allocated.
- b. If you edit your CP user directory file manually, using upgrade installation worksheet 5 (Table 23 on page 213), fill in:
 - The starting cylinder or block where the minidisks for this user ID will be defined.
 - The ending cylinder or block where the minidisks for this user ID will be defined.
 - The space available between the *START* and *END* values must be equal to or larger than the value displayed in the *MINIMUM* column.
- c. Press F5 to process.

F5

8.

A summary of your upgrade information is displayed. The output you see may be different due to your planning choices and your current system environment. Review the output displayed to verify your planning choices. If any of the information displayed is not correct, rerun the INSTPLAN command and supply corrected information.

Note: You may not see message IUGPUX8418W.

IUGPUX8475I SYSTEM UPGRADE INFORMATION

EXISTING MEMBER INFORMATION:

SYSTEM TYPE: SSI SYSTEM/MEMBER NAME: *name* CLUSTER NAME: *name*COMMON SERVICE FILEPOOL: *fpname*

z/VM PRODUCTS/FEATURES ENABLED:

SSI PERFTK RSCS RACF DIRMAINT

ADDITIONAL SPACE REQUIREMENTS:

| MEMBER VOLUME | USER ID | MIN | LABEL | START | END |
|------------------|----------|-------|-------|-------|-------|
| | ----- | ----- | ----- | ----- | ----- |
| | ZHCP | nnnn | label | nnnn | nnnn |
| | XCAT | nnnn | label | nnnn | nnnn |
| | VSMGUARD | nnnn | label | nnnn | nnnn |
| | VSMWORK1 | nnnn | label | nnnn | nnnn |
| | VSMWORK2 | nnnn | label | nnnn | nnnn |
| | VSMWORK3 | nnnn | label | nnnn | nnnn |
| COMMON VOLUME | USER ID | MIN | LABEL | START | END |
| | ----- | ----- | ----- | ----- | ----- |
| | 6VMDIR30 | nnnn | label | nnnn | nnnn |
| | 6VMHCD20 | nnnn | label | nnnn | nnnn |

NEW SYSTEM INFORMATION:

DASD TYPE SELECTED: *type model*FORMAT VOLUMES: *y/n*

VOLUME LABELS AND ADDRESSES:

lblcm1 *addr*
lblcm2 *addr*
lblrl1 *addr*
lblrl2 *addr*
lblres *addr*
lblspl *addr*
lblpag *addr*
lblwk1 *addr*
lblwk2 *addr*
lblwk3 *addr*

IUGPUX8418W Not enough space available in filepool *fpname*Your existing *fpname* filepool has *nnnnnnnn* blocks available.You need *nnnnnnnn* blocks in storage group 2 to load the new filespace.You must increase your filepool by *nnnnnn* blocks before running INSTUPGR

IUGINP8392I INSTPLAN EXEC ENDED SUCCESSFULLY

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

- Verify that the information listed in the response from the INSTPLAN command matches the system you are upgrading and the information listed on your upgrade installation worksheets.

Step 2. Verify your upgrade installation volumes

1. If you are installing to 3390, skip to substep 7.
2. If the SCSI volumes you are installing to are defined as minidisks on your installation user ID, skip to substep 7.
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 upgrade installation worksheet 4 (Table 22 on page 213).

For each DASD volume:

- a. Select and record a free FCP address for each *edev*. You should use one FCP device for the 630RES 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 in upgrade installation worksheet 4 (Table 22 on page 213).

- b. Define the device address.

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

dasdaddr

The edevice address from DVD installation worksheet 6 (Table 12 on page 83).

fcpn

FCP address (you should use one FCP device for the 630RES and a different, or multiple different, FCPs for the other disks).

wwpn

World Wide port number.

lll

LUN address.

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

```
vary on dasdaddr
```

7. Attach each DASD volume listed on upgrade installation worksheet 3 (Table 21 on page 212) or upgrade installation worksheet 4 (Table 22 on page 213) that is not already attached. Enter the following ATTACH command for each volume:

Verify your upgrade installation volumes

```
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.

Step 3. Run INSTALL

1. Run INSTALL to install your new V6.3 work system for your upgrade installation.

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

install

At this point, messages related to activities performed by installation, such as formatting and allocation DASD, restoring data, IPLing the system, and running SERVICE and PUT2PROD will be displayed. When the INSTALL exec completes, there will be one additional IPL, the system will come back up logged on to MAINT630, and the following will be displayed:

```
*****
*           The INSTALL command is complete.           *
* To continue with your system upgrade, shutdown      *
* this system, IPL CMS, and continue with the          *
* instructions in the Installation Guide.              *
*****
```

2. Shut down the V6.3 work system.

shutdown

:

3. IPL CMS on the MIGMAINT user ID.

ipl cms

:

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

What to do next

Go to Chapter 23, “Generate the STAGE1 changes file,” on page 241.

Chapter 23. Generate the STAGE1 changes file

In this chapter, you will:

- Run INSTUPGR to create the STAGE1 changes file.

Step 1. Generate the STAGE1 table

1. Ensure that any userids that have write links to the system inventory and service disks, such as MAINT, MAINT620, MAINT630, and product installation IDs 6VMxxx20 and 6VMxxx30, are logged off the system you are upgrading and all other members of your cluster before logging onto MIGMAINT.
2. Log on to the MIGMAINT user ID on the system being upgraded. Make sure the user ID meets the MIGMAINT user ID requirements.
3. Access the 24CC minidisk as file mode C.

```
access 24cc c  
Ready; T=n.nn/n.nn hh:mm:ss
```

4. Run INSTUPGR to generate the \$STAGE1\$ \$TABLE\$ file, which will list the STAGE1 changes needed to upgrade your system.

```
instupgr stage1 (prime  
IUGUPG8392I INSTUPGR ended successfully  
Ready; T=n.nn/n.nn hh:mm:ss
```

5. If INSTUPGR completes with warnings, they will be displayed on the screen and also logged in the file \$STAGE1\$ \$WRNFILE on the MIGMAINT 2CF0 disk (accessed as filemode E). Review the warnings and resolve any issues before continuing to Chapter 24, “Update your current system with the STAGE1 changes,” on page 243.
6. If any errors occur, review the error messages in file INSTUPGR \$CONSLOG on the MIGMAINT 2CF0 minidisk (accessed as filemode E), correct the condition that is causing the error, and then go back to substep 4.

What to do next

Go to Chapter 24, “Update your current system with the STAGE1 changes,” on page 243.

Chapter 24. Update your current system with the STAGE1 changes

In this chapter, you will:

- Make the changes to your current system identified in the \$STAGE1\$ \$TABLE\$.

Step 1. Choose your update option

In the previous step a file named \$STAGE1\$ \$TABLE\$ was generated on the MIGMAINT 2CF0 disk by the INSTUPGR command. This table contains a list of actions to be taken on your current system in order to complete the first stage of your system upgrade. Each entry in the table consists of one or more comment lines that describe an action to be taken and then one or more lines with more detailed information so that a program or a person could read the information and perform the action on a specific system.

There are three ways to complete these actions:

- Run the INSTUPGR command with operand STAGE1 and option COMMIT. The programs supplied by IBM will read the \$STAGE1\$ \$TABLE\$ and perform all the actions listed. If you are using a directory manager program on your system and that program has provided an exit to work with the IBM upgrade code, that exit will be called to perform directory functions. If you edit your CP user directory manually, INSTUPGR will make the necessary changes to your CP user directory file, using the information you provided when you ran the INSTPLAN command. In either case, INSTUPGR will generate a file that will allow you to back out the changes made to this point. If you edit your CP user directory manually, backout will consist of restoring the user directory that existed before running INSTUPGR STAGE1 (COMMIT. Any changes made to the user directory by your normal procedures after STAGE1 (COMMIT begins would be lost. You need to document any changes made by your normal procedures so they can be restored after backout.
- Manually update your system with the changes listed in the \$STAGE1\$ \$TABLE\$. You can perform all of the changes listed in the table and edit the table to mark them as complete. Note that some changes are dependent on earlier entries being complete. You must complete all entries in the order they appear in the table.

Note: If you choose this option, no backout file is created. If you decide *not* to use the upgrade installation procedure after you have made changes to your system, you will need to remove the changes manually.

- Use a combination of the above two options. If you prefer, you can make some of the required changes manually and allow the INSTUPGR program to make the rest. Note that some changes are dependent on earlier entries being complete. You must complete all entries in the order they appear in the table and you must complete all the entries that precede the changes you select to make manually. To use this method, make the changes you wish to make yourself first and update the \$STAGE1\$ \$TABLE\$ to mark just those changes as complete. Then run the INSTUPGR command with operand STAGE1 and option COMMIT. The INSTUPGR program will make any changes to your system that you have not marked as completed and it will update the \$STAGE1\$ \$TABLE\$ and all other required status tables. It will also generate a backout file. This backout file will only contain records for the changes that were made by the INSTUPGR program. If you decide *not* to use the upgrade installation procedure after you have made changes to your system, you will need to remove the changes you made manually.

No matter which option you choose, the changes listed in the \$STAGE1\$ \$TABLE\$ file must be completed *before* moving on to STAGE2.

To use the INSTUPGR command to make your system changes, follow “Step 2. Use the INSTUPGR command to make your STAGE1 system changes” on page 245.

To make some of the changes to your system manually, follow “Step 3. Make some of the STAGE1 changes to your system manually” on page 246.

To make all of the changes to your system manually, follow “Step 4. Make all of the STAGE1 changes to your system manually” on page 247.

Step 2. Use the INSTUPGR command to make your STAGE1 system changes

1. Log on to the MIGMAINT user ID on the system being upgraded. Make sure the user ID meets the MIGMAINT user ID requirements.
2. Access the 24CC minidisk as file mode C.

```
access 24cc c
Ready; T=n.nn/n.nn hh:mm:ss
```

3. Run INSTUPGR to upgrade your system with STAGE1 changes defined in the \$STAGE1\$ \$TABLE\$ file.

```
instupgr stage1 (commit
Now processing line 10 of nnn
Now processing line 20 of nnn
:
:
IUGUPG8392I INSTUPGR ended successfully
Ready; T=n.nn/n.nn hh:mm:ss
```

4. If any errors occur, review the error messages in file INSTUPGR \$CONSLOG on the MIGMAINT 2CF0 minidisk (accessed as filemode E), correct the condition that is causing the error, and then go back to substep 3.

Note: For some error conditions, you may need to remove the changes that have been made on your system up to this point. If this is the case, see Appendix P, "Removing changes made by STAGE1 (optional)," on page 359.

What to do next

Go to Chapter 25, "Finish the STAGE1 upgrade," on page 249.

Step 3. Make some of the STAGE1 changes to your system manually

1. Log on to the MIGMAINT user ID on the system being upgraded. Make sure the user ID meets the MIGMAINT user ID requirements.
2. Access the 24CC minidisk as file mode C.

```
access 24cc c
Ready; T=n.nn/n.nn hh:mm:ss
```

3. Access the 2CF0 minidisk as file mode E.

```
access 2cf0 e
Ready; T=n.nn/n.nn hh:mm:ss
```

4. Review the entries in the \$STAGE1\$ \$TABLE\$ to determine which changes you want to perform yourself.

Some changes are dependent on earlier entries being complete. You must complete all entries in the order they appear in the table, so you must also manually complete all the entries that precede the changes you select to make manually.

For each entry in the \$STAGE1\$ \$TABLE\$ that you selected to manually update on your system:

- a. See Appendix N, “\$STAGE1\$ \$TABLE\$ entry definitions,” on page 331 for a description of the changes required for that entry.
 - b. Make the changes to your system. You should document the changes you made, for potential backout purposes.
 - c. Once an entry has been completed, update the entry in the \$STAGE1\$ \$TABLE\$ with a dash (-) in the first column to indicate that the entry has been completed.
5. Once you have completed all of the changes you selected and you have updated the \$STAGE1\$ \$TABLE\$, go to “Step 2. Use the INSTUPGR command to make your STAGE1 system changes” on page 245 to complete the rest of the entries.

Note: If you decide not to use the upgrade installation to upgrade this system, you should refer to Appendix P, “Removing changes made by STAGE1 (optional),” on page 359 for information on removing the changes made up to this point.

Step 4. Make all of the STAGE1 changes to your system manually

1. Log on to the MIGMAINT user ID on the system being upgraded. Make sure the user ID meets the MIGMAINT user ID requirements.
2. Access the 24CC minidisk as file mode C.

```
access 24cc c
Ready; T=n.nn/n.nn hh:mm:ss
```

3. Access the 2CF0 minidisk as file mode E.

```
access 2cf0 e
Ready; T=n.nn/n.nn hh:mm:ss
```

4. Review the entries in the \$STAGE1\$ \$TABLE\$.

Some changes are dependent on earlier entries being complete. You must complete all entries in the order they appear in the table.

For each entry in the \$STAGE1\$ \$TABLE\$:

- a. See Appendix N, “\$STAGE1\$ \$TABLE\$ entry definitions,” on page 331 for a description of the changes required for that entry.
 - b. Make the changes to your system. You should document the changes you made, for potential backout purposes.
 - c. Once an entry has been completed, update the entry in the \$STAGE1\$ \$TABLE\$ with a dash (-) in the first column to indicate that the entry has been completed.
5. Once all the changes are complete and you have updated the \$STAGE1\$ \$TABLE\$, run the INSTUPGR command to update the appropriate status tables so that you can proceed with the second stage of your upgrade installation.

```
instupgr stage1 (commit done
IUGUPG8392I INSTUPGR ended successfully
Ready; T=n.nn/n.nn hh:mm:ss
```

Note: If you decide not to use the upgrade installation to upgrade this system, you should refer to Appendix P, “Removing changes made by STAGE1 (optional),” on page 359 for information on removing the changes made up to this point.

What to do next

Go to Chapter 25, “Finish the STAGE1 upgrade,” on page 249.

Chapter 25. Finish the STAGE1 upgrade

In this chapter, you will:

- Review directory considerations.
- Review external security manager (ESM) considerations.
- Rework your local modifications.

Step 1. Review directory considerations

1. If you are upgrading a member of a multi-member SSI cluster, the user directory needs to be brought online for all members of the cluster.
 - a. If you indicated that you xedit your directory and allowed INSTUPGR to make the directory changes, you need to run DIRECTXA on all other members of the cluster.
 - b. If you used DirMaint as your directory manager to make upgrade changes, the directory was already brought online for all members.
 - c. If you used a different directory manager or made the directory updates manually, you need to make sure the directory is brought online for all other members of the cluster.
2. If you are upgrading a non-SSI system, a one member SSI cluster, or the first member of a multi-member SSI cluster and DirMaint is enabled as your directory manager, copy any configured files from 6VMDIR20's minidisks to the new 6VMDIR30's disks and then recycle DirMaint.
 - a. Copy only the configured files from:
 - 6VMDIR20 491 to 6VMDIR30 491
 - 6VMDIR20 492 to 6VMDIR30 492
 - 6VMDIR20 11F to 6VMDIR30 11F
 - 6VMDIR20 41F to 6VMDIR30 41F
 - b. Copy DVHPROFA DIRMSAT* files, if they exist, from 6VMDIR20 491 and 492 to 6VMDIR30 491 and 492.
 - c. Update configuration files, such as AUTHFOR CONTROL and DVHNames DATADVH, with the new user IDs that were added for z/VM V6.3, as appropriate:
 MAINT630
 6VMDIR30
 - d. Recycle all of the DirMaint servers:
 - 1) Determine which member the user ID DIRMAINT is logged on to.
 - 2) From that member, log off DIRMAINT.
 - 3) From that member, XAUTOLOG DIRMAINT.Repeat these three steps for DIRMSAT, DIRMSAT2, DIRMSAT3, DIRMSAT4, DATAMOVE, DATAMOV2, DATAMOV3, and DATAMOV4, as necessary.
Your DirMaint servers are now running the upgraded release level of DirMaint

Step 2. Review external security manager (ESM) considerations

If you are *not* running an external security manager (ESM), skip to “Step 3. Rework your local modifications” on page 257.

Refer to the documentation for your security manager to perform the following steps, as necessary:

1. Ensure that the MAINT630 user ID is authorized to:
 - Link to any minidisk on the system without the need to supply a password.
 - Perform security authorizations on behalf of other users.
 - Perform all SFS administration functions, if you are managing SFS with your security manager.
2. If you are using an ESM to manage logon authorizations:
 - The following user IDs were added to the user directory. Ensure your ESM will allow these user IDs to be logged on:
 - ZHCP
 - XCAT
 - MAINT630
 - 6VMDIR30
 - 6VMPTK30
 - 6VMRAC30
 - 6VMRSC30
 - 6VMTCP30
3. If you are using an ESM to manage disk access:
 - The following component user IDs were added for the new release. They need to have the same disk authorizations as the corresponding user IDs for the old release:

| New release | Old release |
|-------------|-------------|
| MAINT630 | MAINT620 |
| 6VMDIR30 | 6VMDIR20 |
| 6VMPTK30 | 6VMPTK20 |
| 6VMRAC30 | 6VMRAC20 |
| 6VMRSC30 | 6VMRSC20 |
| 6VMTCP30 | 6VMTCP20 |

- The following new user IDs were added and need the following link authorizations:
 - ZHCP
 - MAINT 190 RR
 - MAINT 19E RR
 - MAINT 193 RR
 - MAINT 400 RR
 - MAINT630 400 RR
 - XCAT 191 RR
 - XCAT
 - MAINT 190 RR
 - MAINT 19E RR
 - MAINT 193 RR
 - MAINT 400 RR
 - MAINT630 400 RR

Review external security manager (ESM) considerations

- Current users need authorizations for the following links that were added for this release::

| User | Link authorization |
|----------|------------------------------|
| DIRMAINT | TCPMAINT 592 RR |
| MAINT | MAINT630 400 RR |
| LOHCOST | MAINT 400 RR MAINT 193 RR |
| SYSADMIN | PMAINT 551 RR |

- The following user IDs have links that were changed during the upgrade installation. These user IDs need to be authorized to link to the new disks for the link mode indicated:

| User ID | Old link (with mode) | New link (with mode) |
|----------|----------------------|----------------------|
| RACMAINT | 6VMRAC20 191 RR | 6VMRAC30 191 RR |
| | 6VMRAC20 29E RR | 6VMRAC30 29E RR |
| | 6VMRAC20 505 MR | 6VMRAC30 505 MR |
| | 6VMRAC20 590 MR | 6VMRAC30 590 MR |
| TCPMAINT | 6VMTCP20 491 RR | 6VMTCP30 491 RR |
| | 6VMTCP20 492 RR | 6VMTCP30 492 RR |
| DIRMAINT | 6VMDIR20 11F MR | 6VMDIR30 11F MR |
| | 6VMDIR20 41F MR | 6VMDIR30 41F MR |
| | 6VMDIR20 491 MR | 6VMDIR30 491 MR |
| | 6VMDIR20 492 MR | 6VMDIR30 492 MR |
| MAINT | MAINT620 201 RR | MAINT630 201 RR |
| | MAINT620 490 RR | MAINT630 490 RR |
| | MAINT620 493 RR | MAINT630 493 RR |
| | MAINT620 5E5 RR | MAINT630 5E5 RR |
| | MAINT620 51D RR | MAINT630 51D RR |
| | MAINT620 890 RR | MAINT630 890 RR |

If z/VM or Performance Toolkit were loaded to filepool, the links in the following table do not exist. If they were loaded to minidisk, the user IDs listed also need authorization to the new disks:

| User ID | Old link (with mode) | New link (with mode) |
|---------|----------------------|----------------------|
| MAINT | MAINT620 194 RR | MAINT630 194 RR |
| | MAINT620 2A2 RR | MAINT630 2A2 RR |
| | MAINT620 2A4 RR | MAINT630 2A4 RR |
| | MAINT620 2A6 RR | MAINT630 2A6 RR |
| | MAINT620 2C4 RR | MAINT630 2C4 RR |
| | MAINT620 2D2 RR | MAINT630 2D2 RR |
| PERFSVM | 6VMPTK20 200 RR | 6VMPTK30 200 RR |
| | 6VMPTK20 29D RR | 6VMPTK30 29D RR |

Review external security manager (ESM) considerations

5. The following user IDs have links to a disk that is actually owned by a different user ID (an indirect resource). The user IDs listed in the table need to be authorized to link to the indirect resource for the link mode indicated:

Table 24. Links to indirect resources, Part 1 of 3

| User ID | Directory link (with mode) | | | Indirect link (with mode) | | |
|----------|----------------------------|-----|----|---------------------------|-----|----|
| BLDNUC | MAINT | 490 | MW | MAINT630 | 490 | MW |
| | MAINT | 890 | MW | MAINT630 | 890 | MW |
| BLDSEG | MAINT | 194 | MR | MAINT630 | 194 | RR |
| | MAINT | 2A2 | MR | MAINT630 | 2A2 | RR |
| | MAINT | 2A4 | MR | MAINT630 | 2A4 | RR |
| | MAINT | 2A6 | MR | MAINT630 | 2A6 | RR |
| | MAINT | 2C4 | MR | MAINT630 | 2C4 | RR |
| | MAINT | 2D2 | MR | MAINT630 | 2D2 | RR |
| | MAINT | 5E5 | RR | MAINT630 | 5E5 | RR |
| | MAINT | 51D | MR | MAINT630 | 51D | RR |
| EREP | MAINT | 201 | RR | MAINT630 | 201 | RR |
| LOHCOST | MAINT | 400 | RR | MAINT630 | 400 | RR |
| MIGMAINT | MAINT | 5E5 | RR | MAINT630 | 5E5 | RR |
| | MAINT | 51D | MR | MAINT630 | 51D | RR |
| XCAT | MAINT | 400 | RR | MAINT630 | 400 | RR |
| ZHCP | MAINT | 400 | RR | MAINT630 | 400 | RR |
| 4OSASF40 | MAINT | 5E5 | RR | MAINT630 | 51D | RR |
| | MAINT | 51D | MR | MAINT630 | 5E5 | RR |
| 5684042J | MAINT | 5E5 | RR | MAINT630 | 5E5 | RR |
| | MAINT | 51D | MR | MAINT630 | 51D | RR |
| 6VMHCD20 | MAINT | 493 | RR | MAINT630 | 493 | RR |
| | MAINT | 5E5 | RR | MAINT630 | 5E5 | RR |
| | MAINT | 51D | MR | MAINT630 | 51D | RR |
| 6VMPTK30 | MAINT | 5E5 | RR | MAINT630 | 5E5 | RR |
| | MAINT | 51D | MR | MAINT630 | 51D | RR |
| 6VMRAC30 | MAINT | 5E5 | RR | MAINT630 | 5E5 | RR |
| | MAINT | 51D | MR | MAINT630 | 51D | RR |
| 6VMRSC30 | MAINT | 5E5 | RR | MAINT630 | 5E5 | RR |
| | MAINT | 51D | MR | MAINT630 | 51D | RR |
| 6VMTCP30 | MAINT | 49E | RR | MAINT630 | 49E | RR |
| | MAINT | 493 | RR | MAINT630 | 493 | RR |
| | MAINT | 5E5 | RR | MAINT630 | 5E5 | RR |
| | MAINT | 51D | MR | MAINT630 | 51D | RR |
| PERSMAPI | PERFSVM | 200 | RR | 6VMPTK30 | 200 | RR |
| | PERFSVM | 29D | RR | 6VMPTK30 | 29D | RR |
| BLDRACF | RACMAINT | 490 | MW | 6VMRAC30 | 590 | MR |
| | RACMAINT | 305 | RR | 6VMRAC30 | 505 | MR |

Review external security manager (ESM) considerations

Table 25. Links to indirect resources, Part 2 of 3

| User ID | Directory link (with mode) | Indirect link (with mode) |
|----------|--|--|
| IBMUSER | RACMAINT 29E RR RACMAINT 305 RR RACMAINT 192 RR | 6VMRAC30 29E RR 6VMRAC30 505 MR 6VMRAC30 191 RR |
| DATAMOVE | DIRMAINT 191 RR DIRMAINT 192 RR DIRMAINT 11F RR DIRMAINT 21F RR | 6VMDIR30 491 RR 6VMDIR30 492 RR 6VMDIR30 11F RR 6VMDIR30 41F RR |
| DATAMOV2 | DIRMAINT 191 RR DIRMAINT 192 RR DIRMAINT 11F RR DIRMAINT 21F RR | 6VMDIR30 491 RR 6VMDIR30 492 RR 6VMDIR30 11F RR 6VMDIR30 41F RR |
| DATAMOV3 | DIRMAINT 191 RR DIRMAINT 192 RR DIRMAINT 11F RR DIRMAINT 21F RR | 6VMDIR30 491 RR 6VMDIR30 492 RR 6VMDIR30 11F RR 6VMDIR30 41F RR |
| DATAMOV4 | DIRMAINT 191 RR DIRMAINT 192 RR DIRMAINT 11F RR DIRMAINT 21F RR | 6VMDIR30 491 RR 6VMDIR30 492 RR 6VMDIR30 11F RR 6VMDIR30 41F RR |
| DIRMSAT | DIRMAINT 191 RR DIRMAINT 192 RR DIRMAINT 11F RR DIRMAINT 21F RR | 6VMDIR30 491 RR 6VMDIR30 492 RR 6VMDIR30 11F RR 6VMDIR30 41F RR |
| 4OSASF40 | TCPMAINT 492 RR | 6VMTCP30 492 RR |
| TCP/IP | TCPMAINT 491 RR TCPMAINT 492 RR | 6VMTCP30 491 RR 6VMTCP30 492 RR |
| DTCVSW1 | TCPMAINT 491 RR TCPMAINT 492 RR | 6VMTCP30 491 RR 6VMTCP30 492 RR |
| DTCVSW2 | TCPMAINT 491 RR TCPMAINT 492 RR | 6VMTCP30 491 RR 6VMTCP30 492 RR |
| FTPSERVE | TCPMAINT 491 RR TCPMAINT 492 RR | 6VMTCP30 491 RR 6VMTCP30 492 RR |
| IMAP | TCPMAINT 491 RR TCPMAINT 492 RR | 6VMTCP30 491 RR 6VMTCP30 492 RR |
| IMAPAUTH | TCPMAINT 491 RR TCPMAINT 492 RR | 6VMTCP30 491 RR 6VMTCP30 492 RR |
| LDAPSRV | TCPMAINT 491 RR TCPMAINT 492 RR | 6VMTCP30 491 RR 6VMTCP30 492 RR |
| MPROUTE | TCPMAINT 491 RR TCPMAINT 492 RR | 6VMTCP30 491 RR 6VMTCP30 492 RR |
| PORTMAP | TCPMAINT 491 RR TCPMAINT 492 RR | 6VMTCP30 491 RR 6VMTCP30 492 RR |

Table 26. Links to indirect resources, Part 3 of 3

| User ID | Directory link (with mode) | Indirect link (with mode) |
|----------|------------------------------------|------------------------------------|
| REXECD | TCPMAINT 491 RR TCPMAINT 492 RR | 6VMTCP30 491 RR 6VMTCP30 492 RR |
| RXAGENT1 | TCPMAINT 491 RR TCPMAINT 492 RR | 6VMTCP30 491 RR 6VMTCP30 492 RR |
| SMTP | TCPMAINT 491 RR TCPMAINT 492 RR | 6VMTCP30 491 RR 6VMTCP30 492 RR |
| SNMPD | TCPMAINT 491 RR TCPMAINT 492 RR | 6VMTCP30 491 RR 6VMTCP30 492 RR |
| SNMPQE | TCPMAINT 491 RR TCPMAINT 492 RR | 6VMTCP30 491 RR 6VMTCP30 492 RR |
| SNMPSUBA | TCPMAINT 491 RR TCPMAINT 492 RR | 6VMTCP30 491 RR 6VMTCP30 492 RR |
| UFTD | TCPMAINT 491 RR TCPMAINT 492 RR | 6VMTCP30 491 RR 6VMTCP30 492 RR |
| VMNFS | TCPMAINT 491 RR TCPMAINT 492 RR | 6VMTCP30 491 RR 6VMTCP30 492 RR |
| GSKADMIN | TCPMAINT 491 RR TCPMAINT 492 RR | 6VMTCP30 491 RR 6VMTCP30 492 RR |
| SSLDCSSM | TCPMAINT 491 RR TCPMAINT 492 RR | 6VMTCP30 491 RR 6VMTCP30 492 RR |
| DTCENS1 | TCPMAINT 491 RR TCPMAINT 492 RR | 6VMTCP30 491 RR 6VMTCP30 492 RR |
| DTCENS2 | TCPMAINT 491 RR TCPMAINT 492 RR | 6VMTCP30 491 RR 6VMTCP30 492 RR |
| DTCSMAPI | TCPMAINT 491 RR TCPMAINT 492 RR | 6VMTCP30 491 RR 6VMTCP30 492 RR |

Review external security manager (ESM) considerations

6. If you are using an ESM to manage your shared filepool administrator authorizations, give ADMIN authority for the following filepools to the user IDs listed:

| File pool | User IDs |
|-----------|--|
| VMPSFS | MAINT630 VSMGUARD VSMWORK1 VSMWORK2 VMSWORK3 |
| VMSYS | MAINT630 VSMWORK1 VSMWORK2 VMSWORK3 6VMTCP30 |
| VMSYSR | MAINT630 |
| VMSYSU | MAINT630 |

7. If you are using an ESM to manage command authorizations, the new user IDs should be authorized for appropriate VM commands following your normal site procedures:

| User ID | Authorization |
|----------|------------------|
| ZHCP | Class G |
| XCAT | Class G |
| MAINT630 | Same as MAINT620 |
| 6VMDIR30 | Same as 6VMDIR20 |
| 6VMPTK30 | Same as 6VMPTK20 |
| 6VMRAC30 | Same as 6VMRAC20 |
| 6VMRSC30 | Same as 6VMRSC20 |
| 6VMTCP30 | Same as 6VMTCP20 |

8. If you are using an ESM to manage any other system resources, review the user directory entries for the following new user IDs to identify any other security authorization that may be required for your environment:

ZHCP
XCAT
MAINT630
6VMDIR30
6VMPTK30
6VMRAC30
6VMRSC30
6VMTCP30

Step 3. Rework your local modifications

1. Log off MIGMAINT.
2. If you are upgrading a multimember SSI cluster and this is *not* the first member to be upgraded to z/VM V6.3, skip this step and go to Chapter 26, “Stop your production workload and back up your system,” on page 259.
3. If your system has local modifications to any components that are upgraded with the new release, the local modification files were copied over to the new release service disks and the VM SYSLMOD table was updated to allow those local modifications to be applied to the new release. You need to review your local modifications and either rework them for the new release or else remove them. You must then update the VM SYSLMOD table with the status of each local modification listed. This must be completed before continuing to the second stage of your upgrade installation.
4. Log on to the maintenance userid for your new release, MAINT630.

```
logon maint630
```

```
:
```

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

The default password for MAINT630 is WD5JU8QP.

5. Determine if you have any local modifications by using the VMFUPDAT SYSLMOD command. If there are *no* local modifications that require rework, you'll see one of the responses shown here:

```
vmfupdat syslmod
```

```
VMFUTL2767I Reading VMFINS DEFAULTS B for additional options
VMFUPX2309I There are no local modifications that require rework
Ready; T=n.nn/n.nn hh:mm:ss
```

OR:

```
VMFUTL2767I Reading VMFINS DEFAULTS B for additional options
DMSCPY002E INPUT file VM SYSLMOD D not found
VMFUPX0002E File VM SYSLMOD D not found
Ready (00028); T=n.nn/n.nn hh:mm:ss
```

If you receive one of these responses (meaning there are *no* local modifications that require rework), skip to substep 8 on page 258.

If there are local modifications that require rework, you'll see this panel:

Rework your local modifications

*** Update SYSLMOD Table Entries ***

Set action code AC to C when rework is Complete. Action code N means rework is Not Complete. Use the lines at the bottom of the panel to mark rework complete for: ALL Localmods (press PF6), any Localmods with ***** (fill in a Modid), or any Localmods for ***** (fill in a Comprname).

| AC | Comprname | Prodid | Modid | Part Fn | Part Fta | VVT Ft |
|----|-----------|----------|-------|---------|----------|--------|
| N | CMS | 6VMCMS30 | 0002 | DMSNGP | TXT | VVTLCL |

All local modifications PF6
All local modifications with Modid *****
All local modifications for Comprname *****

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PF1=HELP PF3/PF12=Quit PF5=Process PF6=All_Mods

Figure 29. Update SYSLMOD Table Entries Panel

Review the information displayed on this panel and make a note of any parts with local modifications that you need to rework. Also make a note of any local modifications that should be removed. Press F3 or F12 to exit.

6. Use the LOCALMOD command to rework any local modifications. See the *z/VM: Service Guide* for instructions on using LOCALMOD for rework. If any local modifications need to be removed, use the VMFREM command. See the *z/VM: VMSES/E Introduction and Reference* for details on the VMFREM EXEC.
7. Once all local modifications have been reworked or removed, update the status in the VM SYSLMOD table by once again invoking the VMFUPDAT SYSLMOD command.

vmfupdat syslmod

Mark each part according to the instructions on the panel (as shown in Figure 29). When all parts are marked, press F5 to process the status updates.

8. Log off MAINT630.

What to do next

Go to Chapter 26, “Stop your production workload and back up your system,” on page 259.

Chapter 26. Stop your production workload and back up your system

In this chapter, you will:

- Stop your production workload and back up your system.

You are now ready to run the second stage of upgrade. In STAGE2, the new release code will be moved into production. You should shut down all your production workloads on the system you are upgrading (stop application servers, have end users log off, and so on) or move your production workload to another system or to another member of your SSI cluster. You must *not* shut down your shared file system servers, and you must *not* shut down your directory manager or security manager servers, if you are running these products. You should then create a backup copy of your entire current system following your normal backup procedures.

Since backing out STAGE2 requires that you restore the backup copy of your system, you should *not* make directory or security changes on your system or any member of your SSI cluster.

Note: Once you have created your backup, do not restart your production workloads until you have completed your upgrade.

What to do next

Go to Chapter 27, “Generate the STAGE2 changes file,” on page 261.

Chapter 27. Generate the STAGE2 changes file

In this chapter, you will:

- Run INSTUPGR to create the STAGE2 changes file.

Step 1. Generate the STAGE2 table

1. Ensure that any userids that have write links to the system inventory and service disks, such as MAINT, MAINT620, MAINT630, and product installation IDs 6VMxxx20 and 6VMxxx30, are logged off the system you are upgrading and all other members of your cluster before logging onto MIGMAINT.
2. Log on to the MIGMAINT user ID on the system being upgraded. Make sure the user ID meets the MIGMAINT user ID requirements. You must log off MIGMAINT after STAGE1 processing is complete and log back on to MIGMAINT before running STAGE2 processing.
3. Access the 24CC minidisk as file mode C.

```
access 24cc c
Ready; T=n.nn/n.nn hh:mm:ss
```

4. Run INSTUPGR to generate the \$STAGE2\$ \$TABLE\$ file, which will list the STAGE2 changes needed to upgrade your system.

```
instupgr stage2 (prime

IUG2FC8535I Creating temporary work copy of MAINT 190 minidisk
z/VM DASD DUMP/RESTORE PROGRAM
COPYING   MNT190
COPYING DATA 01/06/13 AT 20.33.21 GMT FROM MNT190 TO MNT190
INPUT CYLINDER EXTENTS      OUTPUT CYLINDER EXTENTS
      START      STOP      START      STOP
        0        213         0        213
END OF COPY
END OF JOB

IUGUPG8392I INSTUPGR ended successfully

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

5. If INSTUPGR completes with warnings, they will be displayed on the screen and also logged in the file \$STAGE2\$ \$WRNFILE on MIGMAINT's 2CF0 disk (accessed as filemode E). Review the warnings and resolve any issues before continuing to Chapter 28, "Update your current system with the STAGE2 changes," on page 265.

Note: The following warnings may be ignored:

```
* The following files found on your MAINT 193 minidisk
* were not listed in the VM PARTCAT for prodid 6VMCPR20%CP, but
* will be overwritten during COMMIT processing.
  CLOAD MODULE
*
* The following files found on your MAINT 193 minidisk
* were not listed in the VM PARTCAT for prodid 6VMGCS20%GCS, but
* will be overwritten during COMMIT processing.

  GCSNUC MAP
*
```

6. If any errors occur, review the error messages in file INSTUPGR \$CONSLOG on MIGMAINT's 2CF0 minidisk (accessed as filemode E), correct the condition that is causing the error, and then go back to substep 4.

What to do next

Go to Chapter 28, “Update your current system with the STAGE2 changes,” on page 265.

Chapter 28. Update your current system with the STAGE2 changes

In this chapter, you will:

- Make the changes to your current system identified in the \$STAGE2\$ \$TABLE\$.

Step 1. Choose your update option

In the previous step a file named \$STAGE2\$ \$TABLE\$ was generated on MIGMAINT's 2CF0 disk by the INSTUPGR command. This table contains a list of actions to be taken on your current system in order to complete the second stage of your system upgrade. Each entry in the table consists of one or more comment lines that describe an action to be taken and then one or more lines with more detailed information so that a program or a person could read the information and perform the action on a specific system.

There are three ways to complete these actions:

- Run the INSTUPGR command with operand STAGE2 and option COMMIT. The programs supplied by IBM will read the \$STAGE2\$ \$TABLE\$ and perform all the actions listed. If you are using a directory manager program on your system and that program has provided an exit to work with the IBM upgrade code, that exit will be called to perform directory functions. If you edit your CP user directory manually, INSTUPGR will make the necessary changes to your CP user directory file, using the information you provided when you ran the INSTPLAN command.
- Manually update your system with the changes listed in the \$STAGE2\$ \$TABLE\$. You can perform all of the changes listed in the table and edit the table to mark them as complete. Note that some changes are dependent on earlier entries being complete. You must complete all entries in the order they appear in the table.
- Use a combination of the above two options. If you prefer, you can make some of the required changes manually and allow the INSTUPGR program to make the rest. Note that some changes are dependent on earlier entries being complete. You must complete all entries in the order they appear in the table and you must complete all the entries that precede the changes you select to make manually. To use this method, make the changes you wish to make yourself first and update the \$STAGE2\$ \$TABLE\$ to mark just those changes as complete. Then run the INSTUPGR command with operand STAGE2 and option COMMIT. The INSTUPGR program will make any changes to your system that you have not marked as completed and it will update the \$STAGE2\$ \$TABLE\$ and all other required status tables.

No matter which option you choose, the changes listed in the \$STAGE2\$ \$TABLE\$ file must be completed *before* moving on to Chapter 29, "Finish your upgrade installation," on page 271.

To use the INSTUPGR command to make your system changes, follow "Step 2. Use the INSTUPGR command to make your STAGE2 system changes" on page 267.

To make some of the changes to your system manually, follow "Step 3. Make some of the STAGE2 changes to your system manually" on page 269.

To make all of the changes to your system manually, follow "Step 4. Make all of the STAGE2 changes to your system manually" on page 270.

Step 2. Use the INSTUPGR command to make your STAGE2 system changes

1. Log on to the MIGMAINT user ID on the system being upgraded. Make sure the user ID meets the MIGMAINT user ID requirements.
2. Access the 24CC minidisk as file mode C.

```
access 24cc c
Ready; T=n.nn/n.nn hh:mm:ss
```

3. Run INSTUPGR to upgrade your system with STAGE2 changes defined in the \$STAGE2\$ \$TABLE\$ file.

```
instupgr stage2 (commit
Now processing line 10 of nnn
Now processing line 20 of nnn
:
IUGUPG8529I The 190 disk on the current system has been upgraded.
IUGUPG8529I You must IPL the 190 disk to reaccess the new files,
IUGUPG8529I and then re-issue:
IUGUPG8529I ACCESS 24CC C
IUGUPG8529I INSTUPGR STAGE2 (COMMIT
IUGUPG8529I to complete commit processing
Ready; T=n.nn/n.nn hh:mm:ss
```

4. If any errors occur, review the error messages in file INSTUPGR \$CONSLOG on MIGMAINT's 2CF0 minidisk (accessed as filemode E), correct the condition that is causing the error, and then go back to substep 3.
5. IPL the 190 disk to reaccess the files on your updated 190 disk.

```
ipl 190
:
Ready; T=n.nn/n.nn hh:mm:ss
```

6. Access the 24CC minidisk as filemode C.

```
acc 24cc c
Ready; T=n.nn/n.nn hh:mm:ss
```

7. Reissue INSTUPGR to finish upgrading your system with STAGE2 changes defined in the \$STAGE2\$ \$TABLE\$ file.

```
instupgr stage2 (commit
Now processing line 10 of nnn
Now processing line 20 of nnn
:
IUGUPG8392I INSTUPGR ended successfully
Ready; T=n.nn/n.nn hh:mm:ss
```

8. If any errors occur, review the error messages in file INSTUPGR \$CONSLOG on MIGMAINT's 2CF0 minidisk (accessed as filemode E), correct the condition that is causing the error, and then go back to substep 7.

Use the INSTUPGR command to make your STAGE2 system changes

What to do next

Go to Chapter 29, “Finish your upgrade installation,” on page 271.

Step 3. Make some of the STAGE2 changes to your system manually

1. Log on to the MIGMAINT user ID on the system being upgraded. Make sure the user ID meets the MIGMAINT user ID requirements.
2. Access the 24CC minidisk as file mode C.

```
access 24cc c
Ready; T=n.nn/n.nn hh:mm:ss
```

3. Access the 2CF0 minidisk as file mode E.

```
access 2cf0 e
Ready; T=n.nn/n.nn hh:mm:ss
```

4. Review the entries in the \$STAGE2\$ \$TABLE\$ to determine which changes you want to perform yourself.

Some changes are dependent on earlier entries being complete. You must complete all entries in the order they appear in the table, so you must also manually complete all the entries that precede the changes you select to make manually.

For each entry in the \$STAGE2\$ \$TABLE\$ that you selected to manually update on your system:

- a. See Appendix O, “\$STAGE2\$ \$TABLE\$ entry definitions,” on page 347 for a description of the changes required for that entry.
 - b. Make the changes to your system.
 - c. Once an entry has been completed, update the entry in the \$STAGE2\$ \$TABLE\$ with a dash (-) in the first column to indicate that the entry has been completed.
5. Once you have completed all of the changes you selected and you have updated the \$STAGE2\$ \$TABLE\$, go to “Step 2. Use the INSTUPGR command to make your STAGE2 system changes” on page 267 to complete the rest of the entries.

Step 4. Make all of the STAGE2 changes to your system manually

1. Log on to the MIGMAINT user ID on the system being upgraded. Make sure the user ID meets the MIGMAINT user ID requirements.
2. Access the 24CC minidisk as file mode C.

```
access 24cc c
Ready; T=n.nn/n.nn hh:mm:ss
```

3. Access the 2CF0 minidisk as file mode E.

```
access 2cf0 e
Ready; T=n.nn/n.nn hh:mm:ss
```

4. Review the entries in the \$STAGE2\$ \$TABLE\$.

Some changes are dependent on earlier entries being complete. You must complete all entries in the order they appear in the table.

For each entry in the \$STAGE2\$ \$TABLE\$:

- a. See Appendix O, “\$STAGE2\$ \$TABLE\$ entry definitions,” on page 347 for a description of the changes required for that entry.
 - b. Make the changes to your system.
 - c. Once the entry has been completed, update the entry in the \$STAGE2\$ \$TABLE\$ with a dash (-) in the first column to indicate that the entry has been completed.
5. Once all the changes are complete and you have updated the \$STAGE2\$ \$TABLE\$, run the INSTUPGR command to update the appropriate status tables.

```
instupgr stage2 (commit done
IUGUPG8392I INSTUPGR ended successfully
Ready; T=n.nn/n.nn hh:mm:ss
```

What to do next

Go to Chapter 29, “Finish your upgrade installation,” on page 271.

Chapter 29. Finish your upgrade installation

In this chapter, you will:

- Review directory considerations.
- Review SYSTEM CONFIG changes.
- Review *sysname* \$WRNFILE messages.
- Delete obsolete saved segments.
- Shut down and re-IPL.
- Migrate LPs.
- Review post upgrade installation tasks.

Step 1. Review directory considerations

1. If you are upgrading a member of a multi-member SSI cluster, the user directory needs to be brought online for all members of the cluster.
 - a. If you indicated that you edit your directory and allowed INSTUPGR to make the directory changes, you need to run DIRECTXA on all other members of the cluster.
 - b. If you used DirMaint as your directory manager to make upgrade changes, the directory was already brought online for all members.
 - c. If you used a different directory manager or made the directory updates manually, you need to make sure the directory is brought online for all other members of the cluster.
2. If you disabled minidisk password checking before starting the upgrade installation, you should verify that the disks added to the directory have minidisk passwords that adhere to your password guidelines, then re-enable minidisk password checking.

New user IDs with disks:

ZHCP
XCAT
MAINT630
6VMDIR30
6VMPTK30
6VMRAC30
6VMRSC30
6VMTCP30

New disks added to current user IDs :

VSMGUARD A91
VSMWORK1 A91
VSMWORK2 A91
VSMWORK3 A91

Step 2. Review SYSTEM CONFIG changes

1. Access the disk where your SYSTEM CONFIG file resides. The default is PMAINT's CF0 disk.
2. Review the changes made to the SYSTEM CONFIG file to verify that they meet the conventions for your site.

Changes were added to the end of the file and start with the block comment:

```

/*****
/*          UPGRADE STATEMENTS          */
/* Any statements that follow this comment have been */
/* added by the UPGRADE process. Do not add or remove */
/* statements beyond this comment. Doing so will */
/* negate your ability to use the upgrade backout */
/* automation or functions. */
*****/

```

Each statement added is delineated by the comments:

```

/* UPGRn Statement was added by INSTUPGR STAGE1 (COMMIT */
:
/* UPGRn END      */

```

There are three types of statements that may have been added:

- The addition of the release volumes to the User_Volume_List:

```
User_Volume_List  630RL1
```

- An edevice statement, if your system is installed in FBA DASD. If the device details could be determined, a real edevice statement was added:

```

edevice 4076  type fba attr SCSI fcp_dev 4F60,
wwpn 5005076306134411 lun 4011407600000000

```

If the details could not be determined, a comment was added:

```
/* edevice 4087 is not an emulated device */
```

Review the edevice statements to verify they are correct for your DASD.

- A PRODUCT statement was added for the new release products and features. The state of the new products and features is the same as the state of the equivalent product or feature from your old release. For example, if Performance Toolkit was not enabled on z/VM V6.2, it will not be enabled on z/VM V6.3:

```

PRODUCT PRODID 6VMPTK30 STATE DISABLED DESCRIPTION
'00/00/00.00:00:00.$UPGRADE PERFORMANCE TOOLKIT FOR VM'

```

Step 3. Review *sysname* \$WRNFILE messages

Note: If the PARTNOTIFY keyword entries were done manually, you were instructed to make a note of the messages received, to be addressed after the upgrade was complete. This is the point at which you should make any necessary changes.

1. Log on to the MIGMAINT user ID on the system being upgraded.
2. Access the 2CF0 minidisk as file mode E.

```
access 2cf0 e
Ready; T=n.nn/n.nn hh:mm:ss
```

3. Review the *sysname* \$WRNFILE file on the 2CF0 disk (where *sysname* is the system name of the system you are upgrading).

The following messages may be contained in the *sysname* \$WRNFILE:

IUG1EX8301W

Device details could not be determined to add an edevice statement to the SYSTEM CONFIG file. Review the statement in the SYSTEM CONFIG file and, if needed, add the real edevice statement details.

IUG2EX8536W

A customizable file was not copied because the disk could not be obtained in write mode. Access the disks and copy the file.

IUG2EX8555W

A customizable file that was changed on your current system from the IBM default has been updated by IBM on the new release. Review the current and new files and merge your current file with the new file updated by IBM.

IUG1EX8528W

An APAR exists to a part that resides on the PMAINT 551 disk on your current system that is not included in the part on the new release. After the upgrade installation is complete, apply the APAR to the new release, if required.

4. If the *sysname* \$WRNFILE contains any of these messages, review the actions described in *z/VM: CP Messages and Codes* and decide if you need to make any additional changes to your upgraded system before moving to the next step.

Step 4. Delete obsolete saved segments

In z/VM V6.3, two segments previously shipped with z/VM have been deleted. These segments need to be deleted from the system as they contain obsolete information.

1. Purge the HELPSEG segment.

```
purge nss name helpseg
0001 FILE  PURGED
Ready; T=n.nn/n.nn hh:mm:ss
```

2. Purge the NLSAMENG segment.

```
purge nss name nlsameng
0001 FILE  PURGED
Ready; T=n.nn/n.nn hh:mm:ss
```

Note: If you received the following messages, the NSS will be purged when the system is IPLed in the next step:

```
NO FILES PURGED
0001 FILE  PENDING PURGE
```

Step 5. Shut down and IPL your upgraded system

1. If you are not running with a security manager:
 - a. Shut down this system or member.
 - b. IPL the upgraded system or member.
2. If you are running with a security manager other than RACF/VM:
 - a. Consult the documentation for your security manager to see if there are any special requirements before IPLing.
 - b. Shut down this system or member.
 - c. IPL the upgraded system or member.
3. If you are running with the RACF/VM security manager, note that the test disks for RACF/VM were updated with the new level of code. You will need to bring up the test RACF/VM server (RACMAINT) when you IPL your upgraded system and then move the updated code to the production server.

To complete the upgrade of RACF/VM, perform the following steps:

- a. Log on to the RACMAINT user ID on the system you are upgrading.
- b. Ensure that the PROFILE EXEC on the A-disk is the version that was shipped with the new release of VM.

If the file PROFILE EXC\$\$\$001 exists on the A-disk, you should:

- 1) Erase or rename the current PROFILE EXEC.
 - 2) Rename PROFILE EXC\$\$\$001 to PROFILE EXEC.
- c. Log off RACMAINT.
 - d. Log on to an authorized user (such as MAINT or OPERATOR) and shut down your system.
 - e. IPL the upgraded system, specifying NOAUTOLOG when prompted.
 - f. Use the XAUTOLOG command to log on to the test RACF/VM server, RACMAINT.

XAUTOLOG RACMAINT

- g. Disconnect from the OPERATOR.
- h. Log on to the MIGMAINT user ID.
- i. Copy the PROFILE EXEC from the RACMAINT 191 to the RACFVM 191 disk:
 - 1) `link racmaint 191 1191 rr`
 - 2) `access 1191 x`
 - 3) `link racfvm 191 2191 mr`
 - 4) `access 2191 z`
 - 5) `rename profile exec z profile oldexec z`
 - 6) `copy profile exec x profile exec z (olddate`
 - 7) `release x (detach`
 - 8) `release z (detach`
- j. Using DDR, copy the RACF/VM test build disks to the RACF/VM production disks:
 - 1) Copy the 6VMRAC30 590 disk to the RACFVM 490 disk:


```
LINK 6VMRAC30 590 1590 RR
LINK RACFVM 490 1490 MR
DDR
  SYSPRINT CONS
  INPUT 1590 DASD RAC590
  OUTPUT 1490 DASD RCF490
  COPY ALL
  ENTER
ACCESS 1490 G
FORMAT 1490 G (LABEL
RCF490
QUERY DISK G
RELEASE G (DETACH
DETACH 1590
```

2) Copy the 6VMRAC30 505 disk to the RACFVM 305 disk:

```
LINK 6VMRAC30 505 1505 RR
LINK RACFVM 305 1305 MR
DDR
  SYSPRINT CONS
  INPUT 1505 DASD RAC505
  OUTPUT 1305 DASD RCF305
  COPY ALL
  ENTER
ACCESS 1305 H
FORMAT 1305 H (LABEL
RCF305
QUERY DISK H
RELEASE H (DETACH
DETACH 1505
```

- k. Log off MIGMAINT.
- l. Log on to MAINT630.
- m. Run PUT2PROD for RACF:

```
put2prod racf
```

- n. log off MAINT630.
- o. Log on to OPERATOR.
- p. FORCE RACMAINT.
- q. XAUTOLOG RACFVM.

Step 6. Migrate LPs

The 51D disk that is owned by MAINT630 has not been updated for LPs that were not pre-installed with z/VM (for example, C/C++, or the High Level Assembler). You will need to use MIGR51D to move the VMSES/E inventory files for the LPs from MAINT620's 51D disk to MAINT630's 51D disk.

1. Log on as MAINT630.

```
logon maint630
:
Ready; T=n.nn/n.nn hh:mm:ss
```

The default password for MAINT630 is WD5JU8QP.

2. Create a backup copy of the your new system software inventory disk (default is 51D) using your site's normal backup procedures.
3. Link to the MAINT vr m 51D disk, where vr m is the release of z/VM you are migrating from (for instance, MAINT620).

```
link maintvr 51d fff rr
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
IUGMIX8478R 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 | CCXXSFS | 5654A22C | BUILT | IBM XL C/C++ for z/VM Compiler in SFS |
| M | DFSMSVM | VSM221B | BUILT | DFSMSVM FOR VM/ESA 1.2 |
| M | HLASM | 5696234J | BUILT | High Level Assembler for z/OS & z/VM & z/VSE |
| D | AVS | 6VMAVS20 | APPLIED | AVS component for z/VM 6.2.0 |
| D | CMS | 6VMCMS20 | APPLIED | CMS component for z/VM 6.2.0 |
| D | CP | 6VMCPR20 | APPLIED | CP component for Z/VM 6.2.0 |
| D | DIRM | 6VMDIR20 | BUILT | Install/service DirMaint using minidisk |

Page 1 of 3

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. On the final panel, 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.

Migrate LPs

```

*** 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
-----
P CCNSEG        Old->  5654A22C  CCXXSFS       3000-7BFF SR   PPF(CCPLUS
      New->
      ***** Mig->  5654A22C  CCXXSFS       3000-7BFF SR   PPF(CCPLUS
D CMSBAM        Old->  6VMCMS20  CMS           B0D-B37 SR     PPF(SERVP2P
      New->  6VMCMS30  CMS           B0D-B37 SR     PPF(SERVP2P
      ***** Mig->  6VMCMS30  CMS           B0D-B37 SR     PPF(SERVP2P
D CMSDOS        Old->  6VMCMS20  CMS           B0D-B0C SR     PPF(SERVP2P
      New->  6VMCMS30  CMS           B0D-B0C SR     PPF(SERVP2P
      ***** Mig->  6VMCMS30  CMS           B0D-B0C SR     PPF(SERVP2P
D CMSFILES      Old->  6VMCMS20  CMS           1900-1BFF SR   PPF(SERVP2P
      New->  6VMCMS30  CMS           1900-1BFF SR   PPF(SERVP2P
      ***** Mig->  6VMCMS30  CMS           1900-1BFF SR   PPF(SERVP2P
                                           Page 1 of 5

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.

Note: With z/VM V6.3, segments HELPSEG and NLSAMENG have been deleted. You should *not* migrate these segments from your current system.

- f. On the final panel, press F5 to process. Depending on the size of your software inventory files, it may take several minutes to process.

8. Release the software inventory disk for your current system (attached as FFF and accessed as filemode Z).

release z

9. MIGR51D updated the V6.3 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 may need to migrate the 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 segments required.

If the licensed product segments are built by VMSES/E, you must sign on to MAINT630 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:

```
vmfsetup ccplus ccxx
vmfbld ppf segbld esasegs segblst ccnseg (serviced
```

If you receive message VMFBDS2003W indicating that the SYSTEM SEGID file has been updated, you should do the following to update the MAINT 190 disk and re-save CMS:

```
link maint 190 190 mr
acc 190 t
copy system segid d = = t (olddate replace
PUT2PROD CMS
```

Step 7. Post upgrade installation

1. **User directory default passwords:** The new user IDs added to the USER DIRECT during upgrade installation all have the default password WD5JU8QP, except for the user IDs ZHCP and XCAT, which have the default password of AUTOONLY.
2. If the VM components were not loaded to the filepool, MAINT630 will not have any space allocated in the VMPSFS filepool.
3. Create a stand-alone dump tape using the z/VM V6.3 program, or else use the new stand-alone dump utility SDINST if you want to dump to DASD. 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 DASD or tape for emergency use. If, after a system failure, CP cannot create an abend dump, you can use the stand-alone dump on DASD or tape to dump all of storage.

For instructions on creating a stand-alone dump utility, 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 V6.3 system.

4. If you added links to disks owned by release specific user IDs, such as MAINT620, 6VMTCP20, or 6VMDIR20, you need to evaluate if any of these links need to be updated for the new release-specific user IDs.
5. Review program directories for the pre-installed licensed products and features to determine if any additional configuration is required by the new release.
6. Any work volumes not added to your current system can be returned to the DASD pool.
7. If your cluster runs second level and if this was the first member of a multi-member SSI to be upgraded to this release, add the new release volumes to the user IDs where you IPL your SSI members, in the same manner as the current release volumes.

For each release volume added:

- a. Add a MDISK statement to the userid of the SSI member that will own the DASD.
 - b. Add a LINK statement to each of the rest of the user IDs where you IPL your SSI members.
8. If you are using DirMaint as your directory manager, your system or SSI cluster has been updated to run DirMaint function level 630 on all members. You should now disable DirMaint function level 620.
 - a. Set 6VMDIR20 to disabled on the currently running system.

```
SET PRODUCT 6VMDIR20 STATE DISABLED
```

- b. Edit the SYSTEM CONFIG file and change the PRODUCT statement for 6VMDIR20 from enabled to disabled.
9. If this was the first member of a multi-member SSI to be upgraded to this release, the help disks (Maint 19D, 401, and 402) were updated on the member being upgraded with the new release help files for DirMaint. Although all members were upgraded to use the new level of DirMaint, the DirMaint help files on the other members do not match the new level. You can either leave the help disks as they are and they will be upgraded as you upgrade each of the remaining members, or you can manually upgrade the help disks. To manually upgrade the help disks, do the following on each member:
 - a. Log on to MAINT630.
 - b. Link and access the DirMaint test help disk as X.

```
LINK 6VMDIR30 29D 29D RR  
ACCESS 29D X
```

c. For each help disk to be updated (19D, 401, and 402):

1) Link and access the disk to be updated as Z, in write mode.

```
LINK MAINT addr addr MR
ACCESS addr Z
```

2) Use VMFERASE to erase the 620 DirMaint help files.

```
VMFERASE PROD 6VMDIR20%DIRM FROM Z
```

3) Use VMFCOPY to copy the new release DirMaint help files. If updating the 19D disk, do *not* include the UPCASE option on the VMFCOPY command.

```
VMFCOPY * * X = = Z (PRODID 6VMDIR30%DIRM SPRODID 6VMDIR30%DIRM (OLDDATE REPLACE UPCASE
```

10. To be able to back out changes made by the upgrade installation process, the following disks that were deleted or moved during the upgrade installation process were not formatted to remove residual data:

- Disks deleted:

```
IDENTITY DHCPD 191
IDENTITY LPSERVE 191
```

- Disks moved (if VMHCD was loaded to minidisks):

```
USER 6VMHCD20 191
USER 6VMHCD20 2A2
USER 6VMHCD20 2A6
USER 6VMHCD20 2B2
USER 6VMHCD20 2C2
USER 6VMHCD20 2D2
USER 6VMHCD20 29D
USER 6VMHCD20 300
```

11. You should create a backup copy of your current system, following your normal backup procedures.

Chapter 30. Remove the obsolete release

In this chapter, you will:

- Remove the obsolete release.

Step 1. Remove an obsolete release

If this was the last member to be upgraded from the old release, once you are positive you will no longer be using the old release:

1. The user IDs associated with the old release level of the products that will no longer be used can be removed from the user directory and from the VMPSFS and VMSYS filepools:

- MAINT620
- 6VMDIR20
- 6VMPTK20
- 6VMRAC20
- 6VMRSC20
- 6VMTCP20

Note: Do *not* delete 6VMLEN20 or 6VMHCD20.

2. Old release volumes should be checked to see if any disks remain on the volumes before they are returned to the DASD pool.
3. Any products associated with the old release that will no longer be used should be set to disabled:
 - 6VMPTK20
 - 6VMRAC20
 - 6VMRSC20

Note: If you use DirMaint, the old level was disabled during upgrade processing.

4. The system configuration files can be updated to remove the old release volumes and products.

Part 6. 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 27 lists the component names for components, features, and products supported by the SERVICE and the PUT2PROD commands.

Table 27. 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 27 or any other component defined in the VM SYSSUF table.

Example: In this example, “1301” represents the RSU level that you would use when ordering service for CP.

```
VMFSRV2195I SERVICE CP STATUS
VMFSRV2760I SERVICE processing started
VMFSRV1225I CP (6VMCPR30%CP) status:
VMFSRV1225I   Service Level      RSU-1301
VMFSRV1225I   Production Level   sysname.RSU-1301
VMFSRV2760I 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.

You should only use this appendix if you did *not* use the traditional migration procedure and did *not* use the upgrade installation procedure.

If your current system is either z/VM 5.4 or z/VM 6.1, and you are installing a non-SSI z/VM 6.3, you can migrate the 51D disk as part of the traditional migration procedure (documented in Chapter 14, “Plan your traditional migration,” on page 159 through Chapter 17, “Place migrated parts into production,” on page 179).

If you are performing an upgrade installation, the 51D will be migrated as part of those procedures.

If you do *not* follow either the traditional migration or the upgrade installation procedures, you can run MIGR51D independently.

To run MIGR51D as an independent activity, complete the steps listed here.

1. Create a backup of the z/VM version 6 release 3 system software inventory disk (default is MAINT630 51D) using your site's normal backup procedures.
2. On your new system, obtain access to the system software inventory 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 17, “Place migrated parts into production,” on page 179 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 software inventory files accessible on your new system. On your new system, create a new minidisk owned by the MAINT630 user ID, FFF, to store the software inventory files from your current system. Once the current system software inventory files are stored on minidisk FFF on your new system, go to Chapter 17, “Place migrated parts into production,” on page 179, “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 release level 6.2.0)
 - 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 system parm disks (MAINT CF1 and CF3 disks).
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.

CP defaults

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.
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. All passwords that are not NOLOG, AUTOONLY, or LBYONLY have been set to the default of WD5JU8QP, except for the password for ZVMMAPLX which is MAINT. Before moving your system into production, you should ensure all passwords conform to your corporate security policies. The following user IDs have a password of NOLOG, AUTOONLY, or LBYONLY:

NOLOG

6VMLEN20

AUTOONLY

VSMWORK1
VSMWORK2
VSMWORK3
RXAGENT1
DATAMOVE
DATAMOV2
DATAMOV3
DATAMOV4
DIRMAINT
DIRMSAT
DIRMSAT2
DIRMSAT3
DIRMSAT4
VSMGUARD
PERSMAPI
DTCSMAPI
LOHCOST
ZVMLXTS
ZHCP
XCAT

LBYONLY

SSL
SSLDCSSM

8. The z/VM system contains system definition files with sample information and default parameters. You can modify the files to define your system configuration. See “Configuring Your System” in *z/VM: CP Planning and Administration* for more information.
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 local modification procedure. 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. To see a local modification example for CMSINST, see *z/VM: Service Guide*.
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
```

Saved segments on the z/VM system

```

:
FILE FILENAME FILETYPE MINSIZE BEGPAG ENDPAG TYPE CL #USERS PARMREGS VMGROUP
nnnn ZCMS      NSS      0000256K 00000 0000D EW  A  nnnnnn  00-15  NO
      00020 00023 EW
      00F00 013FF SR
nnnn CMS       NSS      0000256K 00000 0000D EW  A  nnnnnn  00-15  NO
      00020 00023 EW
      00F00 013FF SR
nnnn GCS       NSS      0000256K 00000 0000C EW  R  nnnnnn  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  nnnnnn  N/A     N/A
nnnn CMSBAM    DCSS-M    N/A      00B0D 00B37 SR  A  nnnnnn  N/A     N/A
nnnn DOSBAM    DCSS-S    N/A      00B00 00B37 --  A  nnnnnn  N/A     N/A
nnnn MONDCSS   CPDCSS    N/A      09000 0CFFF SC  R  nnnnnn  N/A     N/A
nnnn GUICSLIB  DCSS      N/A      01F00 01FFF SR  A  nnnnnn  N/A     N/A
nnnn CMSFILES  DCSS      N/A      01900 01BFF SR  A  nnnnnn  N/A     N/A
nnnn SVM       DCSS      N/A      01900 019FF SR  A  nnnnnn  N/A     N/A
nnnn CMSPIPES  DCSS      N/A      01800 018FF SR  A  nnnnnn  N/A     N/A
nnnn CMSVMLIB  DCSS      N/A      01700 017FF SR  A  nnnnnn  N/A     N/A
nnnn INSTSEG   DCSS      N/A      01400 016FF SR  A  nnnnnn  N/A     N/A
nnnn PERFOUT   DCSS      N/A      08A00 08FFF SN  A  nnnnnn  N/A     N/A
nnnn DOSINST   DCSS      N/A      00900 0090F SR  A  nnnnnn  N/A     N/A
nnnn SCEE      DCSS      N/A      00900 009FF SR  A  nnnnnn  N/A     N/A
nnnn SCEEX     DCSS      N/A      02100 029FF SR  A  nnnnnn  N/A     N/A
nnnn NLSKANJI  DCSS      N/A      02000 020FF SR  A  nnnnnn  N/A     N/A
nnnn NLSUCENG  DCSS      N/A      02000 020FF SR  A  nnnnnn  N/A     N/A
nnnn SMAPIOUT  DCSS      N/A      09000 095FF SN  A  nnnnnn  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 VMSERVS server machine
- Administrators – MAINT, MAINT630, MIGMAINT, VSMGUARD, VSMWORK1, VSMWORK2, VSMWORK3, and 6VMTCP30

Note: User IDs always enrolled in the VMSYS file pool are: DTCSMAPI, GSKADMIN, GSKSSLDB, LDAPSRV, MAINT, MAINT630, OPERATNS, PERSMAPI, ROOT, SSLSERV, SSL00001, SSL00002, SSL00003, SSL00004, SSL00005, TCPMAINT, VM RMSVM, 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 VMSERVU server machine

VMSYS, VMSYSU, VMSYSR, and VMPSFS file pool defaults

- Administrators – MAINT, MAINT630, and MIGMAINT

Note: User IDs always enrolled in the VMSYSU file pool are: ETC, MAINT, MAINT630, TMP, and VAR.

VMSYSR

- Coordinated resource recovery (CRR) file pool
- Managed by the VMSERVER server machine
- Administrators – MAINT, MAINT630, and MIGMAINT

VMPSFS

- Product service file pool
- Managed by the VMSERVP server machine
- Administrators – MAINT, MAINT630, AUTOLOG1, AUTOLOG2, MIGMAINT, VSMGUARD, VSMWORK1, VSMWORK2, and VSMWORK3
- MAINT630's default file pool is set to VMPSFS

Note: User IDs always enrolled in the VMPSFS file pool are: BLDSEG, DATAMOVE, DATAMOV2, DATAMOV3, DATAMOV4, DIRMAINT, DIRMSAT, DIRMSAT2, DIRMSAT3, DIRMSAT4, MAINT, MAINT630, 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*.

Additional file pool enrollments

If you chose to load these products into the file pool, the following user IDs are also enrolled in the following file pools:

Table 28. VMSYS/VMPSFS File Pool User IDs

| Product | File Pool | User IDs |
|---------|-----------|----------|
| VM | VMPSFS | 6VMLEN20 |
| RSCS | VMPSFS | 6VMRSC30 |
| | VMPSFS | RSCSAUTH |
| | VMPSFS | RSCSDNS |
| | VMPSFS | XCHANGE |
| | VMSYS | 6VMRSC30 |
| | VMSYS | XCHANGE |
| OSA/SF | VMPSFS | 4OSASF40 |
| | VMPSFS | OSADMIN1 |
| | VMPSFS | OSADMIN2 |
| | VMPSFS | OSADMIN3 |
| | VMPSFS | OSAMAIN2 |
| | VMPSFS | OSASF |

VMSYS, VMSYSU, VMSYSR, and VMPSFS file pool defaults

Table 28. VMSYS/VMPSFS File Pool User IDs (continued)

| Product | File Pool | User IDs |
|---------|-------------------------------------|--|
| TCP/IP | VMPSFS | 6VMTCP30 |
| ICKDSF | VMPSFS | 5684042J |
| DIRM | VMPSFS | 6VMDIR30 |
| RACF | VMPSFS | 6VMRAC30 |
| PERFTK | VMPSFS VMPSFS VMPSFS VMSYS | 6VMPTK30 PERFSVM PERSMAPI PERFSVM |
| VMHCD | VMPSFS VMPSFS | 6VMHCD20 CBDIODSP |

Appendix D. Back up the named saved systems and segments to tape

1. Log on the system or member you are backing up as MAINT630.

```
logon maint630
:
Ready; T=n.nn/n.nn hh:mm:ss
```

The default password for MAINT630 is WD5JU8QP.

2. Attach a tape drive (*tapeaddr*) to MAINT630 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.

tapeaddr

Address of the tape drive attached to MAINT630.

```
DUMPING tapeaddr :      nnn FILES, PAGES      nnnn nn% COMPLETE
```

```
:
```

```
DUMPING tapeaddr :      nnn FILES, PAGES      nnnn nn% COMPLETE
RDR FILE fileno1 SENT FROM MAINT630 CON WAS fileno1 RECS nnnn CPY 001 T NOHOLD NOKEEP
SPXTAPE DUMP COMMAND COMPLETED ON VDEV tapeaddr
```

```
TIME STARTED:      hh:mm:ss
```

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

```
TIME ENDED:      hh:mm:ss
```

```
TAPE COUNT:      nnn
```

```
FILES PROCESSED:      nnn
```

```
SPOOL PAGES:      nnnn
```

```
RDR FILE fileno2 SENT FROM MAINT630 CON WAS fileno2 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 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.

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,

Back up the named saved systems and segments to tape

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 307.

7. If you have a multi-member SSI cluster, repeat substeps 1 on page 299-6 on page 299 for each remaining member to back up the NSSs and segments for that member.

Appendix E. Back up the z/VM system to tape

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 305.

1. Log on the system or member you are going to back up to tape as MAINT630.

```
logon maint630
```

```
:
```

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

The default password for MAINT630 is WD5JU8QP.

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 |
| M01W02 | 125 | MAINT | Member Specific |
| M01W03 | 126 | MAINT | Member Specific |
| 630RL1 | 131 | MAINT630 | Common |
| 630RL2 | 132 | MAINT630 | Common |
| VMCOM1 | 141 | PMAINT | Common |
| VMCOM2 | 142 | PMAINT | Common |

```
q v 123-142
```

```
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 0125 3390 M01W02 R/O      3339 CYL ON DASD  nnnn SUBCHANNEL = nnnn
```

```
DASD 0126 3390 M01W03 R/O      3339 CYL ON DASD  nnnn SUBCHANNEL = nnnn
```

```
:
```

```
DASD 0131 3390 630RL1 R/W      3339 CYL ON DASD  nnnn SUBCHANNEL = nnnn
```

```
DASD 0132 3390 630RL2 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 MAINT630 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.

```
access 193 z
```

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

6. Load the DDRXA utility to tape.

Back up the z/VM system to tape

```
utility utiltape ddrxa
Rewind complete
IUGWUT8317I MOVING IPL DDRXA TO TAPE
IUGWUT8318I 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 ipl cms
z/VM V6.3.0   yyyy-mm-dd hh:mm

```

ENTER

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

For information on how to restore your system from tape, see Appendix H, “Restore the z/VM system backup from tape,” on page 309.

12. If you have a multi-member SSI cluster, repeat substeps 1 on page 301-11 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

If you wish to store a back up to tape, see Appendix E, “Back up the z/VM system to tape,” on page 301.

1. Log on the system or member you are going to back up to DASD as MAINT630.

```
logon maint630
```

```
:
```

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

The default password for MAINT630 is WD5JU8QP.

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 |
| M01W02 | 125 | MAINT | Member Specific |
| M01W03 | 126 | MAINT | Member Specific |
| 630RL1 | 131 | MAINT630 | Common |
| 630RL2 | 132 | MAINT630 | Common |
| VMCOM1 | 141 | PMAINT | Common |
| VMCOM2 | 142 | PMAINT | Common |

```
q v 123-142
```

```
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 0125 3390 M01W02 R/O      3339 CYL ON DASD  nnnn SUBCHANNEL = nnnn
DASD 0126 3390 M01W03 R/O      3339 CYL ON DASD  nnnn SUBCHANNEL = nnnn
```

```
:
```

```
DASD 0131 3390 630RL1 R/W      3339 CYL ON DASD  nnnn SUBCHANNEL = nnnn
DASD 0132 3390 630RL2 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*.

```
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.

Back up the z/VM system to DASD

```
input devno dasd volid
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
      nnnnnnnnn  nnnnnnnnn        nnnnnnnnn  nnnnnnnnn
:
:
:
END OF DUMP
BYTES IN nnnnnnnnnnn BYTES OUT nnnnnnnnnnn
TRACKS NOT COMPACTED ON TAPE - nnnnnnnnnnn
ENTER:                                     When D

```

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 on page 305-6 for each remaining member to back up the member-specific volumes.

Appendix G. Restore the named saved systems and segments from tape

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 MAINT630.

```
logon maint630
:
:
Ready; T=n.nn/n.nn hh:mm:ss
```

The default password for MAINT630 is WD5JU8QP.

2. Attach a tape drive (*tapeaddr*) to MAINT630.

```
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 MAINT630.

```
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 MAINT630 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 MAINT630 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 V6.3.0   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

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, to restore the system to DASD.

ipl *tapeaddr* **clear**

tapeaddr

Address of the tape drive.

3. This will invoke DDRXA, which will restore the contents of the tape to DASD.

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

output *devaddr* **dasd valid**
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 (M0xS01), 123 (M0xRES), 124 (M0xW01), 125 (M0xW02), ...

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

Restore the z/VM system backup from tape

restore all

The RESTORE ALL statement tells DDRXA to restore the whole tape to the output device.

```
RESTORING valid
DATA DUMPED mm/dd/yy
  AT hh.mm.ss GMT FROM valid
  RESTORED TO valid
INPUT CYLINDER EXTENTS      OUTPUT CYLINDER EXTENTS
  START      STOP           START      STOP
  nnnnnnnnn  nnnnnnnnn      nnnnnnnnn  nnnnnnnnn

:
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:

:

ENTER:

When DDRXA finishes, it prompts you with ENTER. Press Enter to end the program.

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

1. Log on as MAINT630.

```
logon maint630
:
Ready; T=n.nn/n.nn hh:mm:ss
```

The default password for MAINT630 is WD5JU8QP.

2. If you want to recover an entire minidisk, skip this step and go to step 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 step 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:MAINT630.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 step depending on the type of installation media.
 - Tape, continue to step 5.
 - DVD or electronic media, continue to step 8 on page 312.
5. Attach a tape drive (*tapeaddr*) to the MAINT630 user ID at virtual device address 181.

```
attach tapeaddr * 181
tapeaddr attached to MAINT630
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.

Recover a file or minidisk

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:

1. If the minidisk belongs to MAINT630, *mdiskaddr* is the actual minidisk address. If the minidisk does not belong to MAINT630, *mdiskaddr* is the alias address. See the \$ITEMMD\$ \$TABLE\$ on the 4CC disk to determine the alias address.
2. To recover a minidisk and overlay the existing disk, you must link the existing minidisk in write mode. For example, enter the LINK CMSBATCH 195 801 WR command. Because this disk does not belong to MAINT630, the INSTTAPE command would be: INSTAPE TAPE (RECOVER 801 801
3. If you want to recover an entire minidisk and overlay the existing minidisk, *loadaddr* is the address at which you have the existing disk linked.
If the load address (*loadaddr*) is not specified, a temporary disk (T-disk) is created.
4. 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.
5. The INSTTAPE command requires a full screen terminal with at least 24 lines.

Once INSTTAPE completes, skip to step 9 on page 313.

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

IPaddress

IP address or FTP HOSTNAME.

*cuu**

Address of the minidisk to be recovered from the DVD, with an asterisk (*) appended to the end.

userid

password

User ID and password used to log on to the FTP server.

restcmd

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

ftpdrct

Path to the DVD drive or server directory. If using a DVD drive, append /**CPDVD** to the end of the path.

loadaddr

Address to which you are restoring the minidisk.

ddd

CKD for 3390 or **FBA** for FBA.

Notes:

1. To recover a minidisk and overlay the existing disk, you must link the existing minidisk in write mode. For example, enter the LINK CMSBATCH 195 801 WR command.
2. If the minidisk belongs to MAINT630, *cuu* is the actual minidisk address. If the minidisk does not belong to MAINT630, *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 existing 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 *diskaddr* c

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

pipe *dvddecod dddcuu image c |UNPACK| restcmd loadaddr*

ddd

CKD for 3390 or **FBA** for FBA.

restcmd

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

cuu

Address of the minidisk to be recovered from the DVD.

loadaddr

Address to which you are recovering the minidisk.

Notes:

1. To recover a minidisk and overlay the existing disk, you must link the existing minidisk in write mode. For example, enter the LINK CMSBATCH 195 801 WR command.
2. If the minidisk belongs to MAINT630, *cuu* is the actual minidisk address. If the minidisk does not belong to MAINT630, *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 existing 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 *loadaddr fm-1*

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

loadaddr

Address of the temporary disk.

fm-1

Any available file mode.

access *mdiskaddr fm-2*

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.

Recover a file or minidisk

copyfile *fn ft fm-1 = = fm-2* (**olddate**
Ready; T=*n.nn/n.nn hh:mm:ss*

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 22 and follow substeps 6 on page 22 through 8 on page 23 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.
 - h. 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.
 - i. Click on the Integrated 3270 Console window to bring it to the foreground. The DDR program will be displayed in the Integrated 3270 Console window.

Using an integrated 3270 console for installation

- j. Go back to “Step 1. Restore the SVS” on page 22 and follow substep 9 on page 23 to use DDR to load the IIS. Return here when instructed.
- 5. IPL ZVMSVS to start the IIS portion of the installation. Keep the Integrated 3270 Console window open in the background.
 - a. In the Hardware Management Console Workplace window, select the LPAR you are using for installation in the CPC Images Work Area pane.
 - b. In the Recovery pane, double-click the **Load** icon. The Load window opens.
 - c. In the Load window, enter the DASD address of your ZVMSVS volume in the **Load address** field and enter SYSG 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. Click on the Integrated 3270 Console window to bring it to the foreground. The Stand Alone Program Loader (SAPL) panel will be displayed in the Integrated 3270 Console window.
 - h. Go back to “Step 2. IPL the z/VM SVS system” on page 25 and continue with substep 2 on page 25 to complete the installation.

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 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 630prod.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 630prod.srl file.

Note: If you created a modified 630prod.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.
 - d. Click **Send**.

Using a terminal emulator to upload files from a DVD

5. 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
```

6. 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
xxx22200 IMAGE W1 F 1028 nnnn nnn dddd tttt
:
```

7. Return to Chapter 7, From a VM Minidisk, Step 1, Substep 11 on page 104.

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.

QDID layer 2: If using QDIO layer 2 for the network interface in IPWIZARD, you need to add or update the VMLAN MACPREFIX statement in your SYSTEM CONFIG file to define a unique MAC address prefix for this system. If you are installing a multi-member SSI, the VMLAN MACPREFIX and USERPREFIX must be configured in each SSI member. For more information, see “Media Access Control (MAC) Address” in *z/VM: Connectivity*, and the VMLAN statement in *z/VM: CP Planning and Administration*. If changes are made to your SYSTEM CONFIG file, the z/VM image must be re-IPLeD so that the statements take effect.

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 29. 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) – see “QDIO layer 2” on page 319 <input type="checkbox"/> QDIO (layer 3) <input type="checkbox"/> LCS <input type="checkbox"/> HiperSockets <input type="checkbox"/> CTC See the appropriate interface worksheet to record additional information. IPv6 is available only for QDIO and HiperSockets devices. |

Table 30. 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 31. 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 32. 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 33. 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 34. 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) – see “QDIO layer 2” on page 319 <input type="checkbox"/> QDIO (layer 3) <input type="checkbox"/> LCS <input type="checkbox"/> HiperSockets <input type="checkbox"/> CTC See the appropriate interface worksheet to record additional information. IPv6 is available only for QDIO and HiperSockets devices. |

Table 35. 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 36. 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 37. 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 38. 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 39. 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) – see “QDIO layer 2” on page 319 <input type="checkbox"/> QDIO (layer 3) <input type="checkbox"/> LCS <input type="checkbox"/> HiperSockets <input type="checkbox"/> CTC See the appropriate interface worksheet to record additional information. IPv6 is available only for QDIO and HiperSockets devices. |

Table 40. 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 41. 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 42. 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 43. 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 44. 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) – see “QDIO layer 2” on page 319 <input type="checkbox"/> QDIO (layer 3) <input type="checkbox"/> LCS <input type="checkbox"/> HiperSockets <input type="checkbox"/> CTC See the appropriate interface worksheet to record additional information. IPv6 is available only for QDIO and HiperSockets devices. |

Table 45. 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 46. 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 47. 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 48. 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 0000000000000000C8.
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.

1. Verify that your FCP device address is displayed in the **DEVICE NUMBER** field.
2. In the **IPL PARAMETERS** area, enter “cons=” followed by your console address, and “pdvol=” followed by the EDEVICE number used to define the residence volume for the system you are IPLing.
3. When you have entered all your data, press F10 to complete your IPL.

Iplimg z/VM from a SCSI device

Appendix N. \$STAGE1\$ \$TABLE\$ entry definitions

This appendix lists the keywords that can be found in the entries in the \$STAGE1\$ \$TABLE\$ and describes the steps to manually update your system with the changes listed for each entry.

Note that the order of the entries in the \$STAGE1\$ \$TABLE\$ is the order in which the actions should be performed.

| | |
|----|--------------------|
| 1 | ATTVOLS |
| 2 | DDRMDISK DEFMDISK |
| 3 | DDRMDISK EXT3MDISK |
| 4 | DIRECT ADDMDISK |
| 5 | DIRECT ADDMDISKNB |
| 6 | DIRECT ADDMEMIDENT |
| 7 | DIRECT ADDMEMSUB |
| 8 | DIRECT ADDNEWUSER |
| 9 | DIRECT ADDRELLINK |
| 10 | DIRECT COMMON |
| 11 | DIRECT DELRELLINK |
| 12 | FILEPOOL ADDADMIN |
| 13 | FILEPOOL ADDRELF |
| 14 | FILEPOOL ADDSPACE |
| 15 | FILEPOOL CREATDIR |
| 16 | FILEPOOL ENROLLUSR |
| 17 | FILEPOOL GRANTAUTH |
| 18 | LOCALMOD COPYLCL |
| 19 | LOCALMOD UPDTSLMOD |
| 20 | SETPRODUCT |
| 21 | SYSCONF ADDEDEV |
| 22 | SYSCONF ADDPRODUCT |
| 23 | SYSCONF ADDRELVOL |

These entries are described below:

- 1** The ATTVOLS keyword attaches a new volume to your running system.

Syntax:

```
ATTVOLS ATTACH dasdaddr SYSTEM label
```

Example: Attach the new volume with address CECB and label UGT3R1 to the system:

```
ATTVOLS ATTACH CECB SYSTEM UGT3R1
```

Manual Instructions: Issue the attach command that follows the ATTVOLS keyword. In this example:

```
ATTACH CECB SYSTEM UGT3R1
```

-
- 2** The DDRMDISK DEFMDISK keywords copy a minidisk from the work system to a disk that was added on the system being upgraded, using the DDR command. The disk on the work system is accessed by using the DEFINE MDISK command, and then the contents are copied to the extents defined for the new disk on the system being upgraded.

Syntax:

\$STAGE1\$ \$TABLE\$ entry definitions

```
DDRM DISK DEFMDISK USER|IDENTITY useriddiskaddr
```

Example: Copy the contents of the 6VMDIR30 491 minidisk from the work system volume to the 6VMDIR30 491 minidisk that was added to the system being upgraded:

```
DDRM DISK DEFMDISK USER 6VMDIR30 491
```

Manual Instructions:

1. Issue the DEFINE MDISK command to define a minidisk overlay to the disk on the work system volume:
 - a. Locate the minidisk statement in the user directory file for the work system (INSTUPGR \$USERDIR) located on the MIGMAINT 2CF0 disk. If the user type is IDENTITY, locate the minidisk statement contained in the SUBCONFIG that corresponds to the system being upgraded.
 - b. Note the start location, disk size, and volume label for the disk. For example, if the MDISK statement for the MAINT 491 disk looks like this:

```
MDISK 491 3390 3298 030 IBMCM1 MR
```

the start location for the 491 disk is 3298, the size is 30, and the volume label is IBMCM1.

- c. Attach the address associated with the noted volume label (refer to Table 21 on page 212 or Table 22 on page 213 for addresses and volume labels) to your current system. In this example, if the address for the volume with label IBMCM1 is C11:

```
ATTACH C11 TO SYSTEM
```

- d. Issue the DEFINE MDISK command:

```
DEFINE MDISK linkaddr start size vollabel
```

In this example:

```
DEFINE MDISK 1491 3298 30 IBMCM1
```

2. Link to the disk that was added to the upgrade system, in write mode. In this example:

```
LINK 6VMDIR30 491 2491 WR
```

3. Use DDR to copy from the overlay disk on the work system to the disk that was added on the system being upgraded. In this example:

```
DDR
SYSPRINT CONS
INPUT 1491 DASD
OUTPUT 2491 DASD
COPY ALL
```

ENTER

4. Detach the overlay and new minidisks:

```
DETACH 2491
DETACH 1491
```

5. Detach the work system volume from the system you are upgrading. In this example:


```
DETACH VOLID IBMCM1 FROM SYSTEM
```

3

The DDRMDISK EXT3MDISK keywords initialize a minidisk that was added on the system being upgraded by using DDR to restore a binary file that is shipped on the MAINT_{vm} 400 minidisk.

Syntax:

```
DDRMDISK EXT3MDISK USER|IDENTITY name
```

Example: Initialize the contents of the ZHCP 100 minidisk that was added to the system being upgraded:

```
DDRMDISK EXT3MDISK IDENTITY ZHCP 100
```

Manual Instructions:

1. Link MAINT630 400 disk and access as X
2. Link MAINT630 493 disk and access as Z
3. Link to the disk to be initialized (in this example ZHCP 100) as *vaddr* in write mode:

```
LINK ZHCP 100 100 WR
```

4. Run the DDRREST exec to initialize the disk using the image file for either 3390 or FBA DASD.

For 3390:

```
DDRREST vaddr ECKD100 IMAGE X
```

In this example, if your system is installed on 3390 DASD:

```
DDRREST 100 ECKD100 IMAGE X
```

For FBA:

```
DDRREST vaddr FBA100 IMAGE X
```

In this example, if system is installed on FBA DASD:

```
DDRREST 100 FBA100 IMAGE X
```

5. Detach the minidisk that was initialized. In this example:

```
DETACH 100
```

4

The DIRECT ADDMDISK keywords update the user directory to add a new minidisk to an existing user ID.

Syntax:

```
DIRECT ADDMDISK {USER username *} | {SUBCONFIG UNKNOWN SUB identname}  
                mdaddr BK|NOBK {NOFMT | FMT label blocksize} mdiskstatement
```

BK Need to keep track for backout.

\$STAGE1\$ \$TABLE\$ entry definitions

| | |
|--------------|--|
| NOBK | Do not need to keep track for backout. |
| FMT | Format the disk with label and block size indicated. |
| NOFMT | Do not format the disk. |

Example: Update the user directory to add a new minidisk, A91, to the existing SUBCONFIG entry for IDENTITY VSMWORK1 that is associated with the system you are upgrading:

```
DIRECT ADDMDISK SUBCONFIG UNKNOWNSUB VSMWORK1 A91 BK NOFMT
MDISK A91 3390 2728 005 UG1W01 MR ALL ALL ALL
```

Manual Instructions: Using your site's procedures to update the user directory, add the A91 minidisk statement shown to the SUBCONFIG for VSMWORK1 that is built on the system being upgraded. You should include this disk in your backout log (BK option) and you do not need to format this minidisk (NOFMT).

1. Determine the name of the SUBCONFIG for this system by examining the BUILD ON statement for the system you are upgrading in the IDENTITY entry in the USER DIRECT file for VSMWORK1:

```
BUILD ON * | systemname USING SUBCONFIG VSMWK1-1
```

In this example, VSMWK1-1 is the name of the SUBCONFIG.

2. Add the MDISK statement that was included on the entry in the \$STAGE1\$ \$TABLE\$ to the SUBCONFIG entry for VSMWK1-1.

If you edit your USER DIRECT file directly, the MDISK statement includes the correct extent information for the new disk:

```
MDISK A91 3390 2728 005 UG1W01 MR ALL ALL ALL
```

If you use a directory manager product, the MDISK statement contains the word NULL instead of a starting extent, followed by the disk size, volume label and password information. Use this information to have your directory manager product define the new disk:

```
MDISK A91 3390 NULL 005 UG1W01 MR ALL ALL ALL
```

3. If you edit your user directory directly, put the new version of the directory online:

```
DIRECTXA USER DIRECT
```

If you use a directory manager product, ensure that the directory manager puts the updated information online immediately.

5

The DIRECT ADDMDISKNB keywords update the user directory to add a new minidisk. No backout is needed for the disk because the user or subconfig this disk belongs to was also just added, and the disk will be removed when the user/subconfig added is backed out. The disk should not be formatted.

Syntax:

```
DIRECT ADDMDISKNB USER username mdiskstatement
DIRECT ADDMDISKNB SUBCONFIG subconfname membername identname mdiskstatement
```

Example: Add new minidisk 191 for new subconfig ZHCP-1 to the user directory:

```
DIRECT ADDMDISKNB SUBCONFIG ZHCP-1 UPGRMEM1 ZHCP
MDISK 191 3390 1 001 UG1W02 MR READ WRITE MULTIPLE
```

Manual Instructions: Using your site's procedures to add minidisks, add the 191 minidisk statement shown to new SUBCONFIG ZHCP-1. You should *not* need to include this disk in your backout log because if you delete the new SUBCONFIG, the new disk will be deleted at the same time. You do *not* need to format this minidisk.

1. Add the MDISK statement that was included on the entry in the \$STAGE1\$ \$TABLE\$ to the SUBCONFIG entry for ZHCP-1.

If you edit your USER DIRECT file directly, the MDISK statement includes the correct extent information for the new disk:

```
MDISK 191 3390 1 001 UG1W02 MR READ WRITE MULTIPLE
```

If you use a directory manager product, the MDISK statement contains the word NULL instead of a starting extent, followed by the disk size, volume label and password information. Use this information to have your directory manager product define the new disk:

```
MDISK 191 3390 NULL 001 UG1W02 MR READ WRITE MULTIPLE
```

2. If you edit your user directory directly, put the new version of the directory online:

```
DIRECTXA USER DIRECT
```

If you use a directory manager product, ensure that the directory manager puts the updated information online immediately.

6

The DIRECT ADDMEMIDENT keywords update the user directory to add a new IDENTITY entry. The information for the new IDENTITY entry is contained in a file named *identname* \$DIRADD\$, which is found on the MIGMAINT 2CF0 minidisk.

Syntax:

```
DIRECT ADDMEMIDENT identname $DIRADD$ 2CF0
```

Example: Add a new IDENTITY entry, in this example ZHCP, to the user directory using the contents of the ZHCP \$DIRADD\$ file that was created on the MIGMAINT 2CF0 disk:

```
DIRECT ADDMEMIDENT ZHCP $DIRADD$ 2CF0
```

Manual Instructions: Following your site's procedures to update the user directory, use the information in the ZHCP \$DIRADD\$ file to add the new IDENTITY ZHCP to your user directory. You should include this task in your backout log. If you edit your user directory directly, put the new version of the directory online:

```
DIRECTXA USER DIRECT
```

If you use a directory manager product, ensure that the directory manager puts the updated information online immediately.

7

The DIRECT ADDMEMSUB keywords update the user directory to add a new SUBCONFIG entry and associate the SUBCONFIG entry with an existing IDENTITY entry. The information for the new SUBCONFIG entry is contained in a file named *subconfigname* \$DIRADD\$, which is found on the MIGMAINT 2CF0 minidisk.

Syntax:

```
DIRECT ADDMEMSUB subconfname $DIRADD$ 2CF0 membername identity
```

\$STAGE1\$ \$TABLE\$ entry definitions

Example: Add the new subconfig, in this example ZHCP-1, to the user directory using the contents of the ZHCP-1 \$DIRADD\$ file that was created on the MIGMAINT 2CF0 disk and associate the new SUBCONFIG with system UPGRMEM1 in IDENTITY ZHCP:

```
DIRECT ADDMEMSUB ZHCP-1 $DIRADD$ 2CF0 UPGRMEM1 ZHCP
```

Manual Instructions: Following your site's procedures to update your user directory. You should include this task in your backout log.

If you edit your user directory directly:

1. Add a BUILD ON statement to the IDENTITY for this system:

- If UPGRMEM1 is a member of an SSI cluster:

```
BUILD ON UPGRMEM1 USING SUBCONFIG ZHCP-1
```

- If UPGRMEM1 is *not* a member of an SSI cluster:

```
BUILD ON * USING SUBCONFIG ZHCP-1
```

2. Add the SUBCONFIG ZHCP-1 to the user directory. The subconfig definition is in the file ZHCP-1 \$DIRADD\$, which is located on MIGMAINT's 2CF0 disk.
3. Put the new version of the directory online:

```
DIRECTXA USER DIRECT
```

If you use a directory manager product, use the information in the ZHCP-1 \$DIRADD\$ file to update the user directory and to associate the new SUBCONFIG with IDENTITY ZHCP and ensure that the directory manager puts the updated information online immediately.

8

The DIRECT ADDNEWUSER keywords update the user directory to add a new USER entry. The information for the new USER entry is contained in a file named *username* \$DIRADD\$, which is found on the MIGMAINT 2CF0 minidisk. Regardless of whether you use a directory manager, you should use all of the information in the *username* \$DIRADD\$ file exactly as it appears, including all minidisk definitions.

Syntax:

```
DIRECT ADDNEWUSER username $DIRADD$ 2CF0
```

Example: Add the new USER, in this example MAINT630, to the user directory using the contents of the MAINT630 \$DIRADD\$ file that was created on the MIGMAINT 2CF0 disk:

```
DIRECT ADDNEWUSER MAINT630 $DIRADD$ 2CF0
```

Manual Instructions: Following your site's procedures to update the user directory, use the information in the MAINT630 \$DIRADD\$ file to add the new USER MAINT630 entry to your user directory. You should include this task in your backout log. These disks should *not* be formatted if you need to back out this task. If you edit your user directory directly, put the new version of the directory online:

```
DIRECTXA USER DIRECT
```

If you use a directory manager product, use the contents of the MAINT630 \$DIRADD\$ file as input to your directory manager, including the minidisk definitions. Ensure that the directory manager puts the updated information online immediately.

9

The DIRECT ADDRELLINK keywords update the user directory to add a link statement to an existing directory entry (USER, IDENTITY or SUBCONFIG). You should include this link change in your backout log.

Syntax:

```
DIRECT ADDRELLINK USER|IDENTITY|SUBCONFIG username|identname linkstatement
```

Example: Add the link statement, in this example, LINK MAINT630 201 201 RR, to the directory entry for the SUBCONFIG for IDENTITY MAINT that is associated with the system being upgraded:

```
DIRECT ADDRELLINK SUBCONFIG MAINT LINK MAINT630 201 201 RR
```

Manual Instructions: Using your site's procedures to update the user directory, add the link statement shown to the SUBCONFIG for MAINT that is built on the system being upgraded. You should include this link in your backout log.

1. Determine the name of the SUBCONFIG for this system by examining the BUILD ON statement for the system you are upgrading in the IDENTITY entry in the USER DIRECT file for MAINT:

```
BUILD ON * | systemname USING SUBCONFIG MAINT-1
```

In this example, MAINT-1 is the name of the SUBCONFIG.

2. Add the LINK statement that was included on the entry in the \$STAGE1\$ \$TABLE\$ to the SUBCONFIG entry for MAINT-1:

```
LINK MAINT630 201 201 RR
```

3. If you edit your user directory directly, put the new version of the directory online:

```
DIRECTXA USER DIRECT
```

If you use a directory manager product, ensure that the directory manager puts the updated information online immediately.

10

The DIRECT COMMON keywords update the user directory to change a statement on an existing directory entry (USER, IDENTITY or SUBCONFIG).

Syntax:

```
DIRECT COMMON action uptype USER|IDENTITY|SUBCONFIG userid input
```

where *action* is ADD, DELETE, or REPLACE, *uptype* is OPTION, NAMESAVE, VSTOR, or IPL, and *input* contains the information that will be added to, deleted from, or replaced in the directory entry for *userid*. If the *uptype* is OPTION, combine the *uptype* and the *input* to develop the directory statement. If the *uptype* is NAMESAVE or IPL, then *input* contains the required directory statement. If the *uptype* is VSTOR then *input* contains the new storage value to be replaced on the current statement.

Example: ADD the following OPTION to the user directory entry for IDENTITY VSMGUARD:

```
DIRECT COMMON ADD OPTION IDENTITY VSMGUARD LKNOPAS
```

\$STAGE1\$ \$TABLE\$ entry definitions

Manual Instructions: Using your site's procedures to update the user directory, add, delete, or replace the directory statement defined by the \$STAGE1\$ \$TABLE\$ entry. In this example, you should add an OPTION statement to the directory entry for IDENTITY VSMGUARD that includes option LKNOPAS.

1. Add the OPTION statement that was defined on the entry in the \$STAGE1\$ \$TABLE\$ to the IDENTITY entry for VSMGUARD:

```
OPTION LKNOPAS
```

2. If you edit your user directory directly, put the new version of the directory online:

```
DIRECTX USER DIRECT
```

If you use a directory manager product, ensure that the directory manager puts the updated information online immediately.

11

The DIRECT DELRELLINK keywords update the user directory to delete a link statement from an existing directory entry (USER, IDENTITY or SUBCONFIG). You should include this link change in your backout log.

Syntax:

```
DIRECT DELRELLINK USER|IDENTITY|SUBCONFIG username|identname linkstatement
```

Example: Delete the link statement, in this example, LINK MAINT630 201 201 RR, from the directory entry for the SUBCONFIG for IDENTITY MAINT that is associated with the system being upgraded:

```
DIRECT DELRELLINK SUBCONFIG MAINT LINK MAINT620 201 201 RR
```

Manual Instructions: Using your site's procedures to update the user directory, delete the link statement shown from the SUBCONFIG for MAINT that is built on the system being upgraded. You should include this link change in your backout log.

1. Determine the name of the SUBCONFIG for this system by examining the BUILD ON statement for the system you are upgrading in the IDENTITY entry in the USER DIRECT file for MAINT:

```
BUILD ON * | systemname USING SUBCONFIG MAINT-1
```

In this example, MAINT-1 is the name of the SUBCONFIG.

2. Delete the LINK statement that was included on the entry in the \$STAGE1\$ \$TABLE\$ to the SUBCONFIG entry for MAINT-1:

```
LINK MAINT620 201 201 RR
```

3. If you edit your user directory directly, put the new version of the directory online:

```
DIRECTX USER DIRECT
```

If you use a directory manager product, ensure that the directory manager puts the updated information online immediately.

12

The FILEPOOL ADDADMIN keywords update a DMSPARMS file to add a new administrator to an existing filepool. You should include this task in your backout log.

Syntax:

```
FILEPOOL ADDADMIN fpoolname fpooluid users2add
```

Example: Add the user IDs listed in the FILEPOOL ADDADMIN entry in the \$STAGE1\$ \$TABLE\$, in this example, MAINT630, to the DMSPARMS file for the filepool listed, in this example, VMSYSU running on server user ID VMSERVU. The DMSPARMS file is named *filepoolid* DMSPARMS and is found on the 191 disk for the *filepoolid*. In this example, the file VMSERVU DMSPARMS will be found on the 191 disk for user ID VMSERVU:

```
FILEPOOL ADDADMIN VMSYSU VMSERVU MAINT630
```

Manual Instructions:

1. Force the filepool user ID off the system:

```
FORCE VMSERVU
```

2. Link, in write mode, the filepool's server user ID's 191 minidisk. In this example, VMSERVU's 191 minidisk:

```
LINK VMSERVU 191 1191 WR
```

3. Access the filepool's server user ID 191 minidisk you linked above:

```
ACCESS 1191 Z
```

4. Xedit the *fpooluid* DMSPARMS file. In this example VMSERVU DMSPARMS:

```
XEDIT VMSERVU DMSPARMS Z
```

5. Add the users indicated to the ADMIN statement and file the changes. In this example, MAINT630.

6. Release and detach the filepool's server user ID 191 minidisk.

```
RELEASE Z (DETACH
```

7. Restart the filepool by autologging the *filepoolid*, in this example, VMSERVU:

```
XAUTOLOG VMSERVU
```

-
- 13** The FILEPOOL ADDRELFS keywords add a new filespace to an existing filepool. You should include this task in your backout log.

Syntax:

```
FILEPOOL ADDRELFS fpname filespace UNLOAD 2191
```

Example: Load the new filespace, 6VMDIR30, to the VMPSFS filepool:

```
FILEPOOL ADDRELFS VMPSFS 6VMDIR30 UNLOAD 2191
```

Manual Instructions:

1. Access MIGMAINT 2191 Z.
2. Link and access MAINT 193:

\$STAGE1\$ \$TABLE\$ entry definitions

```
LINK MAINT 193 193 RR
ACCESS 193 X
```

3. Enter the FILEWAIT command:

```
SET FILEWAIT ON
```

4. Enter the FILEDEF command to define the input file *fspacename* UNLOAD Z. In this example:

```
FILEDEF RELOAD DISK 6VMDIR30 UNLOAD Z
```

5. Enter the FILEPOOL command to load the *fspacename* into *fpoolname*. In this example:

```
FILEPOOL RELOAD FILESPACE 6VMDIR30 VMPSFS
```

6. Reply '1' to the prompt.

14

The FILEPOOL ADDSPACE keywords increase the storage space available for a user that is enrolled in a filepool.

Syntax:

```
FILEPOOL ADDSPACE BK|NOBK fpoolname filespaceid fpoolcmd
```

| | |
|-------------|--|
| BK | Need to keep track for backout. |
| NOBK | Do not need to keep track for backout. |

Example: Increase the amount of storage space that can be used in the VMSYS filepool by user VSMWORK1:

```
FILEPOOL ADDSPACE BK VMSYS VSMWORK1 MODIFY USER +1000 FOR VSMWORK1 VMSYS
```

Manual Instructions: Increase the amount of space that can be used by user VSMWORK1 by issuing the MODIFY USER command as specified by the FILEPOOL ADDSPACE entry in the \$STAGE1\$ \$TABLE\$. In this example, enter the following command:

```
MODIFY USER +1000 FOR VSMWORK1 VMSYS
```

15

The FILEPOOL CREATDIR keywords update a filepool to create a new directory in an existing filepool.

Syntax:

```
FILEPOOL CREATDIR BK|NOBK fpoolname filespaceid fpoolcmd
```

| | |
|-------------|--|
| BK | Need to keep track for backout. |
| NOBK | Do not need to keep track for backout. |

Example: Update the VMSYS filepool to create the new directory VMSYS:VSMWORK1.STATUS:

```
FILEPOOL CREATDIR BK VMSYS VSMWORK1 CREATE DIRECTORY VMSYS:VSMWORK1.STATUS
```


Manual Instructions: Create the directory indicated by issuing the CREATE DIRECTORY command as specified by the FILEPOOL CREATDIR entry in the \$STAGE1\$ \$TABLE\$. In this example, enter the following command:

```
CREATE DIRECTORY VMSYS:VSMWORK1.STATUS
```

- 16** The FILEPOOL ENROLLUSR keywords update a filepool to enroll a new user in an existing filepool.

Syntax:

```
FILEPOOL ENROLLUSR BK|NOBK fpoolname username fpoolcmd
```

BK Need to keep track for backout.

NOBK Do not need to keep track for backout.

Example: Update the VMPSFS filepool to enroll the new user MAINT630:

```
FILEPOOL ENROLLUSR BK VMPSFS MAINT630 ENROLL USER MAINT630 VMPSFS:
```

Manual Instructions: Enroll a new user in an existing filepool by issuing the ENROLL USER command as specified by the FILEPOOL ENROLLUSR entry in the \$STAGE1\$ \$TABLE\$. In this example, enter the following command:

```
ENROLL USER MAINT630 VMPSFS:
```

- 17** The FILEPOOL GRANTAUTH keywords update a filepool to grant authority to a user in an existing filepool.

Syntax:

```
FILEPOOL GRANTAUTH BK|NOBK fpoolname username fpoolcmd
```

BK Need to keep track for backout.

NOBK Do not need to keep track for backout.

Example: Update the VMSYS filepool to grant authority to VSMGUARD in the VMSYS:VSMWORK1.STATUS directory:

```
FILEPOOL GRANTAUTH BK VMSYS VSMWORK1 GRANT AUTHORITY
VMSYS:VSMWORK1.STATUS TO VSMGUARD ( WRITE NEWWRITE
```

Manual Instructions: Grant authority to a user in an existing filepool by issuing the GRANT AUTHORITY command as specified by the FILEPOOL GRANTAUTH entry in the \$STAGE1\$ \$TABLE\$. In this example, enter the following command:

```
GRANT AUTHORITY VMSYS:VSMWORK1.STATUS TO VSMGUARD ( WRITE NEWWRITE
```

- 18** The LOCALMOD COPYLCL keywords copy local modifications from the local modification disks

\$STAGE1\$ \$TABLE\$ entry definitions

for the current z/VM release to the new release local modifications disk. There are two versions of this entry: one to copy the VVTLCCL file and one to copy the local modifications files.

Version 1: Copy the *sourceprodid* VVTLCCL file to the new local mod disk as *targetprodid* VVTLCCL.

Version 1 Syntax:

```
LOCALMOD COPYLCL FROM sourceuserid sourcedisk sourceprodid VVTLCCL  
TO targetuserid targetdisk targetprodid VVTLCCL
```

Version 1 Example: Copy the 6VMCMS20 VVTLCCL file to the new local mod disk as 6VMCMS30 VVTLCCL:

```
LOCALMOD COPYLCL FROM MAINT620 3C4 6VMCMS20 VVTLCCL TO MAINT630 3C4  
6VMCMS30 VVTLCCL
```

Version 1 Manual Instructions:

1. Link and access the *sourceuserid sourcedisk*. In this example: link and access MAINT620 3C4:

```
LINK MAINT620 3C4 13C4 RR  
ACCESS 13C4 G
```

2. Link and access the *targetuserid targetdisk* in write mode. In this example: link and access MAINT630 3C4:

```
LINK MAINT630 3C4 23C4 WR  
ACCESS 23C4 H
```

3. Copy the VVTLCCL file from the *sourceuserid* disk to the *targetuserid* disk, changing the filename to the *targetprodid*. In this example:

```
COPYFILE 6VMCMS20 VVTLCCL G 6VMCMS30 VVTLCCL H (OLDDATE
```

4. Release and detach the disks that were linked and accessed:

```
RELEASE G (DETACH  
RELEASE H (DETACH
```

Version 2: Copy the local mod files to the new local mod disk.

Version 2 Syntax:

```
LOCALMOD COPYLCL FROM sourceuserid sourcedisk pfn * TO targetuserid targetdisk pfn =
```

Version 2 Example:

```
LOCALMOD COPYLCL FROM MAINT620 3C4 TELL * TO MAINT630 3C4 TELL =
```

Version 2 Manual Instructions:

1. Link and access the *sourceuserid sourcedisk*. In this example: link and access MAINT620 3C4:

```
LINK MAINT620 3C4 13C4 RR  
ACCESS 13C4 G
```

2. Link and access the *targetuserid targetdisk* in write mode. In this example: link and access MAINT630 3C4:

```
LINK MAINT630 3C4 23C4 WR
ACCESS 23C4 H
```

3. Copy the local mod files from the *sourceuserid* disk to the *targetuserid* disk. In this example:

```
COPYFILE TELL * G TELL = H (OLDDATE
```

4. Release and detach the disks that were linked and accessed:

```
RELEASE G (DETACH
RELEASE H (DETACH
```

19

The LOCALMOD UPDTSLMOD keywords update the SYSLMOD table on MAINT630's 51D disk to indicate local mods have been added.

Syntax:

```
LOCALMOD UPDTSLMOD ADD VMFSIM MODIFY VM SYSLMOD Z TDATA
:LMOD lmoddata :STAT statdata :CUSTYPE custdata
```

Example: Update the VM SYSLMOD table on MAINT630's 51D disk:

```
LOCALMOD UPDTSLMOD ADD VMFSIM MODIFY VM SYSLMOD Z TDATA
:LMOD 6VMCMS30%CMS.TELL.SXE.0002.VVTLCL
:STAT REWORK.UPDDATE.UPDTIME.MIGMAINT
:CUSTYPE LOCALMOD (ADD
```

Manual Instructions:

1. Link MAINT630's 51D disk in write mode:

```
LINK MAINT630 51D 151D WR
```

2. Access MAINT630's 51D disk as Z.
3. Update the SYSLMOD table by issuing the VMFSIM MODIFY command as specified by the LOCALMOD UPDTSLMOD entry. In this example, enter the following command:

```
VMFSIM MODIFY VM SYSLMOD Z TDATA :LMOD 6VMCMS30%CMS.TELL.SXE.0002.VVTLCL
:STAT REWORK.UPDDATE.UPDTIME.MIGMAINT :CUSTYPE LOCALMOD (ADD
```

4. Release and detach the disk that was linked and accessed:

```
RELEASE Z (DETACH
```

20

The SETPRODUCT keyword issues the SET PRODUCT command to set the enablement status (ENABLED or DISABLED) of a product on your running system.

Syntax:

```
SETPRODUCT SET PRODUCT prodid STATE prodstat
```

Example: Set the status for product 6VMPTK30 to ENABLED on the running system:

```
SETPRODUCT SET PRODUCT 6VMPTK30 STATE ENABLED
```

\$STAGE1\$ \$TABLE\$ entry definitions

Manual Instructions: Set the status of the product on your running system by issuing the SET PRODUCT command as specified by the SETPRODUCT entry. In this example:

```
SET PRODUCT 6VMPTK30 STATE ENABLED
```

21

The SYSCONF ADDEDEV keywords update the system configuration file to add an edevice statement for a new volume. There are two versions of this entry. Use Version 1 if the edevice details were available during INSTUPGR STAGE1 (PRIME. Use Version 2 if the edevice details were not available.

Version 1 Syntax:

```
SYSCONF ADDEDEV 1 edevice addr type fba attr SCSI fcp_dev fcpaddr  
wwpn wwpnaddr lun lunaddr
```

Version 2 Syntax:

```
SYSCONF ADDEDEV 2 edevice addr is not an emulated device
```

Example: Add the edevice statement to your system configuration file.

Version 1:

```
SYSCONF ADDEDEV 1 edevice 6505 type fba attr SCSI fcp_dev 1F01  
wwpn 500507630B00C038 lun 401140F100000000
```

Version 2:

```
SYSCONF ADDEDEV 2 edevice 6505 is not an emulated device
```

Manual Instructions:

1. Link and access the disk containing your system configuration file:

```
LINK PMAINT CF0 CF0 WR  
ACCESS CF0 Z
```

2. Update the system configuration file to add the new edevice statement. In this example:

Version 1:

```
edevice 6505 type fba attr SCSI fcp_dev 1F01 wwpn 500507630B00C038  
lun 401140F100000000
```

Version 2:

- a. If a real edevice statement is required, you should determine the details of the device and add an edevice statement with the correct attributes.
- b. If a real edevice statement is not required, do one of the following:
 - Add the entry (commented out) to document the device added:

```
/* edevice 6505 is not an emulated device */
```

- Choose to skip adding an edevice statement.

3. Save the changes you made to the system configuration file and release and detach the disk that was linked and accessed:

```
RELEASE Z (DETACH
```

22

The SYSCONF ADDPRODUCT keywords update the system configuration file to permanently set the enablement status (ENABLED or DISABLED) of a product on your system.

Syntax:

```
SYSCONF ADDPRODUCT product prodstat
```

Example: Add the PRODUCT statement for 6VMPTK30 to your system configuration file. The entire PRODUCT statement is documented in the comments preceding the SYSCONF ADDPRODUCT entry in the \$STAGE1\$ \$TABLE\$. For example:

```
* Add the following product statement for 6VMPTK30 to SYSTEM CONFIG
* PRODUCT PRODID 6VMPTK30 STATE DISABLED DESCRIPTION
* '00/00/00.00:00:00.$UPGRADE PERFORMANCE TOOLKIT FOR VM'
SYSCONF ADDPRODUCT 6VMPTK30 DISABLED
*
```

```
SYSCONF ADDPRODUCT 6VMPTK30 ENABLED
```

Manual Instructions:

1. Link and access the disk containing your system configuration file:

```
LINK PMAINT CF0 CF0 WR
ACCESS CF0 Z
```

2. Update the system configuration file to permanently set the status of the product on your system by adding the PRODUCT statement with the STATE specified by the SYSCONF ADDPRODUCT entry. In this example:

```
PRODUCT PRODID 6VMPTK30 STATE DISABLED DESCRIPTION '00/00/00.00:00:00.$UPGRADE
PERFORMANCE TOOLKIT FOR VM'
```

3. Save the changes you made to the system configuration file and release and detach the disk that was linked and accessed:

```
RELEASE Z (DETACH
```

23

The SYSCONF ADDRELVOL keywords update the system configuration file to add a new User_Volume_List statement that includes the labels for the new release volumes.

Syntax:

```
SYSCONF ADDRELVOL User_Volume_List volume labels
```

Example: Add the release volumes to your system configuration file by adding the User_Volume_List statement:

```
SYSCONF ADDRELVOL User_Volume_List UGT3R1 UGT3R2
```

Manual Instructions:

\$STAGE1\$ \$TABLE\$ entry definitions

1. Link and access the disk containing your system configuration file:

```
LINK PMAINT CF0 CF0 WR  
ACCESS CF0 Z
```

2. Update the system configuration file to add the new release volumes statement listed in the SYSCONF ADDRELVOL entry in the \$STAGE1\$ \$TABLE\$. In this example:

```
User_Volume_List UGT3R1 UGT3R2
```

Appendix O. \$STAGE2\$ \$TABLE\$ entry definitions

This appendix lists the keywords that can be found in the entries in the \$STAGE1\$ \$TABLE\$ and describes the steps to manually update your system with the changes listed for each entry.

Note that the order of the entries in the \$STAGE1\$ \$TABLE\$ is the order in which the actions should be performed.

- 1 CPYFIL
- 2 DDRMDISK MDISK
- 3 DIRECT DELENTY
- 4 DIRECT DELRELLINK
- 5 DIRECT MOVEMDISK
- 6 MIGDISK COPY
- 7 MIGDISK ERASE
- 8 PARTNOTIFY
- 9 SESCMD
- 10 SESMOVE COPY
- 11 SESMOVE ERASE

These entries are described below:

- 1 The CPYFIL keyword copies a file. CPYFIL REPLace replaces the file if it exists. CPYFIL NOREPL returns an error if the file already exists.

Syntax:

```
CPYFIL REPLace|NOREPL sourcelinktype sourcefname sourceftype * sourceuserid sourcedisk
targetlinktype targetfname targetftype * targetuserid targetdisk
```

sourcelinktype

Method used to access the disk where the file resides: LINKACC|ACCDIR|MDISK.

LINKACC is specified if the source location is a minidisk, accessed using the LINK and ACCESS commands. ACCDIR is specified if the source location is an SFS directory which is just accessed with the ACCESS command. MDISK is specified if the source location is located on a work system volume that must be accessed using the DEFINE MDISK command. For instructions on how to access a disk using DEFINE MDISK, see the DDRMDISK keyword.

sourcefname

File name of the file to be copied.

sourceftype

File type of the file to be copied.

sourceuserid

User ID that owns the disk where the file resides. If the file is in an SFS directory the value of this field is "DIR".

sourcedisk

Minidisk or SFS directory where the file resides.

targetlinktype

Method used to access the disk where the file will be copied: LINKACC|ACCDIR|MDISK.

LINKACC is specified if the target ("to") location is a minidisk, accessed using the LINK and ACCESS commands. ACCDIR is specified if the target location is an SFS directory which is just accessed with the ACCESS command. MDISK is specified if the target location must be accessed using the DEFINE MDISK command. For instructions on how to access a disk using DEFINE MDISK, see the DDRMDISK keyword.

\$STAGE2\$ \$TABLE\$ entry definitions

targetfname

File name given to the file when it is copied.

targetftype

File type given to the file when it is copied.

targetuserid

User ID that owns the disk where the file will be copied. If the file is in an SFS directory the value of this field is "DIR".

targetdisk

Minidisk or SFS directory where the file will be copied.

Example:

```
CPYFIL REPL ACCDIR IBM DTCPARMS * DIR VMPSFS:6VMTCP30.TCPIP.OBJECT
LINKACC IBM DTC++001 * 6VMTCP20 491
```

Manual Instructions:

1. Link and access the source disk.

If the *sourcelinktype* is LINKACC, link and access the minidisk.

If the *sourcelinktype* is ACCDIR, access the SFS directory. In this example:

```
ACCESS VMPSFS:6VMTCP30.TCPIP.OBJECT G
```

2. Link and access the target ("to") disk in write mode.

If the *targetlinktype* is LINKACC, link and access the minidisk. In this example:

```
LINK 6VMTCP20 491 1491 WR
ACCESS 1491 H
```

If the *targetlinktype* is ACCDIR, access the SFS directory.

3. Copy the file from the source disk to the target disk, using REPLACE if it was specified on the CPYFIL entry. In this example:

```
COPYFILE IBM DTCPARMS G IBM DTC++001 H (OLDDATE REPLACE
```

Note: The OLDDATE parameter should always be specified on the COPYFILE command.

4. Release and detach, if necessary, the SFS directories and minidisks accessed above. In this example:

```
RELEASE G
RELEASE H (DETACH
```

2

The DDRMDISK MDISK keywords copy a minidisk from a work system volume to a disk on the current system. The disk on the work system volume is accessed using the DEFINE MDISK command, then the contents of the disk are copied using the DDR command to the disk on the current system.

Syntax:

```
DDRMDISK MDISK IDENTITY sourceusername sourcedisk LINK IDENTITY targetusername targetdisk
```


Example: DDR the MAINT 190 disk on the work system to the MAINT 190 disk on the system being upgraded:

```
DDRMdisk Mdisk IDENTITY MAINT 190 LINK IDENTITY MAINT 190
```

Manual Instructions:

1. Issue the DEFINE Mdisk command to define a minidisk overlay to the source disk on the work system:
 - a. Locate the minidisk statement in the work directory file (INSTUPGR \$USERDIR) located on the MIGMAINT 2CF0 disk for the *sourceusername* and *sourcedisk* in the \$STAGE2\$ \$TABLE\$ entry. If the *sourcetype* is SUBCONFIG, locate the minidisk statement contained in the SUBCONFIG that corresponds to the system being upgraded.
 - b. Note the start location, size and volume label. In this example, if the Mdisk statement for the MAINT 190 disk looks like this:

```
Mdisk 190 3390 280 214 IBMRES
```

then the start location for the 190 disk is 280, the size is 214, and the volume label is IBMRES.

- c. Attach the address associated with the noted volume label (refer to Table 21 on page 212 or Table 22 on page 213 for addresses and volume labels) to your current system. In this example, if the address for the volume with label IBMRES is C10:

```
ATTACH C10 TO SYSTEM
```

- d. Issue the DEFINE Mdisk command for the *sourcedisk*:

```
DEFINE Mdisk vaddr start size vollabel
```

In this example:

```
DEFINE Mdisk 1190 280 214 IBMRES
```

2. Link, in write mode, to the *targetdisk* owned by *targetusername* on your current system. In this example:

```
LINK MAINT 190 2190 WR
```

3. Use the DDR command to copy from the *sourcedisk* (*vaddr*) on the work system volume to the *targetdisk* that is being updated on the system being upgraded. In this example:

```
DDR
SYSPRINT CONS
INPUT 1190 DASD
OUTPUT 2190 DASD
COPY ALL
<answer any prompts, then press enter to end DDR>
ENTER
```

4. Detach the disks you linked to and defined. In this example:

```
DETACH 1190
DETACH 2190
```

5. Detach the work system volume from the current system. In this example:

```
DETACH C10 FROM SYSTEM
```

\$STAGE2\$ \$TABLE\$ entry definitions

- 3** The DIRECT DELENTY keywords update the user directory to delete a USER, IDENTITY, or SUBCONFIG definition. For SUBCONFIG, only the SUBCONFIG definition associated with the system or member that is being updated is deleted.

Syntax:

```
DIRECT DELENTY USER|IDENTIY|SUBCONFIG identusername membername
```

Example: Delete the SUBCONFIG definition for IDENTITY DHCPD that is associated with the system being upgraded, UPGRMEM1.

```
DIRECT DELENTY SUBCONFIG DHCPD UPGRMEM1
```

Manual Instructions: Following your site's normal procedures to update the user directory, delete the USER, IDENTITY, or SUBCONFIG definition specified in the \$STAGE2\$ \$TABLE\$ entry, as follows:

USER Delete the entire USER definition.

IDENTITY

Delete the IDENTITY definition. All SUBCONFIG definitions associated with this IDENTITY definition should have already been deleted.

SUBCONFIG

Delete the SUBCONFIG definition that is associated with this member. Also, delete the BUILD ON statement in the IDENTITY definition that refers to this SUBCONFIG.

1. Determine the name of the SUBCONFIG to be deleted by examining the BUILD ON statement for system you are upgrading in the IDENTITY specified on the \$STAGE2\$ \$TABLE\$ entry. In this example:

```
BUILD ON UPGRMEM1 USING SUBCONFIG DHCPD-1
```

The name of the SUBCONFIG is DHCPD-1.

2. Follow your site's normal process to delete the named SUBCONFIG.
3. If you edit your user directory directly, put the new version of the directory online:

```
DIRECTXA USER DIRECT
```

If you use a directory manager product, ensure that the directory manager puts the updated information online immediately.

- 4** The DIRECT DELRELLINK keywords update the user directory to delete a link statement from an existing directory entry (USER, IDENTITY or SUBCONFIG).

Syntax:

```
DIRECT DELRELLINK USER|IDENTITY|SUBCONFIG username|identname linkstatement
```

Example: Delete the link statement, in this example, LINK MAINT630 201 201 RR, from the directory entry for the SUBCONFIG for IDENTITY MAINT that is associated with the system being upgraded:

```
DIRECT DELRELLINK SUBCONFIG MAINT LINK MAINT620 201 201 RR
```

Manual Instructions: Using your site's procedures to update the user directory, delete the link statement shown from the SUBCONFIG for MAINT that is built on the system being upgraded.

1. Determine the name of the SUBCONFIG for this system by examining the BUILD ON statement for the system you are upgrading in the IDENTITY entry in the USER DIRECT file for MAINT:

```
BUILD ON * | systemname USING SUBCONFIG MAINT-1
```

In this example, MAINT-1 is the name of the SUBCONFIG.

2. Delete the LINK statement that was included on the entry in the \$STAGE1\$ \$TABLE\$ to the SUBCONFIG entry for MAINT-1:

```
LINK MAINT620 201 201 RR
```

3. If you edit your user directory directly, put the new version of the directory online:

```
DIRECTX USER DIRECT
```

If you use a directory manager product, ensure that the directory manager puts the updated information online immediately.

5

The DIRECT MOVEMDISK keywords update the user directory to move an existing minidisk from its current location to a new location. MOVEDISK COPY indicates that the data on the current disk should be copied to the disk at its new location. MOVEDISK NOCOPY indicates that the disk should be defined at the new location specified on the \$STAGE2\$ \$TABLE\$ entry, but no data from the current disk should be copied to the new location.

Syntax:

```
DIRECT MOVEMDISK COPY|NOCOPY idtype userid membername mdiskstmtdata
```

Example: Move the 191 minidisk owned by user 6VMHCD20 to a new location specified as cylinder 1958 for a length of 50 on the volume labeled UGCOM2. The data from the existing minidisk should be copied to the new minidisk location:

```
DIRECT MOVEMDISK COPY USER 6VMHCD20 UPGRMEM1 191 3390 1958 050 UGCOM2
```

Manual Instructions: Following your site's normal procedures to update the user directory, move the minidisk listed from its current location to the location defined in the DIRECT MOVEMDISK entry. If COPY is specified on the MOVEMDISK entry, transfer all data to the new location.

6

The MIGDISK COPY keywords use the VMFCOPY command to copy files for the specified product ID from the source location to the target location on the system being upgraded.

Syntax:

```
MIGDISK COPY {fname ftype|* *} targetlinktype targetprodid targettype targetuid targetaddr  
sourcelinktype sourceprodid sourcectype sourceuid sourceaddr EXCL|NOEXCL
```

fname ftype|* *

When *fname ftype* is * *, use VMFCOPY to copy all files on *sourceuid sourceaddr* that are associated with the *sourceprodid* to *targetuid targetaddr*, associating them with *sourceprodid*.

\$STAGE2\$ \$TABLE\$ entry definitions

When *fname ftype* is a filename and filetype, the named file will be found on the MIGMAINT 2CF0 disk. Use VMFCOPY to copy only the files listed in *fname ftype* from *sourceuid sourceaddr* that are associated with the *sourceprodid* to *targetuid targetaddr*, associating them with *sourceprodid*.

targetlinktype

Method used to access the location where the files will be copied. LINK is specified if the target location is a minidisk, accessed using the LINK and ACCESS commands. ACCDIR is specified if the target location is an SFS directory which is just accessed with the ACCESS command. MDISK is specified if the target location is located on a work system volume that must be accessed using the DEFINE MDISK command.

targetprodid

For the MIGDISK COPY keywords, this field should be ignored. Only the *sourceprodid* is used.

targettype

USER, IDENTITY, or SUBCONFIG.

targetuid

User ID that owns the target location. If the files will be copied to an SFS directory the value of this field is "DIR".

targetaddr

Minidisk or SFS directory where the files will be copied.

sourcelinktype

Method used to access the source location of the files to be copied. LINK is specified if the source location is a minidisk, accessed using the LINK and ACCESS commands. ACCDIR is specified if the source location is an SFS directory which is just accessed with the ACCESS command. MDISK is specified if the source location is located on a work system volume that must be accessed using the DEFINE MDISK command.

sourceprodid

The VMSES/E prodid that is associated with the files to be copied.

sourcetype

USER, IDENTITY, or SUBCONFIG.

sourceuid

User ID that owns the source location. If the files to be copied are in an SFS directory the value of this field is "DIR".

sourceaddr

Minidisk or SFS directory that contains the files to be copied.

EXCL|NOEXCL

This field should be ignored.

Example 1, when *fname ftype* is * *:

```
MIGDISK COPY * * LINK 6VMPTK20%PERFTK IDENTITY PERFSVM 201 ACCDIR 6VMPTK30%PERFTK USER DIR
VMPSFS:6VMPTK30.PERFTK.TBUILD NOEXCL
```

Example 2, when *fname ftype* is a file, 6VMCMS30 6493CMS, on the MIGMAINT 2CF0 disk:

```
MIGDISK COPY 6VMCMS30 C493CMS LINK 6VMCMS20%CMS IDENTITY MAINT 193 LINK 6VMCMS30%CMS USER
MAINT630 493 EXCL
```

Manual Instructions:

1. Access the source location.

If the *sourcelinktype* is LINK, link and access the *sourceuid sourceaddr*.

If the *sourcelinktype* is ACCDIR, access the SFS directory specified. In Example 2:

```
ACCESS VMPSFS:6VMPTK30.PERFTK.TBUILD G
```

If the *sourcelinktype* is MDISK, the disk must be defined issuing the DEFINE MDISK command, as follows:

- a. Locate the minidisk statement in the work directory file (INSTUPGR \$USERDIR) located on the MIGMAINT 2CF0 disk for the *sourceuid* and *sourceaddr* in the \$STAGE2\$ \$TABLE\$ entry. If the *sourcetype* is SUBCONFIG, locate the minidisk statement contained in the SUBCONFIG that corresponds to the system being upgraded.
- b. Note the start location, size, and volume label. For example, if the MDISK statement for the MAINT 491 disk looks like this:

```
MDISK 491 3390 3298 030 IBMCM1 MR
```

the start location for the 491 disk is 3298, the size is 30, and the volume label is IBMCM1.

- c. Attach the address associated with the noted volume label (refer to Table 21 on page 212 or Table 22 on page 213 for addresses and volume labels) to your current system. In this example, if the address for the volume with label IBMCM1 is C11:

```
ATTACH C11 TO SYSTEM
```

- d. Issue the DEFINE MDISK command for the *sourceaddr*:

```
DEFINE MDISK linkaddr start size vollabel
```

In this example:

```
DEFINE MDISK 1491 3298 30 IBMCM1
```

- e. Access the MDISK defined for *sourceaddr*:

```
ACCESS linkaddr fm
```

In this example:

```
ACCESS 1491 H
```

2. Access the target location in write mode.

If the *targetlinktype* is LINK, link and access *targetuid targetaddr* with *linkmode* of WR. In Example 1:

```
LINK PERFSVM 201 1201 WR
ACCESS 1201 H
```

If the *targetlinktype* is ACCDIR, access the SFS directory specified, specifying the option FORCERW on the ACCESS command. For example:

```
ACCESS dirname fm (FORCERW)
```

If the *targetlinktype* is MDISK, the disk must be defined issuing the DEFINE MDISK command, as follows:

- a. Locate the minidisk statement in the work directory file (INSTUPGR \$USERDIR) located on the MIGMAINT 2CF0 disk for the *targetuid* and *targetaddr* in the \$STAGE2\$ \$TABLE\$ entry. If the *sourcetype* is SUBCONFIG, locate the minidisk statement contained in the SUBCONFIG that corresponds to the system being upgraded.

\$STAGE2\$ \$TABLE\$ entry definitions

- b. Note the start location, size, and volume label. For example, if the MDISK statement for the MAINT 190 disk looks like this:

```
MDISK 190 3390 280 214 IBMRES
```

the start location for the 190 disk is 280, the size is 214, and the volume label is IBMRES.

- c. Attach the address associated with the noted volume label (refer to Table 21 on page 212 or Table 22 on page 213 for addresses and volume labels) to your current system. In this example, if the address for the volume with label IBMRES is C10:

```
ATTACH C10 TO SYSTEM
```

- d. Issue the DEFINE MDISK command:

```
DEFINE MDISK linkaddr start size vollabel
```

In this example:

```
DEFINE MDISK 2190 280 214 IBMRES
```

- e. Access the MDISK defined for *targetaddr*:

```
ACCESS linkaddr fm
```

In this example:

```
ACCESS 2190 H
```

3. Issue the VMFCOPY command to copy the files from the *sourceaddr* to the *targetaddr*.

When *fname ftype* is * *, use the VMFCOPY command to copy all the files in the VMSES PARTCAT for *targetprodid* on *sourceaddr* to *targetaddr*:

```
VMFCOPY * * sourcefm = = targetfm ( PRODID sourceprodid  
SPRODID sourceprodid OLDDATE REPLACE
```

In Example 1:

```
VMFCOPY * * G = = H ( PRODID 6VMPTK30%PERFTK SPRODID 6VMPTK30%PERFTK OLDDATE REPLACE
```

Note: If the target disk is MAINT's 402 disk, add the UPCASE operand to the end of the VMFCOPY command.

When *fname ftype* is a file on the MIGMAINT 2CF0 disk, use the VMFCOPY command to copy only the files listed in the file *fname ftype*. Issue the following command for each entry in the named file:

```
VMFCOPY entryfilename entryfiletype sourcefm = = targetfm  
( PRODID sourceprodid SPRODID sourceprodid OLDDATE REPLACE
```

In Example 2, for each *filename filetype* entry in file 6VMCMS30 C493CMS, enter the following command:

```
VMFCOPY filename filetype G = = H ( PRODID 6VMCMS30%CMS SPRODID  
6VMCMS30%CMS (OLDDATE REPLACE
```

Note: If the target disk is MAINT's 402 disk, add the UPCASE operand to the end of the VMFCOPY command.

7

The MIGDISK ERASE keywords use the VMFERASE command to erase files for the specified product ID from the target location.

Syntax:

```
MIGDISK ERASE {fname ftype|* *} targetlinktype targettype targetuid
               targetaddr targetprodid EXCL|NOEXCL
```

fname ftype| **

When *fname ftype* is ** **, use VMFERASE to erase all files from the *targetuid targetaddr* that are associated with *targetprodid*.

When *fname ftype* is a filename and filetype, the named file will be found on the MIGMAINT 2CF0 disk. Use VMFERASE to erase only the files listed in *fname ftype* from the *targetuid targetaddr* that are associated with *targetprodid*.

targetlinktype

Method used to access the location from which the files will be erased. LINK is specified if the target location is a minidisk, accessed using the LINK and ACCESS commands. ACCDIR is specified if the target location is an SFS directory which is just accessed with the ACCESS command. MDISK is specified if the target location is located on a work system volume that must be accessed using the DEFINE MDISK command.

targettype

USER, IDENTITY, or SUBCONFIG.

targetuid

User ID that owns the target location. If the files will be erased from an SFS directory the value of this field is "DIR".

targetaddr

Minidisk or SFS directory from which the files will be erased.

targetprodid

The VMSES/E prodid that is associated with the files to be erased.

EXCL|NOEXCL

This field should be ignored.

Example 1, when *fname ftype* is ** **:

```
MIGDISK ERASE * * LINK IDENTITY PERFSVM 201 6VMPTK30%PERFTK NOEXCL
```

Example 2, when *fname ftype* is a file on the MIGMAINT 2CF0 disk, in this example 6VMCMS30 E490CMS:

```
MIGDISK ERASE 6VMCMS30 E490CMS MDISK IDENTITY MAINT 190 6VMCMS30%CMS EXCL
```

Manual Instructions:

1. Access the target location in write mode.

If the *targetlinktype* is LINK, link and access *targetuid targetaddr* with *linkmode* of WR. In Example 1:

\$STAGE2\$ \$TABLE\$ entry definitions

```
LINK PERFSVM 201 1201 WR
ACCESS 1201 H
```

If the *targetlinktype* is ACCDIR, access the SFS directory specified, specifying the option FORCERW on the ACCESS command. For example:

```
ACCESS dirname fm (FORCERW)
```

If the *targetlinktype* is MDISK, the disk must be defined issuing the DEFINE MDISK command, as follows:

- a. Locate the minidisk statement in the work directory file (INSTUPGR \$USERDIR) located on the MIGMAINT 2CF0 disk for the *targetuid* and *targetaddr* in the \$STAGE2\$ \$TABLE\$ entry. If the *sourcetype* is SUBCONFIG, locate the minidisk statement contained in the SUBCONFIG that corresponds to the system being upgraded.
- b. Note the start location, size, and volume label. For example, if the MDISK statement for the MAINT 190 disk looks like this:

```
MDISK 190 3390 280 214 IBMRES
```

the start location for the 190 disk is 280, the size is 214, and the volume label is IBMRES.

- c. Attach the address associated with the noted volume label (refer to Table 21 on page 212 or Table 22 on page 213 for addresses and volume labels) to your current system. In this example, if the address for the volume with label IBMRES is C10:

```
ATTACH C10 TO SYSTEM
```

- d. Issue the DEFINE MDISK command:

```
DEFINE MDISK linkaddr start size vollabel
```

In this example:

```
DEFINE MDISK 2190 280 214 IBMRES
```

- e. Access the MDISK defined for *targetaddr*:

```
ACCESS linkaddr fm
```

In this example:

```
ACCESS 2190 H
```

2. Issue the VMFERASE command to erase the files from the *targetaddr*.

When *fname ftype* is * *, use VMFERASE to erase all the files in the VMSES PARTCAT for *targetprodid* on *targetaddr*:

```
VMFERASE PROD targetprodid FROM targetfm
```

In Example 1:

```
VMFERASE PROD 6VMPTK30%PERFTK FROM H
```

When *fname ftype* is a file on the MIGMAINT 2CF0 disk, use the, use VMFERASE to erase only the files listed in the file *fname ftype*. Issue the following command for each entry in the named file:

```
VMFERASE FILE filename filetype targetfm
```


In Example 2, for each *filename filetype* entry in file 6VMCMS30 E490CMS, enter the following command:

```
VMFERASE FILE filename filetype H
```

8

The PARTNOTIFY keyword writes a message to the *systemname* \$WRNFILE file on the MIGMAINT 2CF0 disk that needs to be addressed after the upgrade is complete.

Syntax:

```
PARTNOTIFY msgnumber formatnumber substitutiondata
```

Example:

```
PARTNOTIFY 8555 1 MPROUTE SCF++002 , 6VMTCP20 491 , MPROUTE SCONFIG
```

Manual Instructions: Make a note of the messages specified by the PARTNOTIFY keyword and refer to *z/VM: CP Messages and Codes* for explanations of the messages. The actions indicated by these messages should be addressed after the upgrade is complete.

9

The SESCMD keyword issues the command specified after the *keyword*.

Syntax:

```
SESCMD keyword sescommand
```

Example:

```
SESCMD FINSBLD VMFINS BUILD PPF SERVP2P REXX (SERVICED LINK
```

Manual Instructions: Ignore the value specified in *keyword* and issue the command specified in *sescommand*. In this example:

```
VMFINS BUILD PPF SERVP2P REXX (SERVICED LINK
```

10

The SESMOVE COPY keywords use the VMFCOPY command to copy a file from the MIGMAINT 2CF0 disk to the PMAINT 550 OR 551 disk.

Syntax:

```
SESMOVE COPY prodid targetfname targetftype LINK USER PMAINT 550|551  
              sourcefnamesourceftype LINK IDENTITY MIGMAINT 2CF0
```

Example: Use the VMFCOPY command to copy the file CPFMTXA EXEC from the MIGMAINT 2CF0 disk to the file CPFMTXA EXEC on the PMAINT 551 disk, associating the file with *prodid* 6VMCPR30%CP:

```
SESMOVE COPY 6VMCPR30%CP CPFMTXA EXEC LINK USER PMAINT 551  
              CPFMTXA EXEC LINK IDENTITY MIGMAINT 2CF0
```

Manual Instructions:

1. Link and access the PMAINT 550 or 551 disk in write mode. In this example:

\$STAGE2\$ \$TABLE\$ entry definitions

```
LINK PMAINT 551 551 WR
ACCESS 551 H
```

2. Link and access the MIGMAINT 2CF0 disk. In this example:

```
LINK MIGMAINT 2CF0 2CF0 MR
ACCESS 2CF0 G
```

3. Issue the VMFCOPY command:

```
VMFCOPY sourcefname sourceftype fm_2CF0 targetfname targetftype fm_550|fm_551
( PRODID sourceprodid OLDDATE REPLACE
```

In this example:

```
VMFCOPY CPFMTXA EXEC G CPFMTXA EXEC H ( PRODID 6VMCPR30%CP OLDDATE REPLACE
```

-
- 11** The SESMOVE ERASE keywords use the VMFERASE command to erase a file from the PMAINT 550 or 551 disk.

Syntax:

```
SESMOVE ERASE fname ftype LINK USER PMAINT 550|551
```

Example: User the VMFERASE command to erase the file CPFMTXA EXEC from the PMAINT 551 disk:

```
SESMOVE ERASE CPFMTXA EXEC LINK USER PMAINT 551
```

Manual Instructions:

1. Link and access PMAINT's 550 or 551 disk in write mode. In this example:

```
LINK PMAINT 551 551 WR
ACCESS 551 G
```

2. Issue the VMFERASE command:

```
VMFERASE FILE fname ftype fm_550|fm_551
```

In this example:

```
VMFERASE FILE CPFMTXA EXEC G
```

Appendix P. Removing changes made by STAGE1 (optional)

This appendix provides instructions on how to undo any changes that have been made to your current system during STAGE1 of the upgrade installation procedure.

Step 1. Choose your backout option

If you used the INSTUPGR command with the COMMIT option to make changes to your system, a file named \$BACKOUT \$TABLE\$ was created. This file contains entries that will undo the changes made by the INSTUPGR command. If you made some or all of the STAGE1 changes manually, you should have documented those changes and you must remove those changes yourself.

If you made all or some changes to your system using the INSTUPGR command, go to “Step 2. Undo STAGE1 changes using INSTUPGR” on page 360.

If you made all the STAGE1 changes to your system yourself, go to “Step 3. Undo STAGE1 changes manually” on page 361.

Step 2. Undo STAGE1 changes using INSTUPGR

1. Log on to the MIGMAINT user ID on the system being upgraded. Make sure the user ID meets the MIGMAINT user ID requirements.
2. Access the 24CC minidisk as file mode C.

```
access 24cc c
Ready; T=n.nn/n.nn hh:mm:ss
```

3. Run INSTUPGR to undo the changes made by INSTUPGR STAGE1 (COMMIT).

```
instupgr stage1 (backout
* Now processing $BACKOUT $TABLE$ E. File is processed from the
* last record to the first to assure proper backout.
Now processing line nnn of nnn
Now processing line nnn of nnn
:
IUGUPG8392I INSTUPGR ended successfully
Ready; T=n.nn/n.nn hh:mm:ssReady; T=n.nn/n.nn hh:mm:ss
```

4. If any error conditions occur, review the error messages in file INSTUPGR \$CONSLOG on the MIGMAINT 2CF0 minidisk (accessed as filemode E) and correct the condition that is causing the error. Then return to substep 3.
5. If you also made changes to your system manually, refer to the backout document that you created to manually undo your changes. Remember that the order in which you made the \$STAGE1\$ updates is the reverse order in which the updates should be removed.
6. Log off the MIGMAINT user ID.

If you undid the STAGE1 changes to your system because you need to correct errors, correct the errors now and then return to Chapter 23, "Generate the STAGE1 changes file," on page 241. If you are not continuing with the upgrade installation at this time, IBM recommends that you log back on to MIGMAINT and erase all of the files on the MIGMAINT 24CC and the 2CF0 disks. This will prevent accidental use of out-of-date information should you decide to use the upgrade installation procedure later. You may return the volumes you used to install the work system to your DASD pool. If you decide later to use the upgrade installation procedure for this system, you should start over again, at the beginning of Part 5, "Upgrade installation," on page 197.

Step 3. Undo STAGE1 changes manually

1. Log on to the MIGMAINT user ID on the system being upgraded. Make sure the user ID meets the MIGMAINT user ID requirements.
2. Refer to the backout documentation you created while making the STAGE2 updates manually to undo your changes.
3. Access the 24CC minidisk as file mode C.

```
access 24cc c
Ready; T=n.nn/n.nn hh:mm:ss
```

4. Once all the changes are complete, run the INSTUPGR command to update the appropriate status tables so that you can restart your upgrade installation when you are ready.

```
instupgr stage1 (backout done
IUGUPG8392I INSTUPGR ended successfully
Ready; T=n.nn/n.nn hh:mm:ss
```

5. Log off the MIGMAINT user ID.

If you undid the STAGE1 changes to your system because you need to correct errors, correct the errors now and then return to Chapter 23, “Generate the STAGE1 changes file,” on page 241. If you are not continuing with the upgrade installation at this time, IBM recommends that you log back on to MIGMAINT and erase all of the files on the MIGMAINT 24CC and the 2CF0 disks. This will prevent accidental use of out-of-date information should you decide to use the upgrade installation procedure later. You may return the volumes you used to install the work system to your DASD pool. If you decide later to use the upgrade installation procedure for this system, you should start over again, at the beginning of Part 5, “Upgrade installation,” on page 197.

Appendix Q. UPGDMIXT EXEC, the upgrade installation directory manager exit

The UPGDMIXT EXEC is a directory manager exit provided by a directory manager product to allow upgrade installation processing to use the directory manager functions. Upgrade installation processing will call the exit with the defined syntax. The exit will then invoke the directory manager commands and return the appropriate return code to the calling program.

An exit that is coded for a release of z/VM will need to be made available to run on any release of z/VM that can be upgraded. For example, at this time, an exit coded for V6.3 will need to run only on V6.2. The next release of the exit exec will have to be made available on V6.2 and V6.3. The exit will need to incorporate release and version information (as discussed below) to allow verification that it is compatible with the level of z/VM to which an upgrade is being performed.

If updates are necessary for the directory manager to operate with a newer level of z/VM, a customer will first need to upgrade the directory manager to the required level (by applying any necessary service updates, or installation of a new level) before the customer can upgrade the system.

The UPGDMIXT EXEC needs to be installed on the MAINT 19E disk.

Requirements

1. File modes C and E are reserved for z/VM installation use.
2. The exit must contain a version indicator in the format *vrn.nn*, where: *vrn* is a z/VM version, release and modification level (for instance 630), and *nn* is an exit version number (for example, 01). The installation upgrade utilities will make an initial call to the exit to confirm that the exit version indicator is suitable for use with the current system upgrade.
3. For a given release of z/VM, the exit must run in all prior releases of z/VM that can be upgraded to the given release using the upgrade installation process.
4. If a failure occurs while performing the function requested by the installation upgrade utilities, the exit will need to:
 - Roll back any changes that had been made during a given function request. For example, if the exit must issue multiple commands to complete a requested function and several of those commands are completed prior to a command failure, then the exit will need to roll back the completed commands before returning control to the installation upgrade utilities.
 - Return one of the defined failure codes to the calling installation upgrade utility.
5. The exit must generate a log file named UPGDMIXT \$LOGFILE E (the appropriate disk will have been accessed by the installation upgrade utilities prior to any exit calls). It should be appended with information appropriate for each invocation of the exit.

At a minimum, the \$LOGFILE should include the following:

 - Name of the calling exec
 - A date/time stamp
 - The function request made by the calling exec
 - Actual command(s) issued to complete the request
 - Successful or failed status
 - If necessary, pointers to additional data or logs (such as server-base logs)
6. The exit will be able to use the A-disk for work space. It will need to clean up any files created on the A-disk before returning control to the calling installation upgrade utility.
7. Whenever possible, the exit should suppress output to the user's console.

Syntax of the call to the exit

The exit is called with a parameter list containing four tokens and a data stem, as follows:

token1

The name of the program calling the exit.

token2

A keyword.

token3

The exit interface data stem variable name (*stem_name*).

token4

An integer value that indicates the number of records loaded into the exit interface data stem.

The data stem is a REXX stem variable. The records that make up the data stem are as follows:

stem_name.0

The number of records loaded into the data stem. This value can be compared to **token4** to confirm the correct/expected number of records have been acquired.

stem_name.1

Keyword.

stem_name.2

Object type.

stem_name.3

Object modifier.

stem_name.4

Action.

stem_name.5-*n*

Data records.

Example of a call to the exit:

```
"PIPE COMMAND EXEC UPGDMIXT" pgm_name keyword stem_name count
```

Contents of the exit interface data stem

The exit interface data stem will contain at least one record. Records 2-*n* are optional, depending on the function to be performed by the exit.

Record 1: Keyword (Required)

Valid keywords:

- SETUP
- VERIFY
- CLEANUP
- ENTRY
- LINK
- MDISK
- VSTOR
- PRIV
- OPTION
- IUCV
- COMMAND
- IPL
- LOADDEV

- NAMESAVE

Record 2: Object type (Optional)

Valid object types:

- USER
- IDENTITY
- SUBCONFIG
- PROFILE
- VERSION

Record 3: Object modifier (Optional)

Valid object modifiers:

- If the object type is VERSION, the exit version indicator (*vrn.nn*).
- If the object type is SUBCONFIG, the name of the subconfig, node, and identity (*subname node identname*).
- Otherwise, the name of the affected object type (*name*). The name can be any valid name for an object type, as defined by the CP user directory

Record 4: Action (Optional)

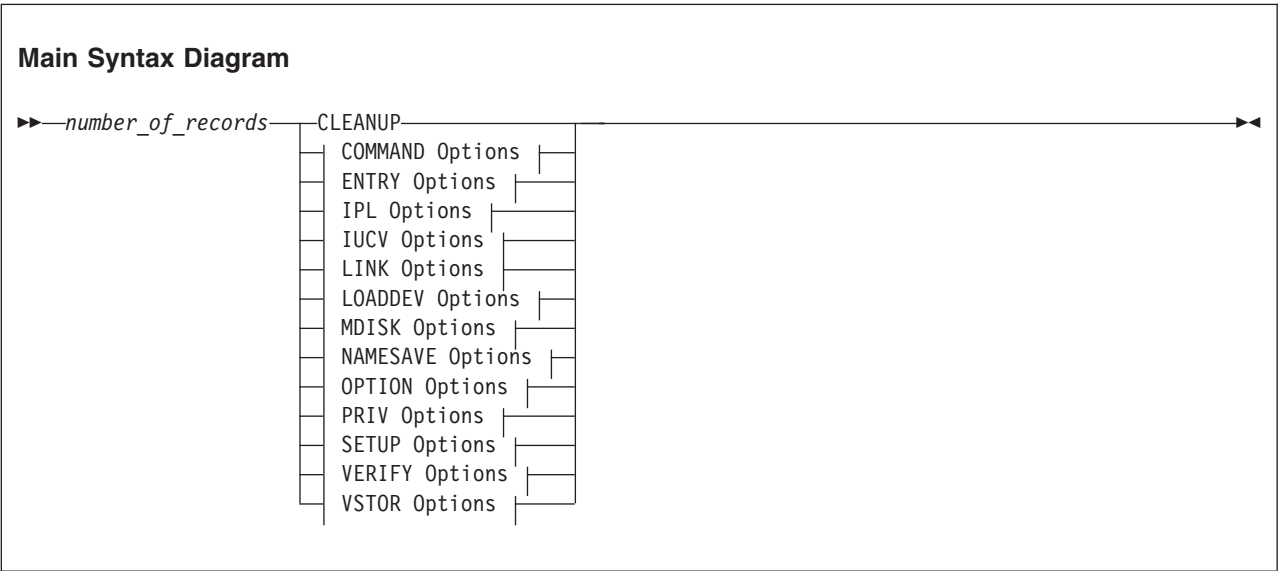
Valid actions:

- ADD
- DELETE
- REPLACE
- COPY

Records 5-*n*: Data (Optional)

The data necessary to perform a given function. The data will vary based on the action/object being manipulated.

Exit interface data stem options



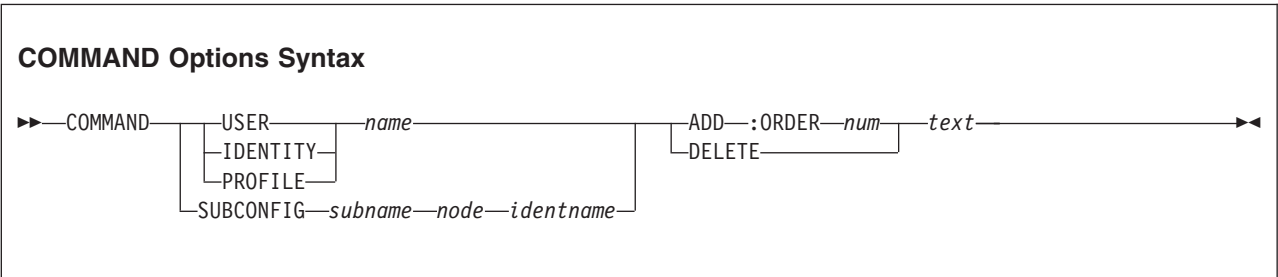
CLEANUP

Use the CLEANUP options to clean up directory manager environment and files left on the work (A) disk.

It is anticipated that only one CLEANUP call will be made to an exit, during a given processing stage. Cleanup processing can be used to restore/undo SETUP environment changes made for handling directory change requests. There are no arguments for this keyword.

COMMAND

Use the COMMAND options to either add a new COMMAND statement or delete an existing COMMAND statement.



where:

name

is the user, identity, or profile name.

subname

is the subconfig name. If the subconfig name is UNKNOWNSUB, the name must be determined from the *node* and *identname*.

node

is the name of the member that owns the subconfig, if running in an SSI, or an asterisk (*), if running on a non-SSI (only valid with SUBCONFIG object type).

identname

is the name of the IDENTITY for the subconfig (only valid for SUBCONFIG object type).

:ORDER

indicates the ordinal value of the command follows (ADD only).

num

is the ordinal placement of the COMMAND statement (ADD only).

text

is the information to be appended to the keyword "COMMAND" to derive the statement to be added to or deleted from the directory.

Notes:

1. Only one command statement can be added or deleted at a time.
2. A new statement must be created for each command. Statements cannot be added to existing COMMAND statements.
3. The statement will be inserted as the *num*th COMMAND statement in the directory entity.
4. If there are no COMMAND statements in the directory entity, this statement will be added as the first COMMAND statement.
5. If *num* is larger than the number of COMMAND statements in the directory entity, this statement will be added following the last COMMAND statement.

Examples:

```
COMMAND USER pmaint ADD :ORDER 1 SET RUN ON
COMMAND IDENTITY zvmixapp ADD :ORDER 9 SET D8ONECMD * OFF
COMMAND PROFILE tcpmsu ADD :ORDER 3 SET RUN ON
COMMAND SUBCONFIG lohcos-1 ADD memb2 lohcost :ORDER 4 TERM LINEND #
COMMAND USER pmaint DELETE SET RUN ON
COMMAND PROFILE ibmdflt DELETE SPOOL CONS START *
COMMAND IDENTITY zvmixapp DELETE SET D8ONECMD * OFF
COMMAND SUBCONFIG UNKNOWNSUB DELETE memb2 vmservr SET RUN ON
```

ENTRY

Use the ENTRY options to either add a new USER, IDENTITY, or SUBCONFIG, exactly as defined, or delete an existing USER, IDENTITY, or SUBCONFIG.

This call is used to add a predefined directory entry to the customer's user directory. The records passed on the call contain the exact directory entry that should be added. No changes should be made to the records. If there are MDISK statements in the file, add the MDISK statements just as they are.

ENTRY Options Syntax



where:

UPGDMIXT EXEC, the upgrade installation directory manager exit

name

is the user or identity name.

subname

is the subconfig name. If the subconfig name is UNKNOWNSUB, the name must be determined from the *node* and *identname*.

node

is the name of the member that owns the subconfig, if running in an SSI, or an asterisk (*), if running on a non-SSI (only valid with SUBCONFIG object type).

identname

is the name of the IDENTITY for the subconfig (only valid for SUBCONFIG object type).

direntry

is the complete directory entry to be added (ADD only).

Notes:

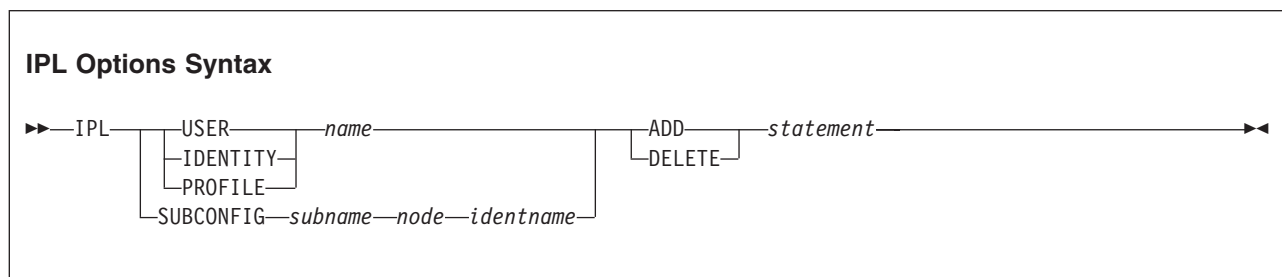
1. For IDENTITY:
 - a. When adding, the BUILD ON statement will not be included in the definition.
 - b. When deleting, an IDENTITY with a SUBCONFIG will never be deleted. The SUBCONFIG will always be deleted first.
2. For SUBCONFIG:
 - a. When adding, the BUILD ON statement will be added to the IDENTITY when the SUBCONFIG is defined.
 - b. When deleting, the BUILD ON statement will be removed from the IDENTITY when the SUBCONFIG is deleted.

Examples:

```
ENTRY USER MAINT630 ADD direntry
ENTRY IDENTITY OPERNEW ADD direntry
ENTRY SUBCONFIG OPER-2 ADD MEMB2 OPERNEW direntry
ENTRY USER MAINT630 DELETE
ENTRY IDENTITY OPERNEW DELETE
ENTRY SUBCONFIG OPER-2 DELETE MEMB2 OPERATOR
ENTRY SUBCONFIG UNKNOWNSUB DELETE MEMB2 SERVERW
```

IPL

Use the IPL options to add a new IPL control statement or delete an existing IPL control statement.



where:

name

is the user, identity, or profile name.

subname
is the subconfig name. If the subconfig name is UNKNOWNSUB, the name must be determined from the *node* and *identname*.

node
is the name of the member that owns the subconfig, if running in an SSI, or an asterisk (*), if running on a non-SSI (only valid with SUBCONFIG object type).

identname
is the name of the IDENTITY for the subconfig (only valid for SUBCONFIG object type).

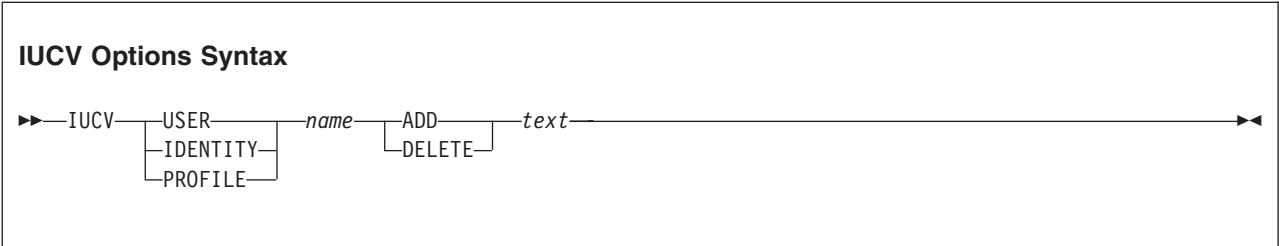
statement
is the IPL COMMAND statement to be added or deleted.

Examples:

```
IPL SUBCONFIG lohcos-1 ADD memb2 lohcost IPL 190
IPL SUBCONFIG UNKNOWNSUB ADD memb2 lohcost IPL CMS
IPL USER pmaint ADD IPL 190 PARM AUTOOCR
IPL IDENTITY avsvm ADD IPL CMS PARM AUTOOCR
IPL PROFILE ibmdflt ADD IPL CMS
IPL SUBCONFIG lohcos-1 DELETE memb2 lohcost IPL 190
IPL SUBCONFIG UNKNOWNSUB DELETE memb2 lohcost IPL CMS
IPL USER pmaint DELETE IPL 190 PARM AUTOOCR
IPL IDENTITY avsvm DELETE IPL CMS PARM AUTOOCR
IPL PROFILE ibmdflt DELETE IPL CMS
```

IUCV

Use the IUCV options to add a new IUCV statement or delete an existing IUCV statement.



where:

name
is the user, identity or profile name.

text
is the information to be appended to the keyword “IUCV” to derive the statement to be added to or deleted from the directory.

- Notes:**
1. Only one IUCV statement can be added or deleted at a time.
 2. When adding, a new IUCV statement must be created. The new information cannot be added to an existing statement.

Examples:

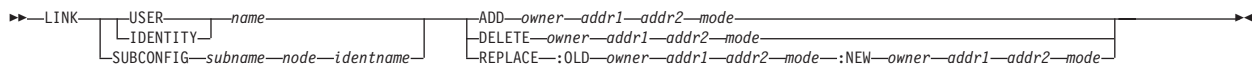
UPGDMIXT EXEC, the upgrade installation directory manager exit

```
IUCV USER pmaint ADD *IDENT GATEANY GATEWAY REVOKE
IUCV IDENTITY avsvm ADD *MSG
IUCV PROFILE tcpcmsu ADD ALLOW
IUCV IDENTITY avsvm DELETE *IDENT GATEANY GATEWAY REVOKE
IUCV USER pmaint DELETE *MSG
IUCV PROFILE tcpcmsu DELETE ALLOW
```

LINK

Use the LINK options to add, delete, or replace a LINK statement.

LINK Options Syntax



where:

name

is the user or identity name.

subname

is the subconfig name. If the subconfig name is UNKNOWNSUB, the name must be determined from the *node* and *identname*.

node

is the name of the member that owns the subconfig, if running in an SSI, or an asterisk (*), if running on a non-SSI (only valid with SUBCONFIG object type).

identname

is the name of the IDENTITY for the subconfig (only valid for SUBCONFIG object type).

owner

is the user whose disk will be linked (for ADD), or whose disk is currently being linked (for DELETE or REPLACE).

addr1

is the disk that will be linked (for ADD), or is currently being linked (for DELETE or REPLACE).

addr2

is the address at which the disk will be linked (for ADD), or is currently being linked (for DELETE or REPLACE).

mode

is the link mode to be used (for ADD), or is the current link mode (for DELETE or REPLACE).

:OLD

indicates the start of the information to be replaced (REPLACE only).

:NEW

indicates the start of the replacement information (REPLACE only).

naddr2

is the new address at which the disk will be linked (REPLACE only).

nmode

is the new link mode to be used (REPLACE only).

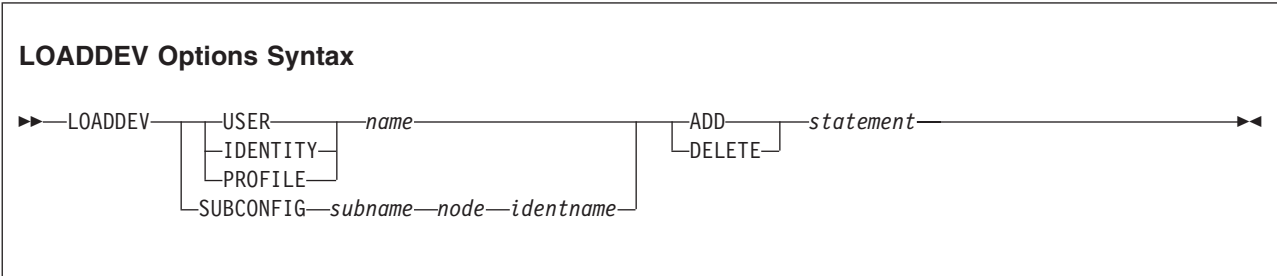
Note: The *owner* and *addr1* cannot change in a LINK REPLACE statement. Only the *addr2* and *mode* can be changed (to *naddr2* and *nmode*).

Examples:

```
LINK USER cms1 ADD pmaint 2cc 2cc wr
LINK SUBCONFIG maint-3 ADD memb2 maint maint630 201 201 rr
LINK SUBCONFIG UNKNOWNSUB ADD memb2 maint maint630 201 201 rr
LINK USER bldcms DELETE maint 407 407 rr
LINK SUBCONFIG maint-3 DELETE memb2 maint maint620 201 201 rr
LINK SUBCONFIG UNKNOWNSUB DELETE memb2 maint maint620 201 201 rr
LINK USER bldcms REPLACE OLD maint 407 407 rr :NEW maint 407 409 rr
LINK SUBCONFIG maint-3 REPLACE memb2 maint :OLD maint620 201 201 rr
:NEW maint620 201 201 wr
LINK SUBCONFIG UNKNOWNSUB REPLACE memb2 maint :OLD maint620 201 201 rr
:NEW maint620 201 199 rr
```

LOADDEV

Use the LOADDEV options to add a new LOADDEV control statement or delete an existing LOADDEV control statement.



where:

name
is the user, identity, or profile name.

subname
is the subconfig name. If the subconfig name is UNKNOWNSUB, the name must be determined from the *node* and *identname*.

node
is the name of the member that owns the subconfig, if running in an SSI, or an asterisk (*), if running on a non-SSI (only valid with SUBCONFIG object type).

identname
is the name of the IDENTITY for the subconfig (only valid for SUBCONFIG object type).

statement
is the LOADDEV control statement to be added or deleted.

Examples:

UPGDMIXT EXEC, the upgrade installation directory manager exit

```
LOADDEV SUBCONFIG lohcos-1 ADD memb2 lohcost LOADDEV PORT 0
LOADDEV SUBCONFIG UNKNOWNSUB ADD memb2 lohcost LOADDEV BOOT 0
LOADDEV USER pmaint ADD LOADDEV LUN 0
LOADDEV IDENTITY zvmixapp ADD LOADDEV SCPDATA 'text'
LOADDEV PROFILE ibmdflt ADD LOADDEV BR_LBA 0600
LOADDEV SUBCONFIG lohcos-1 DELETE memb2 lohcost LOADDEV PORT 0
LOADDEV SUBCONFIG UNKNOWNSUB DELETE memb2 lohcost LOADDEV BOOT 0
LOADDEV USER pmaint DELETE LOADDEV LUN 0
LOADDEV IDENTITY zvmixapp DELETE LOADDEV SCPDATA 'text'
LOADDEV PROFILE ibmdflt DELETE LOADDEV BR_LBA 0600
```

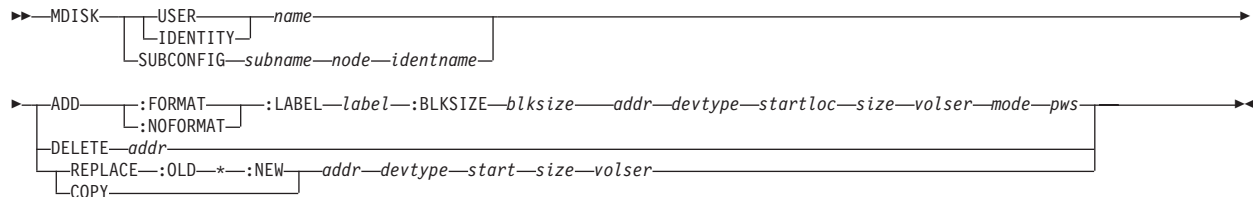
Note: In the above examples, *text* could be anything up to 4096 (4K) characters of data.

MDISK

Use the MDISK options to:

- Add a new MDISK.
- Delete an existing MDISK.
- Redefine the placement of an existing minidisk (to increase the size or move it to a different volume), with no data copied.
- Redefine the placement of an existing minidisk (to increase the size or move it to a different volume), with all data copied.

MDISK Options Syntax



where:

name

is the user or identity name.

subname

is the subconfig name. If the subconfig name is UNKNOWNSUB, the name must be determined from the *node* and *identname*.

node

is the name of the member that owns the subconfig, if running in an SSI, or an asterisk (*), if running on a non-SSI (only valid with SUBCONFIG object type).

identname

is the name of the IDENTITY for the subconfig (only valid for SUBCONFIG object type).

:FORMAT

specifies the disk should be formatted (ADD only).

:NOFORMAT

specifies the disk should be unformatted (ADD only).

:LABEL *label*

specifies the label to put on the minidisk when formatting (ADD only).

:BLKSIZE *blksize*

specifies the blocksize to use when formatting (ADD only).

addr

is the virtual device address of the minidisk being added, deleted, or defined.

devtype

is the device type of the minidisk to be added or defined (ADD, REPLACE, or COPY only).

startloc

is a starting cylinder/block number of the disk (ADD, REPLACE, or COPY only). If *startloc* is an integer, the provided extents will be used. If *startloc* is NULL, the directory manager will define the extents.

size

is the size in cylinders or blocks of the disk (ADD, REPLACE, or COPY only).

volser

is the label of the volume where the minidisk will reside (ADD, REPLACE, or COPY only).

mode

specifies the user's mode of access at logon (ADD only).

pws

optionally specifies the string to be used as passwords (ADD only).

:OLD * :NEW

specifies to replace all old information with the new information that follows (REPLACE ONLY).

Notes:

1. For REPLACE and COPY, the *label* and *blksize* for the new minidisk should be the same as for the current minidisk. The access mode and passwords should also be the same as for the current minidisk.
2. For REPLACE, the contents of the current disk will *not* be copied to the new disk. For COPY, the contents of the current disk will be copied to the new disk.

Examples:

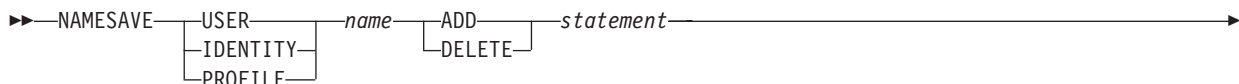
UPGDMIXT EXEC, the upgrade installation directory manager exit

```
MDISK USER pmaint ADD :NOFORMAT 199 3390 1050 20 m01w01 MR R199 W199 M199
MDISK SUBCONFIG lohcos-1 ADD memb2 lohcost :FORMAT :LABEL loh199 :BLKSIZE 2K
111 FB-512 18000 14400 vmc0m1 MR R111 W111 M111
MDISK SUBCONFIG UNKNOWNSUB ADD memb2 lohcost :FORMAT :LABEL loh199 :BLKSIZE 2K
111 FB-512 180000 14400 vmc0m1 MR R111 W111 M111
MDISK SUBCONFIG lohcos-1 ADD memb2 lohcost :FORMAT :LABEL loh199 :BLKSIZE 2K
199 3390 NULL 20 m01w01 MR R199 W199 M199
MDISK SUBCONFIG UNKNOWNSUB ADD memb2 lohcost :FORMAT :LABEL loh199 :BLKSIZE 2K
199 3390 NULL 20 m01w01 MR R199 W199 M199
MDISK USER pmaint ADD :NOFORMAT 111 FB-512 NULL 14400 vmc0m1 MR R111 W111 M111
MDISK USER pmaint DELETE 199
MDISK SUBCONFIG lohcos-1 DELETE memb2 lohcost 111
MDISK SUBCONFIG UNKNOWNSUB DELETE memb2 lohcost 111
MDISK SUBCONFIG lohcos-1 REPLACE :OLD * :NEW memb2 lohcost 199 3390 1050 20 m01w01
MDISK SUBCONFIG UNKNOWNSUB REPLACE :OLD * :NEW memb2 lohcost 199 3390 1050 20 m01w01
MDISK USER pmaint REPLACE :OLD * :NEW 111 FB-512 18000 1440 vmc0m1
MDISK SUBCONFIG lohcos-1 REPLACE :OLD * :NEW memb2 lohcost 199 3390 NULL 20 m01w01
MDISK SUBCONFIG UNKNOWNSUB REPLACE :OLD * :NEW memb2 lohcost 199 3390 NULL 20 m01w01
MDISK USER pmaint REPLACE :OLD * :NEW 111 FB-512 NULL 14400 vmc0m1
MDISK SUBCONFIG lohcos-1 COPY memb2 lohcost 199 3390 20 m01w01
MDISK SUBCONFIG UNKNOWNSUB COPY memb2 lohcost 199 3390 20 m01w01
MDISK USER pmaint COPY FB-512 14400 vmc0m1
MDISK SUBCONFIG lohcos-1 COPY memb2 lohcost 199 3390 NULL 20 m01w01
MDISK SUBCONFIG UNKNOWNSUB COPY memb2 lohcost 199 3390 NULL 20 m01w01
MDISK USER pmaint COPY 111 FB-512 NULL 14400 vmc0m1
```

NAMESAVE

Use the NAMESAVE options to add a new NAMESAVE statement or delete an existing NAMESAVE statement.

NAMESAVE Options Syntax



where:

name

is the user, identity or profile name.

statement

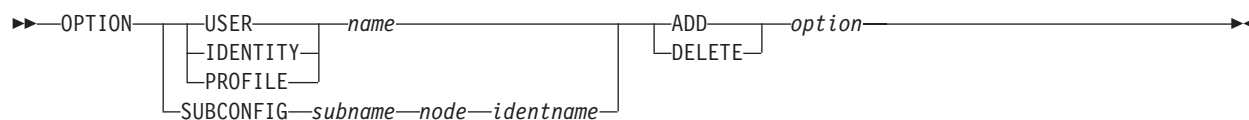
is the NAMESAVE statement to be added or deleted.

Examples:

```
NAMESAVE USER pmaint ADD NAMESAVE GCS
NAMESAVE IDENTITY avsvm ADD NAMESAVE VTAM
NAMESAVE PROFILE tcpcmsu ADD NAMESAVE MONDCSS
NAMESAVE USER pmaint DELETE NAMESAVE MONDCSS
NAMESAVE IDENTITY avsvm DELETE NAMESAVE TCPIP
NAMESAVE PROFILE tcpcmsu DELETE NAMESAVE VSMDCSS
```

OPTION

Use the OPTION options to add a new option to a directory entry or profile, or delete an existing option from a directory entry or profile.

OPTION Options Syntax

where:

name

is the user, identity, or profile name.

subname

is the subconfig name. If the subconfig name is UNKNOWNSUB, the name must be determined from the *node* and *identname*.

node

is the name of the member that owns the subconfig, if running in an SSI, or an asterisk (*), if running on a non-SSI (only valid with SUBCONFIG object type).

identname

is the name of the IDENTITY for the subconfig (only valid for SUBCONFIG object type).

option

is the option to be added to or deleted from the directory entry or profile.

Notes:

1. Only one option may be added or deleted at a time.
2. When adding, if there is no existing OPTION statement in the entity that is being updated, the entire OPTION statement will be added. If an OPTION STATEMENT already exists, the new option can be added to the existing OPTION statement, or else a new statement can be added.
3. When deleting, if this is the last option on an OPTION statement, the entire statement should be removed.

Examples:

```

OPTION SUBCONFIG lohcos-1 ADD memb2 lohcost LANG AMENG
OPTION SUBCONFIG UNKNOWNSUB ADD memb2 lohcost DIAG88
OPTION USER pmaint ADD MAINTCCW
OPTION IDENTITY avsvm ADD LNKS
OPTION PROFILE ibmdflt ADD MAINTCCW
OPTION SUBCONFIG vsmwrk-1 DELETE memb2 vsmwork1 MAXCONN 2000
OPTION SUBCONFIG UNKNOWNSUB DELETE memb2 lohcost DIAG88
OPTION USER pmaint DELETE QUICKDSP
OPTION IDENTITY tsafvm DELETE COMSRV
OPTION PROFILE tcpsslu DELETE MAXCONN 1024

```

PRIV

Use the PRIV options to add a privilege class to a user or identity, or delete a privilege class from a user or identity.

UPGDMIXT EXEC, the upgrade installation directory manager exit

PRIV Options Syntax

►► PRIV — USER
IDENTITY — *name* — ADD
DELETE — *privclas* —►◄

where:

name

is the user or identity name.

privclas

is the privilege class to be added or deleted.

Notes:

1. Only one privilege class may be added or deleted at a time.
2. If a privilege class to be added is already in the directory entry, the calling program will be returned to with RC=1.
3. If a privilege class to be deleted is *not* in the directory entry, the calling program will be returned to with RC=1.

Examples:

```
PRIV IDENTITY lohcost ADD B
PRIV IDENTITY cmsuser ADD C
PRIV USER vmservp ADD F
PRIV IDENTITY lohcost DELETE B
PRIV IDENTITY cmsuser DELETE C
PRIV USER vmservp DELETE F
```

SETUP

Use the SETUP options to set up and validate the environment necessary for the exit to perform directory update functions.

It is anticipated that only one SETUP call will be made to an exit, during a given processing stage. Setup processing can be used to establish a persistent environment for handling ensuing directory change requests. Actions performed would include:

- Validating the version.
- Validating that any required resources (such as disks) are available.
- Ensuring that the directory manager is running.
- Ensuring that the requesting user ID is authorized to perform directory functions.

SETUP Options Syntax

►► SETUP — VERSION — *vrn.nn* —►◄

where:

vrn.nn

is the release and update level of the exit (for example, 630.01).

Note: Upgrade processing will not preserve the exit’s operating environment between calls to the exit. If the exit must link and access specific disks, that must be done every time the exit is called.

VERIFY

Use the VERIFY options to verify that the exit supports the version level provided.

It is anticipated that only one VERIFY call will be made to an exit, to confirm compatibility for use during the upgrade process as a whole.

VERIFY Options Syntax

►►—VERIFY—VERSION—*vrn.nn*—————►◄

where:

vrn.nn
is the release and update level of the exit (for example, 630.01).

VSTOR

Use the VSTOR options to modify the virtual storage size of a user or identity.

VSTOR Options Syntax

►►—VSTOR—

USER
└───┐
IDENTITY

—*name*—REPLACE—:OLD—*—:NEW—*newminvstor*—*newmaxvstor*—————►◄

where:

name
is the user or identity name.

:OLD * :NEW
specifies to replace all old information with the new information that follows.

newminvstor
is the new minimum virtual storage value.

newmaxvstor
is the new maximum virtual storage value.

Note: If the current VSTOR values are larger than the new VSTOR values, they will not be changed. The calling program will be returned to with RC=1

Return codes

These are the return codes that the exit program should use when returning control to the calling installation upgrade utility. In general, 0 is a successful return code, return codes 1-7 are reserved for warning messages, and return codes of 8 and higher are used for an error condition that requires the upgrade process to stop.

The following defines the return codes that should be returned by the exit to the calling program. No other return codes should be used.

- | | |
|-----|--|
| 0 | Function requested completed successfully. |
| 1 | Directory update was already in place so no action taken. |
| 2-7 | Reserved for future use. Do not use. |
| 8 | General error (not defined by the installation upgrade utilities). |
| 9 | Version not compatible. |
| 10 | Directory manager not functional. |
| 11 | Userid not authorized for directory manager command(s). |
| 12 | The requested update is not recognized. |
| 13 | Setup processing failed. |
| 14 | Rollback failure. |
| 15 | Logging failure. |
| 19 | Directory manager timeout. |
| 20 | Insufficient space. |

Coding sample for acquiring the contents of a data stem

The content of the data stem can be acquired using a CMS PIPELINE command, as illustrated in this REXX coding sample:

```
/*-----*/
/* Obtain input arguments.                               */
/*-----*/
Parse Arg Input 1 CallerName Keyword DataStem DataCount .
...
/*-----*/
/* Acquire the data that pertains to the given keyword, via a CMS PIPELINE */
/* command, and perform basic confirmation that this command has succeeded. */
/*-----*/
'PIPE' '(Name Get_Stem_Data)' ,
'Stem' DataStem '1' ,
'| Stem DMX data.'
If (rc <> 0) | (Symbol('DMX_DATA.0') <> 'VAR')
Then Do
  /* Error Handling...*/
End
```

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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, if HELP files are installed on your z/VM system. 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*, GC24-6193

Where to Get z/VM Information

z/VM product information is available from the following sources:

- z/VM V6.3 Information Center (publib.boulder.ibm.com/infocenter/zvm/v6r3/)
- 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

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