IBM z/VSE

Installation

Version 5

SC34-2631-01

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SC34-2631-01

Note!

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

This edition applies to Version 5 of IBM z/Virtual Storage Extended (z/VSE), Program Number 5609-ZV5 and to all subsequent releases and modifications until otherwise indicated in new editions.

This edition replaces SC33-8302-02.

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Accessibility

Accessibility features help a user who has a physical disability, such as restricted mobility or limited vision, to use software products successfully. The major accessibility features in z/VSE enable users to:

- Use assistive technologies such as screen readers and screen magnifier software
- Operate specific or equivalent features using only the keyboard
- Customize display attributes such as color, contrast, and font size

Using Assistive Technologies

Assistive technology products, such as screen readers, function with the user interfaces found in z/VSE. Consult the assistive technology documentation for specific information when using such products to access z/VSE interfaces.

Documentation Format

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About This Publication

This publication describes how to install the operating system z/VSE®.

Who Should Use This Publication

This publication is intended for people who:

- Install z/VSE.
- Install additional z/VSE programs, for example z/VSE optional programs.

A knowledge of basic VSE functions and some hardware operations is required.

How to Use This Publication

This publication has several sections. The first section has a brief planning introduction for installing a z/VSE system and gives an overview of the installation. You should read this section before you start the installation.

The other sections describe how to install z/VSE:

Initial installation consists of **three installation parts**. Installation part 1 and installation part 2 are described twice:

1. For experienced users who only wish a subset of system prompts and system messages required for installation.
2. For users who wish detailed installation information.

Installation part 3 is described once for all users.

When you are instructed to **enter** a response, type in the data and then press the **ENTER (END/ENTER)** key. Depending on the task, you use the:

- System console
- Integrated console
- User terminal.

For the initial installation of z/VSE, you use a system console or an integrated console. In this manual:

- System messages displayed during initial installation are shown in uppercase and in a different font. Not all of the messages are shown, but this manual lists enough messages to let you check that the task is completing correctly. The following is an example of how system messages are illustrated:

  ```
  BG 0000 IESI0059D ENTER A 3270 ADDRESS (PCUU) OR "END"
  ```

- The responses you enter are printed in **boldface.** The responses you must enter are shown in uppercase. Variables, which you must replace, are in lowercase. The variables are usually described to the right of or before the response. The following is an example of how responses are shown when using the system console:

  0 pcuu
  (where pcuu is the physical device address of a 3270 terminal)

You can, of course, use either uppercase or lowercase when actually entering input.

Accessing Dialogs

To help you access a dialog, this book uses *sequences* which show the selection panel name and selection number you must enter to display the Interactive Interface dialog. If you want to install the Generation Feature, for example, start with the *z/VSE Function Selection* panel and select:

1 (Installation)

3 (Install Generation Feature)

Administrator Fast Path	Synonym
13	Default: Yours:

Using Fast Path

As shown above, the left box under a dialog sequence contains the *Fast Path* for a selection. This facility allows you to go directly to a dialog without working through the entire panel hierarchy. To use fast path, you enter all the numbers you would enter on the individual panels in the hierarchy on a single selection panel.

In addition to fast path, the right box under a dialog sequence might contain a synonym that you can select. In the example, no default synonym is given, but you can create your own synonyms for it using the *Maintain Synonyms* dialog. This is a task that you perform after initial installation, and it is described in *z/VSE Administration*, SC34-2627.

Where to Find More Information

z/VSE is described in a set of manuals called the *z/VSE library*.

z/VSE Planning, SC34-2635, and *z/VSE Release Guide*, SC34-2636, provide more details about z/VSE, its programs and functions.

z/VSE Home Page

z/VSE has a home page on the World Wide Web, which offers up-to-date information about VSE-related products and services, new z/VSE functions, and other items of interest to VSE users.

You can find the z/VSE home page at

http://www.ibm.com/systems/z/os/zvse/

You can also find VSE User Examples (in zipped format) at

http://www.ibm.com/systems/z/os/zvse/downloads/samples.html

Summary of Changes

This publication has been updated to reflect enhancements and changes that are implemented with z/VSE 5.2. It also includes terminology, maintenance, and editorial changes.

- Installation instructions have been updated to reflect z/VSE 5.2 installation changes.
- Starting with z/VSE 5.2 initial installation of z/VSE can be done using an installation disk. For details refer to "Initial Installation of z/VSE from an Installation Disk" on page 11.
- The Extended Base Tape now contains IPv6/VSE™.
- The *TCP/IP for VSE/ESA* product provided by *Connectivity Systems Incorporated* is now installed in library PRD2.TCPIPC and no longer in PRD1.BASE. Therefore, batch jobs that use TCP/IP for VSE/ESA must now have PRD2.TCPIPC as the first library in their library search chain.

Chapter 1. Installation Overview and Preparation

z/VSE is a pregenerated system that is easy to install. Initial installation can be done in about two hours.

Installation tasks fall into four different categories:

1. **Initial installation of z/VSE**

   This installation task is required for all users. An initial installation consists of three "parts". When you have finished initial installation, you have the z/VSE base programs installed.

   Starting with z/VSE 5.2 you can choose, if you want to install z/VSE from a bootable installation disk or a physical tape. For details refer to "Initial Installation of z/VSE from an Installation Disk" on page 11.

2. **Installation of the z/VSE Generation Feature**

   You only need to install the z/VSE Generation Feature, if you want a listing of the supervisor, or if you have modified a generation macro. This task is optional and described in Chapter 11, "Doing Optional Installation Tasks - Native LPAR and under z/VM," on page 97. Note, that the z/VSE Generation Feature requires approximately 15 000 blocks of library space. Because you can not change any parameters, it is recommended to install it only if needed.

3. **Installation of the z/VSE Extended Base Tape**

   The z/VSE Extended Base Tape contains base programs, which are not installed automatically during initial installation. They are treated as optional programs and must be installed using the corresponding dialog. This task is described in "Overview of Installing Additional Programs" on page 101.

4. **Installation of Additional VSE Programs**

   z/VSE supports the installation of additional VSE programs, such as z/VSE optional programs. This task is optional and described in "Overview of Installing Additional Programs" on page 101.

Installation of the VM/VSE Interface: If you install z/VSE under z/VM®, you might also want to install the VM/VSE Interface, which is a set of VSE phases and CMS modules. These phases and modules provide functions for working with one or more z/VSE guest systems from CMS. This task is optional and described in Chapter 12, "Installing VM/VSE Interface Routines – VM Only," on page 113.

Installation of IBM® Service: It might also be necessary to install service at certain times. You can do so by installing a z/VSE refresh or Problem Temporary Fixes (PTFs). z/VSE's Interactive Interface has dialogs that help you apply service. For instructions on how to install service, refer to *z/VSE System Upgrade and Service*.

Chapter 2. Overview of z/VSE Installation

Initial Installation – Media Type

Starting with z/VSE 5.2 you can choose, if you want to install z/VSE from a bootable installation disk or a physical tape.

- If you choose initial installation from a bootable installation disk, refer to "Initial Installation of z/VSE from an Installation Disk" on page 11 for details.

You can choose between an **automatic** installation and a **manual** installation. The automatic installation (in part 1) mainly allows for better usability, by reducing the complexity and the number of IPLs needed during installation.

Automatic Initial Installation – When to Use

z/VSE uses a predefined customization table containing the information required to perform an automatic installation.

"Default Values for Automatic Initial Installation" on page 9 shows the predefined values that are used. You **cannot** change the default values.

If you choose automatic installation, the system handles specific installation tasks for you:

- Initialization of disk devices (DOSRES and SYSWK1)
- Placement of a VTOC in the middle of disk pack
- Restore of the z/VSE system library
- Automatic IPL from DOSRES

This means that you do not have to type in ICKDSF INIT UNIT commands with values for the system disks DOSRES and SYSWK1 and the allocation for the Volume Table of Contents (VTOC). Moreover, z/VSE handles any related system prompts that gather information regarding the disk devices.

Note: If you install on a FCP-attached SCSI disk device, it is recommended to select automatic installation.

It is recommended that you select the automatic installation in part 1, as this excludes typing or setup errors. However, there might be reasons for you not to use the automatic installation process. In this case, you have the option to select "manual" installation. See "Manual Initial Installation – When to Use".

Manual Initial Installation – When to Use

Unlike automatic installation, manual installation means that you have to do the tasks described above *manually*.

Reasons for choosing the manual installation process might be:

- You want to use values other than the default values recommended for initial installation.
- You want to initialize more than two disk devices at initial installation.
- You use disk devices which have never been initialized before.

- You use disk devices which previously have been used on a system other than VSE.
- You change disk devices from emulation mode to native mode.

Graphical Overview of an Initial Installation

The following graphic gives you an overview of initial installation. As you see, initial installation consists of three parts.

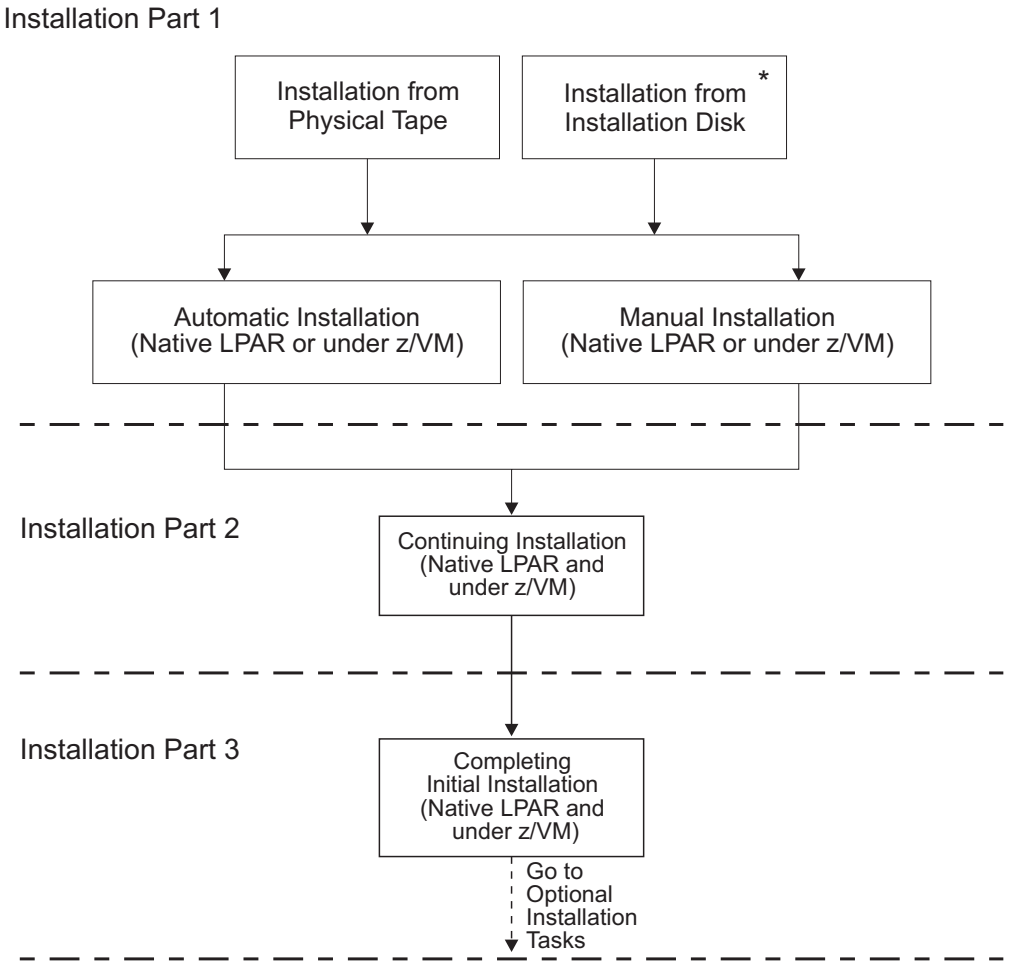


Figure 1. Graphical Overview of Initial Installation

Note: * Requires to create an installation disk. Refer to “Initial Installation of z/VSE from an Installation Disk” on page 11.

Installation part 1 is separately described for users who:

- Use automatic installation support.
- Install z/VSE native LPAR (manually)
- Install z/VSE under z/VM (manually)

Note: The expression “ native LPAR” used throughout this publication, describes the native installation of z/VSE in contrary to installing under z/VM. The differences when installing under z/VM are titled ""under z/VM”.

The installation parts 2 and 3 are mainly the same for all three installation types. If there are differences, they are highlighted.

Descriptive Overview of an Initial Installation

Every installation part shown in the graphical overview consists of a number of steps.

1. **Installation part 1 consists of:**
   - Performing an IPL from tape or installation disk.
   - Initializing disk devices.
   - Placing the Volume Table of Contents (VTOC).
   - Restoring system library IJSYSRS.
   - Performing an IPL from DOSRES.
2. **Installation part 2 consists of:**
   - Decision tasks
     - Selecting TCP/IP usage.
     - Selecting a system environment.
     - Selecting security.
   - Main jobs that run
     - **LFCBLINK** Creating FCB and UCB for printer.
     - **HISTREST** Restoring the system history file.
     - **VSAMDEFS** Defining VSE/VSAM catalogs.
     - **LIBRDEFS** Defining VSE/VSAM libraries.
     - **ICCFREST** Restoring the VSE/ICCF DTSFILE.
     - **ICCFLOAD** Adding system information to the VSE/ICCF DTSFILE.
     - **MACREST** Installing separate base macros.
     - **LEREST** Restoring LE code.
     - **NLLIBRES** Restoring language-dependent members.
     - **NLICFRES** Restoring language-dependent VSE/ICCF members into DTSFILE.
     - **BASEREST** Installing z/VSE base programs.
     - **VSAMINIT** Initializing and loading VSAM clusters.
     - **DUMPINIT** Initializing info/analysis work files.
     - **SAVEMEMB** Cataloging members into PRD2.CONFIG and PRD2.SAVE.
     - **TCPIPCFG** Configuring TCP/IP (optional).
     - **TPSTART** Preparing VTAM® and CICS®.
     - **CLEANUP** Completing initial installation processing.
     - **CICSBSX** Starting basic CICS.
     - **VTAMBSX** Starting basic VTAM.
3. **Installation part 3 consists of:**
   - Signing on to z/VSE (user ID: POST) .
     - Entering personalized data.
   - Signing on to z/VSE (user ID: SYSA).
     - Completing hardware tables.
   - Changing passwords.
   - Performing an IPL to make the changes active.

Installation Worksheet

Fill in this worksheet as you plan for and before you begin initial installation. It will help you remember the device addresses and the device types that are requested from you during initial installation. Write in the device addresses, the device types, and the information **you are using.** DOSRES and SYSWK1 are the default disk devices used during installation. If you use more than two disk devices, you can also add the device information for these disk devices. At the end of the installation, you can change the VSE addresses to the values you have defined in this worksheet. You can do this in the Hardware Configuration Panel (For details refer to “Completing the Hardware Tables” on page 89).

Table 1. Worksheet for initial installation

Installation Media ☐ **Tape** or ☐ **Installation Disk**				
Tape Device Information				
Physical Device Address	VSE Device Address	Device Type	Device Type Code	
Installation Disk Device Information				
Physical Device Address	VSE Device Address	Device Type = 3390		
Disk Device Information				
	Physical Device Address	VSE Device Address	Device Type	Device Type Code
DOSRES				
SYSWK1				
SCSI Device Information				
Device Address (FBA)	FCP address	LUN	World Wide Port Number of Disk Controller	
☐ **TCP/IP** or ☐ **VTAM**				
	Physical Device Address	VSE Device Address		
Terminal Address 1				
Terminal Address 2				
Terminal Address 3				
Control Unit Information				
SNA Control Unit: ☐YES ☐NO	Address of Control Unit:	Attached Terminal Type:		
Terminal Address 1	Terminal Address 2	Terminal Address 3	**Note:** OSA ICC terminals must be VTAM and non SNA.	
Predefined Environment Information				
Environment A: B: C:			Security Selected: ☐YES ☐NO	
Printer Information				
Printer Device Address		Printer Class		
FCB or UCB Information				
Procedure Name for FCBs		Procedure Name for UCBs		

Overview of the z/VSE Base Tapes or Files

z/VSE is delivered on the following media:

- Three IBM 3590 cartridges (128 tracks)
- Three IBM 3592 cartridges (512 tracks)
- DVD
- Via Internet (ShopzSeries)

The distribution tapes are labeled:

- z/VSE*vrm-YY*
- z/VSE*vrm*XBASE
- z/VSE DB2® Help

Note: The "*vrm*" in the label shows the current version - release - modification level. IBM provides multicultural support for the Kanji version of z/VSE. The language indicator for the language used is "*YY*" or "*YYY*". This can be:

- EN or ENU for English
- KA or KAN for Kanji (Japanese)

The DVD is labeled VSE_BASE_*YYY*_DVD and contains the following files:

- VSE*vrmYY*.AWS
- VSE*vrm*XB.AWS
- DB2SERVE.AWS
- READM*vrm*.TXT
- VSE*vrmYY*.INS
- VSE*vrmYY*D.INS
- VSE*vrmYY*I.INS
- VSE*vrmYY*ID.INS
- VSE*vrmYY*.IPL
- VSE*vrmYY*.PSW
- VSE*vrmYY*D.LP
- VSE*vrmYY*I.LP
- VSE*vrmYY*ID.LP
- VSEIDISK.EXEC
- VSEIDISK.MODULE
- VSEIDISK.HELPCMS

If you download z/VSE from the Internet, the tape image files are in zipped format. The file names of the unzipped files are as follows:

- VSE*vrmYY*.AWS
- VSE*vrm*XB.AWS
- DB2SERVE.AWS

To create an installation disk also download the following file:

- VSE*vrmYY*.ZIP

The first two tapes and the files on the DVD are needed for initial installation. Their contents are listed in Table 2 on page 9. The third tape, or the file DB2HELP

on the DVD, which contains the DB2 Server for VSE Help component, is optional and is used only by customers who install DB2.

Table 2. Contents of the z/VSE Base and Extended Base Tapes (or Files)

External Label/File Names	Contents
Tape: z/VSE*vrm-YY* **DVD:** VSE*vrmYY*.AWS **Internet:** VSE*vrmYY*.AWS	• Stand-alone utilities including Device Support Facilities; system library (IJSYSRS.SYSLIB) backup. • VSE/ICCF DTSFILE backup • Library backup of base product libraries (PRD1.MACLIB) • LE/VSE • VSE/ICCF DTSFILE containing language-dependent members. Library backup of language libraries. • Language-Dependent Members • Generation Feature • VSE/VSAM backup of online message explanation file • PRD1.BASE
Tape: z/VSE*v.r.m*XBASE **DVD:** VSE*vrm*XB.AWS **Internet:** VSE*vrm*XB.AWS	• DB2 Server for VSE • DB2 Server for VSE Client Edition • DB2 DataPropagator Relational Capture • LE/VSE DBCS Locales • VSE Connectors Workstation Code • OS/390® API • IPv6/VSE
Tape: z/VSE DB2 HELP **DVD:** DB2SERVE.AWS **Internet:** DB2SERVE.AWS	z/VSE DB2 Help

Note:

1. If you have ordered z/VSE optional programs, you receive one or more optional program tapes or a DVD.
2. For a detailed description of the z/VSE base tape layout, refer to *z/VSE System Upgrade and Service*.
3. If z/VSE is delivered on DVD or downloaded from the Internet you can either:
   - Create an installation disk. For details, refer to "Initial Installation of z/VSE from an Installation Disk" on page 11.
   - Or copy the base tape to a real tape. For details, refer to "Using a Remote Tape Image on a Workstation to Copy the Base Tape to Real Tape" on page 138.

Default Values for Automatic Initial Installation

As stated, automatic initial installation does the following for you:

- It initializes two disk devices (DOSRES and SYSWK1), and assumes default values for placing the Volume Table of Contents (VTOC) in the middle of the disk packs.
- It has predefined system library allocations.

Default Values for Automatic Installation

Refer to Table 3 for the predefined values that are used during automatic initial installation. These are the same values that are suggested when you perform a "manual" installation.

Table 3. Predefined Values for Disk Devices

Disk Device Type	VTOC Value for DOSRES	VTOC Value for SYSWK1	Type of Disk	Allocation of VSE System Library
generalized FBA	125440,228,8192	306176,228,8192	FBA	59390
3380	210,11,4	325,11,4	3380	959 (tracks)
3390	208,11,4210,11,4([2])	301,11,4325,11,4([2])	ECKD™ ([1]) 3380 ([2])	899 ([1]) (tracks) 959 ([2]) (tracks)
Note: [1] = in 3390 mode. [2] = in 3380 track compatibility mode.				

How to Proceed if Automatic Initial Installation Fails

If an error condition occurs during the automatic initial installation, the following message appears on your screen:

```
BG 0000 SA09I  SELECT ONE OF THE FOLLOWING PROGRAMS, OR TYPE END
BG 0000 SA10D  FASTCOPY, RESTORE, ICKDSF, DITTO, REIPL
```

In this case, you can fix your problem and either:

- Continue manually without performing a new IPL of the installation tape/disk, or
- Perform a new IPL from the installation tape/disk (the tape must be rewound first). Select automatic or manual installation once more.

Note: If you install on a SCSI device, it is recommended to choose automatic installation.

If you have specified a printer during initial installation (which is recommended), you can consult your printer output for a complete list of messages, because most of the messages are suppressed on the system console.

Chapter 3. Installations Basics

Before you begin to install z/VSE, you should consult *z/VSE Planning*. It gives an overview of the main z/VSE functions, supported hardware, and information on general planning considerations, such as:

- System organization and concepts
- Migration to z/VSE 5.2
- Hardware support
- Using SCSI disk devices
- z/VSE under VM
- Tailoring system start-up
- Storage and tuning recommendations.

When you receive z/VSE, make sure to check the *Program Directory* for additional information. You can also request a Preventive Service Planning (PSP) bucket from IBM. It contains recent installation information.

Initial Installation of z/VSE from an Installation Disk

Starting with z/VSE 5.2, installation of z/VSE from a bootable installation disk is supported, for both an LPAR and a z/VM guest environment. Initial installation from a physical tape is still supported.

- z/VSE provides utilities to create a bootable installation disk, from now on called *installation disk*, for both the LPAR and the z/VM CMS environment. The layout of the installation disk is identical no matter in which environment it was created.
- The installation disk contains the z/VSE base tape in AWS format, a boot program, and the VTOC.
- An installation disk that was created in an LPAR environment can also be used in a z/VM guest environment or vice versa.
- The z/VSE installation disk can be used as often as needed.
- The installation disk can be used for initial installation only.

Hardware Requirements

Installation Disk

- 3390 disk device with at least 500 cylinders.

  Note: Disk device 3380 is not supported. The type of the installation disk can be different from the DOSRES device type.

z/VM Disk Space

- Approximately 400 cylinders CMS disk space for the z/VSE base tape (VSE*vrmYY*.AWS) and the z/VM utilities to create the installation disk.

Processor Storage

- The minimum processor storage in z/VSE is 64 MB.
- Minimum processor storage to create an installation disk in an LPAR is 512 MB. Once the installation disk is created the processor storage can be changed.

Required Files

Table 4 lists the files that are needed to create the installation disk. These files are available on DVD, or from the internet.

If you order a DVD, all files are located in the root directory.

If you choose internet delivery, you have to download and unzip VSE*vrmYY*.ZIP. You also have to download the zip file containing VSE*vrmYY*.AWS. Packaging of this file has not changed.

Important: These files might not be compatible with future z/VSE installation tape images. Therefore, make sure that you use the VSE*vrmYY*.ZIP file, that is shipped with your order. Otherwise the creation of the installation disk fails.

Table 4. Files needed to create the installation disk

File	Description
VSE*vrmYY*.AWS	z/VSE base tape in AWS format. Needed for both LPAR and z/VM CMS environment.
Contents of VSE*vrmYY*.ZIP	
Required for LPAR Only	
VSE*vrmYY*.INS	Installation file for Load from Removable Media or Sever.
VSE*vrmYY*D.INS	Installation file for Load from Removable Media or Sever and debug enabled. Should only be used, if advised by IBM personnel.
VSE*vrmYY*I.INS	Installation file for Load from Removable Media or Sever using the integrated console.
VSE*vrmYY*ID.INS	Installation file for Load from Removable Media or Sever using the integrated console and debug enabled. Should only be used, if advised by IBM personnel.
VSE*vrmYY*.IPL	Boot phase for Load from Removable Media or Server.
VSE*vrmYY*.PSW	Boot PSW for Load from Removable Media or Server.
VSE*vrmYY*D.LP	Load parameter for Load from Removable Media or Server and debug enabled.
VSE*vrmYY*I.LP	Load parameter for Load from Removable Media or Server using the integrated console.
VSE*vrmYY*ID.LP	Load parameter for Load from Removable Media or Server using the integrated console and debug enabled.
Required for z/VM only The VSEIDISK files are referred to as z/VSE Installation Disk Tool.	
VSEIDISK.EXEC	REXX script to create a z/VSE installation disk in a z/VM CMS environment.
VSEIDISK.MODULE	Utility program to create a z/VSE installation disk in a z/VM CMS environment.

Table 4. Files needed to create the installation disk (continued)

File	Description
VSEIDISK.HELPCMS	Help text in standard z/VM CMS format.

Note: *vrm*: version - release - modification level, *YY*: language indicator

How to create the installation disk in an LPAR environment

Procedure

1. **Select your installation procedure**

   If your z/VSE product was obtained via electronic (internet) delivery, you must do one of the following before creating the installation disk:

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

   The installation disk can be created from:

   - An FTP server that has access to a directory where the files from the physical DVD or electronic deliverable have been stored (recommended).
   - A physical DVD mounted in a DVD drive attached to the Hardware Management Console (HMC) or primary Support Element (SE).

   If installing from 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 Support Element (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 required firewall authorizations, and be authorized to use FTP.

2. **Prepare to access the installation files**

   - If installing from an FTP server directory:

   a. Create a new directory on the FTP server. The maximum length of the directory path name (directory plus file name plus extension) is 40 characters. You can also use the root directory.

   b. Load the following required files in BINARY transfer mode to the directory:

      - VSE*vrmYY*.INS
      - VSE*vrmYY*D.INS
      - VSE*vrmYY*I.INS
      - VSE*vrmYY*ID.INS
      - VSE*vrmYY*.IPL
      - VSE*vrmYY*.PSW
      - VSE*vrmYY*D.LP
      - VSE*vrmYY*I.LP
      - VSE*vrmYY*ID.LP

   - If installing from an HMC/SE DVD drive, load the z/VSE system DVD in the HMC/SE DVD drive.

3. **Load the z/VSE image**

   a. Log on to the HMC/SE.

   b. Select your LPAR and select **Recovery**.

c. Select **Load from Removable Media or Server** (might be called **Load from CD-ROM, DVD or Server** on older processors).

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

- **Hardware Management Console CD-ROM / DVD**
- **FTP source**

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

e. If you selected **Hardware Management Console CD-ROM / DVD** and you are using a subdirectory, specify **File location (optional)** .

f. If you selected **FTP source**, specify the FTP connection information for the server (host computer, user ID, and password).

If you are using an FTP server directory, enter the path to the directory where you uploaded the required files in **File location (optional)**.

g. Click **OK** to continue.

h. The **Select Software to Install task** window is displayed.

i. In the task window, select *VSEvrmYY.INS*, or any other *.INS* file if required, and click **OK**.

j. One or more "Confirm the Action" prompts are displayed. Click **YES** to continue.

k. 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. Then return to your 3270 console window for the LPAR you are going to use for the installation.

l. The z/VSE base tape image and boot phase are loaded into processor storage, and the creation of the installation disk is started.

4. **Create the installation disk**

a. You are prompted to specify the *volid* that you want to use for your installation disk:

```
BG-0000 SI40D ENTER VOLID  OF THE  INSTALLATION DISK.  DEFAULT IS 'ZVSEID'.
```

`0 (enter)` or enter 6 bytes VOLID

b. You are prompted to specify the *pcuu* of your (3390) installation disk.

```
BG-0000 SI41D ENTER PCUU OF volid
```

Note: *volid* is the VOLID specified above.

```
 0 pcuu (enter)
```

c. The system displays the message:

```
BG 0000 SI45D DO YOU WANT TO CONTINUE WITH CREATION OF
INSTALLATION DISK PCUU=pcuu, CURRENT VOLID=volid  (YES/NO) ?
```

Note: *volid* is the current VOLID of PCUU, not the one you specified above.

Enter **YES** or **NO**

d. If you enter **NO**, the creation of the installation disk is terminated and messages SA09I and SA10D are displayed.

e. If you enter **YES**, the installation disk is created and several messages are displayed.

Results

Once the installation disk has been created successfully, the z/VSE system displays the message

```
BG 0000 SA17W ***** END OF STAND ALONE PROCESSING*****
```

and enters hard wait to stop processing.

How to create the installation disk in an z/VM CMS environment

Procedure

- Transfer the z/VSE installation tape image VSE*vrmYY*.AWS to a variable block CMS file. Use binary transfer mode. Refer to "Transfer files to z/VM" on page 17 for details.
- Transfer the z/VSE Installation Disk Tool files to variable block CMS files. Use binary transfer mode.
- Reblock the VSEIDISK files using:
  - `PIPE < VSEIDISK MODULE A | deblock cms | > VSEIDISK MODULE A`
  - `PIPE < VSEIDISK EXEC A | deblock cms | > VSEIDISK EXEC A`
  - `PIPE < VSEIDISK HELPCMS A | deblock cms | > VSEIDISK HELPCMS A`

  Note: Replace file mode A in the above example with the file mode of your CMS disk.
- Use the z/VSE Installation Disk Tool (VSEIDISK) to create a z/VSE installation disk from the z/VSE installation tape image:

  ```
  VSEIDISK fn ft fm vdev (options...
  ```
- To show the progress several IDSK009I messages are displayed.

  Important: If message IDSK069I is displayed you are using the wrong tape image. Make sure that you are using the VSE*vrmYY*.ZIP file that is shipped with your order.

  ```
  IDSK069I NON-SUPPORTED Z/VSE INSTALLATION TAPE IMAGE VERSION: 5.1.0
  IDSK144E CREATION OF Z/VSE INSTALLATION DISK FAILED WITH RC=16
  ```

Example

Prepare a z/VSE installation disk on DASD device number X'F600'.

The z/VSE installation tape image is stored in a file called `VSETAPE AWS A`.

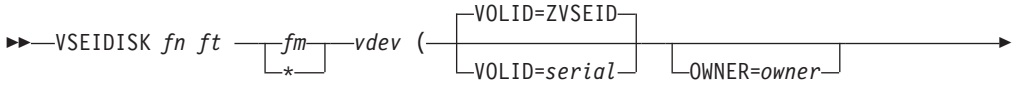
Default options are used:

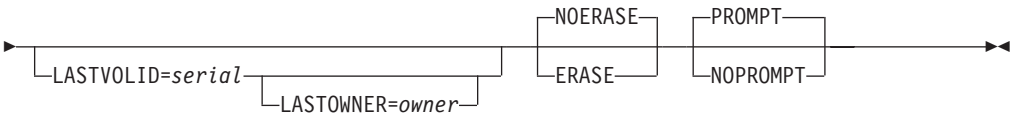
```
VSEIDISK VSETAPE AWS A F600
```

You are prompted to continue:

```
IDSK151D REPLY 'CONTINUE' TO ALTER DASD vdev, ELSE 'CANCEL'
```

Format





Parameters

fn Specifies the file name of the z/VSE installation tape image in AWS format.

ft Specifies the file type of the z/VSE installation tape image in AWS format.

fm Specifies the file mode letter of the z/VSE installation tape image in AWS format. If an asterisk (*) is specified, the currently accessed disks and Shared File System (SFS) directories are searched in the standard CMS search order.

vdev
Specifies the virtual device number of the DASD to be prepared as z/VSE installation disk. It must be a 1 - 4 digit hexadecimal number between X'0000' and X'FFFF'. Only ECKD 3390 DASD are supported.

VOLID=*serial*
Specifies the volume serial number of the disk. The volume serial number can be 1 - 6 alphanumeric, national, or special characters. If fewer than 6 characters are specified, the serial is left-justified, and the remainder of the field is padded with blanks (X'40'). If omitted, a default value of ZVSEID is used as the volume serial number.

OWNER=*owner*
Specifies the owner identification of the disk. It can be 1 - 14 alphanumeric characters. If fewer than 14 characters are specified, the owner identification is left-justified, and the remainder of the field is padded with blanks (X'40'). If omitted in conjunction with omitting the option ERASE, the owner identification remains unchanged.

LASTVOLID=*serial*
Identifies the current volume serial of the disk. It is used to verify the volume serial number before formatting and/or initializing the disk.

LASTOWNER=*owner*
Identifies the current owner identification of the disk. It is used to verify the owner identification before formatting and/or initializing the disk. This option requires LASTVOLID to be specified.

ERASE
Requests to format all tracks and thereby erase all data on the disk using the IBM Device Support Facilities (ICKDSF) TRKFMT ERASEDATA command. Note that this can take quite some time.

NOERASE
Requests not to format all tracks on the disk. This is the default.

PROMPT
Requests to prompt for confirmation before performing any destructive operation. This is the default.

NOPROMPT
Requests not to prompt for confirmation before performing any destructive operation.

Transfer files to z/VM

There are several ways to transfer a file in binary mode to a z/VM CMS guest. In the following two FTP solutions are outlined. However, you can also use file transfer via 3270 terminal emulation or any other method you prefer.

Transfer a File in Binary Transfer Mode Using the z/VM FTP Server:

Procedure

1. To connect to the z/VM FTP server from your workstation enter:
   ```
   ftp < hostname or IP addresss >
   ```
2. Login using your credentials.
3. Switch to binary transfer mode and upload the file:
   ```
   binary
   put <local-file>  <remote-file>
   ```

   Note: `<remote-file>` has the format `<file-name>.< file-type>.< file-mode>` If the file mode is omitted, the current remote directory is used.

Transfer a File in Binary Transfer Mode Using the z/VM FTP Client:

Procedure

1. To connect to an FTP server from within your z/VM guest enter:
   ```
   ftp < hostname or IP addresss >
   ```
2. Login using your credentials.
3. Change to the remote directory, switch to binary transfer mode and download the file:
   ```
   cd <remote-directory>
   binary
   get <remote-file> <local-file>
   ```

   Note: `<local-file>` has the format `<file-name>.< file-type>.< file-mode>` If the file mode is omitted, the current remote directory is used.

Extended Physical Device Address Support

Starting with z/VSE 4.3 you can define devices to have physical device addresses that are larger than X'FFF'.

If you perform an initial installation of z/VSE, the implementation of the extended physical device address support is relatively straightforward.

1. During the IPL of z/VSE, the system senses the physical device addresses that were defined in either:
   - the IOCDS.
   - z/VM.
2. Physical device addresses (pcuu) that are larger than X'FFF' are automatically assigned to VSE addresses in the range X'000' to X'FFF' by the system. If a physical device address is less than or equal to X'FFF', the VSE address will be the same as the physical device address.
3. The automatically assigned VSE addresses are not static, therefore they might change during the installation process. After the attention routine is ready, you can query the current VSE address using the QUERY IO command. Note that QUERY IO issued during stand-alone processing does not list all devices

attached to the system, but only the subset used then. For details on this command refer to *z/VSE System Control Statements*.

4. If required, you can change the automatically assigned VSE addresses. Refer to "Completing the Hardware Tables" on page 89 for details.
5. During the installation procedure you have to respond to several messages with the variable "pcuu". Enter a physical device address in the range X'0000' to X'FFFF'. If the variable "cuu" is displayed, enter the VSE address in the range X'000' to X'FFF'.
6. For Power dummy devices, virtual devices and SCSI devices, the physical device address has to be less than or equal to X'FFF'.

SCSI Disk Support

- The term *SCSI disk* refers to an FCP-attached SCSI disk, which is configured within z/VSE as a SCSI disk. z/VM emulated FBA disks and z/VM FBA minidisks appear to z/VSE as real FBA disks.
- For details on SCSI support, refer to *z/VSE Administration*.

Predefined Environments Shipped with z/VSE

The following section lists the predefined environments shipped with z/VSE.

During initial installation you are asked to select one of these environments. Therefore, make yourself familiar with the characteristics of these environments, as shown in the following table. All predefined environments run with supervisor mode ESA.

Table 5. Predefined Environments

Predefined Environment	Virtual Storage	Address Spaces	Partitions	Characteristics
A	256 MB	12+dynamic partitions	12+dynamic partitions	Entry system
B	512 MB	12+dynamic partitions	12+dynamic partitions	Medium system
C	2 GB	12+dynamic partitions	12+dynamic partitions	Large system

IBM Supplied Supervisor

z/VSE is delivered with one supervisor only, $$A$SUPI. This supervisor supports up to 1024 devices. During initial installation the IPL procedure $IPLESA is created.

To generate a supervisor and listing, you can install the generation feature and generate a supervisor. However, you cannot modify the generation options. For details, refer to "Regenerating the Supervisor" in *z/VSE Administration*.

Minimum Hardware Requirements

The following table lists the minimum configuration required for initial installation of z/VSE 5.2.

Table 6. Minimum Hardware Requirements for Installing z/VSE 5.2

<table>
<tr><th colspan="5">Minimum Hardware Requirements</th></tr>
<tr><th>A Processor</th><th>Two Disk Devices</th><th>A System Console</th><th>A Magnetic Tape Device</th><th>A Local Terminal</th></tr>
<tr><td>With at least 64 MB processor storage.</td><td>Of the same device type, and of at least the following disk space:
• environment A: 1022 MB
• environment B: 1278 MB
• environment C: 2.8 GB</td><td>Any supported terminal or workstation.

(Non-SNA or integrated console.)</td><td>Supporting 3490 compressed cartridges (compacted with IDRC), 3590 (128–track), or 3592 (512-track). If you use a tape device for initial installation only, you can consider using an installation disk.</td><td>Supporting 24x80 character screen format, with at least 10 Program Function keys. (See Note 1.)</td></tr>
<tr><th colspan="3">Disk Devices Supported</th><th colspan="2">Servers Supported</th></tr>
<tr><td colspan="3">IBM TotalStorage Enterprise Storage Server
IBM RAMAC Array Family
IBM 3380
IBM 3390
IBM System Storage® DS8000® and DS6000
All generalized FBA disk devices
IBM Storwize® V7000
IBM XIV® Storage System
IBM System Storage SAN Volume Controller (SVC)
(See Note 2)</td><td colspan="2">z/VSE 5.2 supports these IBM System z® mainframes:
• IBM zEnterprise® EC12 (zEC12)
• IBM zEnterprise BC12 (zBC12)
• IBM zEnterprise 196 (z196)
• IBM zEnterprise 114 (z114)
• IBM System z10™ Enterprise Class (z10 EC)
• IBM System z10 Business Class (z10 BC)
• IBM System z9® Enterprise Class (z9 EC)
• IBM System z9 Business Class (z9 BC)</td></tr>
<tr><td colspan="5">Note:

(1) Terminals with a screen format larger than 24x80 are supported. However, the Interactive Interface only uses the first 24x80 screen positions.

(2) These disk devices are supported for initial installation. IBM 3380 is supported native and in track compatibility mode with a required minimum size of 1770 cylinders. FCP-attached SCSI disk devices are supported as generalized FBA disks. For details about disk layouts, refer to z/VSE Planning.

The listed disk devices are supported for all predefined environments and are large enough to hold the page data set extents. 512 MB for environment B, and 2 GB for environment C. For environment C, 3390 Model 3 or larger, or a SCSI device with the appropriate size is recommended. Refer to z/VSE Planning for details.
Note: The system residence disks must have the same size.</td></tr>
</table>

Knowing Your Hardware Setup – the Hardware Configuration List

z/VSE offers two possibilities for defining your hardware configuration:

1. During initial installation, z/VSE uses **device sensing** to automatically:
   - Define each device attached to z/VSE (for example, a tape attached as 181).
   - Sense all devices and add the sensed devices to the IPL procedure (for z/VSE running under VM).
   - Map all physical addresses that are larger than X'FFF' to VSE addresses in the range X'000' to X'FFF'. If a physical address is less than or equal to X'FFF', the VSE address will be the same as the physical address.

Because of device sensing, you should attach (or define) the devices to be used by z/VSE **before** the sense IPL. The IPL procedure will be automatically created and updated.

2. If initial installation is complete, there will be no automatic device sensing. If you want to modify your hardware configuration, you can use an Interactive Interface dialog.

Note: Any devices that will be used for initial installation have to be operational and ready.

Prior to installation, you should prepare a list of all the devices in your hardware configuration. Creating such a device list is helpful when performing initial installation. If you are already a VSE user, you can use the *Hardware Configuration* dialog (Fast Path: 241) to create a hardware configuration list of your existing system. This can be used later as base for your new hardware setup.

The information you need corresponds to the parameters of the ADD command described in *z/VSE System Control Statements*. For each channel-attached device in your hardware configuration, you should record the following:

1. Device address (physical and z/VSE address)
2. Device type (for example IBM 3390 disk device)
3. Device type code (for example ECKD for an IBM 3390 disk device)
4. Mode (some devices require a mode specification of two, three, or four digits)

Also, you should note if:

- A tape can be physically attached (switched) to two adjacent channels.
- A disk device can be physically attached (switched) to up to four adjacent channels.
- A disk device can be shared by two or more systems.

Most I/O devices, such as disks and tapes, are attached via control units. For disk and tape devices, each address configured for a control unit counts as **one** I/O device for z/VSE. This is true even if no device physically exists for a configured address. For terminals, you must distinguish between SNA and non-SNA terminals:

- Terminals attached to a non-SNA control unit are handled in the same way as tape and disk devices. Each terminal counts as one I/O device.
- Terminals attached to an SNA control unit or a communication controller do not count individually. z/VSE only considers the SNA communication controller or control unit as an I/O device, not the terminals attached to it.

z/VSE Administration and *z/VSE SNA Networking Support* provide further details about hardware configuration and the dialogs available for defining devices.

Volume Table of Contents (VTOC)

A *VTOC* is mandatory for every disk volume you will use. It shows the contents of each disk. That is, it contains the start block/track and the extent information of every file that is loaded onto the disk and the start block/track of all unused space. When you initialize your disk devices manually, you have to know where to place the VTOC. Before doing so, consider the following:

In z/VSE, you have several choices for the location of the VTOC for each system disk:

- Approximately in the middle of the disk device.

  Note: For **better system performance** it is recommended that you place the VTOC approximately in the middle of the disk device.
- At the end of the disk device.
- Anywhere on the disk device, provided that the space is **not** used by system files.

More information on how to reduce VTOC space is described in *z/VSE Planning* under "Storage and Tuning Recommendations".

Note: If you install z/VSE on VM minidisks or VM virtual disks, make sure that you have specified enough space for them. In case of FBA disks, make sure the number of blocks is a multiple of 8*777, especially if the VTOC is put at the end of the volume. It is recommended not to use the FBAVTOC(END) syntax, but to put the VTOC at a location that is described in:

- "Step 3 – Initializing Disks and Placing the VTOC (Manual/Native LPAR)" on page 48
- "Step 3 – Initializing Disks and Placing the VTOC (Manual/Under VM)" on page 62

. In case of VM based SCSI minidisks, refer to *z/VSE Planning* for details.

Disk Devices Used for Initial Installation

Two volumes of the **same device type**, the **same model** and the **same size** are required for initial installation.

For example, you cannot use one IBM 3380 volume and one IBM 3390 volume, or one IBM 3390-2 and one IBM 3390-3 disk device.

The first volume always has the ID **DOSRES**. The second volume always has the ID **SYSWK1**.

Note: DOSRES and SYSWK1 might not have enough space for all the z/VSE optional programs you want to install. In this case, you might need additional disk devices.

During **manual** installation, you are asked to initialize disks (DOSRES and SYSWK1) and to place the Volume Table of Contents (VTOC). To do so, you must know the command to initialize the disks. You should also know why it is important to place a VTOC either in the middle or at the end of the disks.

Note:

1. See Table 6 on page 19 for a list of the supported disk devices.
2. *z/VSE Planning* provides the disk layouts of DOSRES and SYSWK1.
3. See the *Device Support Facilities User's Guide and Reference* for a detailed description of the INIT command.

Special Considerations for IBM 3390 Disk Devices

If you used the IBM 3390 disk in 3380 track compatibility mode in a previous VSE system and now want to use it in 3390 mode, you have to perform the step described below **before** you initialize the two disks. You must also move all data off the device before switching the mode. **All mode switches reformat the device.** For detailed information on mode switching, refer to *Using IBM 3390 Direct Access Storage in a VSE Environment*.

Use the SETMODE parameter of the INSTALL command to specify the volume's operating mode.

- The default for the SETMODE parameter is **3390**.
- Specifying **SETMODE(3390)** formats a 3390 disk for 3390 mode.
- Specifying **SETMODE(3380)** formats the 3390 disk for 3380 track compatibility mode.

Installing z/VSE Using an Integrated Console

A server of the IBM System z family has a function called *integrated console*. If you have chosen an integrated console as your z/VSE console, you would typically use it for installation on a hardware environment **without locally attached Non-SNA terminals**.

For details about the integrated console support, refer to *z/VSE Operation*.

How to Access an Integrated Console

The following example shows how to access an integrated console from an IBM System z mainframe. For more details, refer to the operating procedure manual shipped with your server.

To access the integrated processor console, proceed as follows:

1. Select the CPC Image, you want to IPL
2. From the CPC Recovery selection menu, select LOAD
3. On the panel that is displayed, you are prompted for a device address and a LOAD parameter (PARM). Enter the required address and specify **I**. **I** indicates that you perform an IPL with an integrated console.
4. The "Operating System Messages" icon is flashing. To be able to communicate with z/VSE, double click on the icon.
5. The VSE system console is displayed on your screen. You can now enter z/VSE commands. Type the z/VSE command and select SEND COMMAND.

Disconnecting the System Console

z/VSE lets you switch the system console to a VTAM or a CICS terminal. This requires the definition of a dummy device. The following command, contained in the shipped IPL procedures, defines such a device: **ADD FFF,CONS**

You can disconnect your system console with the command: **OPERATE DISC**

This means that the device is released from system console status and can be used as a VTAM or a CICS terminal. No system messages appear on the screen after the system console has been disconnected. Note that the DISC option only is accepted if the hard copy file is open at the time the command is issued.

To return to the system console, terminate your VTAM or CICS application and press **ENTER**. If that is not possible, switch off the terminal and switch it on again. This will reconnect the system console.

When you use z/VSE under VM, you have to use the following command to disconnect the system console: * **CP DISC**

However, this command does not apply to a z/VSE dedicated console.

For detailed information about the system console types and how to start or shut down a z/VSE system, refer to *z/VSE Operation*.

Problems that might occur during installation

This section lists the most common errors that might occur during installation of z/VSE, and solutions how to resolve them.

Time-of-Day Clock not set

If the TOD (time-of-day) clock is not set, the system displays the following messages:

```
BG 0000 0I18D ENTER SET CMD
BG 0000       THE DATE VALUE FORMAT IS MM/DD/YYYY
```

Enter the SET DATE command, no other command is accepted.

For DATE=
mm is month, dd is day, yyyy is year.

For CLOCK=
hh is hour, mm is minutes, ss is seconds.

SET DATE=mm/dd/yyyy,CLOCK=hh/mm/ss

```
BG 0000 0I19A ENABLE SETTING OF TOD CLOCK
```

Processing continues with message SI01D.

Device Type Cannot be Sensed

If the system cannot sense the device type of DOSRES or SYSWK1, the following messages are issued:

```
BG 0000 SI04I FOLLOWING DEVICE TYPES ARE SUPPORTED:
BG 0000 SI05I list of supported DASD
```

Message SI05I displays a list of the supported device types. Select the device type that you want to use and answer the following system prompt:

```
BG 0000 SI06D  ENTER DEVICE TYPE OF DOSRES/SYSWK1
```

0 xxxx (xxxx - Specify the device type you use)

Note that the device type you use must be one of the supported device types shown in message SI05I. If you specify a device type that does not match the displayed device types, you receive an error message. You are asked again to enter the physical address of DOSRES and SYSWK1.

More I/O Devices Than Supported

If you have more than 1024 devices turned on, you receive the following message:

```
BG 0000 0J74D SUPERVISOR GENERATED FOR 1024 DEVICES - nnnn DEVICES PRESENT
              ENTER DEL COMMAND FOR DEVICES NOT NEEDED
BG-0000
```

In this case you must delete devices, because z/VSE only accepts up to 1024 I/O devices during initial installation.

- Do not delete device numbers FF0 and FF1 because they are needed by the system.
- Make sure that you do not delete essential hardware devices, such as the disk volume SYSWK1

Identify devices which you do not need for your installation process, and use the IPL DEL command to delete these devices.

No other IPL command than the IPL DEL command is accepted. If you enter any other command, the system prompts you again:

```
BG 0000 0I60D ENTER DEL COMMAND
```

Enter the following:

```
0 DEL pcuu1:pcuu2
```

Refer to *z/VSE System Control Statements* for more information on the DEL command.

Insufficient System Configuration

If you get the following messages, follow these instructions.

```
BG 0000 IESI0101I INSUFFICIENT SYSTEM CONFIGURATION FOR
        INITIAL INSTALLATION
BG 0000 IESI0102A SPECIFY IPL ADD COMMAND FOR xxxxxxxxxx
```

The system checks whether the minimum hardware configuration for initial installation is available. If some devices are not sensed, the system displays the above messages.

The second message (IESI0102A) is displayed for each required device that was not sensed. xxxxxxxxx is the specific device type. It can be:

```
TAPE DEVICE
PRINTER
DASD DEVICE - TYPE AS SYSRES
```

Remember that you only need two disk volumes (DOSRES and SYSWK1) for the minimum configuration. The disk type of the unidentified but required disk must be of the same type as DOSRES.

Enter one IPL ADD command for **each** required device type that was not sensed. For details on this command refer to *z/VSE System Control Statements*.

0 ADD cuu,device-type
(cuu - VSE address)

or

0 ADD pcuu as cuu,device-type
(pcuu - a physical device address larger than X'FFF')

As an example, suppose that the system displays the following messages:

```
BG 0000 IESI0102A  SPECIFY IPL ADD COMMAND FOR CICS
BG 0000            TERMINAL/LOCAL SNA CONTROL UNIT
```

You must add the address of at least one terminal/local SNA control unit. For example:

0 ADD 380,3277 or

0 ADD 1380 as 380,3277

Duplicate Volume Identifiers Found

If you get the following message, follow these instructions.

```
BG 0000 IESI0120I VOLID xxxxxx FOUND ON FOLLOWING ADDRESSES (PCUU):
BG 0000           pcuu1 pcuu2 ...
```

The system checks the volume identifiers (VOLIDs) of all disks. This is to ensure that the VOLIDs for z/VSE (DOSRES, SYSWK1) are unique. If two disks have the same VOLID, the system displays the above message, where *xxxxxx* is the VOLID that is duplicated. Following the message is a list of the disk addresses with the same VOLID (pcuu1, pcuu2 ...).

For DOSRES, z/VSE automatically uses the address of the disk that was IPLed as DOSRES. The system displays the following message:

```
BG 0000 IESI0123I DASD WITH ADDRESS xxx WILL BE USED AS DOSRES
```

Message IESI0123I is also displayed for SYSWK1, if you are doing an automatic installation. If you are doing a manual installation, the system displays the following message for VOLID SYSWK1:

```
BG 0000 IESI0121D ENTER ADDRESS OF DASD TO BE USED AS SYSWK1: PCUU
```

Enter the address (pcuu) of the disk device that you are using for z/VSE installation.

0 pcuu
(pcuu - physical disk address of SYSWK1)

All other disk devices with the same VOLID are set in *device down* status. The system displays the following message:

```
BG 0000 IESI0124I FOLLOWING DEVICE(S) WILL BE SET IN DEVICE DOWN STATUS:
BG 0000          pcuu1  pcuu2...
```

The message is followed by a list of the disk addresses that are set in *device down* status (pcuu1, pcuu2...).

Chapter 4. Short Description for Experienced VSE Users

The installation shown in this chapter describes an **automatic** z/VSE initial installation for installing z/VSE native or under VM.

Only the minimum system prompts and messages are shown. Users whose installation deviates from this "standard installation", should turn to Chapter 5, "Installation Part 1 – Detailed Description," on page 37.

In case you are installing on SCSI devices, it is recommended to choose automatic installation. For further details about z/VSE SCSI disk support, refer to *z/VSE Planning*.

Note: If you experience problems refer to "Problems that might occur during installation" on page 23.

Installation Part 1

1.

Installing from tape
Mount the tape labeled *z/VSE5.2.x-YY*. Do not reposition or dismount the tape until you have instructions to do so.

Installing from installation disk
Proceed to the next step.

2. **Perform an IPL from tape/disk**.

   After having performed an IPL, the system waits for an interrupt from the console. Press **ENTER** to continue.

   Note: From here on the installation from disk continues, as if a real tape has been used.

3. **Start the automatic installation process**.

   If you install a native z/VSE, make sure that the time-of-day clock is set. In case of an error situation, refer to "Problems that might occur during installation" on page 23.

   The first system prompt that appears on your system console **after** you have done an IPL is:

   ```
   BG 0000 SI01D  DO YOU WANT TO DO AN AUTOMATIC INSTALLATION (YES/NO?)
   ```

   0 YES

   ```
   BG 0000 SA02D IF YOU WANT A LISTING, SPECIFY PCUU OF PRINTER, ELSE (ENTER)
   ```

   0 pcuu

   If the physical device address is greater than X'FFF', the message below displays the physical device address and corresponding VSE address:

   ```
   BG 0000 SA07I THE PHYSICAL DEVICE ADDRESS pcuu CORRESPONDS TO THE ADDRESS cuu
    USED BY VSE
   BG 0000 SI70D IF YOU WANT TO INSTALL VSE ON SCSI SPECIFY YES, ELSE NO
   ```

Not installing on SCSI

0 NO Enter the physical device addresses of DOSRES and SYSWK1:

```
BG 0000 SI02D  ENTER PCUU OF DOSRES
```

0 pcuu

```
BG 0000 SI03D  ENTER PCUU OF SYSWK1
```

0 pcuu

Installing on SCSI

0 YES

```
BG 0000 SI75I ENTER SCSI COMMAND FOR DOSRES
BG 0000 SA80D SCSI,FBA=CUU,FCP=PCUU,WWPN=PORTNAME,LUN=LUN
```

Note:

1. SCSI device addresses have to be less than or equal to X'FFF'.
2. Device addresses, which have been deleted with the DEL command cannot be reused as SCSI DOSRES or SCSI SYSWK1 devices.

0 SCSI,FBA=608,FCP=C001,WWPN=5005076300C69A76,LUN=5745

```
BG 0000 SA07I THE PHYSICAL DEVICE ADDRESS C001 CORRESPONDS TO THE ADDRESS 101
 USED BY VSE
AR 0033 0S45I SCSI DEVICE 608 CONSISTS OF 09765632 BLOCKS, 09756789 BLOCKS ARE
         AVAILABLE, 651 BLOCKS ARE UNUSED
BG 0000 SA85D MORE SCSI DEFINITIONS NEEDED? YES OR NO
```

0 YES

```
BG 0000 SA75I ENTER SCSI COMMAND OR ENTER
BG 0000 SA80D SCSI,FBA=CUU,FCP=PCUU,WWPN=PORTNAME,LUN=LUN
```

0 SCSI,FBA=609,FCP=D00,WWPN=5005076300C29A76,LUN=5746

```
AR 0033 0S45I SCSI DEVICE 609 CONSISTS OF 09765632 BLOCKS, 09756789 BLOCKS ARE
         AVAILABLE, 651 BLOCKS ARE UNUSED
BG 0000 SA62I MAXIMUM TWO SCSI DEVICES ACCEPTED. PROCESSING CONTINUES
```

Before the automatic installation process is started, the following information messages are displayed:

For DOSRES

- If the physical device address you have entered is smaller than X'FFF':

  ```
  BG 0000 SI08I DOSRES IS cuu, DEVICE TYPE xxxx
  ```

- If the physical device address you have entered is larger than X'FFF':

  ```
  BG 0000 SI18I DOSRES PHYSICAL DEVICE ADDRESS IS pcuu, VSE ADDRESS IS cuu,
  DEVICE TYPE xxxx
  ```

For SYSWK1

- If the physical device address you have entered is smaller than X'FFF':

  ```
  BG 0000 SI09I SYSWK1 IS cuu, DEVICE TYPE xxxx
  ```

- If the physical device address you have entered is larger than X'FFF':

  ```
  BG 0000 SI19I SYSWK1 PHYSICAL DEVICE ADDRESS IS pcuu, VSE ADDRESS IS cuu,
  DEVICE TYPE xxxx
  ```

Where *pcuu* shows the physical device address, *cuu* the corresponding VSE address and *xxxx* the device type of your DOSRES and SYSWK1.

With the following message, you have the opportunity to start or redefine the automatic installation part:

```
BG 0000 SI10D START WITH AUTOMATIC INSTALLATION (YES/NO?)
```

0 YES

The job processing that now takes place takes some time to complete. Several system messages inform you on the installation progress. When the automatic installation part 1 has finished, you will receive the following message:

```
BG 0000 SA17W  ***** END OF STAND ALONE PROCESSING ******
```

The system now performs an automatic IPL from DOSRES.

Installation Part 2

Because the VSE.CONTROL.FILE does not exist yet, you will get the following message:

```
FB 0011 // JOB SECSERV
        DATE xx/xx/xxxx, CLOCK yy/yy/yy
FB 0074 4228I FILE IJSYSCT    OPEN  ERROR X'B4'(180) CAT=..N/A..
   (OPNCT-20) VOLUME 'DOSRES' NOT OWNED BY VSAM
FB 0074 4228I FILE IESCNTL    OPEN  ERROR X'B4'(180) CAT=VSESPUC (  4,AD,  2)
   (OPNHC-10) RC X'00000004' FROM CATLG
FB 0074 4228I FILE BSTCNTL    OPEN  ERROR X'B4'(180) CAT=VSESPUC (  4,AD,  2)
   (OPNHC-10) RC X'00000004' FROM CATLG
FB 0074 BST300E THE II CONTROL FILE COULD NOT BE OPENED.
FB 0075 1J017I CRYPTO HARDWARE NOT INSTALLED OR NOT DEFINED.
BG 0000 BST001I BASIC SECURITY MANAGER INITIALIZED
```

The messages are only informational, processing continues and the z/VSE INSTALL program runs.

```
BG 0001 1Q47I   BG INSTALL xxxxx FROM  (SYSA), TIME=hh:mm:ss
BG 0000 // JOB INSTALL z/VSE INSTALL PROGRAM
```

```
BG 0000 IESI0051D DO YOU WANT TO CONFIGURE TCP/IP DURING INITIAL STARTUP? YES/NO
```

0 ***xxx***

You are now asked to select one of the predefined environments that are shipped with z/VSE. For more information about the predefined environments, refer to “Predefined Environments Shipped with z/VSE” on page 18.

```
BG 0000 IESI0078D SELECT AN ENVIRONMENT OUT OF A (SMALL), B (MEDIUM)OR C (LARGE).
```

0 ***x***

```
BG 0000 IESI0079D DO YOU WANT TO RUN YOUR SYSTEM WITH SECURITY ON?  YES/NO
```

0 ***xxx***

```
BG 0000 IESI0062D CHECK YOUR ANSWERS. DO YOU WANT TO CONTINUE ?  YES/NO
```

0 YES

Configuration of TCP/IP
Message IESI0098D is displayed only, if you have chosen to configure TCP/IP during initial startup. `IESI0098D  DO YOU WANT TO SPECIFY VTAM DEFINITIONS ?  YES/NO` If you answer `NO`, the questions regarding VTAM definitions are skipped. If you answer `YES`, message IESI0065D is displayed.

Users Installing under VM: If you install z/VSE under VM and access the system via the CP DIAL command, you must answer **NO** to the next message, because a DIALed terminal appears to VSE as a local non-SNA device.

```
IESI0065D  IS THE LOCAL CONTROL UNIT AN SNA CU ? YES/NO
```

If you answer `YES`, you are prompted:

```
IESI0071D  ENTER ADDRESS OF 3270 CONTROL UNIT: cuu OR pcuu
IESI0066I  DEFINE TERMINAL TYPE ATTACHED TO THIS CONTROL UNIT
IESI0067D  ENTER 24X80, 32X80 OR 43X80
```

If you want to skip the definition of SNA attached terminals, reply `NO` to message IESI0065D. You are prompted:

```
IESI0064I  DEFINE UP TO 3 LOCAL VTAM TERMINALS
IESI0059D  ENTER A 3270 ADDRESS (CUU) OR (PCUU) OR "END"
```

0 ***xxx***

Defining Local Non-SNA VTAM Display Terminals

Local non-SNA VTAM users must define at least one, but not more than three, local VTAM display terminals.

If you plan to use TCP/IP, you must also define VTAM terminals for initial startup of CICS.

Note: You must specify the physical terminal addresses in **ascending** order. If you do not enter them in the correct order, the system will generate the start-up books for VTAM incorrectly.

```
BG 0000 IESI0064I DEFINE UP TO 3 LOCAL VTAM TERMINALS
BG 0000 IESI0059D ENTER A 3270 ADDRESS (PCUU) OR "END"
```

0 pcuu

```
BG 0000 IESI0059D ENTER A 3270 ADDRESS (PCUU) OR "END"
```

0 pcuu

```
BG 0000 IESI0059D ENTER A 3270 ADDRESS (PCUU) OR "END"
```

0 pcuu

If you enter a third 3270 address, the terminal definition session ends.

```
BG 0000 IESI0062D CHECK YOUR ANSWERS. DO YOU WANT TO CONTINUE ?  YES/NO
```

0 YES

```
BG 0000 EOJ INSTALL   MAX.RETURN CODE=xxxx
```

Continue with “Cataloging Hardware Information” on page 31.

Defining Local SNA VTAM Display Terminals

You have selected VTAM with a local SNA control unit.

You must define your control unit and at least one, but not more than three, local 3270 display terminals. If you use TCP/IP, you must also define VTAM terminals for initial startup of CICS.

Note: You must specify the physical terminal addresses in **ascending order**. If you do not enter the terminal addresses in the correct order, you get the error message IESI0076A.

```
BG 0000 IESI0071D ENTER ADDRESS OF 3270 CONTROL UNIT: PCUU
```

0 pcuu

```
BG 0000 IESI0066I DEFINE TERMINAL TYPE ATTACHED TO THIS CONTROL UNIT
BG 0000 IESI0067D ENTER 24x80, 32x80, 43x80
```

0 nnxnn

```
BG 0000 IESI0064I DEFINE UP TO 3 LOCAL VTAM TERMINALS

BG 0000 IESI0073D ENTER ADDRESS OF A 3270 TERMINAL
                  (2 TO 33) OR "END"
```

0 xx

```
BG 0000 IESI0073D ENTER ADDRESS OF A 3270 TERMINAL
                  (2 TO 33) OR "END"
```

0 xx

```
BG 0000 IESI0073D ENTER address OF A 3270 TERMINAL
                  (2 TO 33) OR "END"
```

0 xx

After the third address is entered, the terminal definition session ends.

```
BG 0000 IESI0062D CHECK YOUR ANSWERS. DO YOU WANT TO CONTINUE ?  YES/NO
```

0 YES

```
BG 0000 EOJ INSTALL   MAX.RETURN CODE=xxxx
```

Cataloging Hardware Information

The job **DTRIHARD** catalogs hardware information from the IPL procedure.

```
BG 0001 1Q47I   BG DTRIHARD nnnnn FROM LOCAL , TIME=hh:mm:ss
BG 0000 // JOB DTRIHARD CATALOG HARDWARE RELATED INFORMATION
BG 0000 EOJ DTRIHARD  MAX.RETURN CODE=xxxx
```

Cataloging ASI IPL Procedure

The job **DTRIASI** catalogs the ASI IPL procedure.

```
BG 0001 1Q47I   BG DTRIASI nnnnn FROM LOCAL , TIME=hh:mm:ss
BG 0000 // JOB DTRIASI CATALOG ASI IPL PROCEDURE
BG 0000 EOJ DTRIASI   MAX.RETURN CODE=xxxx
```

Cataloging VTAM Startup Information

The job **DTRIVTAM** runs for **VTAM users** only. It catalogs VTAM start-up information.

```
BG 0001 1Q47I   BG DTRIVTAM nnnnn FROM LOCAL , TIME=hh:mm:ss
BG 0000 // JOB DTRIVTAM CREATE VTAM STARTUP BOOK  ...
BG 0000 EOJ DTRIVTAM  MAX.RETURN CODE=xxxx
```

Building the List of Jobs

The job **DTRIJBLD** builds the list of jobs that will run.

```
BG 0001 1Q47I   BG DTRIJBLD nnnnn FROM LOCAL , TIME=hh:mm:ss
BG 0000 // JOB DTRIJBLD BUILD ORDERED JOB LIST
BG 0000 EOJ DTRIJBLD  MAX.RETURN CODE=xxxx
```

Running Job Manager Controlled Jobs

Do not cancel any of the following jobs, which are running under the control of Job Manager.

The job **LFCBLINK** creates procedures for FCBs and UCBs.

```
BG 0001 1Q47I   BG LFCBLINK nnnnn FROM (SYSA) , TIME=hh:mm:ss
BG 0000 // JOB LFCBLINK
BG 0000 *  EXECUTE THE PROCEDURE FOR THE FORMS CONTROL BUFFER THAT YOU
BG 0000 *  WANT LOADED INTO YOUR PRINTER OR IF NOT REQUIRED EXECUTE THE
BG 0000 *  PROCEDURE FOR THE CHARACTER SET BUFFER YOU WANT LOADED INTO
BG 0000 *  YOUR PRINTER. IF NEITHER IS REQUIRED REPLY "0 (END/ENTER)".
BG 0000 // PAUSE
BG 0000
```

If you accept the default UCB and FCB, reply:

0

If you do not want to use the default UCB and FCB, refer to “Creating Print Buffers for a System Printer” on page 75.

Restoring System History File

The job **HISTREST** restores the system history file.

```
BG 0001 1Q47I   BG HISTREST nnnnn FROM (SYSA) , TIME=hh:mm:ss
BG 0000 // JOB HISTREST RESTORE SYSTEM HISTORY FILE
   DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 EOJ HISTREST  MAX.RETURN CODE=xxxx
   DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Defining VSAM Catalogs, Space, and Clusters

The job **VSAMDEFS** defines the VSAM master catalog, a VSAM user catalog, VSAM space, and clusters. The error message 4228I is expected and can be ignored.

```
BG 0001 1Q47I   BG VSAMDEFS nnnnn FROM (SYSA) , TIME=hh:mm:ss
BG 0000 // JOB VSAMDEFS - DEFINE VSAM MCAT, UCAT SPACE AND CLUSTERS
BG 0000 * THIS JOB WILL DEFINE THE VSAM MASTER CATALOG, A USER CATALOG,
BG 0000 * VSAM DATA SPACE, AND VSAM CLUSTERS. FIRST TIME EXECUTION
BG 0000 * WILL RESULT IN A VSAM OPEN ERROR X'B4' (180) ON FILE IJSYSCT.
BG 0000 4228I FILE IJSYSCT  OPEN  ERROR X'B4'(180) CAT=..N/A..
          (IKQOPNCT) VOLUME 'DOSRES' NOT OWNED BY VSAM
BG 0000 EOJ VSAMDEFS  MAX.RETURN CODE=0000
```

Defining Libraries and Sublibraries

The job **LIBRDEFS** defines the necessary libraries and sublibraries for z/VSE.

```
BG 0001 1Q47I   BG LIBRDEFS nnnnn FROM (SYSA) , TIME=hh:mm:ss
BG 0000 // JOB LIBRDEFS DEFINE LIBRARIES AND SUBLIBRARIES
BG 0000 EOJ LIBRDEFS  MAX.RETURN CODE=0000
```

Restoring VSE/ICCF DTSFILE

The job **ICCFREST** restores the z/VSE-supplied VSE/ICCF DTSFILE.

```
BG 0001  1Q47I  BG ICCFREST nnnnn FROM (SYSA) , TIME=hh:mm:ss
BG 0000 // JOB ICCFREST RESTORE THE VSE/ICCF DTSFILE
BG 0000 K237I LIBRARY REALLOCATION FROM nnnn TO nnnn
BG 0000 K236I USER REALLOCATION FROM nnnn TO nnnn
BG 0000 EOJ ICCFREST  MAX.RETURN CODE=xxxx
```

Punching Install Information to VSE/ICCF DTSFILE

The job **ICCFLOAD** adds required system information to the z/VSE supplied VSE/ICCF DTSFILE.

```
BG 0001 1Q47I   BG ICCFLOAD nnnnn FROM (SYSA) , TIME=hh:mm:ss
BG 0000 // JOB ICCFLOAD PUNCH INSTALL INFO TO ICCF LIBRARY
BG 0000 EOJ ICCFLOAD  MAX.RETURN CODE=xxxx
```

Installing Separate z/VSE Base Macros

The job **MACREST** installs separate macros into PRD1.MACLIB.

```
BG 0001 1Q47I  BG MACREST nnnnn FROM (SYSA) , time=hh:mm:ss
BG 0000 // JOB MACREST - RESTORE SUB-LIBRARY PRD1.MACLIB
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 EOJ MACREST  MAX.RETURN CODE=xxxx
```

Installing LE/VSE

The job **LEREST** installs LE/VSE into the sublibrary PRD2.SCEEBASE.

```
BG 0001 1Q47I   BG LEREST nnnnn FROM (SYSA) , TIME=hh:mm:ss
BG 0000 // JOB LEREST  - RESTORE LE/VSE LIBRARY PRD2.SCEEBASE
⋮
BG 0000 EOJ LEREST    MAX.RETURN CODE=xxxx
```

Restoring Language-Dependent Members

The job **NLLIBRES** restores national language-dependent members from tape into IJSYSRS.SYSLIB.

```
BG 0001 1Q47I   BG NLLIBRES nnnnn FROM (SYSA) , TIME=hh:mm:ss
BG 0000 // JOB NLLIBRES - RESTORE LANGUAGE DEPENDENT MEMBERS INTO SYSLIB
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 EOJ NLLIBRES MAX.RETURN CODE=xxxx
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Restoring Language-Dependent VSE/ICCF Members

The job **NLICFRES** restores national language-dependent VSE/ICCF members from tape into the VSE/ICCF DTSFILE.

```
BG 0001 1Q47I   BG NLICFRES nnnnn FROM (SYSA) , TIME=hh:mm:ss
BG 0000 // JOB NLICFRES - RESTORE LANGUAGE DEPENDENT MEMBERS INTO DTSFILE
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 EOJ NLICFRES MAX.RETURN CODE=xxxx
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Installing z/VSE Base Programs

The job **BASEREST** installs the z/VSE sublibrary PRD1.BASE.

Note: This job takes several minutes. Do not cancel this job.

```
BG 0001 1Q47I   BG BASEREST nnnnn FROM (SYSA) , TIME=hh:mm:ss
BG 0000 // JOB BASEREST - RESTORE SUB-LIBRARY PRD1.BASE
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 * ********************************************************************
BG 0000 * RESTORING PRD1 - THIS STEP WILL TAKE SEVERAL MINUTES
BG 0000 * ********************************************************************
BG 0000 EOJ BASEREST  MAX.RETURN CODE=xxxx
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Installing TCP/IP

The job **TCPREST** installs TCP/IP in PRD2.TCPIPC.

Note: This job takes several minutes. Do not cancel this job.

```
BG 0001 1Q47I   BG TCPREST 00010 FROM (SYSA) , TIME=hh:mm:ss , TKN=000000
BG 0000 // JOB TCPREST  - RESTORE SUB-LIBRARY PRD2.TCPIPC
        DATE xx/xx/xxxx, CLOCK yy/yy/yy
BG 0000 M235I INSTALLATION WILL BE DONE AS FOLLOWS:
BG 0000        PRD2.TCPIPC        INTO   PRD2.TCPIPC
BG 0000 EOJ TCPREST   MAX.RETURN CODE=0000
        DATE xx/xx/xxxx, CLOCK yy/yy/yy, DURATION   zz/zz/zz
```

Initializing and Loading VSE/VSAM Files

The job **VSAMINIT** initializes and loads VSAM files that are needed by z/VSE.

Note:

1. This job takes several minutes. Do not cancel this job.
2. During this job, the control file is opened which activates full security support of the Basic Security Manager.

```
BG 0001 1Q47I   BG VSAMINIT nnnnn FROM (SYSA) , TIME=hh:mm:ss
BG 0000 // JOB VSAMINIT - INITIALIZE AND LOAD VSAM FILES
BG 0000 EOJ VSAMINIT  MAX.RETURN CODE=xxxx
```

Initializing Work Files for Info/Analysis

The job **DUMPINIT** initializes the Info/Analysis work files.

```
BG 0001 1Q47I   BG DUMPINIT nnnnn FROM (SYSA) , TIME=hh:mm:ss
BG 0000 // JOB DUMPINIT - INITIALIZE INFO/ANALYSIS WORK FILES
BG 0000 EOJ DUMPINIT  MAX.RETURN CODE=xxxx
```

Cataloging Members into VSE System Libraries

```
BG 0001 1Q47I   BG SAVEMEMB nnnnn FROM (SYSA) , TIME=hh:mm:ss
BG 0000 // JOB SAVEMEMB CATALOG MEMBERS INTO PRD2.CONFIG AND PRD2.SAVE
BG 0000 EOJ SAVEMEMB  MAX.RETURN CODE=xxxx
```

Configuring TCP/IP (Optional)

```
BG 0001 1Q47I   BG TCPIPCFG 00019 FROM (SYSA) , TIME=hh:mm:ss
BG 0000 // JOB TCPIPCFG - CONFIGURE TCP/IP
        DATE dd/mm/yyyy, CLOCK hh/mm/ss
BG 0000 * ****************************************************************
BG 0000 * *
BG 0000 * *   THIS JOB WILL START A CONFIGURATION DIALOG TO SETUP AN
BG 0000 * *   INITIAL STARTUP FOR TCP/IP.
BG 0000 * ****************************************************************

:
:
```

Refer to “Configuring TCP/IP (Optional)” on page 82 for more details of the job processing.

Telecommunications Access Method and CICS/ICCF Startup

```
BG 0001 1Q47I   BG TPSTART nnnnn FROM (SYSA), TIME=hh:mm:ss
BG 0000 // JOB TPSTART START ICCF, CICS AND VTAM (IF APPLICABLE)

BG 0000 1S47I  PRELEASE RDR,VTAMSTRT
:
:
BG 0001 1Q47I  F3 VTAMSTRT nnnnn FROM (SYSA), TIME=hh:mm:ss
F3 0003 // JOB VTAMSTRT START UP VTAM
:
:
BG 0000 1S47I  PRELEASE RDR,CICSICCF
```

```
BG 0001 1Q47I   F2 CICSICCF nnnnn FROM (SYSA), TIME=hh:mm:ss
F2 0002 // JOB CICSICCF CICS/ICCF STARTUP
:
:
F3 0024 IST093I VTMAPPL ACTIVE
F3 0024 IST093I VTMSNA ACTIVE
F3 0024 IST093I VTMNSNA ACTIVE

:
:
F3 0024 IST093I VTMCA1 ACTIVE
F3 0024 IST093I VTMCA2 ACTIVE
:
:
F3 0024 IST093I VTMSW1 ACTIVE

F3 0024 IST020I VTAM INITIALIZATION COMPLETE FOR V4R2

(additional SESSION SETUP messages may be displayed)

BG 0000 EOJ TPSTART   MAX.RETURN CODE=xxxx
```

Completion of Initial Installation Processing

The job **CLEANUP** completes initial installation processing. Messages from job CLEANUP might be displayed, together with messages from the CICS/ICCF startup job.

```
BG 0001 1Q47I  BG CLEANUP nnnnn FROM (SYSA), TIME=hh:mm:ss
BG 0000 // JOB CLEANUP
BG 0000 *  BASE INSTALL PROCESSING IS NOW FINISHED.
BG 0000 *  COMPLETION OF THE INSTALL PROCESS MUST
BG 0000 *  BE PERFORMED USING THE z/VSE DIALOGS.

BG 0000 EOJ CLEANUP   MAX.RETURN CODE=xxxx

:
:

F2 0002 DFHPA1101  DBDCCICS DFHSITSP IS BEING LOADED.
F2 0002 DFHPA1108  DBDCCICS DFHSITSP HAS BEEN LOADED. (GENERATED AT: MM/DD=
        xx/xx HH:MM= yy:yy).
F2 0002 DFHPA1100  DBDCCICS OVERRIDE PARAMETERS FROM JCL EXEC STATEMENT:

F2 0002 DFHPA1927  DBDCCICS APPLID=DBDCCICS,START=COLD,EDSALIM=14M,SI

F2 0002 DFHPA1102  DBDCCICS OVERRIDE PARAMETERS FROM SYSIPT:
F2 0002 DFHPA1927  DBDCCICS SIT=SP,STATRCD=OFF,MXT=20,NEWSIT=YES

F2 0002 DFHPA1103  DBDCCICS END OF FILE ON SYSIPT.
F2 0002 DFHTR0103 TRACE TABLE SIZE IS 256K
F2 0002 DFHSM0122I DBDCCICS Limit of DSA storage below 16MB is n,nnnK.
F2 0002 DFHSM0123I DBDCCICS Limit of DSA storage above 16MB is nnM.
F2 0002 DFHSM0113I DBDCCICS Storage protection is not active.
F2 0082 DFHDM0101I DBDCCICS CICS is initializing.
F2 0083 DFHXS1100I DBDCCICS Security initialization has started.
F2 0083 DFHWB0109I DBDCCICS Web domain initialization has started.
F2 0083 DFHSO0100I DBDCCICS Sockets domain initialization has started.
F2 0083 DFHDH0100I DBDCCICS Document domain initialization has started.
F2 0083 DFHSI1500 DBDCCICS CICS startup is in progress for CICS Transaction
        Server Version 1.1.1
F2 0083 DFHXS1105 DBDCCICS Resource profiles for class TCICSTRN have been
        built.
F2 0083 DFHXS1103I DBDCCICS Default security for userid CICSUSER has been
        established.
F2 0083 DFHSI1501I DBDCCICS Loading CICS nucleus.
:
:
F2 0083 DFHXS1101I DBDCCICS Security initialization has ended.
F2 0083 DFHWB0110I DBDCCICS Web domain initialization has ended.
F2 0083 DFHSO0101I DBDCCICS Sockets domain initialization has ended.
F2 0083 DFHMN0105I DBDCCICS Using default Monitoring Control Table.
```

```
F2 0083 DFHMN0110I DBDCCICS CICS Monitoring is inactive.
F2 0083 DFHDH0101I DBDCCICS Document domain initialization has ended.
F2 0083 DFHSI1502I DBDCCICS CICS startup is Cold.
F2 0083 DFHSI1503I DBDCCICS Terminal data sets are being opened.
F2 0083 DFHDU0304I DBDCCICS Transaction Dump Data set DFHDMPA  opened.
F2 0083 DFHCP0101I DBDCCICS CPI initialization has started.
F2 0083 DFHPR0104I DBDCCICS Partner resource manager initialization has
        started.
F2 0083 DFHFC0100I DBDCCICS File Control initialization has started.
F2 0083 DFHFC0101I DBDCCICS File Control initialization has ended.
F2 0083 DFHTD0100I DBDCCICS Transient Data initialization has started.
F2 0083 DFHAI0101I DBDCCICS AITM initialization has started.
F2 0083 DFHTD0101I DBDCCICS Transient Data initialization has ended.
F2 0083 DFHTS0100I DBDCCICS Temporary Storage initialization has started.
F2 0083 DFHTS0102I DBDCCICS About to format the temporary storage data set
        (104 control intervals).
F2 0083 DFHTS0101I DBDCCICS Temporary Storage initialization has ended.
F2 0083 DFHCP0102I DBDCCICS CPI initialization has ended.
F2 0083 DFHPR0105I DBDCCICS Partner resource manager initialization has ended.

F2 0083 DFHAI0102I DBDCCICS AITM initialization has ended.
F2 0083 DFHSI1511I DBDCCICS Installing group list VSELIST .
F2 0083 DFHFC0208I DBDCCICS
        LSR pool 1 is being built dynamically by CICS because the following
        are not defined:  'CI SIZE'   'STRINGS'   'MAXKEYLENGTH' . A delay is
        possible.
BG 0000 1S47I PRELEASE RDR,CICSICCF
F2 0083 DFHAP1203I DBDCCICS Language Environment for z/VSE is being
        initialized.
F2 0083 CEE3550I LE/VSE C/VSE Run-Time initialized
F2 0083 CEE3551I LE/VSE COBOL Run-Time initialized
F2 0083 CEE3552I LE/VSE PL/I Run-Time initialized
F2 0083 DFHWB1007 DBDCCICS Initializing CICS Web environment.
F2 0083 DFHWB1008 DBDCCICS CICS Web environment initialization is complete.
F2 0083 DFHSI8430I DBDCCICS About to link to PLT programs during the third
        stage of initialization.
F2 0085 K002I  BEGIN ICCF INITIALIZATION
F2 0085 K042I  VSE ACCESS CONTROL NOT ACTIVE, VSE/ICCF ACCESS CONTROL ACTIVE
F2 0085 K481I  DYNAMIC FILE SPACE INITIALIZATION BYPASSED
F2 0085 K001I  DEVICE TYPE IS nnn
F2 0085 K088I  HI FILE RECORDS=     nnn,nnn (nn%)
F2 0083 K029I  ICCF INITIALIZATION COMPLETED
F2 0083 DFHSI8434I DBDCCICS Control returned from PLT programs during the
        third stage of initialization.
F3 0003 IST899I RETRY OF AUTOLOGON(S) TO VTAM1.DBDCCICS IN PROGRESS
F2 0083 DFHSI1517 DBDCCICS Control is being given to CICS.
```

Once message DFHSI1517 appears, the system is available. Turn to Chapter 10, "Installation Part 3 - Native and VM," on page 87 to continue. To complete your installation, use the z/VSE dialogs.

```
⋮
BG 0000 *  BASE INSTALL PROCESSING IS NOW FINISHED. COMPLETION OF THE
BG 0000 *
BG 0000 *  INSTALL PROCESS MUST BE PERFORMED USING THE z/VSE DIALOGS
BG 0000 *
BG 0000 EOJ CLEANUP   MAX.RETURN CODE=0000
        DATE xx/xx/xxxx, CLOCK yy/yy/yy, DURATION   zz/zz/zz
```

Chapter 5. Installation Part 1 – Detailed Description

Installation part 1 consists of a number of steps. As shown in 4 you can decide on performing these steps automatically or manually. If you use the automatic installation, only those steps marked with an asterisk (*) require interaction on your part:

- Performing an IPL from tape/disk (*)
- Initializing disk devices
- Placing the Volume Table of Contents (VTOC)
- Restoring system library IJSYSRS
- Performing an IPL from DOSRES

See also “Installation Worksheet” on page 6. It helps you prepare the values that are required for initial installation.

If you are an experienced VSE user, you can go to Chapter 4, “Short Description for Experienced VSE Users,” on page 27 and install z/VSE as described there.

Chapter 6. Automatic Installation Part 1 – Native LPAR and under VM

When you install z/VSE, the first prompt that is displayed on your system console asks you, if you want to do an automatic installation of z/VSE. If you answer YES to this question, specific installation tasks are automatically handled for you. The required values are taken from a customization table which is supplied on your z/VSE installation tape/disk. You cannot change the default values.

Read Chapter 2, "Overview of z/VSE Installation," on page 3 to make sure that you know the automatic installation process and the default values that are used.

Attention: If you experience problems refer to "Problems that might occur during installation" on page 23.

If you are installing on SCSI devices, it is recommended to choose automatic installation. For further details about z/VSE SCSI disk support, refer to *z/VSE Planning*.

The following section describes preparatory tasks that you have to do, to ensure that the automatic installation process runs smoothly.

Preparatory Tasks for Users Installing z/VSE Native LPAR

If you install z/VSE native on a processor, you must perform the steps described in this section. You must also follow these steps, if you install z/VSE on a processor with Processor Resource/Systems Manager™ (PR/SM™) in LPAR mode. For information on PR/SM, consult the *Processor Resource/Systems Manager Planning Guide* shipped with your processor.

Downloading the Input/Output Configuration Data Set

Before you start to install z/VSE, make sure that the Input/Output Configuration Data Set (IOCDS) is correctly loaded on your processor.

The Input/Output Configuration Program (IOCP) describes a system's I/O configuration (using the IOCDS) to the Central Processor Unit (CPU).

For details on the Input/Output Configuration Program (IOCP), consult the IBM documentation shipped with your processor.

z/VSE Input/Output Configuration Program

When you install z/VSE, you **automatically** install the **z/VSE IOCP batch program**. You need the z/VSE batch IOCP to create a new IOCDS when you change the hardware configuration. You also need it to define and validate the IOCP macro instructions if you prepare for the installation of a new processor. Use skeleton SKIOCPCN (available in VSE/ICCF library 59) as a base for configuration changes.

Step 1 – Performing an IPL from Tape/Disk (for Automatic Installation)

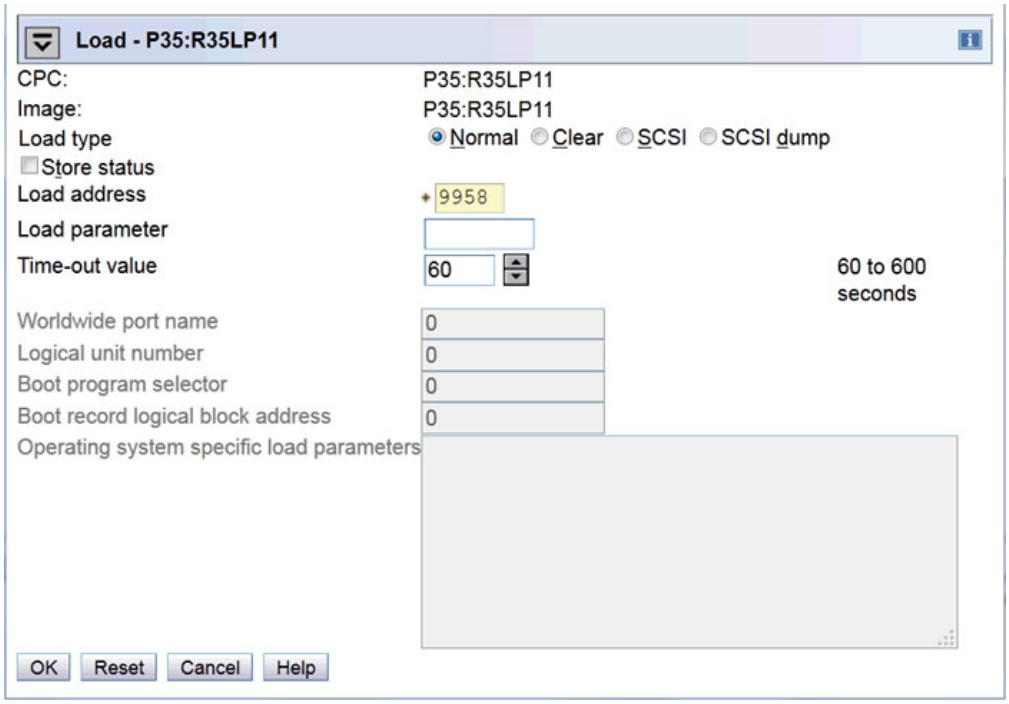
Installing from tape
Mount the tape labeled **z/VSE*vrm*-*YY***. Do not reposition or dismount the tape until you have instructions to do so.

Installing from installation disk
Proceed to the next step.

Users Installing z/VSE Native LPAR: Example for Installing on an IBM zEnterprise EC12

To perform a load, you use the "Support Element Workplace". A load resets a system or logical partition, prepares it for loading an operating system, and then loads the operating system. (Other systems might refer to a load as an initial program load or IPL.) On the CPC Recovery Task List, double-click on the load icon to display the load window:

Important: Note that the example shows you how to perform an IPL on an IBM zEnterprise EC12. ***This is just an example***. For detailed information on how to perform an IPL on your server, refer to the respective operating procedure manual.



Fill in the required information and click OK. For more information about the IPL Load Parameter, refer to *z/VSE System Control Statements*. For more information on the other parameters, see the operating procedure manual for your particular server.

A confirmation window is displayed where you can verify the provided information. If the information is correct, select the YES push button to perform the load. A progress window is displayed which indicates the progress of the load and the result. When the load has successfully completed, click OK to close the window. Otherwise, follow the directions or any messages that are displayed to determine the problem and correct it.

Users Installing z/VSE Under VM

To make your VM system ready for the initial installation of z/VSE, you have to perform the following steps:

To define the console mode, enter in CP mode:

TERM CON 3270

To define terminals to VM, enter in CP mode:

DEF GRAF *pcuu* (*pcuu* - physical terminal address)

Repeat this command for every terminal you want to define, if you have not yet defined the terminals in your VM directory.

You have to define at least 64 MB of storage. The maximum value is 32 GB. Enter the following in CP mode:

DEF STOR xxxM or **DEF STOR xxG**(Replace xxx with the value you want to specify.)

In case of SCSI disk devices, you must enter the definitions required to access the SCSI disk by using the SET LOADDEV command. For example,

```
SET LOADDEV PORT 50050763 00CE9A76 LUN 57050000 00000000
```

To perform an IPL, enter in CP mode:

IPL *pcuu* (*pcuu* is the physical address of the drive with the z/VSE tape or installation disk).

After having typed in all parameters, press **ENTER**.

Step 2 – Starting Automatic Installation

After having performed an IPL, the system waits for an interrupt from the console. Press **ENTER** to continue.

If you install a native z/VSE, make sure that the time-of-day clock is set. In case of an error situation, refer to “Problems that might occur during installation” on page 23.

The first system prompt that appears on your system console **after** you have done an IPL is the following:

```
BG 0000 SI01D  DO YOU WANT TO DO AN AUTOMATIC INSTALLATION (YES/NO)?
```

0 YES

Answer YES if you want to do an automatic installation. As described before, z/VSE then handles part 1 of the initial installation automatically for you. You must specify only a few values to start the automatic installation process.

If you answer NO to this system prompt, you have to turn to Chapter 7, “Manual Installation Part 1 – Native LPAR,” on page 45 or Chapter 8, “Manual Installation Part 1 – Under VM,” on page 59 and proceed as described there.

This chapter describes installation part 1, assuming that you have answered **YES** to the above system prompt.

You are now asked whether you want a listing of the automatic installation process. The listing that you receive, if you specify a printer, contains all messages and system prompts necessary for installation. Therefore, it is recommended to specify a printer.

Note: You can specify a printer only at this time during automatic installation.

If you are installing on a SCSI device, you receive messages related to SCSI definitions. If you are not using SCSI devices, these messages are not displayed.

For ease of use, nearly all of the messages issued during Automatic Initial Installation are suppressed on your system console.

```
SA02D  IF YOU WANT A LISTING, SPECIFY PCUU OF PRINTER, ELSE (ENTER)
```

0 *pcuu* (*pcuu* - physical address of printer)

Otherwise, enter **0** to continue.

If the physical device address is greater than X'FFF', the message below displays the physical device address and corresponding VSE address:

```
BG 0000 SA07I THE PHYSICAL DEVICE ADDRESS pcuu CORRESPONDS TO THE ADDRESS cuu
 USED BY VSE
```

Note: If the printer cannot be sensed, messages SA04I, SA05I, and SA06D are issued, asking for the correct device type.

```
BG 0000 SI70D IF YOU WANT TO INSTALL VSE ON SCSI SPECIFY YES, ELSE NO
```

Not Installing on SCSI

0 NO Enter the physical addresses of DOSRES and SYSWK1:

```
BG 0000 SI02D  ENTER PCUU OF DOSRES
```

0 ***pcuu***

```
BG 0000 SI03D  ENTER PCUU OF SYSWK1
```

0 ***pcuu***

Installing on SCSI

0 YES

```
BG 0000 SI75I ENTER SCSI COMMAND FOR DOSRES
BG 0000 SA80D SCSI,FBA=CUU,FCP=PCUU,WWPN=PORTNAME,LUN=LUN
```

Note:

1. SCSI device addresses have to be less than or equal to X'FFF'.
2. Device addresses, which have been deleted with the DEL command cannot be reused as SCSI DOSRES or SCSI SYSWK1 devices.

0 SCSI,FBA=608,FCP=C001,WWPN=5005076300C69A76,LUN=5745

```
BG 0000 SA07I THE PHYSICAL DEVICE ADDRESS C001 CORRESPONDS TO THE ADDRESS 101
 USED BY VSE
AR 0033 0S45I SCSI DEVICE 608 CONSISTS OF 09765632 BLOCKS, 09756789 BLOCKS ARE
         AVAILABLE, 651 BLOCKS ARE UNUSED
BG 0000 SA85D MORE SCSI DEFINITIONS NEEDED? YES OR NO
```

0 YES

```
BG 0000 SA75I ENTER SCSI COMMAND OR ENTER
BG 0000 SA80D SCSI,FBA=CUU,FCP=PCUU,WWPN=PORTNAME,LUN=LUN
```

0 SCSI,FBA=609,FCP=D00,WWPN=5005076300C29A76,LUN=5746

```
AR 0033 0S45I SCSI DEVICE 609 CONSISTS OF 09765632 BLOCKS, 09756789 BLOCKS ARE
         AVAILABLE, 651 BLOCKS ARE UNUSED
BG 0000 SA62I MAXIMUM TWO SCSI DEVICES ACCEPTED. PROCESSING CONTINUES
```

FBA is the device type for SCSI devices.

Attention: If you receive message SI04I or experience other problems during installation refer to "Problems that might occur during installation" on page 23.

Before the automatic installation process is started, the following information messages are displayed:

For DOSRES

- If the physical device address you have entered is smaller than X'FFF':

  ```
  BG 0000 SI08I DOSRES IS cuu, DEVICE TYPE xxxx
  ```

- If the physical device address you have entered is larger than X'FFF':

  ```
  BG 0000 SI18I DOSRES PHYSICAL DEVICE ADDRESS IS pcuu, VSE ADDRESS IS cuu,
  DEVICE TYPE xxxx
  ```

For SYSWK1

- If the physical device address you have entered is smaller than X'FFF':

  ```
  BG 0000 SI09I SYSWK1 IS cuu, DEVICE TYPE xxxx
  ```

- If the physical device address you have entered is larger than X'FFF':

  ```
  BG 0000 SI19I SYSWK1 PHYSICAL DEVICE ADDRESS IS pcuu, VSE ADDRESS IS cuu,
  DEVICE TYPE xxxx
  ```

Where *pcuu* shows the physical device address, *cuu* the corresponding VSE address and *xxxx* the device type of your DOSRES and SYSWK1.

With the following message, you have the opportunity to start or redefine the automatic installation part:

```
BG 0000 SI10D  START WITH AUTOMATIC INSTALLATION (YES/NO?)
```

0 YES

With this message, you have the opportunity to confirm your input and start or redefine the automatic installation process.

If you answer NO, restart with message SI01D once more.

From now on, the automatic installation process runs. Your disk devices are initialized, the VTOC is created in the middle of the disk packs, and the system library is restored.

This process takes some time to complete. Do not hit any key to interrupt this process.

During the automatic installation process, the system informs you from time to time about the processing status. System messages such as the following appear on your screen:

```
BG 0000 SI20I  FORMATTING OF DOSRES IN PROGRESS
BG 0000 SI20I  FORMATTING OF SYSWK1 IN PROGRESS
...
BG 0000 L306I  RESTORE OF LIBRARY IJSYSR1 IN PROGRESS
...
BG 0000 L326I  RESTORE COMPLETE FOR LIBRARY IJSYSR1
```

When the automatic installation is finished, the following message appears:

```
BG 0000 SA17W  ***** END OF STAND ALONE PROCESSING ******
```

The system now performs an automatic IPL from DOSRES.

You can turn to Chapter 9, "Installation Part 2 – Detailed Description - Native LPAR and under z/VM," on page 71 and continue installing z/VSE.

Attention: If you experience problems refer to "Problems that might occur during installation" on page 23.

Chapter 7. Manual Installation Part 1 – Native LPAR

This section provides installation instructions for installing a native z/VSE system using manual support.

Attention: If you experience problems, refer to "Problems that might occur during installation" on page 23.

If you are installing on SCSI devices, it is recommended to choose automatic installation. For further details about z/VSE SCSI disk support, refer to *z/VSE Planning*.

Preparatory Tasks for Users Installing z/VSE Native LPAR

If you install z/VSE native on a processor, you must perform the steps described in this section. You must also follow these steps, if you install z/VSE on a processor with Processor Resource/Systems Manager (PR/SM) in LPAR mode. For information on PR/SM, consult the *Processor Resource/Systems Manager Planning Guide* shipped with your processor.

Downloading the Input/Output Configuration Data Set

Before you start to install z/VSE, make sure that the Input/Output Configuration Data Set (IOCDS) is correctly loaded on your processor. The Input/Output Configuration Program (IOCP) describes a system's I/O configuration (using the IOCDS) to the Central Processor Unit (CPU).

For details on the Input/Output Configuration Program (IOCP), consult the IBM manuals shipped with your processor, for example:

- *z9 Processor Resource/Systems Manager Planning Guide*, SB10-7041
- *z10 Processor Resource/Systems Manager Planning Guide*, SB10-7153
- *zEnterprise System Processor Resource/Systems Manager Planning Guide*, SB10-7155

z/VSE Input/Output Configuration Program

When you install z/VSE, you **automatically** install the **z/VSE IOCP batch program**. You need the z/VSE batch IOCP to create a new IOCDS when you change the hardware configuration. You also need it to define and validate the IOCP macro instructions if you prepare for the installation of a new processor. Use skeleton SKIOCPCN (available in VSE/ICCF library 59) as a base for configuration changes.

Step 1 – Performing an IPL from Tape/Disk (Manual/Native LPAR)

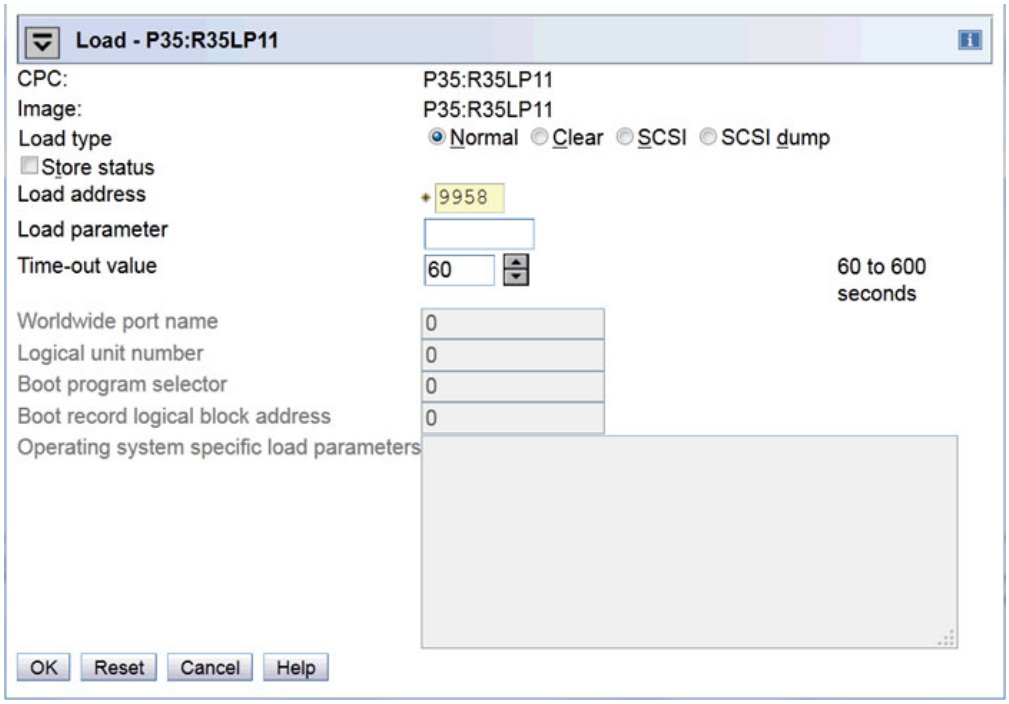
Installing from tape
Mount the tape labeled **z/VSE*vrm-YY***. Do not reposition or dismount the tape until you have instructions to do so.

Installing from installation disk
Proceed to the next step.

Example for Installing on an IBM zEnterprise EC12

To perform a load, you use the "Support Element Workplace". A load resets a system or logical partition, prepares it for loading an operating system, and then loads the operating system. (Other systems might refer to a load as an initial program load or IPL.) On the CPC Recovery Task List, double-click on the load icon to display the load window:

Important: Note that the example shows you how to perform an IPL on an IBM zEnterprise EC12. ***This is just an example***. For detailed information on how to perform an IPL on your server, refer to the respective operating procedure manual.



Fill in the required information and click OK. For more information about the IPL Load Parameter, refer to *z/VSE System Control Statements*. For more information on the other parameters, see the operating procedure manual for your particular server.

A confirmation window is displayed where you can verify the provided information. If the information is correct, select the YES push button to perform the load. A progress window is displayed which indicates the progress of the load and the result. When the load has successfully completed, click OK to close the window. Otherwise, follow the directions or any messages that are displayed to determine the problem and correct it.

Step 2 – Starting Installation (Manual/Native LPAR)

After having performed an IPL, the system waits for an interrupt from the console. Press **ENTER** to continue.

Attention: If you install a native z/VSE, make sure that the time-of-day clock is set. In case of an error situation, refer to “Problems that might occur during installation” on page 23.

The first system prompt that appears on your system console after you have done an IPL is:

```
BG 0000 SI01D DO YOU WANT TO DO AN AUTOMATIC INSTALLATION (YES/NO)?
```

0 NO

Answer **NO** to do a manual installation.

```
BG 0000 SA01I ********** STAND ALONE PROGRAMS LOADED **********
BG 0000 SA02D  IF YOU WANT A LISTING,SPECIFY PCUU OF PRINTER, ELSE (ENTER)
```

0

If you want a listing, specify the physical address of the printer (for example, **0 100e**). Otherwise enter **0**. If the printer cannot be sensed, messages SA04I, SA05I, and SA06D are issued, asking for the correct device type.

If the physical device address is greater than X'FFF', the message below displays the physical device address and corresponding VSE address:

```
BG 0000 SA07I THE PHYSICAL DEVICE ADDRESS pcuu CORRESPONDS TO THE ADDRESS cuu
 USED BY VSE
```

You are now requested to specify the device type of the printer.

```
BG 0000 SA03D  DEVICE TYPE IS xxxxyy. ACCEPT (ENTER) OR SPECIFY ALTERNATE TYPE
```

If this is the device type that you want to specify, enter:

0

z/VSE System Control Statements contains a complete list of the supported device type codes, including those for PRT1.

```
BG 0000 SA08D DATE IS mm/dd/yyyy. ACCEPT DATE (ENTER) OR SPECIFY
              DATE MM/DD/YYYY
```

If you want to change the date, you must enter two digits for month and day, and four digits for year, separated by a slash. Otherwise enter **0**.

0 ***mm/dd/yyyy***

In case you are installing on a SCSI device, you receive messages related to SCSI definitions. If you are not using SCSI devices, these messages are not displayed.

```
BG 0000 SA70D IF YOU WANT TO USE SCSI DEVICES SPECIFY YES, ELSE NO
```

Not installing on SCSI

0 NO

Installing on SCSI

0 YES

```
BG 0000 SA75I ENTER SCSI COMMAND OR ENTER
BG 0000 SA80D SCSI,FBA=CUU,FCP=PCUU,WWPN=PORTNAME,LUN=LUN
```

Note:

1. SCSI device addresses have to be less than or equal to X'FFF'.
2. Device addresses, which have been deleted with the DEL command cannot be reused as SCSI DOSRES or SCSI SYSWK1 devices.

For example:

0 SCSI,FBA=602,FCP=14A3,WWPN=5005076300CA9A76,LUN=5703000000000000

```
BG 0000 SA07I THE PHYSICAL DEVICE ADDRESS 14A3 CORRESPONDS TO THE ADDRESS 140
 USED BY VSE
AR 0033 0S45I SCSI DEVICE 602 CONSISTS OF 19531264 BLOCKS, 19522902 BLOCKS ARE
         AVAILABLE, 170 BLOCKS ARE UNUSED
BG 0000 SA85D MORE SCSI DEFINITIONS NEEDED? YES OR NO
```

0 YES

```
BG 0000 SA75I ENTER SCSI COMMAND OR ENTER
BG 0000 SA80D SCSI,FBA=CUU,FCP=PCUU,WWPN=PORTNAME,LUN=LUN
```

For example:

0 SCSI,FBA=605,FCP=14A2,WWPN=5005076300CE9A76,LUN=570D000000000000

```
BG 0000 SA07I THE PHYSICAL DEVICE ADDRESS 14A2 CORRESPONDS TO THE ADDRESS 141
 USED BY VSE
AR 0033 0S45I SCSI DEVICE 605 CONSISTS OF 03906304 BLOCKS, 03897432 BLOCKS ARE
         AVAILABLE, 680 BLOCKS ARE UNUSED
BG 0000 SA62I A MAXIMUM OF TWO SCSI DEVICES IS ACCEPTED. PROCESSING CONTINUES
```

End of installing on SCSI

```
BG 0000 SA09I SELECT ONE OF THE FOLLOWING PROGRAMS, OR TYPE END
BG 0000 SA10D FASTCOPY, RESTORE, ICKDSF, DITTO, REIPL
```

0 ICKDSF

The message below informs you, that you now have to enter VSE addresses and how to display them with the QUERY IO command. For details on the command refer to *z/VSE System Control Statements*.

```
BG 0000 SA60I ***** FOR THE ICKDSF UTILITY YOU NEED TO SPECIFY VSE DEVICE
ADDRESSES WHICH YOU CAN FIND BY USING THE QUERY IO COMMAND. *****
BG 0000 ICKDSF-VSE    DEVICE SUPPORT FACILITIES 17.0     TIME
BG 0000 xx/xx/xx     MM/DD/YYYY
BG 0000 ENTER INPUT COMMAND:
```

The next input requested, is an INIT UNIT command described in "Step 3 – Initializing Disks and Placing the VTOC (Manual/Native LPAR)."

Step 3 – Initializing Disks and Placing the VTOC (Manual/Native LPAR)

For z/VSE installation, you need to initialize two disk devices, **DOSRES** and **SYSWK1** with the INIT command. You first initialize the volume DOSRES and continue with SYSWK1.

Note: You can initialize as many data volumes as you need and give them individual names.

In addition, you have to place the VTOC. You can choose to place the VTOC in the middle of the disk pack or at the end of it.

If the Device Support Facilities Program, is to initialize either a new ECKD disk or a ECKD disk that was used under another operating system (for example, z/OS®), the program must validate and rewrite the home address and record 0 on each track of the disk.

In this case, additional parameters of the INIT command (VALIDATE, CHECK) are required to initialize the disks correctly. Otherwise, you might have problems later, when you IPL the restored system. Note that `validate` might not be available for all disk devices.

You should review the INIT command in detail, especially if one of the following is true:

- The disks have never been initialized.
- The disks have been previously used on a system other than VSE.
- You are changing from emulation mode to disk native mode.

Note: If the INIT command exceeds 70 characters on your screen, use a dash (-) as the continuation character. The system will then ask you for additional information.

Refer to "Storage and Tuning Recommendations" in *z/VSE Planning* for more information on how to reduce VTOC space. The predefined values are sufficient for up to 230 labels.

Initializing Disks (VTOC in the Middle of Volume)

The following INIT commands place the VTOC at the recommended locations, almost in the middle of the disk devices.

Note that there are **different locations for DOSRES and SYSWK1**. Therefore you must enter two different commands, one for DOSRES and one for SYSWK1. Replace **cuu** with the respective VSE address.

FBA device:

0 INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(125440,228,8192) VOLID(DOSRES)

0 INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(306176,228,8192) VOLID(SYSWK1)

IBM 3380 (ECKD device):

0 INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(210,11,4) VOLID(DOSRES)

0 INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(325,11,4) VOLID(SYSWK1)

IBM 3390 (ECKD device):

0 INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(208,11,4) VOLID(DOSRES)

0 INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(301,11,4) VOLID(SYSWK1)

After you entered the appropriate input command, respond with `U` to the following message, to proceed with command processing:

```
BG 0000 ICK003D REPLY U TO ALTER VOLUME cuu CONTENTS, ELSE T
```

0 U

```
BG 0000 ICK01314I VTOC IS LOCATED AT CCHH=X'nnnn nnnn' AND IS nn TRACKS.
BG 0000 ICK00001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS nn
        ENTER INPUT/COMMAND:
```

To exit ICKDSF command processing and to return to the stand-alone utility selection, enter:

0 END

```
BG 0000 ICK00002I ICKDSF PROCESSING COMPLETE. MAXIMUM CONDITION CODE WAS 0
```

Initializing Disks (VTOC at the End of Volume)

The following INIT commands place the VTOC end of the disk devices. Note that there are **different locations for DOSRES and SYSWK1**. Therefore you must enter two different commands, one for DOSRES and one for SYSWK1. Replace **cuu** with the respective VSE address.

Note:

1. Due to an ICKDSF restriction, large disks with more than 4369 cylinders cannot be initialized with VTOC at the End of Volume.
2. For FBA devices, it is **not** recommended to put the VTOC at the End of Volume. This is valid for both system and data devices.
3. Initializing FBA minidisks with the VTOC at the end of the disk pack, is the same as initializing dedicated disks with the VTOC at the end of the disk pack.
4. For FBA disks, including SCSI disk devices, make sure the number of blocks of the disk is a multiple of the so called actuator file which is 8*777. If the number of blocks is not a multiple, placing the VTOC at the end of the volume might lead to problems because the system cannot read the VTOC.
5. The DASDFP operand of the IPL SYS command also influences VTOC reading. As shipped, it is set to YES and requires a multiple of 8*777 in case of FBAVTOC(END). If it is set to NO (DASDFP=NO), FBAVTOC(END) can be used without ensuring a multiple of 8*777 (at the cost of file protection).

FBA device:

0 INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(END) VOLID(DOSRES)

0 INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(END) VOLID(SYSWK1)

IBM 3380 and IBM 3390 (ECKD devices) :

0 INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(END) VOLID(DOSRES)

0 INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(END) VOLID(SYSWK1)

Respond with U to the following message, to proceed with command processing:

```
BG 0000 ICK003D REPLY U TO ALTER VOLUME cuu CONTENTS, ELSE T
```

0 U

```
BG 0000 ICK01314I VTOC IS LOCATED AT CCHH=X'nnnn nnnn' AND IS nn TRACKS.
BG 0000 ICK00001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS nn
        ENTER INPUT/COMMAND:
```

To exit ICKDSF command processing and to return to the stand-alone utility selection, enter:

0 END

Additional Messages

If you install on previously used disk devices, the system might issue the following messages:

```
ICK001D CONFIRM PURGING OF UNEXPIRED DATA SETS, REPLY U TO PURGE, ELSE T
```

0 U

```
ICK019D CONFIRM PURGING OF ALL VSAM FILES, REPLY U TO PURGE, ELSE T
```

0 U

Step 4 – Restoring the System Library IJSYSRS (Manual/Native LPAR)

This task restores the system library IJSYSRS (IJSYSR1). The following system prompts and messages appear:

```
BG 0000 SA09I  SELECT ONE OF THE FOLLOWING PROGRAMS, OR TYPE END
BG 0000 SA10D  FASTCOPY, RESTORE, ICKDSF, DITTO, REIPL
```

0 RESTORE

Installing from tape

Message SA11D is displayed:

```
BG 0000 SA11D  SPECIFY ADDRESS OF INPUT DEVICE  PCUU
```

0 ***pcuu*** (*pcuu* - tape drive address where z/VSE tape is mounted)

Installing from installation disk

Message SA32I is displayed prior to message SA11D:

```
BG 0000 SA32I INSTALLATION DISK WAS ASSIGNED TO VIRTUAL TAPE  cuu
FOR RESTORE FROM INSTALLATION DISK SPECIFY cuu AS INPUT DEVICE PCUU

BG-0000 SA11D SPECIFY ADDRESS OF INPUT DEVICE PCUU
```

0 ***pcuu*** (specify *pcuu* as displayed in message SA32I)

Installing either from tape or installation disk

If the physical device address is greater than X'FFF', the message below displays the physical device address and corresponding VSE address:

```
BG 0000 SA07I THE PHYSICAL DEVICE ADDRESS pcuu CORRESPONDS TO THE ADDRESS cuu
 USED BY VSE
BG 0000 SA03D DEVICE TYPE IS xxxxyy. ACCEPT (ENTER) OR SPECIFY ALTERNATE TYPE
```

0

You might get the following message:

```
BG 0000 SA13D  TAPE MODE IS XX. ACCEPT (ENTER) OR SPECIFY ALTERNATE MODE YY
```

0

Always accept the default when you restore the contents of the SYSRES volume, regardless what type of tape unit you use.

```
BG 0000 SA15D  FOR TAPE LABEL CHECKING SPECIFY // TLBL, ELSE (ENTER)
```

0

```
BG 0000 SA16D  SPECIFY ADDRESS OF SYSRES DISK  PCUU
```

0 ***pcuu*** (*pcuu* - address of DOSRES)

If the physical device address is greater than X'FFF', the message below displays the physical device address and corresponding VSE address:

```
BG 0000 SA07I THE PHYSICAL DEVICE ADDRESS pcuu CORRESPONDS TO THE ADDRESS cuu
 USED BY VSE
BG 0000 SA03D  DEVICE TYPE IS xxxxyy. SPECIFY ALTERNATE TYPE, OR ACCEPT (ENTER)
```

0

```
BG 0000 L302A ENTER YES TO RESTORE SYSRES FILE IJSYSR1 OR NO TO SKIP
              TO NEXT SYSRES
```

0 YES

```
BG 0000 L315I ORIGINAL FILE ID= VSE.SYSRES.LIBRARY
L316A ENTER YES TO KEEP OR NO TO RESPECIFY THE SYSRES FILE ID
```

0 YES

You **must** answer **NO** to the following prompt:

```
BG 0000 L309I ORIGINAL ALLOCATION= xxxx   ....
BG 0000 L310A ENTER YES TO KEEP OR NO TO RESPECIFY THE ALLOCATION
```

0 NO

Now use the values in this table to answer to the next system prompt:

Disk Device Type	Allocation Value (xxxxx)
For 3380 (all models)	959
For 3390 (in 3390 mode)	899
For 3390 (in 3380 track compatibility mode)	959
For generalized FBA disks	59390

```
BG 0000 L312I MINIMUM ALLOCATION= xxx   ....
BG 0000 L304I ENTER THE DESIRED ALLOCATION AS NUMBER OF   ....
BG 0000 L313A ALLOC=
```

0 ***xxxxx***

```
BG 0000 L329A ENTER YES TO RESTORE ALL SUBLIBRARIES OR NO FOR
        SELECTIVE RESTORE
```

0 YES

```
BG 0000 L338I SUMMARY OF RESTORE PARAMETERS:
BG 0000 L318I FILE NAME = IJSYSR1
BG 0000 L319I FILE ID = VSE.SYSRES.LIBRARY.xxx
BG 0000 L321I ALLOCATION=  xxxx   ....
BG 0000 L344I START=    ......          - END=   ....
BG 0000 L327I RESTORE ALL SUBLIBRARIES
BG 0000 L322A ENTER YES IF THE SPECIFICATION IS CORRECT OR NO TO RESPECIFY
```

0 YES

Restarting the Restore

If you restart this step and you get the following message (*xxxxxxx* is the file name),

```
BG 0000 L324I EQUAL FILE ID IN VTOC xxxxxxx ...
BG 0000 L319I FILE ID=id
BG 0000 L330A TYPE CANCEL OR DELETE
```

you should enter:

0 DELETE

ECKD device users installing from tape

The system displays the following message:

```
BG 0000 L300I FORMATTING OF LIBRARY IJSYSR1 IN PROGRESS
```

Installing either from tape or installation disk

```
BG 0000 L306I RESTORE OF LIBRARY IJSYSR1 IN PROGRESS
BG 0000 L325I RESTORE OF SUBLIBRARY IJSYSR1.SYSLIB IN PROGRESS
BG 0000 L326I RESTORE COMPLETE FOR LIBRARY IJSYSR1
BG 0000 SA09I SELECT ONE OF THE FOLLOWING PROGRAMS, OR TYPE END
BG 0000 SA10D  FASTCOPY, RESTORE, ICKDSF, DITTO, REIPL
```

Installing from tape

0 REIPL

```
BG-0000 SA55D ENTER ADDRESS OF REIPL DEVICE PCUU
```

0 ***pcuu***

```
BG-0000 SA79D REIPL FROM SCSI? SPECIFY YES OR NO
```

0 YES

```
BG-0000 SA77D ENTER CUU OF SYSWK1
```

0 ***cuu***

Installing from installation disk

0 REIPL

```
BG-0000 SA55D ENTER ADDRESS OF REIPL DEVICE PCUU
```

0 ***pcuu***

```
BG-0000 SA57D CONTINUE MANUAL INSTALLATION? SPECIFY YES OR NO
```

- Specify **YES** to continue manual installation using the installation disk.
- Specify **NO**, if manual installation from disk is to be terminated.

```
BG-0000 SA79D REIPL FROM SCSI? SPECIFY YES OR NO
```

0 YES

```
BG-0000 SA77D ENTER CUU OF SYSWK1
```

0 ***cuu***

System Library IJSYSRS is now restored.

Step 5 – Performing an IPL from DOSRES (Manual/Native LPAR)

This step uses a z/VSE-supplied IPL procedure. The correct IPL procedure is chosen automatically, based on the disk type. z/VSE selects the appropriate options for your system.

Usually, you do not have to add devices during this task. The IPL program for z/VSE uses device sensing to automatically define the devices on the system. Therefore, you should power on the devices which you need defined during IPL. You must be aware that for initial installation, only up to **1024** devices are allowed. If your environment includes more than 1024 devices, you have to identify the devices that you do **not** need for installing the system and **exclude** them from the installation process.

There are several alternatives for excluding the devices:

1. You can power off devices, which you do not want to be sensed.
2. If you decide not to power off the devices, the system senses all operational devices. It then displays the number of devices sensed and asks you to use the

IPL DEL command to delete devices not needed. Refer to "Problems that might occur during installation" on page 23 for details.

3. You can use an IOCDS that contains up to 1024 devices.

If not all necessary information can be sensed, you are asked to define these devices when you complete the initial installation (Chapter 10, "Installation Part 3 - Native and VM," on page 87).

If a device is needed for the minimum configuration and it cannot be sensed, you are asked to enter command IPL ADD for that device.

Note: You should have either a system printer or a terminal printer attached to your system. This is recommended even though the system does not check for the presence of a printer. If you only have terminal printers attached, z/VSE must be up and running in order to get the VSE system printer output sent to a terminal printer.

Note: If you are installing on SCSI devices, you must now redefine the SCSI parameters at the hardware console. Refer to "Step 1 – Performing an IPL from Tape/Disk (Manual/Native LPAR)" on page 45 for details.

Perform an IPL from DOSRES.

According to the type of processor you use, perform the IPL as described under "Step 1 – Performing an IPL from Tape/Disk (Manual/Native LPAR)" on page 45. Note that the example there shows you how to IPL using an IBM System z9. ***This is just an example***. If you are using a different processor, refer to the operating procedure manual for your server.

After having performed an IPL, the system waits for an interrupt from the console.

Press **ENTER** to continue.

Note: If you experience problems refer to "Problems that might occur during installation" on page 23.

```
BG 0000 0I04I IPLDEV=X'pcuu',VOLSER=DOSRES,CPUID=xxxxxxxxxxxx
BG 0000 0J01I IPL=$IPLExx ,JCL=$$JCL7xx
BG 0000 $$A$SUPI,VSIZE=nnM,VPOOL=nnnK,VIO=nnnK,LOG, IODEV=1024
BG 0000 0I30I DATE=xx/xx/xxxx,CLOCK=yy/yy/yy,ZONE=nnnn/00/00
BG 0000      THE DATE VALUE FORMAT IS MM/DD/YYYY
BG 0000 0J47I CHANNEL SUBSYSTEM:   nnnn DEVICE(S) FOUND OPERATIONAL.
BG 0000     ...
BG 0000     ...
BG 0000 ADD FDF,FBAV VIRTUAL DISK FOR LABEL AREA
BG 0000 ADD FEC,3505
BG 0000 ADD FFC,3505 ICCF DUMMY DEVICE DON'T DELETE
BG 0000     ...
BG 0000     ...(additional devices added)
BG 0000     ...
BG 0000 ADD FFF,CONS     DEDICATED CONSOLE DON'T DELETE
BG 0000 DEF SYSCAT=DOSRES,SYSREC=SYSWK1
BG 0000 0J10I IPL RESTART POINT BYPASSED
BG 0000 0J99I  DEVICE ADDRESS    VSE ADDDRESS ASSIGNED
BG 0000             1081           001
BG 0000             2000           002
BG 0000             2001           003
BG 0000             3081           004
BG 0000             9000           005
BG 0000             9001           006
```

```
BG 0000 SYS DASDFP=YES
BG 0000 SYS SEC=NO
BG 0000 SYS PASIZE=nnM
BG 0000 SYS SPSIZE=nK
BG 0000 SYS SERVPART=FB
BG 0000 DPD VOLID=DOSRES,CYL=xxx,NCYL=xx,TYPE=N,DSF=N
BG 0000 0I52I PDS EXT 01 ON cuu:         LOW          HIGH
BG 0000                   CC HH:      xxx      x    xxx     xx4
BG 0000             PAGE NUMBER:            x         xxxx
BG 0000 DPD VOLID=DOSRES,CYL=xxx,TYPE=N,DSF=N
BG 0000 0I52I PDS EXT 02 ON cuu:         LOW          HIGH
BG 0000                   CC HH:      xxx      x    xxx     xx
BG 0000             PAGE NUMBER:         xxxx        xxxxx
BG 0000             VIO START PAGE NUMBER:           xxxxx
BG 0000 0I52I LABEL AREA ON cuu:         LOW          HIGH
BG 0000                   CC HH:       xx      x     xx     xx
BG 0000 SVA SDL=nnn,GETVIS=(nnnK,nM),PSIZE=(nnnK,nM)
BG 0000 0J24I DASD SHARING SUPPORT RESET
BG 0000 0J62I ACTUAL CHANQ IS nnn
BG 0000 0J83I ACTUAL SYSTEM TIME ZONE=EAST/00/00
BG 0000 0J69I ACTUAL SIZE OF PRIVATE AREA IS nnM
BG 0000       31-BIT SYSTEM GETVIS AREA ROUNDED BY 692K
BG 0000 0J73I ACTUAL NUMBER OF USER SDL ENTRIES IS xxx
AR 0030 VMCF10I VM/VSE INTERFACE INITIALIZED
BG 0000 0J39I ACTUAL BUFSIZE IS nnnn
BG 0000 0J76I software/hardware COMPRESSION INITIALIZED
BG 0000
0I26I $$BFCB23 LOADED                     CUU=xxx
BG 0000 0I20I IPL COMPLETE FOR system identification
BG 0000       SUPVR USERID IS: ......
```

Additional Messages

Some systems also might display the following messages:

```
BG 0000 4301I NO FORMAT 1 LABEL FOUND  IJSYSCN SYSREC=xxx SYSWK1
BG 0000 1I94I HARD COPY OPEN FAILED, HC=CREATE FORCED
BG 0000 ALLOC BG=xxxxK
BG 0000 SIZE  BG=xxxxK
⋮
        (additional ALLOC and SIZE statements)
⋮
```

Because the VSE.CONTROL.FILE does not exist yet, you will get the following message:

```
 FB 0011 // JOB SECSERV
         DATE xx/xx/xxxx, CLOCK yy/yy/yy
 FB 0074 4228I FILE IJSYSCT    OPEN  ERROR X'B4'(180) CAT=..N/A..
    (OPNCT-20) VOLUME 'DOSRES' NOT OWNED BY VSAM
 FB 0074 4228I FILE IESCNTL    OPEN  ERROR X'B4'(180) CAT=VSESPUC (4,AD,2)
    (OPNHC-10) RC X'00000004' FROM CATLG
 FB 0074 BST300E THE II CONTROL FILE COULD NOT BE OPENED.
```

This error message is only informational and processing continues.

```
BG 0000 STOP
F1 0001 // JOB POWSTART
```

If Second or Additional IPL from Disk

If you restart this step, you might get messages concerning the VSE/POWER QUEUE.FILE, DATA.FILE, or ACCOUNT.FILE, such as:

```
F1 0001 4733D EQUAL FILE ID IN VTOC ...
```

Enter:

1 DELETE

```
.
.
.
.
     DATE xx/xx/xxxx, CLOCK yy/yy/yy

F1 0001 1Q20I  AUTOSTART IN PROGRESS
F1 0001 1R75I   BG AUTOSTARTED
F1 0001 1R75I   F2 AUTOSTARTED
F1 0001 1R75I   F3 AUTOSTARTED
F1 0001 1R75I   F4 AUTOSTARTED
F1 0001 1R75I   F5 AUTOSTARTED
F1 0001 1R88I   OK
F1 0001 1Q12I  VSE/POWER 9.2 INITIATION COMPLETED
F1 0001 1Q34I   F3 WAITING FOR WORK
F1 0001 1Q34I   F2 WAITING FOR WORK
F1 0001 1Q34I   F4 WAITING FOR WORK
F1 0001 1Q34I   F5 WAITING FOR WORK
BG 0000 * ******************************************
BG 0000 *                                        *
BG 0000 *            INSTALLATION OF             *
BG 0000 * ******************************************
BG 0000 *                                        *
BG 0000 *       z/VSE 5.2.x         xx/xx/xxxx     *
BG 0000 *                                        *
BG 0000 * ******************************************
BG 0000 * LICENSED MATERIALS - PROPERTY OF IBM     *
BG 0000 * 5686-CF9 AND OTHER MATERIALS (C) COPYRIGHT*
BG 0000 * IBM CORP. 2013 AND OTHER DATES           *
BG 0000 * US GOVERNMENT USERS RESTRICTED RIGHTS -   *
BG 0000 * USE, DUPLICATION OR DISCLOSURE           *
BG 0000 * RESTRICTED BY                           *
BG 0000 * GSA ADP SCHEDULE CONTRACT WITH IBM CORP.  *
BG 0000 * ******************************************
BG 0000 *                                        *
BG 0000 * ******************************************
F3 0003 // JOB STARTF3
        DATE xx/xx/xxxx, CLOCK yy/yy/yy
F2 0002 // JOB STARTF2
        DATE xx/xx/xxxx, CLOCK yy/yy/yy
F4 0004 // JOB STARTF4
        DATE xx/xx/xxxx, CLOCK yy/yy/yy
F5 0005 // JOB STARTF5
        DATE xx/xx/xxxx, CLOCK yy/yy/yy
F3 0003 1N90I  EOP WAS FORCED BY EOJ
F3 0003 EOJ STARTF3
        DATE xx/xx/xxxx, CLOCK yy/yy/yy, DURATION   zz/zz/zz
F3 0001 1Q34I   F3 WAITING FOR WORK
F2 0002 1N90I  EOP WAS FORCED BY EOJ
F2 0002 EOJ STARTF2
        DATE xx/xx/xxxx, CLOCK yy/yy/yy, DURATION   zz/zz/zz
F2 0001 1Q34I   F2 WAITING FOR WORK
F4 0004 1N90I  EOP WAS FORCED BY EOJ
F4 0004 EOJ STARTF4
        DATE xx/xx/xxxx, CLOCK yy/yy/yy, DURATION   zz/zz/zz
F4 0001 1Q34I   F4 WAITING FOR WORK
F5 0005 1N90I  EOP WAS FORCED BY EOJ
F5 0005 EOJ STARTF5
        DATE xx/xx/xxxx, CLOCK yy/yy/yy, DURATION   zz/zz/zz
F5 0001 1Q34I   F5 WAITING FOR WORK
BG 0000 1S47I   PRELEASE RDR, INSTALL
BG 0000 1N90I   EOP WAS FORCED BY EOJ
BG 0000 EOJ BGINIT    MAX.RETURN CODE=xxxx
   DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Continuing Installation

To continue installation, refer to Chapter 9, "Installation Part 2 – Detailed Description - Native LPAR and under z/VM," on page 71. Part 2 of initial installation is the same for all users.

Chapter 8. Manual Installation Part 1 – Under VM

This chapter gives instructions for installing z/VSE under VM. The information in this chapter supplements the information available in the following VM manuals which provide detailed information about planning for z/VSE guest systems and using them:

- *z/VM, Version 4, Running Guest Operating Systems*, SC24-5997
- *z/VM, Version 5, Running Guest Operating Systems*, SC24-6115

You can install and use z/VSE as a guest system under any supported version of VM. In this combined environment, you can do the following:

- Log on to VM using the ID and password defined for the z/VSE guest system. Your terminal then can serve as the z/VSE console.
- Dial into the z/VSE system and use the functions provided by the Interactive Interface.
- Log on to CMS and interact with z/VSE. z/VSE provides the VM/VSE Interface, which allows CMS users to operate z/VSE systems. This is described in Chapter 12, "Installing VM/VSE Interface Routines – VM Only," on page 113.

Note: In this chapter, *virtual machine console* refers to a device that is defined for every VM user. *z/VSE console* refers to the z/VSE system console that is used to control operation of z/VSE.

Preparatory Tasks (Manual/Under VM)

To install z/VSE under VM, the z/VSE guest system must be known to VM. If you initialize the disk under VM, dedicate the disk (by the CP ATTACH command) to your user ID before you start initialization. You can use disk devices as dedicated disks or as minidisks.

There is a number of planning and preparation tasks you have to do before you start installing z/VSE under VM. Make sure that you have read "Running z/VSE under VM" in *z/VSE Planning*.

Step 1 – Performing an IPL from Tape (Manual/Under VM)

Installing from tape
Mount the tape labeled **z/VSE*vrm-YY***. Do not reposition or dismount the tape until you have instructions to do so.

Installing from installation disk
Proceed to the next step.

To make your VM system ready for the initial installation of z/VSE, you have to perform the following steps:

To define the console mode, enter in CP mode:

TERM CON 3270

To define terminals to VM, enter in CP mode:

DEF GRAF pcuu (*pcuu* - physical terminal address)

Repeat this command for every terminal you want to define, if you have not yet defined the terminals in your VM directory.

You have to define at least 64 MB of storage. The maximum value is 32 GB. Enter the following in CP mode:

DEF STOR *xxx*M or **DEF STOR *xx*G**(Replace *xxx* with the value you want to specify.)

In case of SCSI disk devices, you must enter the definitions required to access the SCSI disk by using the SET LOADDEV command. For example,

```
SET LOADDEV PORT 50050763 00CE9A76 LUN 57050000 00000000
```

To perform an IPL, enter in CP mode:

IPL *pcuu* (*pcuu* is the physical address of the tape drive with the z/VSE tape).

After having typed in all parameters, press **ENTER**.

Step 2 – Starting Installation (Manual/Under VM)

After having performed an IPL, the system waits for an interrupt from the console. Press **ENTER** to continue.

Note: If you experience problems refer to "Problems that might occur during installation" on page 23.

The first system prompt that appears on your system console after you have done an IPL is:

```
BG 0000 SI01D DO YOU WANT TO DO AN AUTOMATIC INSTALLATION (YES/NO)?
```

0 NO

Answer **NO** to do a manual installation.

```
BG 0000 SA01I *********** STAND ALONE PROGRAMS LOADED ***********
BG 0000 SA02D  IF YOU WANT A LISTING,SPECIFY PCUU OF PRINTER, ELSE (ENTER)
```

0

If you want a listing, specify the physical address of the printer (for example, **0 100e**). Otherwise enter **0**. If the printer cannot be sensed, messages SA04I, SA05I, and SA06D are issued, asking for the correct device type.

If the physical device address is greater than X'FFF', the message below displays the physical device address and corresponding VSE address:

```
BG 0000 SA07I THE PHYSICAL DEVICE ADDRESS pcuu CORRESPONDS TO THE ADDRESS cuu
 USED BY VSE
```

You are now requested to specify the device type of the printer.

```
BG 0000 SA03D  DEVICE TYPE IS xxxxyy. ACCEPT (ENTER) OR SPECIFY ALTERNATE TYPE
```

If this is the device type that you want to specify, enter:

0

z/VSE System Control Statements contains a complete list of the supported device type codes, including those for PRT1.

```
BG 0000 SA08D DATE IS mm/dd/yyyy. ACCEPT DATE (ENTER) OR SPECIFY
              DATE MM/DD/YYYY
```

If you want to change the date, you must enter two digits for month and day, and four digits for year, separated by a slash. Otherwise enter **0**.

0 ***mm/dd/yyyy***

In case you are installing on a SCSI device, you receive messages related to SCSI definitions. If you are not using SCSI devices, these messages are not displayed.

```
BG 0000 SA70D IF YOU WANT TO USE SCSI DEVICES SPECIFY YES, ELSE NO
```

Not installing on SCSI

0 NO

Installing on SCSI

0 YES

```
BG 0000 SA75I ENTER SCSI COMMAND OR ENTER
BG 0000 SA80D SCSI,FBA=CUU,FCP=PCUU,WWPN=PORTNAME,LUN=LUN
```

Note:

1. SCSI device addresses have to be less than or equal to X'FFF'.
2. Device addresses, which have been deleted with the DEL command cannot be reused as SCSI DOSRES or SCSI SYSWK1 devices.

For example:

```
0 SCSI,FBA=602,FCP=14A3,WWPN=5005076300CA9A76,LUN=5703000000000000
BG 0000 SA07I THE PHYSICAL DEVICE ADDRESS 14A3 CORRESPONDS TO THE ADDRESS 140
 USED BY VSE
AR 0033 0S45I SCSI DEVICE 602 CONSISTS OF 19531264 BLOCKS, 19522902 BLOCKS ARE
         AVAILABLE, 170 BLOCKS ARE UNUSED
BG 0000 SA85D MORE SCSI DEFINITIONS NEEDED? YES OR NO
```

0 YES

```
BG 0000 SA75I ENTER SCSI COMMAND OR ENTER
BG 0000 SA80D SCSI,FBA=CUU,FCP=PCUU,WWPN=PORTNAME,LUN=LUN
```

For example:

```
0 SCSI,FBA=605,FCP=14A2,WWPN=5005076300CE9A76,LUN=570D000000000000
BG 0000 SA07I THE PHYSICAL DEVICE ADDRESS 14A2 CORRESPONDS TO THE ADDRESS 141
 USED BY VSE
AR 0033 0S45I SCSI DEVICE 605 CONSISTS OF 03906304 BLOCKS, 03897432 BLOCKS ARE
         AVAILABLE, 680 BLOCKS ARE UNUSED
BG 0000 SA62I A MAXIMUM OF TWO SCSI DEVICES IS ACCEPTED. PROCESSING CONTINUES
```

End of installing on SCSI

```
BG 0000 SA09I SELECT ONE OF THE FOLLOWING PROGRAMS, OR TYPE END
BG 0000 SA10D FASTCOPY, RESTORE, ICKDSF, DITTO, REIPL
```

0 ICKDSF

The message below informs you, that you now have to enter VSE addresses and how to display them with the QUERY IO command. For details on the command refer to *z/VSE System Control Statements*.

```
BG 0000 SA60I ***** FOR THE ICKDSF UTILITY YOU NEED TO SPECIFY VSE DEVICE
ADDRESSES WHICH YOU CAN FIND BY USING THE QUERY IO COMMAND. *****
BG 0000 ICKDSF-VSE    DEVICE SUPPORT FACILITIES 17.0     TIME
BG 0000 xx/xx/xx     MM/DD/YYYY
BG 0000 ENTER INPUT COMMAND:
```

The next input requested, is an INIT UNIT command described in "Step 3 – Initializing Disks and Placing the VTOC (Manual/Under VM)."

Step 3 – Initializing Disks and Placing the VTOC (Manual/Under VM)

For z/VSE installation, you need to initialize two disk devices, **DOSRES** and **SYSWK1** with the INIT command. You first initialize the volume DOSRES and continue with SYSWK1.

Note: You can initialize as many data volumes as you need and give them individual names.

In addition, you have to place the VTOC. You can choose to place the VTOC in the middle of the disk pack or at the end of it.

If the Device Support Facilities Program, is to initialize either a new ECKD disk or a ECKD disk that was used under another operating system (for example, z/OS), the program must validate and rewrite the home address and record 0 on each track of the disk.

In this case, additional parameters of the INIT command (VALIDATE, CHECK) are required to initialize the disks correctly. Otherwise, you might have problems later, when you IPL the restored system. Note that `validate` might not be available for all disk devices.

You should review the INIT command in detail, especially if one of the following is true:

- The disks have never been initialized.
- The disks have been previously used on a system other than VSE.
- You are changing from emulation mode to disk native mode.

Note: If the INIT command exceeds 70 characters on your screen, use a dash (-) as the continuation character. The system will then ask you for additional information.

Refer to "Storage and Tuning Recommendations" in *z/VSE Planning* for more information on how to reduce VTOC space. The predefined values are sufficient for up to 230 labels.

Initializing Disks (VTOC in the Middle of Volume)

The following INIT commands place the VTOC at the recommended locations, almost in the middle of the disk devices.

Note that there are **different locations for DOSRES and SYSWK1**. Therefore you must enter two different commands, one for DOSRES and one for SYSWK1. Replace **cuu** with the respective VSE address.

FBA device:

0 INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(125440,228,8192) VOLID(DOSRES)

0 INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(306176,228,8192) VOLID(SYSWK1)

IBM 3380 (ECKD device):

0 INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(210,11,4) VOLID(DOSRES)

0 INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(325,11,4) VOLID(SYSWK1)

IBM 3390 (ECKD device):

0 INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(208,11,4) VOLID(DOSRES)

0 INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(301,11,4) VOLID(SYSWK1)

After you entered the appropriate input command, respond with U to the following message, to proceed with command processing:

```
BG 0000 ICK003D REPLY U TO ALTER VOLUME cuu CONTENTS, ELSE T
```

0 U

```
BG 0000 ICK01314I VTOC IS LOCATED AT CCHH=X'nnnn nnnn' AND IS nn TRACKS.
BG 0000 ICK00001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS nn
        ENTER INPUT/COMMAND:
```

To exit ICKDSF command processing and to return to the stand-alone utility selection, enter:

0 END

```
BG 0000 ICK00002I ICKDSF PROCESSING COMPLETE. MAXIMUM CONDITION CODE WAS 0
```

Initializing Disks (VTOC at the End of Volume)

The following INIT commands place the VTOC end of the disk devices. Note that there are **different locations for DOSRES and SYSWK1**. Therefore you must enter two different commands, one for DOSRES and one for SYSWK1. Replace **cuu** with the respective VSE address.

Note:

1. Due to an ICKDSF restriction, large disks with more than 4369 cylinders cannot be initialized with VTOC at the End of Volume.
2. For FBA devices, it is **not** recommended to put the VTOC at the End of Volume. This is valid for both system and data devices.
3. Initializing FBA minidisks with the VTOC at the end of the disk pack, is the same as initializing dedicated disks with the VTOC at the end of the disk pack.
4. For FBA disks, including SCSI disk devices, make sure the number of blocks of the disk is a multiple of the so called actuator file which is 8*777. If the number of blocks is not a multiple, placing the VTOC at the end of the volume might lead to problems because the system cannot read the VTOC.
5. The DASDFP operand of the IPL SYS command also influences VTOC reading. As shipped, it is set to YES and requires a multiple of 8*777 in case of FBAVTOC(END). If it is set to NO (DASDFP=NO), FBAVTOC(END) can be used without ensuring a multiple of 8*777 (at the cost of file protection).

FBA device:

0 INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(END) VOLID(DOSRES)

0 INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(END) VOLID(SYSWK1)

IBM 3380 and IBM 3390 (ECKD devices) :

0 INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(END) VOLID(DOSRES)

0 INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(END) VOLID(SYSWK1)

Respond with U to the following message, to proceed with command processing:

```
BG 0000 ICK003D REPLY U TO ALTER VOLUME cuu CONTENTS, ELSE T
```

0 U

```
BG 0000 ICK01314I VTOC IS LOCATED AT CCHH=X'nnnn nnnn' AND IS nn TRACKS.
BG 0000 ICK00001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS nn
        ENTER INPUT/COMMAND:
```

To exit ICKDSF command processing and to return to the stand-alone utility selection, enter:

0 END

Additional Messages

If you install on previously used disk devices, the system might issue the following messages:

```
ICK001D CONFIRM PURGING OF UNEXPIRED DATA SETS, REPLY U TO PURGE, ELSE T
```

0 U

```
ICK019D CONFIRM PURGING OF ALL VSAM FILES, REPLY U TO PURGE, ELSE T
```

0 U

Step 4 – Restoring the System Library IJSYSRS (Manual/Under VM)

This task restores the system library IJSYSRS (IJSYSR1). The following system prompts and messages appear:

```
BG 0000 SA09I  SELECT ONE OF THE FOLLOWING PROGRAMS, OR TYPE END
BG 0000 SA10D  FASTCOPY, RESTORE, ICKDSF, DITTO, REIPL
```

0 RESTORE

Installing from tape

Message SA11D is displayed:

```
BG 0000 SA11D  SPECIFY ADDRESS OF INPUT DEVICE  PCUU
```

0 ***pcuu*** (*pcuu* - tape drive address where z/VSE tape is mounted)

Installing from installation disk

Message SA32I is displayed prior to message SA11D:

```
BG 0000 SA32I INSTALLATION DISK WAS ASSIGNED TO VIRTUAL TAPE  cuu
FOR RESTORE FROM INSTALLATION DISK SPECIFY cuu AS INPUT DEVICE PCUU

BG-0000 SA11D SPECIFY ADDRESS OF INPUT DEVICE PCUU
```

0 ***pcuu*** (specify *pcuu* as displayed in message SA32I)

Installing either from tape or installation disk

If the physical device address is greater than X'FFF', the message below displays the physical device address and corresponding VSE address:

```
BG 0000 SA07I THE PHYSICAL DEVICE ADDRESS pcuu CORRESPONDS TO THE ADDRESS cuu
 USED BY VSE
BG 0000 SA03D DEVICE TYPE IS xxxxyy. ACCEPT (ENTER) OR SPECIFY ALTERNATE TYPE
```

0

You might get the following message:

```
BG 0000 SA13D  TAPE MODE IS XX. ACCEPT (ENTER) OR SPECIFY ALTERNATE MODE YY
```

0

Always accept the default when you restore the contents of the SYSRES volume, regardless what type of tape unit you use.

```
BG 0000 SA15D  FOR TAPE LABEL CHECKING SPECIFY // TLBL, ELSE (ENTER)
```

0

```
BG 0000 SA16D  SPECIFY ADDRESS OF SYSRES DISK  PCUU
```

0 ***pcuu*** (*pcuu*- address of DOSRES)

If the physical device address is greater than X'FFF', the message below displays the physical device address and corresponding VSE address:

```
BG 0000 SA07I THE PHYSICAL DEVICE ADDRESS pcuu CORRESPONDS TO THE ADDRESS cuu
 USED BY VSE
BG 0000 SA03D  DEVICE TYPE IS xxxxyy. SPECIFY ALTERNATE TYPE, OR ACCEPT (ENTER)
```

0

```
BG 0000 L302A ENTER YES TO RESTORE SYSRES FILE IJSYSR1 OR NO TO SKIP
              TO NEXT SYSRES
```

0 YES

```
BG 0000 L315I ORIGINAL FILE ID= VSE.SYSRES.LIBRARY
L316A ENTER YES TO KEEP OR NO TO RESPECIFY THE SYSRES FILE ID
```

0 YES

You must answer **NO** to the following prompt:

```
BG 0000 L309I ORIGINAL ALLOCATION= xxxx   ....
BG 0000 L310A ENTER YES TO KEEP OR NO TO RESPECIFY THE ALLOCATION
```

0 NO

Now use the values in this table to answer to the next system prompt:

Disk Device Type	Allocation Value (xxxxx)
For 3380 (all models)	959
For 3390 (in 3390 mode)	899
For 3390 (in 3380 track compatibility mode)	959
For generalized FBA disks	59390

```
BG 0000 L312I MINIMUM ALLOCATION= xxx   ....
BG 0000 L304I ENTER THE DESIRED ALLOCATION AS NUMBER OF   ....
BG 0000 L313A ALLOC=
```

0 *xxxxx*

```
BG 0000 L329A ENTER YES TO RESTORE ALL SUBLIBRARIES OR NO FOR
        SELECTIVE RESTORE
```

0 YES

```
BG 0000 L338I SUMMARY OF RESTORE PARAMETERS:
BG 0000 L318I FILE NAME = IJSYSR1
BG 0000 L319I FILE ID = VSE.SYSRES.LIBRARY.xxx
BG 0000 L321I ALLOCATION=  xxxx   ....
BG 0000 L344I START=    ......          - END=   ....
BG 0000 L327I RESTORE ALL SUBLIBRARIES
BG 0000 L322A ENTER YES IF THE SPECIFICATION IS CORRECT OR NO TO RESPECIFY
```

0 YES

Restarting the Restore

If you restart this step and you get the following message (*xxxxxxx* is the file name),

```
BG 0000 L324I EQUAL FILE ID IN VTOC xxxxxxx ...
BG 0000 L319I FILE ID=id
BG 0000 L330A TYPE CANCEL OR DELETE
```

you should enter:

0 DELETE

ECKD device users installing from tape

The system displays the following message:

```
BG 0000 L300I FORMATTING OF LIBRARY IJSYSR1 IN PROGRESS
```

Installing either from tape or installation disk

```
BG 0000 L306I RESTORE OF LIBRARY IJSYSR1 IN PROGRESS
BG 0000 L325I RESTORE OF SUBLIBRARY IJSYSR1.SYSLIB IN PROGRESS
BG 0000 L326I RESTORE COMPLETE FOR LIBRARY IJSYSR1
BG 0000 SA09I SELECT ONE OF THE FOLLOWING PROGRAMS, OR TYPE END
BG 0000 SA10D  FASTCOPY, RESTORE, ICKDSF, DITTO, REIPL
```

Installing from tape

```
0 REIPL
BG-0000 SA55D ENTER ADDRESS OF REIPL DEVICE PCUU
0 pcuu
BG-0000 SA79D REIPL FROM SCSI? SPECIFY YES OR NO
0 YES
BG-0000 SA77D ENTER CUU OF SYSWK1
0 cuu
```

Installing from installation disk

```
0 REIPL
BG-0000 SA55D ENTER ADDRESS OF REIPL DEVICE PCUU
0 pcuu
BG-0000 SA57D CONTINUE MANUAL INSTALLATION? SPECIFY YES OR NO
```

- Specify **YES** to continue manual installation using the installation disk.
- Specify **NO** if manual installation from disk is to be terminated.

```
BG-0000 SA79D REIPL FROM SCSI? SPECIFY YES OR NO
0 YES
BG-0000 SA77D ENTER CUU OF SYSWK1
0 cuu
```

System Library IJSYSRS is now restored.

Step 5 – Performing an IPL from DOSRES (Manual/Under VM)

This step uses a z/VSE supplied IPL procedure. The correct IPL procedure is automatically chosen, based on the disk type and CPU mode. z/VSE selects the appropriate options for your system.

Usually, you do not have to add devices during this task. The IPL program for z/VSE uses device sensing to automatically define the devices on the system. Note that for an initial installation, only up to **1024** devices are allowed. If your environment includes more than 1024 devices, you have to identify the devices that you do **not** need for installing the system and **exclude** them from the installation process.

There are several alternatives for excluding the devices:

1. You can power off devices, which you do not want to be sensed.
2. If you decide not to power off the devices, the system senses all operational devices. It then displays the number of devices sensed and asks you to use the **IPL DEL** command to delete the additional devices. Refer to "Problems that might occur during installation" on page 23 for details.
3. You can use an IOCDS that contains up to 1024 devices.

If not all necessary information can be sensed, you are asked to define these devices when you complete the initial installation (Chapter 10, "Installation Part 3 - Native and VM," on page 87).

If a device is needed for the minimum configuration and it cannot be sensed, you are asked to enter command IPL ADD for that device.

Note: If you are installing on SCSI devices you do not need to IPL your system, because a REIPL was already performed.

Perform an IPL from the address of DOSRES.

Enter in CP mode:

IPL ***pcuu***

(*pcuu* - physical address of DOSRES)

After having performed an IPL, the system waits for an interrupt from the console.

Press **ENTER** to continue.

Note: If you experience problems refer to "Problems that might occur during installation" on page 23.

```
BG 0000 0I04I IPLDEV=X'pcuu',VOLSER=DOSRES,CPUID=xxxxxxxxxxxx
BG 0000 0J01I IPL=$IPLExx ,JCL=$$JCL7xx
BG 0000 $$A$SUPI,VSIZE=nnM,VPOOL=nnnK,VIO=nnnK,LOG,IODEV=1024
BG 0000 0I30I DATE=xx/xx/xxxx,CLOCK=yy/yy/yy,ZONE=nnnn/00/00
BG 0000       THE DATE VALUE FORMAT IS MM/DD/YYYY
BG 0000 0J47I CHANNEL SUBSYSTEM:   nnnn DEVICE(S) FOUND OPERATIONAL.
BG 0000      ...
BG 0000      ...
BG 0000 ADD FDF,FBAV VIRTUAL DISK FOR LABEL AREA
BG 0000 ADD FEC,3505
BG 0000 ADD FFC,3505 ICCF DUMMY DEVICE DON'T DELETE
BG 0000      ...
```

```
BG 0000      ... (additional devices added)
BG 0000     ...
BG 0000 ADD FFF,CONS     DEDICATED CONSOLE DON'T DELETE
BG 0000 DEF SYSCAT=DOSRES,SYSREC=SYSWK1
BG 0000 0J10I IPL RESTART POINT BYPASSED
BG 0000 SVA PSIZE=nnnK,SDL=nnn,GETVIS=nnK
BG 0000 0J24I DASD SHARING SUPPORT RESET
BG 0000 0J62I ACTUAL CHANQ IS nnn
BG 0000 0J69I ACTUAL SIZE OF PRIVATE AREA IS xxxxxx
BG 0000 0I20I IPL COMPLETE FOR system identification
BG 0000      SUPVR USERID IS:  Z.VSE.SUPI
BG 0000 VMCF10I CMS-Z/VSE CONSOLE INTERFACE ACTIVATED
BG 0000 0J39I ACTUAL BUFSIZE IS nnnn
BG 0000 0J76I software/hardware COMPRESSION INITIALIZED
BG 0000 PRTY BG,FA,F9,F8,F6,F5,F4,F2,F7,F3,FB,F1
BG 0000 // JOB BGINIT
   DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 1I93I RECORDER FILE IS   n% FULL
```

Additional Messages

Some systems also might display the following messages:

```
BG 0000 4301I NO FORMAT 1 LABEL FOUND  IJSYSCN SYSREC=xxx SYSWK1
BG 0000 1I94I HARD COPY OPEN FAILED, HC=CREATE FORCED
BG 0000 ALLOC BG=xxxxK
        SIZE  BG=xxxxK
⋮
              (additional ALLOC and SIZE statements)
⋮
```

Because the VSE.CONTROL.FILE does not exist yet, you will get the following message:

```
 FB 0011 // JOB SECSERV
         DATE xx/xx/xxxx, CLOCK yy/yy/yy
 FB 0058 4228I FILE IJSYSCT    OPEN  ERROR X'B4'(180) CAT=..N/A..
    (OPNCT-20) VOLUME 'DOSRES' NOT OWNED BY VSAM
 FB 0058 4228I FILE IESCNTL    OPEN  ERROR X'B4'(180) CAT=VSESPUC (  4,AD,  2)
    (OPNHC-10) RC X'00000004' FROM CATLG
 FB 0074 4228I FILE BSTCNTL    OPEN  ERROR X'B4'(180) CAT=VSESPUC (  4,AD,  2)
    (OPNHC-10) RC X'00000004' FROM CATLG
 FB 0058 BST300E THE II CONTROL FILE COULD NOT BE OPENED.
```

This error message is only informational and processing continues.

```
BG 0000 STOP
F1 0001 // JOB POWSTART
```

If Second or Additional IPL from Disk

If you restart this step, you might get messages concerning the VSE/POWER QUEUE.FILE, DATA.FILE, or ACCOUNT.FILE, such as:

```
F1 0001 4733D EQUAL FILE ID IN VTOC .....
```

Enter

1 DELETE

```
⋮
⋮
⋮
        DATE xx/xx/xxxx,CLOCK yy/yy/yy

F1 0001 1Q20I  AUTOSTART IN PROGRESS
F1 0001 1R75I   BG AUTOSTARTED
```

```
F1 0001 1R75I   F2 AUTOSTARTED
F1 0001 1R75I   F3 AUTOSTARTED
F1 0001 1R75I   F4 AUTOSTARTED
F1 0001 1R75I   F5 AUTOSTARTED
F1 0001 1R88I   OK
F1 0001 1Q12I  VSE/POWER 9.2 INITIATION COMPLETED
F1 0001 1Q34I   F3 WAITING FOR WORK
F1 0001 1Q34I   F2 WAITING FOR WORK
F1 0001 1Q34I   F4 WAITING FOR WORK
F1 0001 1Q34I   F5 WAITING FOR WORK
BG 0000 * ******************************************
BG 0000 *                                        *
BG 0000 *            INSTALLATION OF             *
BG 0000 * ******************************************
BG 0000 *                                        *
BG 0000 *       z/VSE 5.2.x         xx/xx/xxxx     *
BG 0000 *                                        *
BG 0000 * ******************************************
BG 0000 * LICENSED MATERIALS - PROPERTY OF IBM     *
BG 0000 * 5686-CF9 AND OTHER MATERIALS (C) COPYRIGHT*
BG 0000 * IBM CORP. 2013 AND OTHER DATES           *
BG 0000 * US GOVERNMENT USERS RESTRICTED RIGHTS -   *
BG 0000 * USE, DUPLICATION OR DISCLOSURE           *
BG 0000 * RESTRICTED BY                           *
BG 0000 * GSA ADP SCHEDULE CONTRACT WITH IBM CORP.  *
BG 0000 * ******************************************
BG 0000 *                                        *
BG 0000 * ******************************************
F3 0003 // JOB STARTF3
        DATE xx/xx/xxxx, CLOCK yy/yy/yy
F2 0002 // JOB STARTF2
        DATE xx/xx/xxxx, CLOCK yy/yy/yy
F4 0004 // JOB STARTF4
        DATE xx/xx/xxxx, CLOCK yy/yy/yy
F5 0005 // JOB STARTF5
        DATE xx/xx/xxxx, CLOCK yy/yy/yy
F3 0003 1N90I  EOP WAS FORCED BY EOJ
F3 0003 EOJ STARTF3
        DATE xx/xx/xxxx, CLOCK yy/yy/yy, DURATION   zz/zz/zz
F3 0001 1Q34I   F3 WAITING FOR WORK
F2 0002 1N90I  EOP WAS FORCED BY EOJ
F2 0002 EOJ STARTF2
        DATE xx/xx/xxxx, CLOCK yy/yy/yy, DURATION   zz/zz/zz
F2 0001 1Q34I   F2 WAITING FOR WORK
F4 0004 1N90I  EOP WAS FORCED BY EOJ
F4 0004 EOJ STARTF4
        DATE xx/xx/xxxx, CLOCK yy/yy/yy, DURATION   zz/zz/zz
F4 0001 1Q34I   F4 WAITING FOR WORK
F5 0005 1N90I  EOP WAS FORCED BY EOJ
F5 0005 EOJ STARTF5
        DATE xx/xx/xxxx, CLOCK yy/yy/yy, DURATION   zz/zz/zz
F5 0001 1Q34I   F5 WAITING FOR WORK
BG 0000 1S47I   PRELEASE RDR INSTALL
BG 0000 1N90I   EOP WAS FORCED BY EOJ
BG 0000 EOJ BGINIT    MAX.RETURN CODE=xxxx
         DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Continuing Installation

To continue installation of z/VSE, refer to Chapter 9, “Installation Part 2 – Detailed Description - Native LPAR and under z/VM,” on page 71. Part 2 of initial installation is the same for all users.

Chapter 9. Installation Part 2 – Detailed Description - Native LPAR and under z/VM

Installation part 2 describes how to continue with the z/VSE initial installation. It is the same for users installing z/VSE native LPAR or under VM.

Installation part 2 consists of a number of steps that require your interaction. These are marked with an asterisk (*). All the other steps run automatically. You do not have to enter any responses.

Here are the main steps of installation part 2:

- Selecting a system environment (*)
- Selecting security (*)
- Choosing a telecommunication access method (*)
- Creating print buffer (*)
- Starting up a printer (*)
- Restoring the system history file
- Defining VSE/VSAM catalogs, space, and clusters
- Defining VSE/VSAM libraries and sublibraries
- Restoring the VSE/ICCF DTSFILE
- Installing z/VSE base programs
- Starting VTAM and CICS

If you are an experienced z/VSE user, you can turn to “Installation Part 2” on page 29 and install z/VSE as described there.

Job Stream Processing

One of the first installation jobs gathers information about your hardware and software configuration. You are asked to enter information about your system.

Periodically, you are asked if you want to continue. Enter YES to continue. If you enter NO, you will return to the point where you last answered YES. If you enter NO the first time the question is asked, you will return to the beginning of the installation job stream.

The installation job stream initializes the Job Manager and starts the controlled Job Manager sequence. If you have problems when the Job Manager has control, refer to Appendix A, “Overview of the Job Manager,” on page 117.

If the installation job stream (INSTALL) itself cancels, you can run it again. Enter the following:

R RDR,INSTALL

You can refer to *z/VSE Messages and Codes, Volume 1* for an explanation of the messages that are displayed, when the jobs run.

Running the Install Program for z/VSE

```
BG 0001 1Q47I   BG INSTALL xxxxx FROM  (SYSA), TIME=yy:yy:yy
BG 0000         // JOB INSTALL z/VSE INSTALL PROGRAM
                DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 IESI0051D DO YOU WANT TO CONFIGURE TCP/IP DURING INITIAL STARTUP? YES/NO
```

0 ***xxx***

You are now asked to select one of the predefined environments that are shipped with z/VSE (refer to "Predefined Environments Shipped with z/VSE" on page 18 for more information).

```
BG 0000 IESI0078D SELECT AN ENVIRONMENT OUT OF A (SMALL), B (MEDIUM)OR C (LARGE).
```

0 ***x*** (x can be A, B, or C)

The following system prompt appears:

```
BG-0000 IESI0079D DO YOU WANT TO RUN YOUR SYSTEM WITH SECURITY ON?  YES/NO
```

0 ***xxx*** (*xxx* - yes or no)

YES results in the IPL command `sys sec=(yes,notape)`. This allows to restrict security checking to DASD files and libraries. Security will be active with the IPL that you perform after you have completed initial installation. Refer to the chapter that describes "Protecting Resources" in *z/VSE Administration* for details on security.

You now have the opportunity to check your answers:

```
BG-0000 IESI0062D CHECK YOUR ANSWERS. DO YOU WANT TO CONTINUE?  YES/NO
```

0 ***xxx*** (*xxx* - yes or no)

Defining User Terminals

Configuration of TCP/IP
Message IESI0098D is displayed only, if you have chosen to configure TCP/IP during initial startup. `IESI0098D  DO YOU WANT TO SPECIFY VTAM DEFINITIONS ?  YES/NO` If you answer `NO`, the questions regarding VTAM definitions are skipped. If you answer `YES`, message IESI0065D is displayed.

Users Installing under VM: If you install z/VSE under VM and access the system via the CP DIAL command, you must answer **NO** to the next message, because a DIALed terminal appears to VSE as a local non-SNA device.

```
IESI0065D  IS THE LOCAL CONTROL UNIT AN SNA CU ? YES/NO
```

If you answer `YES`, you are prompted:

```
IESI0071D  ENTER ADDRESS OF 3270 CONTROL UNIT: cuu OR pcuu
IESI0066I  DEFINE TERMINAL TYPE ATTACHED TO THIS CONTROL UNIT
IESI0067D  ENTER 24X80, 32X80 OR 43X80
```

If you want to skip the definition of SNA attached terminals, reply `NO` to message IESI0065D. You are prompted:

```
IESI0064I  DEFINE UP TO 3 LOCAL VTAM TERMINALS
IESI0059D  ENTER A 3270 ADDRESS (CUU) OR (PCUU) OR "END"
```

0 *xxx*

Table 7 gives you an overview of SNA and Non-SNA control units.

Table 7. List of Local SNA and Non-SNA Control Units

Local Non-SNA Control Units	Local SNA Control Units
Channel-attached non-SNA control unit (IBM 3174-S1L, 3174-T1L, 3174-01L)	Channel-attached SNA control unit (IBM 3174-S1L, 3174-T1L, 3174-01L)
Channel-attached non-SNA control unit (IBM 3274-x1B, 3274-x1D)	Channel-attached SNA control unit (IBM 3274-x1A)
Open Systems Adapter-Express Integrated Console Controller (OSA-ICC). TELNET-based.	

If you enter **YES**, continue with "Defining Local SNA VTAM Display Terminals."

If you enter **NO**, continue with "Defining Local Non-SNA VTAM Display Terminals."

Defining Local Non-SNA VTAM Display Terminals

Local non-SNA VTAM users must define at least one, but not more than three, local VTAM display terminals.

You must specify the terminal addresses in **ascending** order. If you do not enter the terminal addresses in the correct order, the system will generate the startup books for VTAM incorrectly.

```
BG 0000 IESI0064I DEFINE UP TO 3 LOCAL VTAM TERMINALS
BG-0000 IESI0059D ENTER A 3270 ADDRESS (PCUU) OR "END"
```

0 ***pcuu*** (where *pcuu* is a physical 3270 terminal address)

```
BG-0000 IESI0059D ENTER A 3270 ADDRESS (PCUU) OR "END"
```

0 ***pcuu*** (where *pcuu* is a physical 3270 terminal address. If you want to define only one terminal, enter **0 END**.)

```
BG-0000 IESI0059D ENTER A 3270 ADDRESS (PCUU) OR "END"
```

0 ***pcuu*** (where *pcuu* is a physical 3270 terminal address. If you want to define only two terminals, enter **0 END**.)

If you enter a third 3270 address, the terminal definition session ends.

```
BG-0000 IESI0062D CHECK YOUR ANSWERS. DO YOU WANT TO CONTINUE ?  YES/NO
```

0 *xxx* (*xxx* - yes or no)

```
BG 0000 EOJ INSTALL   MAX.RETURN CODE=xxxx
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Continue with "Cataloging Hardware Information" on page 74.

Defining Local SNA VTAM Display Terminals

You have selected VTAM with a local SNA control unit. You will define your control unit and at least one, but not more than three, local 3270 display terminals.

```
BG-0000 IESI0071D ENTER ADDRESS OF 3270 CONTROL UNIT: PCUU
```

0 ***pcuu*** (where *pcuu* is your physical control unit address)

```
BG 0000 IESI0066I DEFINE TERMINAL TYPE ATTACHED TO THIS CONTROL UNIT
BG 0000 IESI0067D ENTER 24x80, 32x80, 43x80
```

0 ***nnxnn***
(where *nnxnn* is the size of your display terminal type, for example, 24x80)

For the following messages, you must specify the terminal addresses in ascending order. If you do not enter the terminal addresses in the correct order, you get the error message IESI0076A.

```
BG 0000 IESI0064I DEFINE UP TO 3 LOCAL VTAM TERMINALS
BG-0000 IESI0073D ENTER ADDRESS OF A 3270 TERMINAL
                  (2 TO 33) OR "END"
```

0 ***xx*** (where *xx* is an address 2 to 33 of a 3270 terminal)

```
BG-0000 IESI0073D ENTER ADDRESS OF A 3270 TERMINAL
                  (2 TO 33) OR "END"
```

0 ***xx*** (where *xx* is an address of 2 to 33 of a 3270 terminal) If you want to define only one terminal, enter **0 END**

```
BG-0000 IESI0073D ENTER address OF A 3270 TERMINAL
                  (2 TO 33) OR "END"
```

0 ***xx*** (where *xx* is an address of 2 to 33 of a 3270 terminal. If you want to define only two terminals, enter **0 END**

After the third address is entered, the terminal definition session ends.

```
BG-0000 IESI0062D CHECK YOUR ANSWERS. DO YOU WANT TO CONTINUE ?  YES/NO
```

0 ***xxx*** (*xxx* - yes or no)

```
BG 0000 EOJ INSTALL   MAX.RETURN CODE=xxxx
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Cataloging Hardware Information

The job **DTRIHARD** catalogs hardware information from the IPL procedure.

```
BG 0001 1Q47I   BG DTRIHARD nnnnn FROM LOCAL , TIME=yy:yy:yy
BG 0000 // JOB DTRIHARD CATALOG HARDWARE RELATED INFORMATION
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 EOJ DTRIHARD  MAX.RETURN CODE=xxxx
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Cataloging ASI IPL Procedure

The job **DTRIASI** catalogs the ASI IPL procedure.

```
BG 0001 1Q47I   BG DTRIASI nnnnn FROM LOCAL , TIME=yy:yy:yy
BG 0000 // JOB DTRIASI CATALOG ASI IPL PROCEDURE
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 EOJ DTRIASI   MAX.RETURN CODE=xxxx
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

If Second or Additional IPL from Disk

Ignore the following messages if you get them:

```
F1 0001 1R72I PSTART VIRTUAL STORAGE FOR Fn SMALLER THAN 128K
⋮
F1 0001 1R65I PLOAD DYNAMIC PARTITION SCHEDULING NOT SUPPORTED
```

Cataloging VTAM Startup Information

The job **DTRIVTAM** runs for **VTAM users** only. It catalogs VTAM startup information.

```
BG 0001 1Q47I   BG DTRIVTAM nnnnn FROM LOCAL , TIME=yy:yy:yy
BG 0000 // JOB DTRIVTAM CREATE VTAM STARTUP BOOK  ...
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 EOJ DTRIVTAM  MAX.RETURN CODE=xxxx
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Building the List of Jobs

The job **DTRIJBLD** builds the list of jobs that will run.

```
BG 0001 1Q47I   BG DTRIJBLD nnnnn FROM LOCAL , TIME=yy:yy:yy
BG 0000 // JOB DTRIJBLD BUILD ORDERED JOB LIST
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 EOJ DTRIJBLD  MAX.RETURN CODE=xxxx
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Running Job Manager Controlled Jobs

A number of jobs now run. The Job Manager automatically releases the jobs. Most jobs do not require any user responses.

Do **not** cancel any of the jobs that are running. If you do, Job Manager processing is interrupted. Refer to "Job Manager Commands" on page 117 for information about recovering.

Creating Print Buffers for a System Printer

You should only read this section if you have a system printer controlled by VSE/POWER attached to your system.

The job **LFCBLINK** helps create a forms control buffer (FCB) and universal character set buffer (UCB) for your printer. An FCB controls the vertical format of the printed output page. This is important if you have to create special forms, for example.

A UCB controls the use of character sets. A variety of character arrays is offered. They contain, for example, language-dependent information.

You also have the option not to create an FCB or a UCB. In this case you enter:

0

when prompted for creating an FCB or a UCB. You then use the **default** settings.

Users Installing under VM: If you have a dedicated real printer, you **must** create a UCB, except for IBM 4245, 4248, 1403 and 6262 printers.

If your physical print device is **not** dedicated, you can create an FCB, but you **cannot** create a UCB since the printer is not under the control of z/VSE. For more information, refer to "System Buffer Load" in *z/VSE System Control Statements*.

If you have one of the printer train/belt combinations shown in Table 8 on page 76, the default UCB supplied with z/VSE matches the train/belt.

Table 8. Default Printer Train/Belt Combinations

IBM Printer	Train/Belt
3211	A11 train
3203-5	AN or HN train
3262	64 character belt
3289-4	64 character belt
4245	Not applicable
4248	Not applicable
6262-014	Not applicable

The z/VSE standard FCB is generated with the following parameters:

- **6 lines per inch** or **12 inch page**.

If you have different requirements, or if you do not have any of the defaults shown, refer to Table 9 or Table 10 on page 77.

```
BG 0001 1Q47I   BG LFCBLINK nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 0000 // JOB LFCBLINK
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 *  EXECUTE THE PROCEDURE FOR THE FORMS CONTROL BUFFER THAT YOU
BG 0000 *  WANT LOADED INTO YOUR PRINTER OR IF NOT REQUIRED EXECUTE THE
BG 0000 *  PROCEDURE FOR THE CHARACTER SET BUFFER YOU WANT LOADED INTO
BG 0000 *  YOUR PRINTER. IF NEITHER IS REQUIRED REPLY "0 (END/ENTER)".
BG 0000 // PAUSE
BG 0000
```

If you accept the default FCB and UCB, enter:

0

and proceed to "Starting a Printer Controlled by VSE/POWER" on page 78. The following two figures list the procedure names for the FCBs and UCBs.

Table 9. Procedure Names for FCBs

IBM Printer	6 LPI 11 inch page	6 LPI 12 inch page	8 LPI 8.5 inch page
3211	LFCB611A	LFCB612A	LFCB885A
3203-5	LFCB611C	LFCB612C	LFCB885C
3262	LFCB611E	LFCB612E	LFCB885E
3289-4	LFCB611F	LFCB612F	LFCB885F
4245	LFCB611G	LFCB612G	LFCB885G
4248	LFCB611H	LFCB612H	LFCB885H
6262-014	LFCB611H	LFCB612H	LFCB885H
1403U	Not Applicable	Not Applicable	Not Applicable

1. This printer requires a dual-feature so that the default UCB matches the HN train.

Table 10. Procedure Names for UCBs

IBM Printer	Train/Belt	UCB Procedure Name
3211	(P11 TRAIN)	LUCBP11A
3203-5	(PN TRAIN)	LUCBPNC
3262	(48 CHARACTER BELT)	LUCB48E
3262	(63 CHARACTER BELT)	LUCB63P
3262	(96 CHARACTER BELT)	LUCB96E
3289-4	(48 CHARACTER BELT)	LUCB48F
1403U	(PN Train)	LUCBPNG
4245	No Entry Required	No Entry Required
4248	No Entry Required	No Entry Required
6262-014	No Entry Required	No Entry Required

You can enter an FCB **or** UCB procedure name. The names are shown in Table 9 on page 76 and Table 10. You have two choices:

1. If you want to create an **FCB**, enter the FCB procedure name.
2. If you do not want an FCB, but you want to create a UCB, enter the UCB procedure name.

FCB Procedure

0 EXEC PROC=LFCBxxxx (xxxx - procedure name suffix)

Refer to Table 9 on page 76.

If you enter an FCB procedure name, the system displays:

```
BG 0000 *  THIS PROC WILL CATALOG $$BFCBxx FCB PHASE FOR
BG 0000 *  xx INCH LONG PAPER WITH A LINE DENSITY OF x LINES PER INCH
BG 0000 *  FOR THE PRINTER TYPE :  xxxx
BG 0000 *
BG 0000 *  EXECUTE THE PROCEDURE FOR THE CHARACTER SET BUFFER YOU WANT
BG 0000 *  LOADED INTO YOUR PRINTER OR REPLY
               "0 (END/ENTER)" IF NONE
BG 0000 *  IS REQUIRED.
BG-0000 EOP LFCBxxxx
```

Enter the LFCB attention command for your printer type. Replace **cuu** with the VSE address of your real printer.

LFCB cuu,$$BFCBxx

Now check the output of your printer. If the page format does not conform with the paper size, you probably have chosen a wrong FCB procedure. Select the correct FCB procedure and then repeat the steps described above.

If you **do not** want a UCB, enter:

0

UCB Procedure

0 exec proc=LUCBxxxx (xxxx - procedure name suffix)

Refer to Table 10.

If you enter a UCB procedure name, the system displays:

```
BG 0000 * THIS PROC WILL LINK, AND CATALOG THE UCB PHASE: $$BUCBxx
BG 0000 * FOR A PRINTER TYPE : xxxx WITH A xx-YYYYYYY YYYYY
BG 0000 *
BG 0000 * ENTER THE LUCB ATTENTION COMMAND TO LOAD YOUR CHARACTER SET
BG 0000 * BUFFER INTO THE PRINTER. ONCE THAT IS COMPLETED REPLY
BG 0000 *  "0 (END/ENTER)" TO CONTINUE.
BG-0000 EOP LUCBxxxx
```

Enter the LUCB attention command for your printer type. The commands are shown in Table 11. Replace **cuu** with the VSE address of your real printer.

LUCB cuu,$$BUCBxx,NOCHK[,FOLD]

After entering the command, you can check the output of your printer for readability. If you cannot read it, you probably have chosen a wrong UCB procedure. Select the correct UCB procedure and then repeat the steps described above.

```
AR 0015 1I40I READY
BG-0000
```

Enter:

0

Table 11. LUCB Attention Commands

IBM Printer	LUCB Attention Command
3211	LUCB cuu,$$BUCB,NOCHK,FOLD
3203-5	LUCB cuu,$$BUCB00,NOCHK,FOLD
3262 (48 CHARACTER)	LUCB cuu,$$BUCB22,NOCHK,FOLD
3262 (63 CHARACTER)	LUCB cuu,$$BUCB22,NOCHK
3262 (96 CHARACTER)	LUCB cuu,$$BUCB22,NOCHK
3289-4	LUCB cuu,$$BUCB10,NOCHK,FOLD
1403U	LUCB cuu,$$BUCB4,NOCHK,FOLD
4245	Not Applicable
4248	Not Applicable
6262-014	Not Applicable

```
BG 0000 EOJ LFCBLINK  MAX.RETURN CODE=xxxx
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Starting a Printer Controlled by VSE/POWER

Users Using Terminal Printers:

If you have a terminal printer attached to your system instead of a printer controlled by VSE/POWER, you are **not** asked to start that printer at this time. Wait until CICS is started and then activate your terminal printer. “Telecommunications Access Method and CICS/ICCF Startup” on page 84 has more information available.

The address (cuu) you use to start a VSE/POWER printer must either be a real physical device address or, for VM users, a virtual device. The device address has to be less than or equal to X’FFF’.

If there is no correct FCB and/or UCB for the printer (cuu) available, then you **should not** start the printer at this time.

Start your printer by entering:

S LST,*cuu*,class
(*cuu* - VSE address) (class - printer class)

```
F1 0001 1Q34I  LST WAITING FOR WORK ON cuu
```

Users Installing under VM

You can use the following command to start the printer:

```
S LST,cuu,class,D,VM     (cuu - device address)(class - printer class)
```

This starts a list-writer task to print spooled list output to the virtual printer with address cuu.

With the operand `D` you specify two input buffers and two output buffers, which increases performance. You can also enter *2* for two output buffers or two commas (,,) for one output buffer. The `VM` operand tells VSE/POWER that the device is a virtual device owned by VM. If you do not specify `VM`, output is not available to VM until the VSE operator issues a *CP CLOSE* for the device.

The operands in the `S LST` command are positional. You **must** insert the two commas (,,) between *class* and *VM* if you do not specify an operand for the input or output buffer.

VSE/POWER Administration and Operation describes the PSTART command in detail.

Review the following printer information:

1. If the printer has an FCB, the system displays the following message:
   ```
   F1 0016 1B19I X'cuu' LFCB WITH PHASE nnnnn EXECUTED
   ```
2. If you do not start the printer as a VM writer task, the system displays the following message, when the first job with printer output ends:
   ```
   F1 0001 1Q40A ON cuu FORMS xxxx NEEDED FOR nnnnnnnn nnnnn
   ```
   When this message is displayed, enter the PGO command:

   G *cuu* (*cuu* - real VSE/POWER printer address)
3. If your real printer address is a different device type than PRT1, the system displays the following message whenever a print job is sent to the printer:
   ```
   1Q41I WRONG PRINTER/PUNCH FOR XXX YYY, cuu
   ```

   You can avoid this message by ensuring that the dummy VSE/POWER printer device FEE has the same device type as your:
   - Real printer. (You run without VM or dedicate a printer to the z/VSE guest system).
   - VM virtual printer. (You run under VM without a printer dedicated to the z/VSE guest system).

Restoring System History File

The job **HISTREST** restores the system history file.

```
BG 0001 1Q47I   BG HISTREST nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 0000 // JOB HISTREST RESTORE SYSTEM HISTORY FILE
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 EOJ HISTREST  MAX.RETURN CODE=xxxx
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Defining VSAM Catalogs, Space, and Clusters

The job **VSAMDEFS** defines the VSAM master catalog, a VSAM user catalog, VSAM space, and clusters. The error message 4228I is expected and can be ignored.

```
BG 0001 1Q47I   BG VSAMDEFS nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 0000 // JOB VSAMDEFS - DEFINE VSAM MCAT, UCAT SPACE AND CLUSTERS
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 * THIS JOB WILL DEFINE THE VSAM MASTER CATALOG, A USER CATALOG,
BG 0000 * VSAM DATA SPACE, AND VSAM CLUSTERS. FIRST TIME EXECUTION
BG 0000 * WILL RESULT IN A VSAM OPEN ERROR X'B4' (180) ON FILE IJSYSCT.
BG 0000 4228I FILE IJSYSCT  OPEN  ERROR X'B4'(180) CAT=..N/A..
            (IKQOPNCT) VOLUME 'DOSRES' NOT OWNED BY VSAM
BG 0000 EOJ VSAMDEFS  MAX.RETURN CODE=0000
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Note: This job will define the control file. However, it is not yet initialized. In case you encounter problems later on, and need to re-IPL the system, subsequent job VSAMINIT might fail unless you manually close the control file issuing the command `MSG FB,DATA='CLOSECNTL'`.

Defining Libraries and Sublibraries

The job **LIBRDEFS** defines the necessary libraries and sublibraries for z/VSE.

```
BG 0001 1Q47I   BG LIBRDEFS nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 0000 // JOB LIBRDEFS DEFINE LIBRARIES AND SUBLIBRARIES
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 EOJ LIBRDEFS  MAX.RETURN CODE=0000
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Restoring VSE/ICCF DTSFILE

The job **ICCFREST** restores the z/VSE-supplied VSE/ICCF DTSFILE.

```
BG 0001  1Q47I  BG ICCFREST nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 0000 // JOB ICCFREST RESTORE THE VSE/ICCF DTSFILE
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 000 K237I LIBRARY REALLOCATION FROM nnnn TO nnnn
BG 000 K236I USER REALLOCATION FROM nnnn TO nnnn
BG 000 EOJ ICCFREST  MAX.RETURN CODE=xxxx
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Punching Install Information to VSE/ICCF DTSFILE

The job **ICCFLOAD** adds required system information to the z/VSE supplied VSE/ICCF DTSFILE.

```
BG 0001 1Q47I   BG ICCFLOAD nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 0000 // JOB ICCFLOAD PUNCH INSTALL INFO TO ICCF LIBRARY
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 EOJ ICCFLOAD  MAX.RETURN CODE=xxxx
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Installing z/VSE Base Macros

The job **MACREST** installs separate macros into PRD1.MACLIB.

```
BG 0001 1Q47I  BG MACREST nnnnn FROM (SYSA) , time=yy:yy:yy
BG 0000 // JOB MACREST - RESTORE SUB-LIBRARY PRD1.MACLIB
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 EOJ MACREST  MAX.RETURN CODE=0000
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Installing LE/VSE

The job **LEREST** installs LE/VSE into the sublibrary PRD2.SCEEBASE.

```
BG 0001 1Q47I   BG LEREST nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 0000 // JOB LEREST  - RESTORE LE/VSE LIBRARY PRD2.SCEEBASE
⋮
BG 0000 EOJ LEREST    MAX.RETURN CODE=xxxx
```

Restoring Language-Dependent Members

The job **NLLIBRES** restores national language-dependent members from tape into IJSYSRS.SYSLIB.

```
BG 0001 1Q47I   BG NLLIBRES nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 0000 // JOB NLLIBRES - RESTORE LANGUAGE DEPENDENT MEMBERS INTO SYSLIB
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 EOJ NLLIBRES MAX.RETURN CODE=xxxx
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Restoring Language-Dependent VSE/ICCF Members

The job **NLICFRES** restores national language-dependent VSE/ICCF members from tape into the VSE/ICCF DTSFILE.

```
BG 0001 1Q47I   BG NLICFRES nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 0000 // JOB NLICFRES - RESTORE LANGUAGE DEPENDENT MEMBERS INTO DTSFILE
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 EOJ NLICFRES MAX.RETURN CODE=xxxx
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Installing z/VSE Base Programs

The job **BASEREST** installs the z/VSE sublibrary PRD1.BASE.

Note: This job takes several minutes. Do not cancel this job.

```
BG 0001 1Q47I   BG BASEREST nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 0000 // JOB BASEREST - RESTORE SUB-LIBRARY PRD1.BASE
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 * ------------------------------------------------------------------
BG 0000 *             RESTORING PRD1 - THIS STEP WILL TAKE SEVERAL MINUTES
BG 0000 * ------------------------------------------------------------------
BG 0000 EOJ BASEREST  MAX.RETURN CODE=xxxx
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Installing TCP/IP

The job **TCPREST** installs TCP/IP in PRD2.TCPIPC.

Note: This job takes several minutes. Do not cancel this job.

```
BG 0001 1Q47I   BG TCPREST 00010 FROM (SYSA) , TIME=hh:mm:ss , TKN=000000
BG 0000 // JOB TCPREST  - RESTORE SUB-LIBRARY PRD2.TCPIPC
        DATE xx/xx/xxxx, CLOCK yy/yy/yy
BG 0000 M235I INSTALLATION WILL BE DONE AS FOLLOWS:
BG 0000        PRD2.TCPIPC        INTO   PRD2.TCPIPC
BG 0000 EOJ TCPREST   MAX.RETURN CODE=0000
        DATE xx/xx/xxxx, CLOCK yy/yy/yy, DURATION   zz/zz/zz
```

Initializing and Loading VSE/VSAM Files

The job **VSAMINIT** initializes and loads VSAM files needed by z/VSE.

Note:

1. This job takes several minutes. Do not cancel this job.
2. During this job, the control file is opened which activates full security support of the Basic Security Manager.

```
BG 0001 1Q47I   BG VSAMINIT nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 0000 // JOB VSAMINIT - INITIALIZE AND LOAD VSAM FILES
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 EOJ VSAMINIT  MAX.RETURN CODE=xxxx
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Initializing Work Files for Info/Analysis

The job **DUMPINIT** initializes the Info/Analysis work files.

```
BG 0001 1Q47I   BG DUMPINIT nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 0000 // JOB DUMPINIT - INITIALIZE INFO/ ANALYSIS WORK FILES
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 EOJ DUMPINIT  MAX.RETURN CODE=xxxx
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Cataloging Members into VSE System Libraries

The job **SAVEMEMB** catalogs members into PRD2.CONFIG and PRD2.SAVE. It also renames certain VSE/Advanced Functions library members.

Under some circumstances, the job might complete with a return code of 4. This is **not** an error.

```
BG 0001 1Q47I   BG SAVEMEMB nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 0000 // JOB SAVEMEMB CATALOG MEMBERS INTO PRD2.CONFIG AND PRD2.SAVE
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 EOJ SAVEMEMB  MAX.RETURN CODE=xxxx
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Configuring TCP/IP (Optional)

```
BG 0001 1Q47I   BG TCPIPCFG 00019 FROM (SYSA) , TIME=hh:mm:ss
BG 0000 // JOB TCPIPCFG - CONFIGURE TCP/IP
        DATE dd/mm/yyyy, CLOCK hh/mm/ss
BG 0000 * ****************************************************************
BG 0000 * *
BG 0000 * *    THIS JOB WILL START A CONFIGURATION DIALOG TO SETUP AN
BG 0000 * *    INITIAL STARTUP FOR TCP/IP.
BG 0000 * *
BG 0000 * ****************************************************************
BG 0000 TCPCONF: *********** SET IPADDR *************
BG-0000 TCPCONF: Enter your IP address in dotted decimal notation (as four
        integers separated by periods - such as 1.2.3.4)
0 10.0.20.58
BG 0000 TCPCONF: *********** SET MASK ***************
BG 0000 TCPCONF:     identifies what portion of the host number in a
BG 0000 TCPCONF:     network address is used to identify a sub-network
BG 0000 TCPCONF:     Sample: SET MASK = 255.255.224.000
BG-0000 TCPCONF: Enter your IP mask in dotted decimal notation ( "n.n.n.n",
        where n is the decimal representation of one byte)
0 255.255.224.000
BG 0000 TCPCONF: *********** DEFINE_LINK ************
BG 0000 TCPCONF: Syntax of DEFINE LINK is:
BG 0000 TCPCONF: DEF LINK ID=name TY={CLAW|ETHER|TOKEN|3172|OSA|OSAX|CTC|IPNET} D
BG 0000 EV=hexaddr ...
BG-0000 TCPCONF: Please enter your DEFINE LINK command.
0 DEFINE LINK,ID=VM_TCPIP,TYPE=OSAX,DEV=E580
BG-0000 TCPCONF: Do you want to add another LINK definition? Yes/No
0 no
BG 0000 TCPCONF: *********** DEFINE_ROUTE ***********
BG 0000 TCPCONF: Syntax of DEFINE ROUTE is:
BG 0000 TCPCONF: DEF ROUT ID=name LINK=name1 IP=ipaddr [GAT=ipaddr1] ...
BG-0000 TCPCONF: Please enter your DEFINE ROUTE command.
0 DEF ROUT ID=ALL LINK=VM_TCPIP IP=0.0.0.0 GATEWAY=9.164.188.224
BG-0000 TCPCONF: Do you want to add another ROUTE definition? Yes/No
0 no
```

```
BG 0000 TCPCONF: *********** DEFINE_TELNETD *********
BG 0000 TCPCONF: the following TELNETD definition:
BG 0000 TCPCONF: DEFINE TELNETD ID=TELNET TARGET=DBDCCICS TERMNAME=T1000 COU
BG 0000 NT=20  -
BG 0000 TCPCONF: LOGMODE=SP3272QN LOGMODE3=SP3272QN LOGMODE4=SP3272QN LOGMOD
BG 0000 E5=SP3272QN
BG 0000 TCPCONF: could be added
BG 0000 TCPCONF: together with a corresponding VTAM definition in PRD2.CONFI
BG 0000 G.TCPAPP00.B .
BG-0000 TCPCONF: Do you want to add these definitions for your TELNET terminal
         sessions? Yes/No
0
BG-0000 TCPCONF: Do you want to add these definitions for your TELNET terminal
         sessions? Yes/No
0 yes
BG 0000 TCPCONF: VTAM configuration member PRD2.CONFIG.TCPAPP00.B is created
BG 0000 ]
BG-0000 TCPCONF: Do you want to add another TELNETD definition? Yes/No
0 yes
BG 0000 TCPCONF: Syntax of DEFINE TELNETD is:
BG 0000 TCPCONF: DEF TEL ID=name TAR=name1 TERM=termlu CO=num [LOGM=name2].
BG-0000 TCPCONF: Please enter your DEFINE TELNETD command.
0 DEF TEL ID=TEL1 TAR=DBDCCICS TERM=TELT1 CO=5 LOGMODE=SP3272QN LOGMODE3=SP3272
QN LOGMODE5=SP3272QN
BG 0000 TCPCONF: the TELNETD definition:
BG 0000 TCPCONF: DEF TEL ID=TEL1 TAR=DBDCCICS TERM=TELT1 CO=5 LOGMODE=SP3272
BG 0000 QN LOGMODE3=SP3272QN LOGMODE5=SP3272QN
BG 0000 TCPCONF: could get a corresponding VTAM definition in member PRD2.CO
BG 0000 NFIG.TCPAPP00.B .
BG-0000 TCPCONF: Do you want to enhance VTAM configuration member PRD2.CONFIG.
        TCPAPP00.B ? Yes/No
0 yes
BG 0000 TCPCONF: Old version of PRD2.CONFIG.TCPAPP00.B  has been saved in PR
BG 0000 D2.CONFIG.TCPAPP00.BOLD1
BG 0000 TCPCONF: VTAM configuration member VTAM_BOOK is updated
BG-0000 TCPCONF: Do you want to add another TELNETD definition? Yes/No
0 yes
BG 0000 TCPCONF: Syntax of DEFINE TELNETD is:
BG 0000 TCPCONF: DEF TEL ID=name TAR=name1 TERM=termlu CO=num [LOGM=name2].
BG-0000 TCPCONF: Please enter your DEFINE TELNETD command.
0 DEF TEL ID=TEL2 TAR=DBDCCICS TERM=TELT2 CO=2 LOGMODE=SP3272QN LOGMODE3=SP3272
QN LOGMODE5=SP3272QN
BG 0000 TCPCONF: the TELNETD definition:
BG 0000 TCPCONF: DEF TEL ID=TEL2 TAR=DBDCCICS TERM=TELT2 CO=2 LOGMODE=SP3272
BG 0000 QN LOGMODE3=SP3272QN LOGMODE5=SP3272QN
BG 0000 TCPCONF: could get a corresponding VTAM definition in member PRD2.CO
BG 0000 NFIG.TCPAPP00.B .
BG-0000 TCPCONF: Do you want to enhance VTAM configuration member PRD2.CONFIG.
        TCPAPP00.B ? Yes/No
0 yes
BG 0000 TCPCONF: Old version of PRD2.CONFIG.TCPAPP00.B  has been saved in PR
BG 0000 D2.CONFIG.TCPAPP00.BOLD2
BG 0000 TCPCONF: VTAM configuration member VTAM_BOOK is updated]
BG-0000 TCPCONF: Do you want to add another TELNETD definition? Yes/No
0 no
BG 0000 TCPCONF: These are now the actual definitions
BG 0000 TCPCONF: that are relevant for TELNET sessions:
BG 0000 TCPCONF: ************************************************************
BG 0000 TCPCONF: SET IPADDR=10.0.20.58
BG 0000 TCPCONF: SET MASK=255.255.224.000
BG 0000 TCPCONF: DEFINE LINK ID=VM_TCPIP TYPE=OSAX DEV=E580
BG 0000 TCPCONF: DEFINE ROUTE ID=ALL LINK=VM_TCPIP IP=0.0.0.0 GATEWAY=9.164.
BG 0000 188.224
BG 0000 TCPCONF: DEFINE TELNETD ID=TELNET TARGET=DBDCCICS TERMNAME=T1000 COU
BG 0000 NT=20 LOGMODE=SP3272QN LOGMODE3=SP3272QN LOGMODE4=SP3272QN LOGMODE5=
BG 0000 SP3272QN
BG 0000 TCPCONF: DEFINE TELNETD ID=TEL1 TAR=DBDCCICS TERM=TELT1 CO=5 LOGMODE
```

```
BG 0000 =SP3272QN LOGMODE3=SP3272QN LOGMODE5=SP3272QN
BG 0000 TCPCONF: DEFINE TELNETD ID=TEL2 TAR=DBDCCICS TERM=TELT2 CO=2 LOGMODE
BG 0000 =SP3272QN LOGMODE3=SP3272QN LOGMODE5=SP3272QN
BG 0000 TCPCONF: ********************************************************
BG-0000 TCPCONF: Do you want to save them in PRD2.CONFIG.IPINIT00.L ? Yes/No
0 yes
BG 0000 TCPCONF: TCP/IP configuration changes saved in PRD2.CONFIG.IPINIT00.
BG 0000 L
BG 0000 TCPCONF: TCP/IP for VSE/ESA is licensed and enabled by a key.
BG-0000 TCPCONF: Do you want to install TCP/IP product keys now? Yes/No
0 yes
BG 0000 TCPCONF: *********** PRODKEY DEFINE *********
BG-0000 TCPCONF: Enter product key of Application Pak in format
        XXXX-XXXX-XXXX-XXXX-XXXX
0 1234-5678-9012-3456-7890
BG-0000 TCPCONF: Enter product key of NFS in format XXXX-XXXX-XXXX-XXXX-XXXX
        if you plan to use NFS - ENTER otherwise
0
BG-0000 TCPCONF: Enter product key of GPS in format XXXX-XXXX-XXXX-XXXX-XXXX
        if you plan to use GPS - ENTER otherwise
0
BG 0000 TCPCONF: TCP/IP for VSE/ESA requires a customer definition.
BG-0000 TCPCONF: Do you want to update TCP/IP customer information? Yes/No
0 y
BG 0000 TCPCONF: *********** CUSTDEF DEFINE *********
BG-0000 TCPCONF: Enter name of Customer Information
0 CUSTOMERNAME
BG-0000 TCPCONF: Enter number of Customer Information
0 C111-111-1111
BG 0000 EOJ TCPCONF   MAX.RETURN CODE=0000
```

Telecommunications Access Method and CICS/ICCF Startup

Several things occur at the same time during this task. Messages from different partitions are displayed on the system console. Review them carefully.

The job **TPSTART** runs. It has several steps. For VTAM users, it releases the job VTAMSTRT which starts VTAM in partition F3. The partition controls the VTAM terminals defined earlier in the installation.

TPSTART also releases the job CICSICCF. It starts CICS and VSE/ICCF in partition F2. The job CLEANUP runs at the same time and completes initial installation processing.

Note: The messages for this task might appear on your screen in a different order than shown here.

```
BG 0001 1Q47I   BG TPSTART nnnnn FROM (SYSA), TIME=yy:yy:yy
BG 0000 // JOB TPSTART START ICCF, CICS AND VTAM (IF APPLICABLE)
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
```

The system displays the following messages:

```
BG 0000 1S47I  PRELEASE RDR,VTAMSTRT
:
BG 0001 1Q47I   F3 VTAMSTRT nnnnn FROM (SYSA), TIME=yy:yy:yy
F3 0003 // JOB VTAMSTRT START UP VTAM
:
:
:
BG 0000 1S47I  PRELEASE RDR,CICSICCF
BG 0001 1Q47I   F2 CICSICCF nnnnn FROM (SYSA), TIME=yy:yy:yy
F2 0002 // JOB CICSICCF CICS/ICCF STARTUP
```

```
        DATE xx/xx/xxxx,CLOCK yy/yy/yy
BG 0000 EOJ TPSTART   MAX.RETURN CODE=xxxx
        DATE xx/xx/xxxx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

The system displays the following messages:

```
⋮
F3 0024 IST093I VTMAPPL ACTIVE
F3 0024 IST093I VTMSNA ACTIVE
F3 0024 IST093I VTMNSNA ACTIVE

⋮

F3 0024 IST093I VTMCA1 ACTIVE
F3 0024 IST093I VTMCA2 ACTIVE
⋮
F3 0024 IST093I VTMSW1 ACTIVE

F3 0024 IST020I VTAM INITIALIZATION COMPLETE FOR V4R2

⋮
⋮
⋮
 (additional SESSION SETUP messages may be displayed)
⋮
```

Completion of Initial Installation Processing

The job **CLEANUP** completes initial installation processing. Messages from job CLEANUP might be displayed, together with messages from the CICS/ICCF startup job.

```
⋮
F2 0002 // JOB CICSICCF             CICS/ICCF STARTUP
        DATE xx/xx/xxxx, CLOCK yy/yy/yy
F2 0002 1T20I  SYS009 HAS BEEN ASSIGNED TO X'01F' (TEMP)
F2 0002 LOG
F2 0002 ID (PARAMETERS SUPPRESSED)
F2 0002 NOLOG
F2 0002 *   WAITING FOR VTAM TO COME UP
F2 0002 1T20I  SYS020 HAS BEEN ASSIGNED TO X'FEE' (TEMP)
F2 0002 DFHPA1101  DBDCCICS DFHSITSP IS BEING LOADED.
F2 0002 DFHPA1108  DBDCCICS DFHSITSP HAS BEEN LOADED. (GENERATED AT: MM/DD=
        xx/xx HH:MM= yy:yy).
F2 0002 DFHPA1100  DBDCCICS OVERRIDE PARAMETERS FROM JCL EXEC STATEMENT:

F2 0002 DFHPA1927  DBDCCICS APPLID=DBDCCICS,START=COLD,EDSALIM=14M,SI

F2 0002 DFHPA1102  DBDCCICS OVERRIDE PARAMETERS FROM SYSIPT:
F2 0002 DFHPA1927  DBDCCICS SIT=SP,STATRCD=OFF,MXT=20,NEWSIT=YES

F2 0002 DFHPA1103  DBDCCICS END OF FILE ON SYSIPT.
F2 0002 DFHTR0103 TRACE TABLE SIZE IS 256K
F2 0002 DFHSM0122I DBDCCICS Limit of DSA storage below 16MB is n,nnnK.
F2 0002 DFHSM0123I DBDCCICS Limit of DSA storage above 16MB is nnM.
F2 0002 DFHSM0113I DBDCCICS Storage protection is not active.
F2 0082 DFHDM0101I DBDCCICS CICS is initializing.
F2 0083 DFHXS1100I DBDCCICS Security initialization has started.
F2 0083 DFHWB0109I DBDCCICS Web domain initialization has started.
F2 0083 DFHSO0100I DBDCCICS Sockets domain initialization has started.
F2 0083 DFHDH0100I DBDCCICS Document domain initialization has started.
F2 0083 DFHSI1500 DBDCCICS CICS startup is in progress for CICS Transaction
        Server Version 1.1.1
F2 0083 DFHXS1105 DBDCCICS Resource profiles for class TCICSTRN have been
        built.
```

```
F2 0083 DFHXS1103I DBDCCICS Default security for userid CICSUSER has been
        established.
F2 0083 DFHSI1501I DBDCCICS Loading CICS nucleus.
F2 0083 DFHXS1101I DBDCCICS Security initialization has ended.
F2 0083 DFHWB0110I DBDCCICS Web domain initialization has ended.
F2 0083 DFHSO0101I DBDCCICS Sockets domain initialization has ended.
F2 0083 DFHMN0105I DBDCCICS Using default Monitoring Control Table.
F2 0083 DFHMN0110I DBDCCICS CICS Monitoring is inactive.
F2 0083 DFHDH0101I DBDCCICS Document domain initialization has ended.
F2 0083 DFHSI1502I DBDCCICS CICS startup is Cold.
F2 0083 DFHSI1503I DBDCCICS Terminal data sets are being opened.
F2 0083 DFHDU0304I DBDCCICS Transaction Dump Data set DFHDMPA  opened.
F2 0083 DFHCP0101I DBDCCICS CPI initialization has started.
F2 0083 DFHPR0104I DBDCCICS Partner resource manager initialization has
        started.
F2 0083 DFHFC0100I DBDCCICS File Control initialization has started.
F2 0083 DFHFC0101I DBDCCICS File Control initialization has ended.
F2 0083 DFHTD0100I DBDCCICS Transient Data initialization has started.
F2 0083 DFHAI0101I DBDCCICS AITM initialization has started.
F2 0083 DFHTD0101I DBDCCICS Transient Data initialization has ended.
F2 0083 DFHTS0100I DBDCCICS Temporary Storage initialization has started.
F2 0083 DFHTS0102I DBDCCICS About to format the temporary storage data set
        (104 control intervals).
F2 0083 DFHTS0101I DBDCCICS Temporary Storage initialization has ended.
F2 0083 DFHCP0102I DBDCCICS CPI initialization has ended.
F2 0083 DFHPR0105I DBDCCICS Partner resource manager initialization has ended.

F2 0083 DFHAI0102I DBDCCICS AITM initialization has ended.
F2 0083 DFHSI1511I DBDCCICS Installing group list VSELIST .
F2 0083 DFHST0103 DBDCCICS A DMF error has occurred with return code X'10'.
BG 0000 EOJ TPSTART   MAX.RETURN CODE=0000
        DATE xx/xx/xxxx, CLOCK yy/yy/yy, DURATION   zz/zz/zz
BG 0001 1Q47I   BG CLEANUP 00022 FROM (SYSA) , TIME=yy:yy:yy
F2 0083 DFHAP1203I DBDCCICS Language Environment for z/VSE is being
        initialized.
BG 0000 // JOB CLEANUP
        DATE xx/xx/xxxx, CLOCK yy/yy/yy
F2 0083 CEE3550I LE/VSE C/VSE Run-Time initialized
F2 0083 CEE3551I LE/VSE COBOL Run-Time initialized
F2 0083 CEE3552I LE/VSE PL/I Run-Time initialized
F2 0083 DFHWB1007 DBDCCICS Initializing CICS Web environment.
F2 0083 DFHWB1008 DBDCCICS CICS Web environment initialization is complete.
F2 0083 DFHSI8430I DBDCCICS About to link to PLT programs during the third
        stage of initialization.
F2 0085 K002I  BEGIN ICCF INITIALIZATION
F2 0085 K042I  VSE ACCESS CONTROL NOT ACTIVE, VSE/ICCF ACCESS CONTROL ACTIVE
F2 0085 K481I  DYNAMIC FILE SPACE INITIALIZATION BYPASSED
F2 0085 K001I  DEVICE TYPE IS nnnn
F2 0085 K088I  HI FILE RECORDS=     nnn,nnn (nn%)
F2 0083 K029I  ICCF INITIALIZATION COMPLETED
F2 0083 DFHSI8434I DBDCCICS Control returned from PLT programs during the
        third stage of initialization.
F3 0003 IST899I RETRY OF AUTOLOGON(S) TO VTAM1.DBDCCICS IN PROGRESS
F2 0083 DFHSI1517 DBDCCICS Control is being given to CICS.
```

Once message DFHSI1517 appears, the system is available for use. Turn to Chapter 10, "Installation Part 3 - Native and VM," on page 87 to continue. To complete your installation, use the z/VSE dialogs.

```
⋮
BG 0000 *  BASE INSTALL PROCESSING IS NOW FINISHED. COMPLETION OF THE
BG 0000 *
BG 0000 *  INSTALL PROCESS MUST BE PERFORMED USING THE z/VSE DIALOGS
BG 0000 *
BG 0000 EOJ CLEANUP   MAX.RETURN CODE=0000
        DATE xx/xx/xxxx, CLOCK yy/yy/yy, DURATION   zz/zz/zz
```

Chapter 10. Installation Part 3 - Native and VM

Installation part 3 describes how to complete the z/VSE initial installation. Part 3 must be done before you do any optional installation tasks or use the z/VSE system. Otherwise, your system might not operate properly.

Installation part 3 consists of a number of steps. All of them require decisions or answers from your part. Interactive Interface dialogs help you complete the tasks.

The steps that you need to complete are:

- Sign on to z/VSE with user ID: POST
  - Enter personalized data.
- Sign on to z/VSE with user ID: SYSA
  - Complete the hardware tables.
  - Alter the VSE addresses assigned by the system, to the values you have specified in the "Installation Worksheet" on page 6.
- Change passwords.
- Perform system shutdown.
- Perform IPL of your z/VSE system.

Sign-on to z/VSE

At least one terminal that you specified during initial installation, has to be powered on at system startup. It displays the z/VSE sign-on panel (*z/VSE Online* panel). which is shown in Figure 2.

```
IESADMSO1                          z/VSE ONLINE
    5609-ZV5 and Other Materials (C) Copyright IBM Corp. 2013 and other dates


                                ++
                               ++    VV    VV    SSSSS    EEEEEEE
                 zzzzzz       ++     VV    VV   SSSSSSS   EEEEEEE
                 zzzzz       ++      VV    VV  SS         EE
                   zz       ++       VV    VV   SSSSSS    EEEEEE
                  zz       ++        VV    VV    SSSSSS   EEEEEE
                 zzzzzz   ++          VV  VV         SS  EE
                zzzzzzz  ++            VVVV     SSSSSSS   EEEEEEE
                                        VV       SSSSS    EEEEEEE

        Your terminal is xxxx and its name in the network is xxxxxxxx
        Today is mm/dd/yyyy   To sign on to DBDCCICS  --  enter your:

       user ID........ ________   The name by which the system knows you.
       PASSWORD.......            Your personal access code.

PF1=HELP       2=TUTORIAL   3=TO VM      4=REMOTE APPLICATIONS
                                        10=NEW PASSWORD
```

Figure 2. Panel - z/VSE Online

If the sign-on panel does not show up, try to log on with **APPLID(DBDCCICS)**. This also results in the sign-on panel.

Note: When you start up the system after initial installation, all terminals which are powered on display the sign-on panel.

Users who access VSE/ICCF can have user IDs of up to four characters. All other users can have user IDs consisting of up to eight characters. User IDs are not case sensitive.

Note: Compared to previous releases of VSE, the password can also have eight characters.

Users Installing Under VM: You cannot return to your VM system during initial installation. After completing initial installation, that means, after having completed the next IPL, the PF3 key is available, and you can return to your VM system using PF3.

To complete initial installation, sign on to the system from the *z/VSE Online* panel using the predefined user ID **POST** and the password **BASE**.

```
USER-ID........   POST
PASSWORD.......   BASE
```

Note: The user ID POST is reserved. It only is used to complete initial installation and to do special processing. Once the system signs you off from the session, the user ID POST cannot be used again. All attempts to enter POST/BASE are rejected.

After sign on with the user ID POST, the system displays the following message:

```
INPUT ACCEPTED, PLEASE WAIT
```

The system now completes the online installation task of the initial installation.

This processing takes several minutes. Do not interrupt it.

Personalizing the History File

The dialog now asks you to enter data unique to your installation in the panel shown in Figure 3 on page 89.

Type in your name, address and telephone number in the required fields. In the last field, type in the name of the person who is responsible for maintaining the system. This is usually the system administrator. After entering all required information, press **ENTER**.

```
ADM$FST5                 COMPLETE INITIAL INSTALLATION

Enter the required data and press ENTER.

This panel accepts information for your system history file.
This information uniquely identifies your installation and is
placed in the general header record of the history file.


CUSTOMER NAME..... ____________________

ADDRESS........... ________________________________________________

PHONE NUMBER...... ________________

PROGRAMMER NAME... ____________________________



PF1=HELP       2=REDISPLAY  3=END
```

Figure 3. Panel - Complete initial installation

Note: Make sure that you enter at least your name and address.

The Interactive Interface uses the *Personalize History File* dialog to update system history data. If you need to change any system history information of that type after this task, use the dialog. Refer to "Updating Hardware Tables After initial installation" on page 93 for details.

The dialog creates a job with the name FIRSTUSE. The job is automatically submitted to the VSE system. The system displays the following message:

```
JOB HAS BEEN SUBMITTED AND FILED AS FIRSTUSE
```

The job FIRSTUSE contains the control job PERSONAL. PERSONAL creates an MSHP job stream and updates the system history file with your personal data.

The hardware configuration table is also validated.

On the panel that is displayed, you are informed about these steps and also that initial installation is complete and final housekeeping has been finished. Press **ENTER**. This automatically signs you off and displays the *z/VSE Online* panel.

Your first action after the POST session should be to use the *Hardware Configuration* dialog to create and activate VTAM and CICS definitions for your system.

Completing the Hardware Tables

Sign on to the Interactive Interface with the SYSA user ID. On the *z/VSE Online* panel, enter:

```
USER-ID........   SYSA
PASSWORD.......   SYSA
```

You are now requested to change the password. The password can be 3 - 8 alphanumeric characters long, including the special characters @, #, $. For security reasons, it is not displayed on the screen.

During the initial installation process, the IPL program sensed and defined the devices in your system. These definitions were used to create hardware configuration tables, they contain information about your devices and are used by other Interactive Interface dialogs.

If information is missing for one or more devices, the system asks you to define these devices on the Hardware Configuration Panel - Unidentified Device List (See Figure 4).

This list also displays the VSE addresses that were assigned to the physical device addresses during installation. If you want to change them to a value of your choice you can only do so at this point of the installation.

To add missing information, start with the *Function Selection* panel and select:

2 (Resource Definition)

4 (Hardware Configuration and IPL)

1 (Configure Hardware)

Administrator Fast Path	Synonym
241	Default: Yours:

Figure 4 shows an example of the Unidentified Device List. This panel lists all devices for which the system knows the physical device address (pcuu).

```
ADM$HDWF      HARDWARE CONFIGURATION: UNIDENTIFIED DEVICE LIST


OPTIONS:  1 = DEFINE A DEVICE    5 = DELETE A DEVICE
          6 = ALTER MAPPING
         '=' = REPEAT LAST DEFINED DEVICE

   OPT     VSE    PHYSICAL  DEVICE  DEVICE TYPE  DEVICE   SPECIFICATION
           ADDR    ADDR               CODE          (MODE)
    _      001     1081     3490E       3490E
    _      002     2000     3390-3      ECKD
    _      003     2001     3390-3      ECKD
    _      004     3081     ?           3277
    _      005     9000     3390-X      ECKD
    _      006     9001     3390-X      ECKD
    _      380     0380     ?           3277
    _      382     0382     ?           3277
    _                       ________
    _                       ________
PF1=HELP       2=REDISPLAY  3=END                    5=PROCESS
PF7=BACKWARD   8=FORWARD
```

Figure 4. Hardware Configuration Panel - Unidentified Device List

The above unidentified device list displays the devices for which the information is not complete. The system needs further input from you as follows:

OPTION 1 - Define a device

If the column DEVICE is marked by a question mark "?", the device type is missing and you have to specify it using OPTION 1.

You can directly enter the device name on this panel. If you enter an invalid device type or don't replace a question mark, the system displays selection menus from which you can select the device type.

OPTION 5 - Delete a device
If you want to delete a device from the list of unidentified devices, enter **5** in the option column next to that device.

OPTION 6 - Alter mapping
If you have devices with a physical device address larger than X'FFF', you can alter the VSE address according to the value you have specified in the "Installation Worksheet" on page 6.

'=' - Repeat last defined device
If you have several devices with the same device type, you can use the equals sign "=" to repeat the assignment of the last defined device.

You must go through the complete list of unidentified devices and define or delete each of the given addresses before you can press **PF5** to process your input. The system displays the panel shown in Figure 5. This panel contains the information you added.

If devices are listed, which are attached through a link that occupies more than **one** address (pcuu), you cannot define these devices on this panel. For example, a Token-Ring adapter into an IBM Token-Ring.

Delete these devices in this panel. To add and configure links/devices, use the *Configure Hardware* dialog **after** completing initial installation.

```
ADM$HDWB          HARDWARE CONFIGURATION: UNIT ADDRESS LIST


OPTIONS: 2 = ALTER DEVICE TYPE CODE/MODE     3 = SELECT FOR FURTHER PROCESSING
         4 = LIST SIMILAR DEVICES            5 = DELETE A DEVICE


    OPT    VSE   PHYSICAL DEVICE     DTYPE     DEVICE  DEVICE  DEF
           ADDR  ADDR                CODE      MODE    DOWN    INCOMPL
     _      801   1801   FBA         FBA
     _      806   1806   FBA         FBA
     _      809   1809   FBA         FBA
     _      810   1810   FBA         FBA
     _      8A0   28A0   FBA         FBA
     _      8AB   28AB   FBA         FBA
     _      8AF   18AF   FBA         FBA
     _      8B0   18B0   FBA         FBA
     _      900   B900   FBA         FBA
     _      901   B901   FBA         FBA
 POSITION NEAR ADDR == > ____
PF1=HELP       2=REDISPLAY  3=END                5=PROCESS    6=ADD ADDR
PF7=BACKWARD   8=FORWARD    9=PRINT     10=SORT-VSE
```

Figure 5. Hardware Configuration: Unit Address List (Information Added)

Note: The DEVICE DOWN option in the *Hardware Configuration* dialog is only supported for tape and disk devices. For more information on the *Hardware Configuration* dialog, refer to*z/VSE Administration*.

Check carefully if your hardware configuration is complete or if there is a need to add or delete a device.

- You can change but not delete the following VSE/POWER and VSE/ICCF dummy devices: FED, FEE, FEF, FFD, FFE.
- You cannot change or delete the following VSE/POWER and VSE/ICCF dummy devices: FEC, FFA, FFC.
- You cannot change or delete the dummy device FFF which is a place holder for a dedicated system console.
- Do not delete the device FDF. It is the virtual disk for label area.

You can use the **PF10** key to change the sorting order of the VSE ADDR and PHYSICAL ADDR columns. If PF10=SORT-VSE is displayed and you press the key, the VSE ADDR column is sorted in ascending order. If PF10=SORT-PHY is displayed and you press the key, the PHYSICAL ADDR column is sorted in ascending order.

Press **PF5** again to process your input and display the following panel:

```
ADM$CRE1        HARDWARE CONFIGURATION: CATALOG STARTUP MEMBERS


Press ENTER to catalog the objects marked by an X. You may add or delete
an X as needed.

              X      IPL Procedures
              _      VTAM Book with Startup Options
              X      VTAM Books for Model Terminal Support
              _      VTAM Book for Local Non-SNA Terminals
              X      VTAM Book Local SNA Terminals
              _      VTAM Books for OSA  or 3172 attached Terminals
              X      CICS CSD Group for terminals - VSETERM1
              _      CICS CSD Group for terminals - VSETERM2
              _      CICS CSD Group for terminals - VSETERM3



PF1=HELP       2=REDISPLAY  3=END

IPLPROC     VTAM     SOURCE CREATED.
```

Figure 6. Hardware Configuration : Catalog Startup Members

Note: The panel shown above is just an example for VTAM users. If you have a different hardware configuration, other objects might be marked by an x.

Press **ENTER** to build a job which makes the added information known to the system. When the *Job Disposition Panel* is displayed, submit that job.

If you need to change your hardware configuration at a later time, refer to *z/VSE SNA Networking Support*. It has information on how to add or delete a device or change the characteristics of a device.

Activating the VTAM Password

With z/VSE 5.2 you receive VTAM Version 4 Release 2. VTAM consists of three different levels. When you have ordered VTAM, you had to specify one of these levels. With the z/VSE distribution cartridge(s) or tapes, you also receive a unique VTAM password customized for your site.

For initial installation z/VSE uses a predefined password and no action on your side is necessary. However, when initial installation is complete and you tailor your system, you must activate your own VTAM password, by modifying skeleton SKVTAM. This skeleton is stored in VSE/ICCF library 59.

- Copy the skeleton into your primary VSE/ICCF library.
- Use the copy of the skeleton to modify the VTAM password.
- Submit the skeleton for processing.

For overview information and technical details, refer to *VTAM Overview* and *VTAM Network Implementation Guide Overview*.

Users Who Want to Use a System with Security Active

At the beginning of the installation process you are prompted with the message:

```
BG 0000 IESI0079D DO YOU WANT TO RUN YOUR SYSTEM WITH SECURITY ON?  YES/NO
```

By answering `YES`, the predefined table DTSECTAB will be generated, that defines access control for batch resources. This table becomes active at the first IPL after initial installation.

Security-related user profile information is stored in the VSE.CONTROL.FILE.

To modify DTSECTAB, use the source DTSECTRC in VSE/ICCF library 59 and catalog it into PRD2.SAVE. A detailed description of adding entries to DTSECTAB is described in*z/VSE Administration*.

Additional Considerations

The following are additional points which you might want to consider.

Updating Hardware Tables After initial installation

If you need to update the hardware table or personalized data of the system history file **after** initial installation is completed, you can use two dialogs:

1. Configure Hardware (fast path 241)
2. Personalize History File (fast path 145)

The *Configure Hardware* dialog has several HELP panels for information about device type codes. If you are not sure of the type for the device you are using, press **PF1** for more information.

Migrating BSTCNTL

If your previous VSE system already used to run with BSM-based security, these security definitions must be migrated using skeleton SKBSTSAV in VSE/ICCF library 59. For details, refer to *z/VSE Administration*.

Specifying Password Rules

It is recommended to adjust your password rules (for example, minimum length, number of invalid attempts) using the `BSTADMIN PERFORM PASSWORD` command. For a detailed description, refer to *z/VSE Administration*.

Migrating Old TCTs into the CICS Transaction Server CSD File

You can use the CICS MIGRATE command for migrating your self-defined and modified CICS parameter tables, or redefine your terminals via the *Hardware Configuration* dialog.

The CICS DFHCSDUP utility supports this command.

If you use the MIGRATE command be aware that:

- Many changes have to be made manually.
- There is no special z/VSE support for this type of migration.

For more information on the DFHCSDUP utility, refer to *CICS TS Resource Definition Guide*.

You should now perform a system shutdown.

The following is an example of how to perform a system shutdown. For detailed information on a system shutdown, refer to *z/VSE Operation*.

- Shut down CICS as follows:
  MSG F2,DATA='CEMT P SHUT I'
- Shut down VTAM as follows:
  Z NET,QUICK
- Shut down VSE/POWER as follows:
  PEND

Note, that if you have selected environment B or C (or if you have tailored the IPL procedures to your own needs), the changed disk layout will be active after the next IPL. Ensure that the enlarged page data set for predefined environment B (512 MB), or environment C (2 GB), is available on your DOSRES. If this is not the case, you might have to relocate the page data set to another volume by using the dialog Taylor IPL.

You must now perform an IPL from DOSRES to activate the new system setup before continuing with any further optional installation tasks.

After you have performed the IPL, initial installation is complete.

You can turn now to the optional installation tasks and:

1. Delete z/VSE component programs you do not need.
2. Install the z/VSE Generation Feature.
3. Install z/VSE optional programs.

To do this, continue with Chapter 11, “Doing Optional Installation Tasks - Native LPAR and under z/VM,” on page 97.

If you install z/VSE under VM, you can also refer to Chapter 12, “Installing VM/VSE Interface Routines – VM Only,” on page 113. It describes how to install the VM/VSE Interface.

Users who have to migrate **more** than 199 VSE/ICCF users or **more** than 199 VSE/ICCF libraries, refer to page Appendix B, “Migrating More than 199 VSE/ICCF Users or More than 199 VSE/ICCF Libraries,” on page 121.

Changing Passwords for z/VSE User IDs

The passwords for the predefined z/VSE user IDs are defined with an expiration date, therefore you must change them during the first logon. Doing this helps ensure that unauthorized users do not have access to your system.

The predefined security support includes a user ID and password (**FORSEC**). User FORSEC is defined in the VSE.CONTROL.FILE and in DTSECTAB and provides appropriate access rights during **system startup**.

For more information about security functions, refer to *z/VSE Administration*, the chapter that describes "Protecting Resources".

The following table shows the user IDs and passwords that z/VSE ships besides *POST/BASE* (which **only** is used to complete initial installation):

Table 12. z/VSE Predefined User Profiles

PROFILE	USER ID	PASSWORD
System administrator	SYSA	SYSA
Programmer	PROG	PROG
System console operator	OPER	OPER
Remote problem determination	$SRV	$SRV
System administrator	FORSEC	FORSEC
CICS default user	CICSUSER	CICSUS
CICS partition user	DBDCCICS	DBDCCI
CICS partition user	PRODCICS	PRODCI
Default user for CICS/TS default consoles	CNSL	CNSL
Connector Server partition user	VCSRV	VCSRV

For remote problem determination, z/VSE provides a special user ID $SRV. With this user ID, an IBM Support Center, for example, can log on to your site and perform online system diagnosis if a data link exists. $SRV can access and use VSE/ICCF, but has no administrative authority. The user ID $SRV can perform the following tasks:

- Inspect the system console (without command authority).
- Look at VSE/POWER queues and inspect listings assigned to that user ID.
- Exchange messages with other users.
- Use the *Problem Handling* dialogs of z/VSE.

Refer to *z/VSE Guide for Solving Problems* for further information about $SRV.

Change the passwords from the *z/VSE Online* panel shown in Figure 2 on page 87. On the panel, type in the following. After pressing enter you get the *Change Password* panel.

```
USER-ID........   PROG
PASSWORD.......   PROG
```

Note that for security reasons the password is not displayed on the screen. At the *Change Password* panel, enter a new password in both `NEW PASSSWORD` fields and the current password for verification. The passwords are not shown. The system

checks that the two entries of the new password match. The password can be 3 - 8 alphanumeric characters long including the special characters @, #, $.

After you entered the new password, you are signed on to the Interactive Interface. Press **PF3** to sign off and redisplay the *z/VSE Online* panel. Follow the above instructions again to change the passwords of the following user IDs:

- OPER
- $SRV
- CICSUSER

You can also change the password for FORSEC, but you will not be prompted by the system to do so.

In case of CICSUSER, a message is issued that selection panel DFLESEL is not defined. This user is not designed to sign-on to the system. Ignore this message, the password is changed by the system.

If you selected to have batch security active as described on page "Users Who Want to Use a System with Security Active" on page 93, you must restart VSE with batch security active. Before you change the passwords for the user IDs DBDCCICS, PRODCICS and VCSRV, make sure you have submitted the following startup jobs:

- In ICCF library 59:
  - SKCICS
  - SKCICS2
  - SKTCPSTR
  - SKVTASTJ
  - SKVCSSTJ
- In ICCF library 62:
  - CEEWARC

You can then change the passwords by using the *Maintain User Profiles* dialog, as explained in the manual *z/VSE Administration*.

If you want to specify an expiration date, you can use the *Maintain User Profiles* dialog. The dialog is described in *z/VSE Administration*.

Chapter 11. Doing Optional Installation Tasks - Native LPAR and under z/VM

This section describes optional installation tasks that you can perform, after you have finished initial installation of z/VSE.

You can perform all, none, or some of them. All of the tasks run independently from each other.

Optional Installation Tasks for z/VSE Native LPAR or under z/VM

Task	Description
Delete programs that you do not need.	Run DELETE jobs to delete those programs that you do not need.
Install the z/VSE Generation Feature.	Use the Interactive Interface dialogs to install the z/VSE Generation Feature.
Install additional programs.	Use the Interactive Interface dialogs to install additional programs.

Optional Installation Tasks for z/VSE under z/VM

Task	Description
Install the VM/VSE Interface routines.	Use a skeleton to install the VM/VSE Interface routines.

Deleting z/VSE Programs You Do Not Need

As soon as you have finished the initial installation of your z/VSE system, you can decide to delete certain z/VSE base programs that you do not need. You can only delete those programs that are not part of VSE Central Functions. Refer to *z/VSE Planning* for more information on the VSE Central Functions.You must also delete those programs for which you do not have a license. z/VSE provides delete jobs for this purpose in VSE/ICCF library 59.

The names of the delete jobs always start with **DEL**, followed by an identifier for the program. For example, *CICS* for the base program CICS Transaction Server. To use a delete job, switch to VSE/ICCF library 59 and copy it to your primary library. Then submit the delete job.

Delete jobs update the system history file. If a delete job completes with return code 4, this is not an error.

Before you submit a delete job, consider the consequences of the loss of the program's functions. You might loose important system functions.

Below is a list of the available delete jobs, together with the corresponding z/VSE base program.

Table 13. Delete Jobs for z/VSE Programs

Delete Job	z/VSE Program
DELCICS	CICS Transaction Server 1.1.1 including Report Control Feature, REXX, CICS and CWS
DELDB275	DB2 Server 7.5.0
DELDIT	DITTO/ESA 1.3.0
DELHLASM	High Level Assembler/VSE 1.6.0
DELLECOB	COBOL/VSE 1.4.7
DELLELOC	LE/VSE DBCS Locales
DELLEPLI	PL/I VSE 1.4.7
DELOS390	OS/390 API
DELREXX	REXX/VSE 8.3.0
DELTCPIP	TCP/IP for VSE/ESA 1.5.0
DELIPV6	IPV6/VSE 1.1.0
DELVTM	VTAM 4.2.0
DELCOBII	COBOL II
DELCONNC	VSE Connector Workstation Code

Note that deleted programs:

- Can not be reinstalled easily. You can also run into problems with your system, if you delete z/VSE base programs.
- Must be deleted again, after having run a Fast Service Upgrade (FSU).

Note:

1. If you have run the delete job for DITTO/ESA and later recreate a stand-alone tape, DITTO/ESA is not stored on the stand-alone tape.
2. Do not delete the VSE C Language Run-Time Support it is required for CICS Transaction Server start.

Overview of the Generation Feature

The z/VSE base tape contains **source code**, which provides generation capability for the supervisor. *Installation of this code (called the Generation Feature) is optional*. You only need this in case you want a listing of the supervisor, or if you have modified generation macros, for example, for vendor code.

Note, that you cannot change any parameter. Therefore it is recommended to install the z/VSE Generation Feature only if needed.

The approximate space allocations required for the PRD2.GEN1 sublibrary are shown in Table 14. The disk devices listed are those that can be used for initial installation of z/VSE.

Table 14. Space Requirements for PRD2.GEN1

IBM Disk Device	Required Space for PRD2.GEN1	Library Blocks
3380	463 tracks (30 cylinders, 13 tracks)	15000
3390	435 tracks (29 cylinders)	15000
FBA	28714 blocks	15000

When to Install the Generation Feature

If you decide to install the Generation Feature, it is recommended that you do so immediately after initial installation.

The Generation Feature is part of the first distribution cartridge. Mount the device labeled **z/VSE*vrm-YY*** to install the Generation Feature.

To install the Generation Feature, use the *Install Generation Feature* dialog. The following pages describe this dialog and the z/VSE Generation Feature installation process in more detail.

Note: If you have ordered z/VSE on DVD or downloaded it from the Internet, the Generation Feature is installed either during FSU or, in case you copied the base tape to a real tape, you should install it from this real tape.

Installing z/VSE Generation Feature

The *Install Generation Feature* dialog creates a job which installs the Generation Feature in library PRD2.GEN1. It also updates the system history file for the installation. This ensures that the Generation Feature is available when you perform other tasks where this is required (for example, if you install service that affects the Generation Feature).

To access the dialog, start with the *Function Selection* panel and select:

1 (Installation)

3 (Install Generation Feature)

Administrator Fast Path	Synonym
13	Default: Yours:

You can install the Generation Feature from a real tape or virtual tape. The dialog creates a job with the default name INSGEN. On the *Job Disposition* panel, you can submit the job to batch, file it in your default VSE/ICCF primary library, or both.

If you filed the job as a VSE/ICCF library member and you are now ready to install, you must submit the job to the VSE system by doing the following:

1. To access the dialog, start with the *Function Selection* panel and select:

   5 (Program Development)

   1 (Program Development Library)

Administrator Fast Path	Synonym
51	Default: **iccfs** Yours:

2. On the *Program Development Library* panel, press **ENTER**.
3. On the *Primary Library* panel, type in

   7 (Submit)

in the option (OPT) column next to the library member INSGEN.

4. Press **ENTER** to submit the job.

The job asks you to mount the tape labeled **z/VSE5.2.x-YY**, which contains the z/VSE Generation Feature. In case you installed from virtual tape, specify the according information. (See Appendix D, "Preparing for Initial Installation or FSU from Virtual Tape," on page 137 for details.) Use the **same** tape unit you specified in the dialog.

The job INSGEN restores the supervisor generation macros into the sublibrary PRD2.GEN1. To actually regenerate the supervisor, you must execute an assembly job and catalog the phase into the system sublibrary IJSYSRS.SYSLIB. Refer to skeleton SKSUPASM in VSE/ICCF library 59.

Installing the Generation Feature after Service Has Been Installed

In general, service to supervisor generation macros consists of two PTFs. If you have the Generation Feature installed, both PTFs for the pregenerated system and the Generation Feature are applied automatically.

- PTF1 applies service to the pregenerated system.
- PTF2 applies service to the Generation Feature.

If you installed the Generation Feature but you keep it offline, you must restore it before you apply service which affects the supervisor generation macros. Doing this ensures that all required service is applied to your system.

If you **do not** have the Generation Feature installed, only service for the pregenerated system is installed.

Note that your pregenerated system and the Generation Feature must be at the same service level. Thus, if you install the Generation Feature after having applied service to either supervisor generation macros, you must ensure that the pregenerated part and the Generation Feature are on the same service level.

This means that you have to do one of the following:

1. **If a service refresh of z/VSE is available that is at a service level higher than your present system:**
   a. Order the refresh. The Generation Feature is automatically included.
   b. Use the *Fast Service Upgrade (FSU)* dialogs to install the refresh.
   c. Use the *Install Generation Feature* dialog to install the Generation Feature from the refresh tapes.
2. **If you want to install the originally received Generation Feature**:
   a. Use the *Install Generation Feature* dialog to install the Generation Feature delivered with your system.
   b. Reinstall the service for supervisor generation macros that you previously applied to the system. By specifying the reapplication of these PTFs, you force MSHP also to apply the related Generation Feature PTFs. To get a list of the service applied, you can use stage 0 (down-level check) of Fast Service Upgrade.

For a detailed description of the Fast Service Upgrade, refer to *z/VSE System Upgrade and Service*.

You must follow one of these two procedures to ensure that your system operates correctly. If you do not, you can mix service levels that affect the operation of the system.

Further Considerations

The Generation Feature does not have to be resident on disk at all times. You can back up sublibrary PRD2.GEN1 and keep the feature on tape when it is not in use. However, the Generation Feature must be online whenever you do generation or service tasks that require it.

Refer to *z/VSE System Upgrade and Service* for more information on applying service affecting the Generation Feature.

Overview of Installing Additional Programs

Installing a Program from the z/VSE Extended Base Tape

In case of IBM 3590, or IBM 3592 tapes, the z/VSE Extended Base Tape is the second tape of the two z/VSE base tapes. If you ordered z/VSE on DVD, or downloaded it from the Internet, the file name of the tape image is VSE*vrm*XB.AWS. The z/VSE Extended Base Tape for z/VSE 5.2 includes the following base programs:

- DB2 Server for VSE
- DB2 Server for VSE Client Edition
- DB2 DataPropagator Relational Capture
- LE/VSE DBCS Locales
- VSE Connectors Workstation Code
- OS/390 API
- IPv6/VSE

Although these programs are part of the base you must treat them as optional programs and use the Interactive Interface to install them. For details about the corresponding dialog, refer to "Using Installation Dialogs for Additional VSE Programs" on page 102.

Installing Additional VSE Programs

z/VSE supports the installation of additional VSE programs. A subset of additional VSE programs is designated as z/VSE *optional programs*. These optional programs are tested together with z/VSE and supported for simplified installation via a dialog.

A list of z/VSE optional programs is shown in *z/VSE Planning*. For the most current information, refer to the *Program Directory* provided with the z/VSE distribution tapes, or DVD.

The z/VSE optional programs are shipped in Librarian Version 2 (V2) stacked format. Some additional VSE programs are shipped in Librarian Version 1 (V1) stacked or non-stacked format.

- **Version 2 (V2)** format
  - The tape is in Librarian format of VSE/Advanced Functions Version 2.
  - One or more programs can be on the tape.

  - The tape can be scanned to determine the space needed by each additional VSE program on the tape.
  - Dialogs can be used to scan the tape(s).
- **Version 1 (V1)** format
  - The tape is in Librarian format (V1) of **pre-Version 2** VSE/Advanced Functions.
  - One or more programs can be on the tape.

Installing Non-IBM Programs under z/VSE

If you want to install *vendor* programs or other programs from a non-IBM supplier, you can use the z/VSE dialogs, assuming that the tape or cartridge you use is built in a specific format.

The following table shows the layout of a distribution tape, (or file, in case of DVD or Internet delivery), built in such a format. Program 022A10 is an example. If a vendor product is also provided on DVD, it can only be installed, if it was built using the z/VSE virtual tape support.

Table 15. Layout of a Distribution Tape

File Number	Content	Sample
1	header file	HD022A10
2	product history file	history file for program 022A10
3	product libraries	DW202DA.PR$A10
4	null file (tapemark)	null file
5	EOB (end of BACKUP information)	EOB
6	null file (tapemark)	null file

How to build a tape correctly so that it can be installed through z/VSE dialogs, is described in detail in *Preparing a Product for VSE*.

If the tape is built in the correct format, you install the additional programs using the dialog *Install Additional Programs – Version 2 Format*.

Using Installation Dialogs for Additional VSE Programs

To install additional z/VSE programs, you can use the following dialogs via the *Install Programs - V2 Format* dialog:

1. *Prepare for Installation* dialog to print a tape scan report. The report provides information about the programs on the tape(s) and the amount of library space that is needed. In addition, the dialog creates internal tables for the installation.

   The information from the scan report is useful in planning for your library structure before installing the programs.
2. *Install Program(s) from Tape* dialog to install one or more programs.

Note: It is possible to install VSE optional programs without using the Interactive Interface dialogs. But if you later use the dialogs to apply maintenance to these programs, you must perform special steps. How to apply service to VSE programs that were installed without using dialogs in described in *z/VSE System Upgrade and Service*.

Additional Considerations

1. Before you install an additional VSE program, you should ensure there is sufficient space in the library/sublibrary. Review the scan report for space requirements.
2. *Prepare for Installation* replaces any list that was saved previously.
3. Only the system administrator can access the *Install Programs - V2 Format* dialog. This user ID is authorized to ALTER any library (which is relevant for a z/VSE system with security active).
4. Note that some components also include VSE/ICCF type members, so called I-Books. These are automatically loaded by the dialog into the corresponding VSE/ICCF library.
5. If you have problems installing a feature for an additional VSE program, you might need a COMPATIBLE WITH statement. for MSHP. This statement is used to indicate to MSHP at installation those programs which are compatible with the shipped programs.

   Refer to *z/VSE System Control Statements* for information about this MSHP statement.

Having Multiple Program Versions on Your System

If you want to install a new **version** of an already installed program and if you want to:

- Keep the old version

  You **must not** install the new version into the **same** sublibrary with the old version, even if the dialog offers this sublibrary as the default.

  Note that the MSHP support for a multiple version environment is restricted to the APPLY PTF function. This means the APAR/Local Fix function is not supported in such an environment.

- Replace the old version

  You must remove the old program information from the system history file using the MSHP REMOVE statement. This command does not, however, delete the corresponding members from the library. The subsequent installation replaces them.

  For details, refer toz/*VSE System Control Statements*.

Note: A *new program version* does **not** mean a new release or modification level. For *COBOL for VSE/ESA 1.1.0*, for example:

1 is the version indicator

1 is the release indicator

0 is the modification level indicator.

Installing Additional VSE Programs

You can use the *Install Programs - V2 Format* dialog to install z/VSE optional programs or additional VSE programs distributed in the Librarian format of VSE/Advanced Functions Version 2.

This Librarian format enables distribution of more than one program on a single distribution tape. With this format, a facility of the Librarian scans the tape and gathers information about it. It provides information such as the library space required to install each program. You can install one, several, or all programs on the tape at one time.

The dialog creates job streams which use the Job Manager to manage the installation. "Additional Considerations" on page 103 describes Job Manager processing for the dialog. The dialog consists of two separate tasks:

1. *Prepare for Installation*

   This dialog scans the distribution tape(s) and builds a list of up to 200 additional VSE programs, which can be located on one or several tapes. Using KEEP PRODUCT LIST, you can save this list. It prints a report on SYSLST.

   If your optional product tapes contain more than 200 products, you need to split up this installation task. You can do the *Prepare for Installation* and *Install Program(s) from Tape* tasks that total up to 200 programs and then repeat the two steps for the tapes with the remaining programs.
2. *Install Program(s) from Tape*

   The dialog shows a list of programs with their default libraries. You can select one or more programs for installation into the appropriate library.

If you use the dialog for the first time or if you use a new tape, you should do both tasks 1 and 2.

If you have used the dialog before with the same tape, you might have a program list saved and do not need to perform *Prepare for Installation*.

The following sections describe the dialog process in more detail.

To access the dialog, start with the *Function Selection* panel and select:

- **1** (Installation)
- **1** (Install Programs - V2 Format)
- **1** (Prepare for Installation)

  or
- **2**(Install Program(s) from Tape)

Administrator Fast Path	Synonym
111	Default: Yours:

or

Administrator Fast Path	Synonym
112	Default: Yours:

Select each of the two tasks in order (1, 2).

Prepare for Installation Dialog

Prepare for Installation creates a job which:

- Scans one or more distribution tapes.
- Gathers program statistics.

The job prints a scan report on the system printer. It also creates an internal list of all additional VSE programs on a tape. The list is displayed when you use the dialog *Install Program(s) from Tape*.

Note: The dialog *Prepare for Installation* also can be used if the programs you want to install are not stacked on tape.

A program list saved from a previous installation is replaced whenever you perform *Prepare for Installation*.

```
INS$PRI2                 PREPARE FOR INSTALLATION

Enter the required data and press ENTER.




TAPE ADDRESS................. ___         Address of input tape unit (pcuu). For
                                         valid addresses enter a "?".



VIRTUAL TAPE................. 2           Is it a virtual tape?  Enter 1 if
                                         it is a virtual tape, enter 2 if
                                         not.



             PF2=REDISPLAY  3=END
```

Figure 7. Prepare for Installation Dialog

Enter the tape address, if you are installing the product from a virtual tape. The *Job Disposition* panel is displayed, and you can submit the scan job to batch, file it in your VSE/ICCF primary library, or both.

If you ordered z/VSE on DVD or downloaded it from the Internet, enter 1 for using a virtual tape.

When you submit the job and you use real tape, you are asked to mount the first tape. Use the tape drive that you specified in the dialog. You are prompted to mount any additional tapes sequentially.

When the job completes, review the scan report that it printed. Before you install any additional VSE programs decide if you want to do any of the following:

- Change the library or sublibrary defaults for the installation.
- Increase library space.

If you want to extend the space where a library/sublibrary resides, you can use the:

1. File and Catalog Management dialog and extend the VSE/VSAM master or user catalog space.

   Refer to *z/VSE Planning* for a list of the default libraries used.
2. Skeleton SKLIBEXT in VSE/ICCF library 59 is for libraries, which do not reside in VSE/VSAM-managed space. Use this skeleton only if you have specified explicitly that you want your additional VSE programs to be installed in a particular library not managed by VSE/VSAM.

z/VSE Administration describes the dialog and the skeleton.

If an additional VSE program contains a generation sublibrary, the scan report shows two entries for the program:

1. The first entry is for the production sublibrary.
2. The second entry is for the generation sublibrary.

If you install an additional VSE program, both sublibraries are installed.

When you are ready to install, continue with "Install Program(s) from Tape Dialog" on page 107.

Installing from Virtual Tape

If you entered **1** for installing from a virtual tape, the following panel is displayed where you can enter the VSAM file name, the IP address, or the host name of the location of the tape image file.

If you are installing the product from VSAM, the tape image file must have been first uploaded into a VSAM data set by using TCP/IP for VSE/ESA. For details refer to "Uploading the Base Tape to VSAM for FSU via Virtual Tape" on page 139.

```
UTL$VTAX            VIRTUAL TAPE: SPECIFY THE DATA SET

Enter the required data and press ENTER.

If the file resides on the VSE system specify the following:

VSAM FILE NAME ...........     _______   Unique name of the VSAM file
                                         containing the tape image.

If the file resides on a remote system specify the following:
hostname          ____________________________________________________
or                ____________________________________________________
IP Adress:        ____________________________________________________
...               ____________________________________________________
...               ____________________________________________
PORT.......       _____                  TCP/IP port number
DATA SET NAME :   ____________________________________________________
...               ____________________________________________________
...               ____________________________________________________
...               ____________________________________________________
...               ____________________________________________

PF1=HELP       2=REDISPLAY  3=END
```

Figure 8. Panel - Virtual Tape: Specify the Data Set (VSAM)

If you are installing the product from a remote system, specify the IP address or the host name , and the location of the file. Specifying the TCP/IP port number is optional.

Because the files that are located on the workstation or on the DVD are in virtual tape format, you can use them directly.

```
UTL$VTAX            VIRTUAL TAPE: SPECIFY THE DATA SET

Enter the required data and press ENTER.

If the file resides on the VSE system specify the following:

VSAM FILE NAME ...........     _______   Unique name of the VSAM file
                                         containing the tape image.

If the file resides on a remote system specify the following:
hostname         ____________________________________________________
or               ____________________________________________________
IP Adress:       ____________________________________________________
...              ____________________________________________________
...              ____________________________________
PORT.......      ____                      TCP/IP port number
DATA SET NAME :  F:\DRIVER\VSEvrmXB.AWS_____________________________
...              ____________________________________________________
...              ____________________________________________________
...              ____________________________________________________
...              ____________________________________

PF1=HELP       2=REDISPLAY  3=END
```

Figure 9. Panel - Virtual Tape: Specify the Data Set (Remote System)

Install Program(s) from Tape Dialog

Install Program(s) from Tape installs some or all additional VSE programs on the distribution tape.

A FULIST displays the programs on the tape. The list was created during the *Prepare for Installation* task.

```
INS$OPI1           INSTALL ADDITIONAL PROGRAM(S) FROM TAPE

LIST OF PROGRAMS TO BE INSTALLED

OPTIONS:  1 = INSTALL    2 = SKIP INSTALLATION

                                LIBRARY   SUBLIBR.
    OPT        IDENTIFIER       NAME      NAME      SEQ.NO.  TAPE NO.

     1         CF.OS390....9.2.0 PRD2      OS390       1        1
     1         LEVSE.DBCS..1.4.9 PRD2      SCEEBASE    2        1
     1         DB2/VSE.....7.5.0 PRD2      DB2750      3        1
     1         ASN/VSE.....7.4.0 PRD2      ASN740      4        1
     1         DB2/VSE.CE..7.5.0 PRD2      DB2750C     5        1
     1         CONN.CLIENT.9.2.0 PRD2      PROD        6        1
     1         IPV6/VSE.CE.1.1.0 PRD2      PROD        7        1

     _                           _______   ________
     _                           _______   ________

PF1=HELP       2=REDISPLAY  3=END                    5=PROCESS

ALL SCANNED PRODUCTS NEED A MINIMUM OF 82427 LIBRARY-BLOCKS.
```

Figure 10. Panel - Install Additional Programs from Tape

Note: If you did not use *Prepare for Installation* and you do not have a list saved from a previous installation from the tape, refer to "Additional Considerations" on page 111 for more information about the dialog and the values you can specify.

The dialog creates a job stream which runs under the control of the Job Manager. You should not cancel any of the jobs in the sequence. This interrupts Job Manager processing. Appendix A, "Overview of the Job Manager," on page 117 describes the Job Manager and what you should do if problems occur.

The following are the steps that you have to perform to install additional VSE programs from tape, using z/VSE dialogs.

Step 1 – Install Additional Program(s) from Tape (Panel INS$OPI1)

On the FULIST, indicate which program you want to install. In the OPT column, enter:

1 - Install
2 - Skip Installation

The FULIST displays the following information:

IDENTIFIER
This identifies the program on the tape.

LIBRARY and SUBLIBRARY NAME
This is the default library/sublibrary where an additional program will be installed. You can change the library or sublibrary name.

If a program has a production and generation part, both will be installed in the same library. The sublibrary, shown in the dialog, will be used only for the production part.

For the generation part, the program provides a default sublibrary name for the installation. This default sublibrary **cannot** be changed using the dialog.

SEQUENCE NUMBER
This shows the sequence of the programs on the tape. This is helpful if you want to check your entries with the program documentation.

You **cannot** change this value.

TAPE NUMBER
This shows the tape number where a program resides. The information might be helpful, if you want to check your entries with the additional VSE program documentation.

You **cannot** change this value.

Select the additional VSE programs you want to install. Press **PF5** to process the information. Another panel appears on your screen as described in the following section.

Step 2 – Install Additional Program(s) from Tape (Panel INS$OPI2)

On this panel, enter whether you want to save or erase the list of additional VSE programs.

KEEP LIST OF PROGRAMS
Specify whether you want to save or erase the list of programs.

1 - Save the list

2 - Erase the list

If you save the list, it is displayed the next time you access the dialog. If you decide to install some programs now and others later (from the same tape(s)), the list is available. You do not have to perform *Prepare for Installation* again.

If you erase the list, you can create a new one by using the dialog *Prepare for Installation*. When you press ENTER, the panel described in the next section appears.

Step 3 – Install Additional Program(s) from Tape (Panel INS$ODI2)

On this panel, you have to specify the tape address for the installation.

TAPE ADDRESS
Specify the physical tape address (pcuu) for the installation.

VIRTUAL TAPE
Specify if you are installing from a virtual tape.

A job sequence is created. When you press ENTER, the *Job Disposition* panel appears.

Step 4 – Job Disposition

From the *Job Disposition* panel, you can submit the job to batch, file it in your VSE/ICCF primary library, or both.

When you submit the job and you use a real tape, mount the first tape. Use the tape drive that you specified in the dialog. Do not reposition or dismount the tape until you are told to do so. The Job Manager manages the jobs, which complete the installation. Refer to "Additional Considerations" on page 111 for more information. If you have more than one tape, you are asked to mount the next tape.

Note: You receive the following information message, where *xxxxxxxx* stands for V2-STACKED or NOT V2-STACKED.

```
IESI0083I  TAPE FORMAT IS xxxxxxxx
```

This message is for information only and can be ignored. The Librarian RESTORE job might end with a return code of 4, if the message was NOT V2-STACKED. This is not an error. Installation was successful.

If you install an additional VSE program, which contains a generation sublibrary, the system displays the messages:

- `M235I  INSTALLATION WILL BE DONE AS FOLLOWS:`

  This message informs you which sublibraries will be restored into which target sublibraries.
- `M089D  ENTER "GO" TO CONTINUE, OR "CANCEL" TO TERMINATE`

Enter **GO** to continue with the installation.

Installing Programs without a Program List (Panel INS$OPI3)

You do not have a program list if you didn't:

1. Use the dialog *Prepare for Installation* **or**
2. Save a list from a previous installation.

However, you also can use the dialog *Install Program(s) from Tape* without having a program list. In this case, you do not have the information about the tape contents that is provided by the scan report. Therefore, there are special considerations for the entries you specify in *Install Program(s) from Tape*. These are described below.

The FULIST displays an additional option (5=DELETE). If you enter information on a particular line and make an error, you can enter **5** in the OPT column to delete the entry.

IDENTIFIER
You must enter the name that identifies the program. This is identical to the *backup ID*. The identifier must be unique.

Check the program documentation for the correct value. If you specify an incorrect identifier, the additional VSE program cannot be located on the tape.

LIBRARY and SUBLIBRARY NAME
If an additional VSE program has a production and generation part, you must specify **two** entries with the **same** identifier. For the generation part, enter ***GEN** for the library name. The sublibrary, shown in the dialog, only is used for the production part. For the generation part, the program provides a default sublibrary name for the installation.

SEQUENCE NUMBER
You can ignore the sequence number.

TAPE NUMBER
This shows the tape number where the program resides. The numbers you specify must be in ascending order.

Reinstalling Programs

You can use the *Install Programs - V2 Format* dialog to reinstall a program. If you specify a sublibrary other than the one where the program originally was installed, the dialog displays an additional panel. The panel shows the:

- Backup ID of the program.
- Sublibrary where it presently resides.
- New sublibrary where you want to reinstall it.

You can only install an additional program in one sublibrary. Therefore, you must specify the sublibrary you want to use:

1 - Install in new sublibrary

2 - Install in original sublibrary

If you install in a new sublibrary, the dialog updates the system history file. However, the program is **still** in the original sublibrary. You must **delete** it from the original sublibrary. Review the documentation for the individual program to determine the names of the library members you must delete from the particular sublibrary.

Installing Programs in Version 1 Format

You **must** use the *Install Programs - V1 Format* dialog when you install additional VSE programs that are shipped in the Librarian Version 1 format (Librarian format of pre-Version 2 VSE/Advanced Functions). You can also use this dialog when you install additional VSE programs that are shipped in the Librarian Version 2 format, but are not stacked on tape.

Additional VSE programs distributed in Version 1 format differ from stacked Version 2 format in two ways:

1. Only one additional VSE program resides on a single tape.
2. The tape cannot be scanned to gather program statistics.

Note: Programs in Version 1 format are not distributed on CD or via the internet.

The dialog creates a job stream which installs the additional VSE programs under MSHP control, based on the sequence you specify in the dialog. Each program is installed from a single tape. The job stream requests that the next tape in the sequence be mounted.

The job stream installs a program into the appropriate library. Furthermore, it updates system information that is needed by the Interactive Interface.

The job stream runs under the control of the Job Manager. "Additional Considerations" has information about Job Manager processing for the dialog.

Additional Considerations

1. Before you install an additional VSE program, you should ensure there is sufficient free space in the library/sublibrary.

   Review the appropriate documentation that is shipped with the distribution tape. It has the latest available information about the space requirements for the program.
2. The job stream installs each program in the sequence used in the dialog. No checking can be done to make sure that the tape you have mounted contains the correct program. You should physically sort the tapes in the correct sequence. This can help ensure that the right tape is available when a mount is requested.
3. If you have problems installing a feature for an additional VSE program, you might need a COMPATIBLE statement for MSHP. Refer to *z/VSE System Control Statements* for information about this MSHP statement.

Install Programs - V1 Format Dialog

To access the dialog, start with the *Function Selection* panel and select:

1 (Installation)

2 (Install Programs - V1 Format)

Administrator Fast Path	Synonym
12	Default: Yours:

You must enter the required information for **each** program you want to install.

Step 1 – Install Additional Program(s) from Tape (Panel INS$ODI1)

This panel shows the list of program tapes to be installed. You need the following information:

TAPE NUMBER
This shows the sequence in which the program tapes must be mounted. You **cannot** change this value.

Physically sort the tapes in the order that they are to be used. This helps to ensure that the correct tape in the sequence is available when the job stream requests the tape mount. The dialog or job stream **cannot** check that the correct tape is mounted. Therefore, it is important that you have the tapes sorted to match the sequence used in the dialog.

TAPE LABEL
Enter a tape label for each program you want to install. This is an external label to help you identify the tape. The label is displayed in the mount request when the job stream runs.

You can enter up to sixteen characters. For each program installation, the label name must be unique.

LIBRARY and SUBLIBRARY NAME
Enter the library/sublibrary where you want the additional VSE program installed. The dialog displays a default library of PRD2 and sublibrary PROD.

Review the documentation that was shipped with the distribution tape. Determine the space that is required for the additional VSE program. Decide which library/sublibrary you want to use. This is important because you do not have a scan report to provide library space information. You must make sure that the library you use has adequate space available.

If an additional VSE program has a production and generation part, both are installed in the **same** sublibrary.

Step 2 – Install Additional Program(s) from Tape (Panel INS$ODI2)

On this panel, you have to specify the tape address for the installation.

TAPE ADDRESS
Enter the address of the tape unit to be used for the installation.

VIRTUAL TAPE
Specify if you are installing from a virtual tape.

Step 3 – Job Disposition

From the *Job Disposition* panel, you can submit the job to batch, file it in your VSE/ICCF primary library, or both.

When you submit the job and you use a real tape, you are asked to mount the first tape in the sequence. Use the tape drive that you specified in the dialog. Do not reposition or dismount the tape until you are told to do so.

The job stream prompts the operator to mount each tape using the sequence specified in the dialog.

Chapter 12. Installing VM/VSE Interface Routines – VM Only

This chapter describes how to **install** the VM/VSE Interface routines and gives an overview to their main functions. It only is for users who install z/VSE under VM.

z/VSE Operation explains how to **use** the VM/VSE Interface. It also describes how terminal users can access a z/VSE guest system. This includes the CP DIAL command, VTAM cross domain, and the VM/Pass-Through Facility.

What Are the VM/VSE Interface Routines?

The VM/VSE Interface is a set of VSE phases and CMS modules supplied by z/VSE. These phases and modules provide functions for interfacing to one or more z/VSE guest systems from CMS. The VM/VSE Interface routines are distributed in IJSYSRS.SYSLIB. You must obtain the routines from the library and install them on a CMS minidisk.

The functions described in "Functions Supported by the VM/VSE Interface" can be used for communication with a z/VSE guest system using any of the delivered supervisors.

Functions Supported by the VM/VSE Interface

Using the VM/VSE Interface, you can:

1. Have none, some, or all messages from a job or from the system echoed to a specified owner (CMS user ID).
2. Reply to messages resulting from the execution of a job. The job must have a unique job owner ID (CMS user ID).
3. Submit jobs from a CMS terminal to a z/VSE guest system.
4. Issue VSE commands (including REDISPLAY commands) to a z/VSE guest system and have the resulting messages echoed to the CMS user.
5. Issue CP commands for execution in the virtual machine and have the resulting CP messages routed to the CMS job owner.

The VM/VSE Interface takes advantage of the improved z/VSE console functions. Refer to *z/VSE Operation* for more information.

Overview to VM/VSE Interface Routines

Table 16. Modules and Phases of the VM/VSE Interface

CMS File Name (fn)	CMS File Type (ft)	VSE Library (Book) Name	Function
		$IJBVMCF.PHASE	VM/VSE Interface processing routines.
SUBVSE	EXEC	SUBVSE.Z	Submit a job for execution on a virtual VSE system.

Table 16. Modules and Phases of the VM/VSE Interface (continued)

CMS File Name (fn)	CMS File Type (ft)	VSE Library (Book) Name	Function
VSECMD	MODULE	VSECMD.Z	• Execute VSE and CP commands on z/VSE system. • Retrieve messages from z/VSE system.
VSECMD	EXPLAIN	EXPCMD.Z	Help panel for VSECMD commands

With VSE/ESA 2.1, the former files VSECP, VSEMSG, VSEREP, and their EXPLAIN files have been dropped. Their contents and functionality have been integrated in VSECMD.

How to Install the VM/VSE Interface

Before you can use the VM/VSE Interface, you must distribute the CMS modules to all CMS users who are authorized to use the appropriate function.

The use of VSECMD should be carefully controlled. VSECMD is mainly intended for the system administrator.

z/VSE provides skeleton SKVMVSE in VSE/ICCF library 59 (shown in Figure 11 on page 115). You use this skeleton to punch the MODULES, EXPLAINS, and EXECs from the z/VSE guest system to the VM machine `MAINT`. (The VM ID `MAINT` is commonly used for this machine). To ensure that the punch job works correctly, the VSE/POWER punch writer must be started with the VM parameter and must be enabled to process class A jobs.

List of Installation Tasks

1. You should first copy the skeleton SKVMVSE from VSE/ICCF library 59 to your primary library. You can use the *Program Development Library* dialog to copy VSE/ICCF library members.
2. You should then edit the copy of the skeleton. Replace the **-V001-** variable with the VSE/POWER destination parameter for punch output. This is the same name as the VM user ID where you want the VM/VSE Interface installed. **When completing the copy of the skeleton, do not overwrite the comma which is included in parenthesis. It is not part of the variable *-V001-*.**

   When the job is executed, the members are placed in the reader queue of the destination ID specified in the variable.
3. You should not use the same user IDs in z/VSE and VM. If identical user IDs exist, you must make sure that they identify the same person. Identical user IDs **cannot** be used **concurrently** to access z/VSE console functions both from CMS and a native z/VSE.
4. You should access the CMS minidisk where the routines will be loaded. (The default is the first accessed R/W minidisk). The minidisk can be:
   - MAINT 319 for general access.
   - A specific minidisk (for example, 301).
5. The VM/VSE Interface is activated during IPL (SYS command VMCF=YES).

```
* $$ JOB JNM=PUNVMVSE,CLASS=0,DISP=D
* $$ PUN CLASS=A,DISP=D,DEST=(,-V001-),JSEP=(0,N)
// JOB PUNVMVSE    PUNCH VM/VSE MODULES FOR INSTALLATION
* ********************************************************************
* *                                                                  *
* * - - - - - -   INSTALL VM/VSE FEATURE       - - - - - - - - - - -*
* *                                                                  *
* *  THIS JOB PUNCHES DIFFERENT CMS MODULES                          *
* *  OF THE VM/VSE FEATURE TO A DEFINED VM USERID.                   *
* *  AT THIS USER-ID, THE MODULES ARE INSTALLED VIA THE CMS          *
* *  'DISK LOAD' COMMAND (NO OTHER ACTION REQUIRED).                 *
* *                                                                  *
* *                                                                  *
* *  THE FOLLOWING VARIABLE IS USED AND HAS TO BE CHANGED:           *
* *                                                                  *
* *     -V001-  VSE/POWER DESTINATION PARAMETER FOR PUNCH OUTPUT.    *
* *             IDENTICAL TO THE NAME OF THE VM USERID AT WHICH      *
* *             THE VM/VSE FEATURE WILL BE INSTALLED, E.G. 'MAINT'   *
* *                                                                  *
* ********************************************************************
*       AFTER YOU HAVE MODIFIED THE SKELETON ENTER '@DTRSEXIT'      *
*       FROM THE EDITOR'S COMMAND LINE.                            *
*       THIS MACRO WILL DELETE ALL DESCRIPTIVE TEXT FROM THIS FILE, *
*       BY DELETING ALL LINES WHICH ARE MARKED WITH THE CHARACTER C *
*       IN COLUMN 71.
// LIBDEF *,SEARCH=(IJSYSRS.SYSLIB)
// UPSI 1
// EXEC DITTO
$$DITTO  SET   EOD=)))))))
$$DITTO  CC
* $$ SLI MEM=VSECMD.Z
* $$ SLI MEM=EXPCMD.Z
* $$ SLI MEM=SUBVSE.Z
)))))))
$$DITTO  EOJ
/*
/*
/&
* $$ EOJ
```

Figure 11. z/VSE Skeleton SKVMVSE

Appendix A. Overview of the Job Manager

The Job Manager is a z/VSE program that manages the run sequence of certain job streams. It helps you submit a job sequence without your intervention. You do not have to release individual jobs.

Beginning with Chapter 9, "Installation Part 2 – Detailed Description - Native LPAR and under z/VM," on page 71, the Job Manager controls processing and releases jobs for the remaining steps. This is called *installation job stream processing*. Job Manager processing is used by the following installation tasks, where apart from initial installation, all jobs are generated by the Interactive Interface.

- Initial installation of z/VSE
- Install Programs - V2 Format
- Install Programs - V1 Format
- Application of PTFs
- Installation of Fast Service Upgrade

At the beginning of the job stream, the Job Manager builds an ordered list of the jobs that should run. The Job Manager uses the list to selectively release the jobs from the VSE/POWER reader queue. The list is stored on disk for restart/recovery purposes.

Special Considerations for Installation Dialogs

For installing z/VSE, four dialogs create job streams known as *Job Manager-managed sequences*. When submitted, they run under the control of the Job Manager.

The four dialogs are described in:

1. "Installing Additional VSE Programs" on page 103.
2. "Installing Programs in Version 1 Format" on page 111.
3. Handling PTFs and Performing a Fast Service Upgrade in *z/VSE System Upgrade and Service*.

Note that only one job-managed sequence can be started **per partition** at one time. In addition, only one job stream from any of the four dialogs can run at one time in one partition. "Tips and Hints for Error Handling" on page 118 shows which options you have to handle error situations.

Job Manager Commands

If problems occur when the Job Manager is activated, a predefined abend job gets control. You then receive instructions as to how to proceed.

Be careful when canceling any jobs that the Job Manager manages. You should only do that when the Job Manager is waiting for a response or when a job is waiting for the availability of a resource (such as, a tape to be mounted).

When the abend job gets control, you have three options:

RESUME
The job that was running at the time of abnormal termination is restarted. If no job was running, the next job in the sequence runs. This is the recommended way to restart a job.

RESET
It is recommended that you only use the RESET command in case of severe problems. Make sure that you do not miss a job when using RESET.

If you choose RESET, another message asks you for the name of the job that should run next. This can be any job in the list. All jobs which follow the job that has been reset will also run.

Job streams can be very complex. Whenever you change the Job Manager sequence, you can run into problems. A job might have dependencies, for example, on a job that previously ran. Also, some jobs have to pass information or action along to a job that must follow in the Job Manager sequence.

EXIT Job Manager processing is stopped. The job that abended is flagged as incomplete. This gives you the possibility to analyze and fix the problem.

At any later time, you can restart the Job Manager to finish the task by doing the following:

1. Release the appropriate abend job. To do so, enter the following command

   r rdr,xxxxxxx

   where *xxxxxxx* is the abend job name. The abend jobs for each particular task are shown in Table 17.
2. Later, you will be asked to select one of the three options described above.
   - **RESUME**
   - **RESET**
   - **EXIT**

Table 17. Abend Job Names for Job Manager Processing

TASK NAME	ABEND JOB NAME
z/VSE initial installation	INSABEND
Apply PTF dialog	DTRPTFAB
Install Fast Service Upgrade dialog	DTRFSUAB
Install Programs - V1 Format dialog	DTRABxx[1]
Install Programs - V2 Format dialog	DTRABxx[1]

[1] In the job names DTRABxx, the system generates xx internally. The job stream for the particular dialog will tell you the name of the DTRABxx abend job.

Tips and Hints for Error Handling

If in a partition there is an unfinished job sequence not running currently and another sequence is submitted for the same partition, z/VSE issues a message.

If a problem occurs, proceed as follows:

1. Cancel the second job sequence. You can submit it when the current one has completed successfully.

or

2. Continue the second job sequence by canceling the currently running job sequence.

   If one of the jobs managed by the Job Manager fails, a message will ask whether you want to resume, reset, or exit. To overcome a suspected software problem, perform the following steps:

   - Enter **0 EXIT**. Job Manager processing stops. The abended job is flagged as incomplete. Analyze and fix the problem.
   - Restart the Job Manager by entering **R RDR,*xxxxxxxx***. (xxxxxxxx is the abend job name.)
   - Enter **0 RESUME**. This starts the abended job. If no job was running, the next job in the sequence runs.

   If these steps do not help you solve your problem, proceed as follows:

   - Enter **0 RESET**. The system now asks you for the name of the job that should run next. This could be, for example, the job that ran before the failed job ran.
   - Enter **0 *xxxxxxx***, where xxxxxxx is the name of the job you want to run next. Note that you can specify any job in the list. All jobs which follow the job in the list will run, even if they already ran.

Appendix B. Migrating More than 199 VSE/ICCF Users or More than 199 VSE/ICCF Libraries

This section only applies to users who want to migrate more than 199 VSE/ICCF users or more than 199 VSE/ICCF libraries.

You must have completed initial installation of z/VSE before you can migrate more than 199 VSE/ICCF users or VSE/ICCF libraries. Perform the following steps:

1. Reformat the DTSFILE with the desired library and user entries
   a. Back up the DTSFILE of the new z/VSE system on tape.
   b. FORMAT the new DTSFILE with the desired number of users and libraries.
   c. Restore the new DTSFILE with the new value used in the FORMAT command for libraries and users.
   d. Add the libraries that exceed the number of 199.
2. MIGRATE the user profiles of your previous VSE system using the migration utility IESBLDUP.
3. Restore your private VSE/ICCF libraries of your previous VSE system.

The skeleton SKDTSEXT provides more information about extending the VSE/ICCF DTSFILE.

More Information

Read the following for more information about the commands you use to format the DTSFILE:

- Reformatting the VSE/ICCF DTSFILE in *z/VSE Administration*.
- z/VSE Migration Utility IESBLDUP in Appendix C, "Migrating to a New Release," on page 123.

Appendix C. Migrating to a New Release

z/VSE Migration Utility IESBLDUP

This chapter describes the z/VSE migration utility IESBLDUP. You can use IESBLDUP, for example, if you have installed a test system and want to migrate your user profiles and other control data after you have tested your new system.

Introducing the IESBLDUP Utility

IESBLDUP migrates user profiles from DOS/VSE, VSE/SP, or any release of z/VSE prior to z/VSE 5.2, as well as user-tailored selection panels and application profiles to z/VSE 5.2. IESBLDUP updates and adds user profile or other data to the current VSE Control File (IESCNTL) and the current VSE/ICCF DTSFILE.

During migration, the sources of input are processed in the following sequence:

1. Current VSE/ICCF DTSFILE.
2. Copy of old VSE Control File and/or old VSE/ICCF DTSFILE.
3. CICS/VSE sign-on table DFHSNT (from CICS/VSE 2.3 or a previous CICS system).

If duplicate user IDs are found, only the first occurrence of a user ID will be added. The user IDs defined for VSE/ICCF and CICS/VSE provide, together with a model z/VSE user profile, the data to define new users to z/VSE.

You can also use IESBLDUP to create a status report of your system's users. A status report lists all user IDs and related data defined in the VSE Control File, the VSE/ICCF DTSFILE, and the CICS sign-on table (DFHSNT). Such a status report provides valuable information for maintaining user profiles and data.

Note on DFHSNT

CICS/VSE 2.3 was the last CICS system that had a DFHSNT (Sign-On Table). Its successor system, the CICS Transaction Server for z/VSE, does not support a DFHSNT.

If you want to migrate a DFHSNT, the easiest way is to migrate it first to your old VSE Control File. Run IESBLDUP to achieve this, and then create a backup copy of your old VSE Control File for the actual migration run. You can apply this method for CICS/DOS/VS 1.7 up to CICS/VSE 2.3. In case you want to migrate an even older CICS version, you must create a CICS coexistence environment under z/VSE 5.2 by installing CICS/VSE 2.3 in addition to the CICS Transaction Server. You must then recompile your old DFHSNT under CICS/VSE 2.3 and migrate.

The IESBLDUP Control Statement

You control the processing of IESBLDUP through options defined in the IESBLDUP control statement. If no control statement is used, the default options are in effect. The statement and its options are described under “The Control Statement” on page 133.

Planning and Concept Information

Migrating VSE/ICCF DTSFILE and VSE Control File to z/VSE 5.2

If you migrate from a VSE/SP, or VSE/ESA system to z/VSE 5.2, the old VSE Control File and old DTSFILE are processed together when **CF=YES** is specified in the control statement.

The user profiles are copied from the old files. The records from the old VSE Control File are reformatted and merged into the current VSE Control File. No model profile and DFHSNT values are used as input. The old VSE Control File is also scanned for user selection panels which reference z/VSE reserved names (beginning with IES). If your panels contain names of z/VSE panels or applications which have been deleted, the names are changed to the corresponding z/VSE 5.2 functions and listed in the status report.

Copying DOS/VSE User Definitions of VSE/ICCF DTSFILE Only

The old DTSFILE is read from SYS004. SYS005 must be assigned with IGN (// ASSGN SYS005,IGN) to ensure that the VSE Control File is not read even if CF=YES is specified. The user profiles from the old DTSFILE are copied directly into the current DTSFILE without change. You can add the z/VSE user profiles directly from the DTSFILE to the current VSE Control File (DTSFILE=YES). *This statement can be used to copy user definitions of the old DTSFILE to the current DTSFILE without using model profiles*.

Migrating VSE/ICCF DTSFILE Only (DOS/VSE)

If migrating from **DOS/VSE**, the only input is a copy of your old DTSFILE. If a user ID is found that does not exist on the current VSE Control File, several actions take place:

- The user ID is added to the current VSE Control File.
- A user profile is created and added to the current VSE Control File.

  The user's ID, password, and VSE/ICCF library number are taken from the old DTSFILE records. The z/VSE options and VSE/ICCF specifications are taken from the model user profile specified by the ADMN or PROG keyword in the control statement.
- A DTSUTIL ADD statement is created to add the user to the DTSFILE.
- If you do not want to use the new model profiles (SYSA and PROG, for example) you must copy the users of the old DTSFILE, as described in "Copying DOS/VSE User Definitions of VSE/ICCF DTSFILE Only."

VSE/ICCF DTSFILE

If **DTSFILE=YES** is specified in the control statement, users are added from the current DTSFILE. The user records (B$ and E$ records) are read from the current DTSFILE. For each unique ID found, a user profile is created and added to the current VSE Control File. The user's ID, password, VSE/ICCF library number, and VSE/ICCF specifications are taken from the current DTSFILE records. z/VSE options are taken from the model user profile.

z/VSE Required VSE/ICCF Options

The z/VSE Interactive Interface requires user profiles to be defined with certain VSE/ICCF options in order to operate correctly. For example, if a type 1 user profile was specified as a model for a type 2 user, the VSE/ICCF option byte settings would be incorrect. If a new user profile is added to the current VSE Control File, incompatible VSE/ICCF options are listed in the status report.

If **ALT=YES** is specified in the control statement and a new user is found to be ADDed, it will be added with the z/VSE default values. The values for an existing user in the current DTSFILE will be ALTERed to the default values.

The z/VSE default values are as follows:

- OPTA, OPTB, and OPTC bytes.

  User type 1 (Administrator):

  ```
  OPTA - 011*00*1
  OPTB - **111010
  OPTC - **000*0*
  ```

  User type 2 (Programmer):

  ```
  OPTA - 000*01*0
  OPTB - **000000
  OPTC - **000*0*
  ```

  * bits not checked or changed

```
TIMEOUT  - 600
LOGONRTN - @L$LOGON
DEL, TAB, BS, ESC, END, and HEX - Set to OFF
```

For more information on the VSE/ICCF options refer to “Maintaining User Profiles” in *z/VSE Administration*.

Reserved VSE/ICCF Libraries

When adding VSE/ICCF users, the user's library number is checked to determine if one of the z/VSE reserved libraries (50 - 68) has been specified. If so, the library is listed on the status report as being incompatible.

If **ALT=YES** has been specified in the control statement, the library number is altered to 10 for administrators and to 9 for programmers. If an alternate library has been specified as one of the z/VSE reserved libraries, it is not changed but indicated in the status report.

CICS Sign-On Table (DFHSNT)

If **SNT=YES** is specified in the control statement, DFHSNT is scanned for entries. If there is no matching user ID defined in the current VSE Control File, the DFHSNT user ID is added as a type 3 user (non-VSE/ICCF user).

Refer also to "Note on DFHSNT" under “Introducing the IESBLDUP Utility” on page 123.

Using the IESBLDUP Utility

IESBLDUP performs the following steps:

- It updates the VSE Control File with user profile and control data information.
- It creates job DTRMIGR and places it into the VSE/POWER reader queue.

DTRMIGR invokes the VSE/ICCF utility DTSUTIL to perform the following functions:

- Add new user profiles to the current VSE/ICCF DTSFILE.
- Alter VSE/ICCF DTSFILE options which are incompatible with z/VSE 5.2.
- Catalog a dummy table ADM$USRT into VSE/ICCF library 50 for performance reasons. Table ADM$USRT will be deleted after the *Maintain User Profiles* dialog is used for the first time.

To ensure that DTRMIGR is processed immediately after IESBLDUP has finished, run IESBLDUP as a CLASS=A job (DTRMIGR is created as CLASS=A, DISP=K).

Assignments

For the IESBLDUP job stream, the following assignments are used:

- SYS004

  Defines the tape drive where the copy of the old VSE/ICCF DTSFILE (DTSRSTR) is mounted.

- SYS005

  Defines the tape drive where the copy of the old VSE Control File is mounted. If only one physical tape drive is available and CF=YES is specified in the control statement, SYS005 must be unassigned (// ASSGN SYS005,UA). The operator will then be instructed to mount the old VSE Control File copy on SYS004 after processing of the DTSFILE copy has been completed.

  In case of DOS/VSE, which uses as input the DTSFILE only, SYS005 must be defined with // ASSGN SYS005,IGN to avoid reading of the old VSE Control File (even if CF=YES).

- SYS010

  Defines the disk device on which the current VSE/ICCF DTSFILE resides. As shipped, the DTSFILE resides on the SYSWK1 system disk. The assignment is done by procedure DTRICCF.

Running IESBLDUP

When running IESBLDUP, you must observe the following:

- IESBLDUP must run in a batch partition controlled by VSE/POWER. VSE/POWER must be generated with the SPOOL=YES option, as delivered with z/VSE 5.2.
- If UPDATE=YES is specified and the Interactive Interface is active, enter the following CEMT command to close the VSE Control File (IESCNTL):

  ```
  CEMT SET FILE(IESCNTL) CLOSE
  ```

  Enter the following command to close the Security Server partition:

  ```
  MSG FB,DATA=CLOSECNTL
  ```

  To re-open the VSE Control File (IESCNTL), enter:

  ```
  CEMT SET FILE(IESCNTL) OPEN
  ```

  To re-open the Security Server partition, enter:

  ```
  MSG FB,DATA=OPENCNTL
  ```

  As long as IESCNTL is closed, you cannot sign on to the Interactive Interface.

  You also are requested to disconnect the DTSFILE before DTRMIGR runs. Enter the following command:

  ```
  /DISC DTSFILE
  ```

  When DTRMIGR has finished, you should reconnect the DTSFILE using the command:

  ```
  /CON DTSFILE
  ```

- If UPDATE=NO is specified in the control statement, both the current VSE Control File and DTSFILE are used in read only mode and need not be closed or disconnected.

- The VSE/ICCF modules DTSFILRT and DTSUTIL must be in a z/VSE library accessible to IESBLDUP. The same is true for the CICS sign-on table (DFHSNT), if you have set SNT=YES .

The Status Report

A status report, which shows the results of the migration process, is printed on SYSLST. The following items are listed:

- The existing user IDs defined in the VSE Control File, VSE/ICCF DTSFILE, and the CICS sign-on table DFHSNT (if DFHSNT was migrated).
- Each user ID processed together with the VSE/ICCF library assigned, the model profile used, and an indication whether a matching DFHSNT entry was found in case SNT was specified.

If the VSE/ICCF options found are incompatible with z/VSE 5.2, the old values are shown on the status report.

Model User Profiles

For each user profile added to the current VSE Control File (except for users from the old VSE Control File), an existing z/VSE user profile is used as a model for the new user. The model profile provides default values when creating a new user profile.

z/VSE provided user profiles (for example SYSA, PROG, and OPER) can be used as model profiles. You can also define your own model profile with the *Maintain User Profiles* dialog.

For users added to the current VSE Control File from the current or old DTSFILE, the model selected is based on the user class defined in the VSE/ICCF DTSFILE user record. The profile specified in the control statement for ADMN will be used as the model for the administrator (bit 2 of OPTB=1), and the name specified for PROG will be used for all other users. The defaults, which can be changed, are ADMN=SYSA and PROG=PROG. If you use different model users, the related users must be defined in the **new** (z/VSE 5.2) VSE Control File.

If users are to be added from the CICS sign-on table (DFHSNT) as type 3 users, a profile should be defined with the GENL parameter in the control statement. If no name is specified, the default is GENL=PROG with the user type changed from type 2 to type 3. When PROG is used as a default profile, the initial selection panel will offer selections that require access to VSE/ICCF. Type 3 users, however, do not have access to VSE/ICCF functions. It is therefore recommended that you create your own default profile for type 3 users.

Adding New Users

If you want to add new user IDs to z/VSE, you can also use the batch program IESUPDCF, as described in the *System Utilities* manual. It is recommended to add new users **after** you have migrated your system.

Migrating to z/VSE 5.2

Backups Required from Your Old System

To perform migration you need a copy on tape of your old DTSFILE and your old VSE Control File.

If you want to migrate users defined in DFHSNT (the latest is the CICS/VSE 2.3 DFHSNT), you must ensure that the DFHSNT is in a library accessible to IESBLDUP.

1. If migrating from **VSE/SP** or **VSE/ESA**, create a copy of the old DTSFILE by using the *Backup/Restore Library Objects* dialog.

   If you are a **DOS/VSE** user, use the VSE/ICCF utility DTSUTIL to create a copy of the DTSFILE. Note that step 2 does **not** apply to **DOS/VSE**, since in this case the VSE Control File is not used as input.

2. If migrating from **VSE/SP** or **VSE/ESA**, create a copy of the old VSE Control File (IESCNTL).

   You can create a backup copy either by:

   a. **Using the Interactive Interface**

      Select the *Resource Definition* dialog from the VSE *Selection Panel*. In the *File and Catalog Management* dialog select the *Display or Process a File* panel for the VSE/VSAM user catalog VSESPUC. On the next panel, select the COPY function to copy the VSE Control File (IESCNTL). The COPY function uses the VSE/VSAM REPRO command. When requested, the following should be specified:

      - Volume serial number (CF0001)
      - RECORD FORMAT=3 (variable-length blocked records)
      - BLOCK SIZE=4000

      Note: Do *not* use VSE/VSAM Backup/Restore to create the VSE Control File copy. The VSE/VSAM REPRO command must be used.

   b. **Creating a jobstream for batch processing**

```
* $$ JOB JNM=BACKCNTR,CLASS=A,DISP=D,NTFY=YES
     // JOB COPY FILE
     // DLBL COPYIN,'VSE.CONTROL.FILE',,VSAM,                          X
                   CAT=VSESPUC
     // TLBL COPYOUT,'CONTROL.FILE',,CF0001
     // ASSGN SYS005,181
     // EXEC IDCAMS,SIZE=AUTO
      REPRO INFILE (COPYIN) -
            OUTFILE (COPYOUT -
            ENVIRONMENT (BLOCKSIZE (4000 ) -
                        RECORDFORMAT (VARBLK) -
                        STDLABEL -
                        PRIMEDATADEVICE (2400) REW)) -
            NOREUSE
     /*
     /&
     * $$ EOJ
```

Figure 12. Example Job for Backing Up the VSE Control File

Precautionary Measures

The following measures help you recover in case migration failed.

If migration has failed, you can take a backup copy of the VSE Control File which is not damaged since no update takes place in case of a failure. The best point for creating a backup copy is after initial installation post-base processing.

1. **Backup** the DTSFILE of your new z/VSE 5.2 system using the *Backup/Restore Library Objects* dialog. Perform this step to ensure that you still have a correct version of the DTSFILE available in case of migration errors. If you encounter migration errors, see page “Recovering from Migration Errors” on page 135. However, before backing up the DTSFILE a reformat run will be necessary if

you want to migrate more libraries or users than the current DTSFILE allocation allows. The z/VSE-supplied DTSFILE contains an allocation for 199 libraries and 199 users.

2. **Backup** the VSE Control File (IESCNTL) of your new z/VSE 5.2 system. For details on how to do this, see "Backups Required from Your Old System" on page 127.

   Refer also to "Recovering from Migration Errors" on page 135.

Migration Steps

Following is a summary of migration steps that apply.

1. Create backup tapes of the old DTSFILE and the old VSE Control File.

   If you migrate a DFHSNT, ensure that it is in a library accessible to IESBLDUP.
2. Prepare the job stream to run IESBLDUP.

   The control statement must be placed immediately after the // EXEC statement. Refer to "The Control Statement" on page 133 for the default values active.
3. Run IESBLDUP first with UPDATE=NO in the control statement to get a status report.
4. Review the status report and correct any errors.
5. Change the control statement to UPDATE=YES and resubmit the job. If UPDATE=YES, close the VSE Control File if the corresponding message is issued.
6. Job DTRMIGR will be submitted as soon as IESBLDUP has finished processing. Disconnect the DTSFILE when instructed to do so.
7. Review the status report.
8. After you have migrated userIDs, you also have to add these migrated users to the default groups in BSTCNTL by using the *User Profile Maintenance* dialog (fast path 211). Pressing PF6 (groups) stores a job into the VSE/POWER punch queue including the BSM group definitions and corresponding user permits. Then copy this job to ICCF and submit it.

Example 1: Migrating to z/VSE 5.2 from a VSE/ESA System

The following example shows how to migrate to z/VSE 5.2 from a VSE/ESA system. The user profiles SYSA and PROG are implicitly used as user models for administrators and programmers.

This sample job stream is provided as skeleton IESBLDUP in VSE/ICCF library 59.

```
* $$ JOB JNM=IESBLDUP,CLASS=A,DISP=D
// JOB IESBLDUP  MIGRATION
* *                                                              *
* *  FOLLOWING VARIABLES HAVE TO BE CHANGED BEFORE SUBMITTING:   *
* *                                                              *
* *    --V001--            VOLID OF THE DTSFILE BACKUP TAPE      *
* *    --V002--            TAPE DRIVE WHERE DTSFILE BACKUP IS    *
* *                        MOUNTED                               *
* *    --V003--            VOLID OF THE BACKUP TAPE OF THE       *
* *                        CONTROL FILE                          *
* *    --V004--            TAPE DRIVE WHERE THE BACKUP OF THE    *
* *                        CONTROL FILE IS MOUNTED               *
*                                                               *
* IMPORTANT:                                                    *
*     AFTER INITIAL INSTALLATION IS COMPLETED, IN ORDER TO      *
*     DEFINE THE MIGRATED USERS TO THE BSTCNTL BASED SECURITY   *
*     YOU HAVE TO PRESS PF6 (GROUPS) ON PANEL 'USER PROFILE     *
*     MAINTENANCE' FASTPATH 211.                                *
* ***************************************************************

// EXEC PROC=DTRICCF
// TLBL DTSRSTR,,,--V001--    **DTSFILE BACKUP**
// ASSGN SYS004,--V002--
// TLBL CFCOPY,,,--V003--     **CONTROL FILE COPY**
// ASSGN SYS005,--V004--
* ***************************************************************
* ARE BOTH TAPES READY?
* IESCNTL MUST BE CLOSED IF UPDATE=YES IS SPECIFIED. PERFORM
*   CEMT SET FILE(IESCNTL) CLOSE   IN EACH CICS WITH THE
*                                  INTERACTIVE INTERFACE ACTIVE
*   MSG FB,DATA=CLOSECNTL          TO CLOSE THE FILE IN BSM
* ***************************************************************
// PAUSE  IESCNTL CLOSED, TAPES READY?
// EXEC IESBLDUP,SIZE=64K
CF=YES,DTSRSTR=YES,UPDATE=YES
/*
* ***************************************************************
* IESCNTL CAN BE REOPENED:
*   CEMT SET FILE(IESCNTL) OPEN    IN EACH CICS
*   MSG FB,DATA=OPENCNTL           TO OPEN THE FILE IN BSM
* ***************************************************************
// PAUSE  OPEN IESCNTL
/&
* $$ EOJ
```

Figure 13. Job Stream Example for Migrating from a VSE/ESA System

An example of the generated migration report is shown in Figure 14 on page 131.

```
// EXEC IESBLDUP,SIZE=64K,PARM='INSTALL'    MIGRATE USER PROFILES
1S54I  PHASE IESBLDUP IS TO BE FETCHED FROM IJSYSRS.SYSLIB
12/15/04 z/VSE MIGRATION UTILITY                                -INITIALIZATION-                          PAGE   1
DTSFILE=NO,DTSRSTR=YES,SNT=NO,UPDATE=YES
IESU0002I  VSE CONTROL FILE 'IESCNTL' OPENED FOR OUTPUT
IESU0004I  ICCF DTSFILE OPENED
IESU0006I  BACKUP DTSFILE 'DTSRSTR' OPENED
IESU0012I  CONTROL FILE COPY OPENED
12/15/04 z/VSE MIGRATION UTILITY                      -STATUS OF EXISTING VSE USER IDS-                   PAGE   2
                 CONTROL
 USER ID  DTSFILE  FILE
 $SRV        N       2         II USER PASSWORD HAS EXPIRED
 AAAA        A
 AZZZ        A
 CICSUSER            3         II USER PASSWORD HAS EXPIRED
 CNSL                1         II USER PASSWORD HAS EXPIRED
 DBDCCICS            1
 FORSEC              1
 OPER        N       2         II USER PASSWORD HAS EXPIRED
 POST        A       1
 PRODCICS            1
 PROG        N       2         II USER PASSWORD HAS EXPIRED
 SYSA        A       1         II USER PASSWORD HAS EXPIRED
 VCSRV               1
TOTAL        7      11
ALLOC      199
DTSFILE USER TYPE:
     A = ADMINISTRATOR
     N = NORMAL
CONTROL FILE USER TYPE:
     1 = ADMINISTRATOR
     2 = PROGRAMMER
     3 = GENERAL
12/15/04 z/VSE MIGRATION UTILITY                              -CREATE USER PROFILES-                      PAGE   3
                 CONTROL      DEFAULT  ICCF  ------------------ICCF OPTIONS INCOMPATIBLE WITH z/VSE-----------------
 USER ID  DTSFILE  FILE        PROFILE  LIBR  LIBR ALT   OPTA    OPTB    OPTC    LOGON  TIMEO DEL TAB  BS ESC END HEX
USERS ADDED FROM DTSFILE BACKUP & CONTROL FILE COPY:
*$SRV                                  11    IGNORED, DUPLICATE ID ON CONTROL FILE
 AAAA        A       1         SYSA     10
 ABCD        A                          13
 AMAD        A       1                  13
 AMA1        A       1                  13                                                  100
 AMA2                2
 A591        A                          40
 ELKE        A       1                  11
*FORSEC                                      IGNORED, DUPLICATE ID ON CONTROL FILE
 HSCZ        A       1                  22
 NLST        A       1                  12
*OPER                                  8     IGNORED, DUPLICATE ID ON CONTROL FILE
*POST                                  10    IGNORED, DUPLICATE ID ON CONTROL FILE
*PROG                                  9     IGNORED, DUPLICATE ID ON CONTROL FILE
 SCHA        A       1                  75
*SYSA                                  10    IGNORED, DUPLICATE ID ON CONTROL FILE
 TEST        A                          11
 TIN1        A                          31
 USCH        A       1                  45
 VOL1        N                          45
 VOL3        N                          9
 VOL5        N                          9
 WACK        A       1                  36
 XXXX        A       1                  12
 ZELL        A                          12
* = INDICATES THAT USER ID WAS NOT ADDED
IESU0150I    97 RECORDS WERE ADDED TO VSE CONTROL FILE
IESU0010I  IESBLDUP EXECUTION COMPLETED, END OF JOB
1S55I  LAST RETURN CODE WAS 0000
```

Figure 14. Migration Report Example

Example 2: Creating a Status Report of Existing User IDs

The following example produces a status report which lists the user IDs defined in the VSE Control File, VSE/ICCF DTSFILE, and the CICS sign-on table DFHSNT (if a DFHSNT exists).

```
* $$ JOB JNM=IESBLDUP,CLASS=A,DISP=D
// JOB IESBLDUP  STATUS REPORT OF USER IDS
// EXEC PROC=DTRICCF
// EXEC IESBLDUP,SIZE=64K
CF=NO,DTSRSTR=NO,UPDATE=NO
/*
/&
* $$ EOJ
```

Figure 15. Job Stream Example for Status Report

Example 3: Status Report Example

Figure 16 shows an example of a status report.

```
// EXEC IESBLDUP,SIZE=64K
1S54I  PHASE IESBLDUP IS TO BE FETCHED FROM IJSYSRS.SYSLIB
10/05/04 z/VSE MIGRATION UTILITY                                  -INITIALIZATION-                PAGE   1
  CF=NO,DTSRSTR=NO,UPDATE=NO
IESU0002I  VSE CONTROL FILE 'IESCNTL' OPENED FOR INPUT
IESU0004I  ICCF DTSFILE OPENED
10/05/04 z/VSE MIGRATION UTILITY                       -STATUS OF EXISTING VSE USER IDS-         PAGE   2
                 CONTROL
 USER ID  DTSFILE  FILE
 $SRV        N       2
 AAAA        A
 AMAD        A       1
 ASTA        A       1
 AZZZ        A
 CICSUSER            3
 CNSL                1
 DBDCCICS            1
 ELKE        A       1
 FORSEC              1
 HSCZ        A       1
 OPER        N       2
 POST        A       1
 PRODCICS            1
 PROG        N       2
 SYSA        A       1
 VCSRV               1
TOTAL       11      15
ALLOC      199
DTSFILE USER TYPE:
     A = ADMINISTRATOR
     N = NORMAL
CONTROL FILE USER TYPE:
     1 = ADMINISTRATOR
     2 = PROGRAMMER
     3 = GENERAL
IESU0150I     0 RECORDS WERE ADDED TO VSE CONTROL FILE
IESU0010I  IESBLDUP EXECUTION COMPLETED, END OF JOB
1S55I  LAST RETURN CODE WAS 0000
EOJ MIGRAT    MAX.RETURN CODE=0000                DATE dd/mm/yyyy, CLOCK hh/mm/ss, DURATION   00/00/00
```

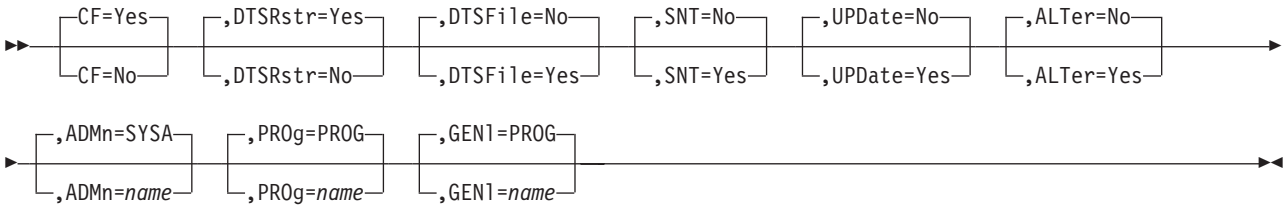
Figure 16. Example for a Status Report Output

The Control Statement

The control statement must follow directly the // EXEC IESBLDUP statement. Processing options are selected by keywords and can be specified on multiple statements.

Control Statement Format

The control statement format is shown below.



Parameters

Default values are underlined.

CF=Yes | No

Specifies whether a copy of an old VSE Control File is to be processed.

Yes A copy of an old VSE Control File will be read from the tape drive assigned to SYS005. If only one tape drive is available SYS005 must be unassigned. After reading the DTSFILE copy, the VSE Control File copy is mounted on the drive assigned to SYS004. The records of the old VSE Control File are added to the current VSE Control File. Records with duplicate keys and reserved z/VSE record types (IES records) are ignored. If this option is specified, DTSRSTR=YES must also be specified.

No No copy of an old VSE Control File is to be processed.

DTSRstr=Yes | No

Specifies whether a copy of an old VSE/ICCF DTSFILE is to be processed.

Yes If CF=YES is specified:

A copy of an old VSE/ICCF DTSFILE will be read from the tape unit assigned to SYS004. The VSE/ICCF user profiles are copied to the current DTSFILE. If there is a user ID on the old DTSFILE which does not exist on the current DTSFILE, it is copied to the current DTSFILE from the old DTSFILE.

If CF=NO is specified:

A copy of an old VSE/ICCF DTSFILE will be read from the tape unit assigned to SYS004. For each ID found in the file, a user profile is created and added to the current VSE Control File and current DTSFILE. If the ID is already in the current VSE Control File, the ID of the old DTSFILE is ignored.

No No copy of an old DTSFILE is to be read.

DTSFile=Yes | No

Specifies whether z/VSE user profiles are to be created for user IDs defined on the current VSE/ICCF DTSFILE.

Yes The current DTSFILE will be read and for each ID found, a user profile will be created and added to the current VSE Control File. If the ID is already on the VSE Control File, it is ignored.

No No user profiles are to be created from the current DTSFILE.

SNT=Yes | No

Specifies whether the CICS sign-on table (DFHSNT) is to be processed. Refer also to "Note on DFHSNT" under “Introducing the IESBLDUP Utility” on page 123.

Yes Table DFHSNT is searched for a matching user ID when creating and adding user profiles to the current VSE Control File. The ID is compared to the USERID field in DFHSNT. If the IDs and passwords match, the DFHSNT entry is used to provide the CICS data for the new user ID (like CICS TIMEOUT and security keys). DFHSNT is not scanned for users being added from the old VSE Control File. The CICS data for them is taken from the old user profile.

If a DFHSNT entry contains a 4-8 character user ID and a three to six character password, and if there is no matching user ID defined on the current VSE Control File, the ID is added as a type 3 user.

No Table DFHSNT is not be processed. Default values are used for the CICS data in the current VSE Control File. No users are added from the DFHSNT.

UPDate=Yes | No

Specifies whether the current VSE Control File and VSE/ICCF DTSFILE are to be updated.

Yes New users are added to the current VSE Control File and the current DTSFILE is updated with new and changed VSE/ICCF users.

No The current VSE Control File is not updated and the job DTRMIGR is not submitted to update the current DTSFILE. The job is executed in edit mode only.

ALTer=Yes | No

Specifies whether VSE/ICCF options that are incompatible with z/VSE are to be altered.

Yes When adding VSE/ICCF users (type 1 and 2), the user's VSE/ICCF options are checked for z/VSE incompatible options. If the user being added has incompatible options specified, they will be altered to be z/VSE compatible. Refer to “Maintaining User Profiles” in *z/VSE Administration* for a description of the VSE/ICCF options.

No Incompatible VSE/ICCF options are not to be altered.

ADMn=SYSA | name

Specifies the user profile to be used as a "model" for administrators (bit 2 of OPTB=1) if the input is from the current DTSFILE or an old DTSFILE. This profile will supply the default data for the new user. The model user profile specified must be defined in the current VSE Control File before IESBLDUP is run.

PROg=PROG | name

Specifies the user profile to be used as a "model" users of type programmer

(bit 2 of OPTB=0) if the input is from the current DTSFILE or old DTSFILE. This model user profile will supply the default data for the new user. The user profile specified must be defined in the current VSE Control File before IESBLDUP is run.

GENl=PROG | name
Specifies the user profile to be used as a "model" when adding users to z/VSE from the CICS sign-on table (DFHSNT) as type 3 users. The user profile specified must be defined in the current VSE Control File before IESBLDUP is run. If the profile specified is not of type 3, the VSE/ICCF options are ignored and the user is added as a type 3 user.

Recovering from Migration Errors

If you encounter an error while migrating the old VSE Control File, you can perform the following steps to restore the previously saved new VSE Control File. Refer also to “Precautionary Measures” on page 128.

1. On the z/VSE Selection Panel, select the dialog *Resource Definition*.
2. Select the COPY function from the *Display or Process a File* dialog.
3. At the *Copy Files* panel specify the file as an output file and the second input file as tape.
4. Enter the file ID and name.
5. The following must be specified at the *Copy Files - Tape Specification* panel:
   - RECORD FORMAT=3 (variable-length blocked records)
   - BLOCK SIZE=4000

   Note: Do not submit the job for immediate execution, because you must edit it before submission.
6. Edit the job and insert the REPLACE option as shown in Figure 17.
7. Submit the job.

Example Job for Restoring the VSE Control File

```
* $$ JOB JNM=RESTCNTR,CLASS=A,DISP=D,NTFY=YES
// JOB  AMAD  COPY FILE
// DLBL COPYOUT,'VSE.CONTROL.FILE',,VSAM,                              X
               CAT=VSESPUC
// TLBL COPYIN,'CONTROL.FILE',,CF0001
// ASSGN SYS004,181
// EXEC IDCAMS,SIZE=AUTO
 REPRO INFILE (COPYIN -
       ENVIRONMENT (BLOCKSIZE (4000 ) -
                    RECORDFORMAT (VARBLK) -
                    STDLABEL -
                    PRIMEDATADEVICE (2400) REW)) -
       OUTFILE (COPYOUT) -
       NOREUSE REPLACE
/*
/&
* $$ EOJ
```

Figure 17. Restoring the VSE Control File

Appendix D. Preparing for Initial Installation or FSU from Virtual Tape

In addition to ordering z/VSE on tapes, you can order it on DVD or download from the Internet. Both methods are based on virtual tape format (AWS tape format). The installation is similar for both methods. With electronic delivery, you must first download the files from the IBM website (ShopzSeries) to your workstation and unzip the files. If z/VSE is distributed on DVD, the data can be used directly on your workstation.

The following table lists the file names that are used for the z/VSE tape images:

Table 18. File Names of Tape Images

Tape Image	DVD	Electronic Delivery (downloaded from internet and unzipped)
Base Tape	VSE*vrmYY*.aws	VSE*vrmYY*.aws
Extended Base Tape	VSE*vrm*XB.aws	VSE*vrm*XB.aws
DB2 Help Tape	DB2SERVE.aws	DB2SERVE.aws
Optional Products Tape	VSE*vrm*OP.aws	VSE*vrm*OP.aws

The first DVD contains the files for the z/VSE Base, Extended Base, and DB2 Help tape images. The optional products are on the second DVD. For electronic delivery, the Download Director creates a directory called `DownloadDirector` and downloads the zipped virtual tape image files (AWSTape image files) to this directory (for example, `C:\DownloadDirector`).

Preparing the Installation

Before you can start to install z/VSE 5.2, you have to perform the following steps:

1. Prepare the virtual tape file for the base tape.
2. Depending on whether you want to perform an initial installation or an FSU,
   - copy the file containing the base tape to a real tape (see "Preparing the Virtual Tape Files on the Workstation"), or
   - transfer the file to VSAM for an FSU via virtual tape.
3. Install the extended base products and the optional products to complete the installation.

Preparing the Virtual Tape Files on the Workstation

Unzip the downloaded files by using a compression utility (for example, PKUNZIP). The zipped files contain one virtual tape image file each. If you received z/VSE on DVD, the virtual tape files are already in virtual tape format (aws) and ready to use.

The following sections describe the steps that are required to install or upgrade z/VSE from DVD.

Preparing for Initial Installation or FSU

You can start the FSU from the virtual tape, or copy the base tape, which is in AWS tape format, to a real tape. If you plan to install z/VSE 5.2 on a system that is capable of reading tape images in virtual tape format, you do not need to copy the image to a real tape or VSAM. You can directly continue with the initial installation or FSU, by using the distribution file on an emulated tape device.

In order to copy the files to a real tape, the cartridge must be capable to hold at least 250 MB.

Refer to the *z/VSE Program Directory*, or to the installation instructions available on the z/VSE website for the latest information about the required APARs.

To copy the virtual tape to a real tape, use the VSE Virtual Tape Support. This can be done either from the remote site (workstation) or via VSAM and FTP and subsequent DITTO tape-to-tape copy.

A document with operation considerations of the VSE Virtual Tape Support is available on the z/VSE Service and Support web page.

Using a Remote Tape Image on a Workstation to Copy the Base Tape to Real Tape

Perform the following steps to copy the tape image. Run the VSE job, as shown below, to copy the base tape image in virtual tape format residing on a workstation to a real tape. The job uses a virtual tape at address *cuu1* and performs a DITTO tape-to-tape copy to a real tape at *cuu2*. See the example below for the parameters you must specify. Make sure that the VSE Virtual Tape Server is started on your workstation.

```
* $$ JOB JNM=COPYTAPE,CLASS=0,DISP=D
// JOB COPYTAPE
// PAUSE PLEASE MOUNT A TAPE ON <cuu2>
// UPSI 1
DVCDN <cuu1>
// PAUSE - DEVICE DOWN OK
// VTAPE START,UNIT=<cuu1>,LOC=<ip-address>,FILE='<tape image file>',READ
DVCUP <cuu1>
// ASSGN SYS010,<cuu2>,08 * OUTPUT MEDIA, COMPRESSED
// ASSGN SYS011,<cuu1>      * INPUT   MEDIA
// EXEC DITTO
$$DITTO REW OUTPUT=SYS010
$$DITTO REW OUTPUT=SYS011
$$DITTO TT INPUT=SYS011,OUTPUT=SYS010,NFILES=<39>
/*
DVCDN <cuu1>
// VTAPE STOP,UNIT=<cuu1>
DVCUP <cuu1>
/&
* $$ EOJ
```

Before submitting the job, you must enter the following parameters:

<*cuu1*>
: Device address of the input tape (virtual).

<*cuu2*>
: Device address of the output tape (real).

<*ip-address*>
: IP address of the workstation where the VSE Virtual Tape Server is running.

<*tape image file*>
File name and path of the remote virtual tape image containing the z/VSE base tape. (For example, `C:\DownloadDirector\VSE`*vrmYY*`.AWS`)

Note:

1. `NFILES=<39>` is only valid for the base tape. The value of the extended base tape is 49. For details on the extended base tape refer to the *z/VSE Program Directory*.
2. FSU can also be done by using a real tape or a virtual tape on VSAM.

After you copied the tape image to a real tape, continue with the installation or FSU of the z/VSE 5.2 base tape.

Using a VSAM Tape Image on a z/VSE System

Perform the following steps to use the VSAM tape image on your z/VSE system:

- Define a virtual tape file in VSAM using skeleton SKVTAPE (ICCF library 59). You need about 250 MB of VSAM space to copy the base tape.
- Transfer the base tape in virtual tape format (type aws) to VSAM using FTP. For more details, see "Uploading the Base Tape to VSAM for FSU via Virtual Tape."
- Copy the VSAM base virtual tape to a real tape with a DITTO job as described in "Using a Remote Tape Image on a Workstation to Copy the Base Tape to Real Tape" on page 138 with the following VTAPE command:

  ```
  // VTAPE START,UNIT=<cuu1>,LOC=VSAM,FILE='<tape image file>',READ
  ```

  <*tape image file*> is the label name of the VSAM file containing the tape image (for example, VTAPE1).

After copying the tape image to a real tape, continue with the installation or FSU of the z/VSE 5.2 base tape.

Uploading the Base Tape to VSAM for FSU via Virtual Tape

If you are performing a release upgrade by using a virtual tape, use the skeleton SKVTAPE, provided in ICCF library 59, to define a VSAM ESDS cluster. The catalog should have about 250 MB free space.

Upload the tape image into a VSAM data set. The base tape is loaded into the VSAM data set using TCP/IP FTP. To do this you need to have an FTP daemon defined in the TCP/IP for VSE/ESA partition. Use the following commands for the upload:

```
C:\DownloadDirector>ftp 10.2.3.45          <-- IP address or hostname of VSE system
Connected to 10.2.3.45.
220-TCP/IP for VSE -- Version 01.05.00 -- FTP Daemon
Copyright (c) 1995,2001 Connectivity Systems Incorporated
220 Service ready for new user.
User (10.2.3.45:(none)): sysa             <-- enter your user id here
331 User name okay, need password.
Password:                                   <-- enter your password
230 User logged in, proceed.
ftp> bin                                    <-- switch to binary mode
200 Command okay.
ftp> quote site lrecl 32758                 <-- record size of your file
200 Command okay.
ftp> quote site recfm v                     <-- set record format to variable
200 Command okay.
ftp> put VSEvrmYY.AWS VSE.VTAPE.FILE        <-- enter your filenames
```

After loading the base tape you can start the FSU from virtual tape.

Installing Additional Products

Products from the extended base tape as well as optional products can be installed from the remote server (workstation) using the Interactive Interface dialog. The related virtual tape files can also be transferred to VSAM by using FTP. Installation from a VSAM virtual tape is also done using the Interactive Interface dialog. If required, the virtual tape can also be copied to a real tape, the number of files to be copied depends on the amount of products on the tape. The DITTO tape-to-tape copy job can specify 999 files, but this will generate an error message on the virtual input tape.

To install the DB2 Help feature, either specify a virtual tape address referring to the remote virtual tape file during the DB2 installation, or copy the virtual DB2 Help tape to a real tape.

Additional Information for Receiving z/VSE from the Internet

Depending on your order, it can contain items that are packaged in zipped format. In this case, perform the following:

1. Download the *xxxxxxx*.zip file to your workstation.
2. Extract the files using an unzip function.
3. Browse the extracted material for files like `readme.txt`, `index.htm`, or `index.html` to get started.

Most of the extracted files can be used directly. In some cases your order might contain ADDITIONAL MATERIAL or ADDITIONAL PUBLICATIONS that were originally packaged on DVD. These might be provided as ISO 9660 images with a file extension of .iso. An ISO 9660 DVD-ROM image is a single large file that is an exact representation of the data and programs as they appear on a DVD, reflecting both the content and logical format.

To use .iso files, you have two options:

1. Create a physical DVD. This requires that your workstation has a DVD-write capability and software that supports ISO 9660 format. When you create the physical DVD, this is an exact copy of the original DVD and has all of the characteristics of the original image (for example, special file names, and - if applicable - it is a bootable DVD).
2. Use virtual DVD software. Virtual DVD software emulates your computer's DVD drive, enabling you to execute programs, view and use data provided in the DVD image directories and files. This is an alternative to creating a physical DVD. This software must support .iso files.

Read the license agreements and follow the procedures that are specific to any software that you use to process these packages.

File Names and Other Considerations When Using Virtual Tapes

If the required Linux, UNIX, or Windows file for a remote virtual tape does not exist, it will be automatically created after the corresponding VTAPE START command has been submitted. When assigning file names you must observe certain rules and characteristics as outlined below.

Linux and UNIX Considerations

Linux and UNIX are *case sensitive*, but job streams created on the z/VSE

host (using dialogs of the Interactive Interface) are in *capital letters*. It may be therefore necessary to edit such job streams to adapt the filename to the Linux or UNIX conventions.

Windows Considerations

Windows file names may contain blanks, therefore the filename must be enclosed in quotes. A quote within a filename must be coded as two single quotes. For example:

```
FILE='D:\John''s\Virtual Tapes\vt001401.001'
```

Windows file names can have more than 100 characters in length. Since the limit for remote files is 100 characters, you may specify `FILE='filename'` twice or even three times. The filename is concatenated in storage, thus allowing for a file name length of 200 or even 300. The following example is equivalent to the previous example:

```
FILE='D:',FILE='\John''s\Virtual Tapes\',FILE='vt001401.001'
```

Example

This is an example of a job that has been generated by the *Prepare for Installation* dialog:

```
* $$ JOB JNM=INSPRE,DISP=D,PRI=3,                                    C
* $$ NTFY=YES,                                                       C
* $$ LDEST=*,                                                        C
* $$ CLASS=0
// JOB INSPRE  SCAN OPTIONAL PRODUCT TAPE
// LIBDEF PHASE,SEARCH=(PRD1.BASE,IJSYSRS.SYSLIB)
* *
* *     PREPARE ADDITIONAL PROGRAM INSTALLATION
* *     -  SCAN PROGRAM TAPE
* *
* *  VIRTUAL TAPE SPECIFIED, NO REAL TAPE DRIVE REQUIRED ON
* *                 280
// EXEC IJBVTDLG
UNIT=280,
LOC=123.123.123.123,
FILE='DATASET*********************************'
FILE='****************************************'
FILE='****************************************'
FILE='****************************************'
FILE='****************************************'
FILE='****************************************'
FILE='************************'
READ                                                                /*
// ASSGN SYS006,280
// MTC REW,SYS006
// EXEC DTRIPRE,PARM='VDDR=280'
/*
// ASSGN SYS006,UA
// VTAPE STOP,UNIT=280
/&
* $$ EOJ
```

Before it is submitted, the above job can be stored in a library and edited as required. For example, you might need to use the `SET CASE MIXED` command to produce the statements shown below:

```
⋮
FILE='my*TEST.file****************************'
FILE='****************************************'
FILE='****************************************'
FILE='****************************************'
```

```
FILE='**************************************'
FILE='**************************************'
FILE='***********************'
:
```

When the job is finally submitted, a mixed-case file name will therefore be used.

Glossary

This glossary includes terms and definitions for IBM z/VSE.

The following cross-references are used in this glossary:
1. See refers the reader from a term to a preferred synonym, or from an acronym or abbreviation to the defined full form.
2. See also refers the reader to a related or contrasting term.

To view glossaries for other IBM products, go to www.ibm.com/software/globalization/terminology.

A

Access Control Logging and Reporting. An IBM licensed program to log all attempts of access to protected data and to print selected formatted reports on such attempts.

access control table (DTSECTAB). A table that is used by the system to verify a user's right to access a certain resource.

access list. A table in which each entry specifies an address space or data space that a program can reference.

access method. A program, that is, a set of commands (macros) to define files or addresses and to move data to and from them; for example VSE/VSAM or VTAM.

account file. A disk file that is maintained by VSE/POWER containing accounting information that is generated by VSE/POWER and the programs running under VSE/POWER.

addressing mode (AMODE). A program attribute that refers to the address length that a program is prepared to handle on entry. Addresses can be either 24 bits or 31 bits in length. In 24 bit addressing mode, the processor treats all virtual addresses as 24-bit values; in 31 bit addressing mode, the processor treats all virtual addresses as 31-bit values. Programs with an addressing mode of ANY can receive control in either 24 bit or 31 bit addressing mode.

administration console. In z/VSE, one or more consoles that receive all system messages, except for those that are directed to one particular console. Contrast this with the user console, which receives only those messages that are directed to it, for example messages that are issued from a job that was submitted with the request to echo its messages to that console. The operator of an administration console can reply to all outstanding messages and enter all system commands.

alternate block. On an FBA disk, a block that is designated to contain data in place of a defective block.

alternate index. In systems with VSE/VSAM, the index entries of a given base cluster that is organized by an alternate key, that is, a key other than the prime key of the base cluster. For example, a personnel file preliminary ordered by names can be indexed also by department number.

alternate library. An interactively accessible library that can be accessed from a terminal when the user of that terminal issues a connect or switch library request.

alternate track. A library, which becomes accessible from a terminal when the user of that terminal issues a connect or switch (library) request.

AMODE. Addressing mode.

APA. All points addressable.

APAR. Authorized Program Analysis Report.

appendage routine. A piece of code that is physically located in a program or subsystem, but logically and extension of a supervisor routine.

application profile. A control block in which the system stores the characteristics of one or more application programs.

application program. A program that is written for or by a user that applies directly to the user's work, such as a program that does inventory control or payroll. See also batch program and online application program.

AR/GPR. Access register and general-purpose register pair.

ASC mode. Address space control mode.

ASI (automated system initialization) procedure. A set of control statements, which specifies values for an automatic system initialization.

attention routine (AR). A routine of the system that receives control when the operator presses the Attention key. The routine sets up the console for the input of a command, reads the command, and initiates the system service that is requested by the command.

automated system initialization (ASI). A function that allows control information for system startup to be cataloged for automatic retrieval during system startup.

autostart. A facility that starts VSE/POWER with little or no operator involvement.

auxiliary storage. Addressable storage that is not part of the processor, for example storage on a disk unit. Synonymous with external storage.

B

B-transient. A phase with a name beginning with $$B and running in the Logical Transient Area (LTA). Such a phase is activated by special supervisor calls.

bar. 2 GigyByte (GB) line

basic telecommunications access method (BTAM). An access method that permits read and write communication with remote devices. BTAM is not supported on z/VSE.

BIG-DASD. A subtype of Large DASD that has a capacity of more than 64 K tracks and uses up to 10017 cylinders of the disk.

block. Usually, a block consists of several records of a file that are transmitted as a unit. But if records are very large, a block can also be part of a record only. On an FBA disk, a block is a string of 512 bytes of data. See also a control block.

block group. In VSE/POWER, the basic organizational unit for fixed-block architecture (FBA) devices. Each block group consists of a number of 'units of transfer' or blocks.

C

CA splitting. Is the host part of the VSE JavaBeans, and is started using the job STARTVCS, which is placed in the reader queue during installation of z/VSE. Runs by default in dynamic class R. In VSE/VSAM, to double a control area dynamically and distribute its CIs evenly when the specified minimum of free space get used up by more data.

carriage control character. The fist character of an output record (line) that is to be printed; it determines how many lines should be skipped before the next line is printed.

catalog. A directory of files and libraries, with reference to their locations. A catalog may contain other information such as the types of devices in which the files are stored, passwords, blocking factors. To store a library member such as a phase, module, or book in a sublibrary. See also VSE/VSAM catalog.

cell pool. An area of virtual storage that is obtained by an application program and managed by the callable cell pool services. A cell pool is located in an address space or a data space and contains an anchor, at least one extent, and any number of cells of the same size.

central location. The place at which a computer system's control device, normally the systems console in the computer room, is installed.

chained sublibraries. A facility that allows sublibraries to be chained by specifying the sequence in which they must be searched for a certain library member.

chaining. A logical connection of sublibraries to be searched by the system for members of the same type (phases or object modules, for example).

channel command word (CWW). A doubleword at the location in main storage that is specified by the channel address word. One or more CCWs make up the channel program that directs data channel operations.

channel program. One or more channel command words that control a sequence of data channel operations. Execution of this sequence is initiated by a start subchannel instruction.

channel scheduler. The part of the supervisor that controls all input/output operations.

channel subsystem. A feature of 370-XA and Enterprise Systems Architecture that provides extensive additional channel (I/O) capabilities over the System/370.

channel to channel attachment (CTCA). A function that allows data to be exchanged
1. Under the control of VSE/POWER between two virtual VSE machines running under VM or
2. Under the control of VTAM between two processors.

character-coded request. A request that is encoded and transmitted as a character string. Contrast with *field-formatted request*.

checkpoint.
1. A point at which information about the status of a job and the system can be recorded so that the job step can be restarted later.
2. To record such information.

CICS (Customer Information Control System). An IBM program that controls online communication between terminal users and a database. Transactions that are entered at remote terminals are processed concurrently by user-written application programs. The program includes facilities for building, using, and servicing databases.

CICS ECI. The CICS External Call Interface (ECI) is one possible requester type of the *CICS business logic interface* that is provided by the CICS Transaction Server for VSE/ESA. It is part of the CICS client and allows workstation programs to CICS function on the z/VSE host.

CICS EXCI. The EXternal CICS Interface (EXCI) is one possible requester type of the *CICS business logic interface* that is provided by the CICS Transaction Server for VSE/ESA. It allows any BSE batch application to call CICS functions.

CICS system definition (CSD) file. Is the host part of the VSE JavaBeans, and is started using the job STARTVCS, which is placed in the reader queue during installation of z/VSE. Runs by default in dynamic class R. See CSD.

CICS Transaction Server for VSE/ESA. A z/VSE base program that controls online communication between terminal users and a database. This is the successor system to CICS/VSE.

CICS TS. CICS Transaction Server

CICS/VSE. Customer Information Control System/VSE. No longer shipped on the Extended Base Tape and no longer supported, cannot run on z/VSE 5.1.

class. In VSE/POWER, a group of jobs that either come from the same input device or go to the same output device.

cluster controller. A hardware unit to control the input/output operations of more than one device that is connected to it. A cluster controller might be run by a program that is stored and executed in the unit; for example, the IBM 3601 Finance Communication Controller. Or it might be controlled entirely by hardware; for example, the IBM 3272 Control Unit.

Common Connector Framework (CCF). Is part of IBM's *Visual Age for Java*, and allows connections to remote hosts to be created and maintained. The CCF classes are contained in the VSEConnector.jar file and are used internally by the VSE JavaBeans. CCF is important for multitier architectures where, for example, servlets run on a middle-tier platform. Because CCF allows open connections to be kept in a pool, this avoids the time that is involved in opening and closing TCP/IP connection to the remote z/VSE host each time a servlet is invoked.

CMS. Conversational monitor system running on z/VM.

common library. A library that can be interactively accessed by any user of the (sub)system that owns the library.

communication adapter. A circuit card with associated software that enables a processor, controller, or other device to be connected to a network.

communication region. An area of the supervisor that is set aside for transfer of information within and between programs.

component.
1. Hardware or software that is part of a computer system.
2. A functional part of a product, which is identified by a component identifier.
3. In z/VSE, a component program such as VSE/POWER or VTAM.
4. In VSE/VSAM, a named, cataloged group of stored records, such as the data component or index component of a key-sequenced file or alternate index.

component identifier. A 12-byte alphanumeric string, uniquely defining a component to MSHP.

conditional job control. The capability of the job control program to process or to skip one or more statements that are based on a condition that is tested by the program.

connect. To authorize library access on the lowest level. A modifier such as "read" or "write" is required for the specified use of a sublibrary.

connection pooling. Introduced with an z/VSE 5.1 update to manage (reuse) connections of the z/VSE database connector in CICS TS.

ConnectionManager class. Is part of CCF, and identifies the connection to a remote z/VSE host: it holds connections between the middle-tier and the remote z/VSE server. Servlets can reserve a connection from the pool, work with it and give it back later. This is performed internally using VSE JavaBeans.

connector. In the context of z/VSE, a connector provides the middleware to connect two platforms: Web Client and z/VSE host, middle-tier and z/VSE host, or Web Client and middle-tier.

connector (e-business connector). A piece of software that is provided to connect to heterogeneous environments. Most connectors communicate to non-z/VSE Java-capable platforms.

container. Is part of the JVM of application servers such as the IBM WebSphere Application Server, and facilitates the implementation of servlets, EJBs, and JSPs, by providing resource and transaction management resources. For example, an EJB developer must not code against the JVM of the application server, but instead against the interface that is provided by the container. The main role of a container is to act as an intermediary between EJBs and clients, Is the host part of the VSE JavaBeans, and is started using the job

STARTVCS, which is placed in the reader queue during the installation of z/VSE. Runs by default in dynamic class R. and also to manage multiple EJB instances. After EJBs have been written, they must be stored in a container residing on an application server. The container then manages all threading and client-interactions with the EJBs, and co-ordinate connection- and instance pooling.

control interval (CI). A fixed-length area of disk storage where VSE/VSAM stores records and distributes free space. It is the unit of information that VSE/VSAM transfers to or from disk storage. For FBA it must be an integral multiple to be defined at cluster definition, of the block size.

control program. A program to schedule and supervise the running of programs in a system.

conversational monitor system (CMS). A virtual machine operating system that provides general interactive time sharing, problem solving, and program development capabilities and operates under the control of z/VM.

count-key-data (CKD) device. A disk device that store data in the record format: count field, key field, data field. The count field contains, among others, the address of the record in the format: cylinder, head (track), record number, and the length of the data field. The key field, if present, contains the record's key or search argument. CKD disk space is allocated by tracks and cylinders. Contrast with *FBA disk device. See also extended count-key-data device.*

cross-partition communication control. A facility that enables VSE subsystems and user programs to communicate with each other; for example, with VSE/POWER.

cryptographic token. Usually referred to simply as a *token*, this is a device, which provides an interface for performing cryptographic functions like generating digital signatures or encrypting data.

cryptography.
1. The transformation of data to conceal its meaning.
2. In computer security, the principles, means, and methods for encrypting 'plaintext' and Is the host part of the VSE JavaBeans, and is started using the job STARTVCS, which is placed in the reader queue during installation of z/VSE. Runs by default in dynamic class R.decrypting 'ciphertext'.

D

data block group. The smallest unit of space that can be allocated to a VSE/POWER job on the data file. This allocation is independent of any device characteristics.

data conversion descriptor file (DCDF). With a DCDF, you can convert individual fields within a record during data transfer between a PC and its host. The DCDF defines the record fields of a particular file for both, the PC and the host environment.

data import. The process of reformatting data that was used under one operating system such that it can subsequently be used under a different operating system.

Data Interfile Transfer, Testing, and Operations (DITTO) utility. An IBM program that provides file-to-file services for card I/O, tape, and disk devices. The latest version is called DITTO/ESA for VSE.

Data Language/I (DL/I). A database access language that is used with CICS.

data link. In SNA, the combination of the link connection and the link stations joining network noes, for example, a z/Architecture channel and its associated protocols. A link is both logical and physical.

data security. Is the host part of the VSE JavaBeans, and is started using the job STARTVCS, which is placed in the reader queue during installation of z/VSE. Runs by default in dynamic class R. See *access control*.

data set header record. In VSE/POWER abbreviated as DSHR, alias NDH or DSH. An NJE control record either preceding output data or, in the middle of input data, indicating a change in the data format.

data space. A range of up to 2 gigabytes of contiguous virtual storage addresses that a program can directly manipulate through ESA/370 instructions. Unlike an address space, a data space can hold only user data; it does not contain shared areas, system data, or programs. Instructions do not execute in a data space, although in a program can reside in a data space as nonexecutable code. Contrast with address space.

data terminal equipment (DTE). In SNA, the part of a data station that serves a data source, data sink, or both.

database connector. Is a function introduced with z/VSE 5.1.1, which consists of a client and server part. The client provides an API (CBCLI) to be used by applications on z/VSE, the server on any Java capable platform connects a JDBC driver that is provided by the database. Both client and server communicate via TCP/IP.

Database 2 (DB2). An IBM rational database management system.

DB2-based connector. Is a feature introduced with VSE/ESA 2.5, which includes a customized DB2 version, together with VSAM and DL/I functionality, to provide access to DB2, VSAM, and DL/I data, using DB2 Stored Procedures.

DB2 Runtime only Client edition. The Client Edition for z/VSE comes with some enhanced features and improved performance to integrate z/VSE and Linux on System z.

DB2 Stored Procedure. In the context of z/VSE, a DB2 Stored Procedure is a Language Environment (LE) program that accesses DB2 data. However, from VSE/ESA 2.5 onwards you can also access VSAM and DL/I data using a DB2 Stored Procedure. In this way, it is possible to exchange data between VSAM and DB2.

DBLK. Data block.

DCDF. Data conversion descriptor file.

deblocking. The process of making each record of a block available for processing.

dedicated (disk) device. A device that cannot be shared among users.

device address.
1. The identification of an input/output device by its device number.
2. In data communication, the identification of any device to which data can be sent or from which data can be received.

device driving system (DDS). A software system external to VSE/POWER, such as a CICS spooler or PSF, that writes spooled output to a destination device.

Device Support Facilities (DSF). An IBM supplied system control program for performing operations on disk volumes so that they can be accessed by IBM and user programs. Examples of these operations are initializing a disk volume and assigning an alternative track.

device type code. The four- or five-digit code that is used for defining an I/O device to a computer system.

dialog. In an interactive system, a series of related inquiries and responses similar to a conversation between two people. For z/VSE, a set of panels that can be used to complete a specific task; for example, defining a file.

dialog manager. The program component of z/VSE that provides for ease of communication between user and system.

digital signature. In computer security, encrypted data, which is appended to or part of a message, that enables a recipient to prove the identity of the sender.

Digital Signature Algorithm (DSA). The Digital Signature Algorithm is the US government-defined standard for digital signatures. The DSA digital signature is a pair of large numbers, computed using a set of rules (that is, the DSA) and a set of parameters such that the identity of the signatory and integrity of the data can be verified. The DSA provides the capability to generate and verify signatures.

directory. In z/VSE the index for the program libraries.

direct access. Accessing data on a storage device using their address and not their sequence. This is the typical access on disk devices as opposed to magnetic tapes. Contrast with *sequential access*.

disk operating system residence volume (DORSES). The disk volume on which the system sublibrary IJSYSRS.SYSLIB is located including the programs and procedures that are required for system startup.

disk sharing. An option that lets independent computer systems uses common data on shared disk devices.

disposition. A means of indicating to VSE/POWER how a job input or output entry is to be handled: according to its local disposition in the RDR/LST/PUN queue or its transmission disposition when residing in the XMT queue. A job might, for example, be deleted or kept after processing.

distribution tape. A magnetic tape that contains, for example, a preconfigured operating system like z/VSE. This tape is shipped to the customer for program installation.

DITTO/ESA for VSE. Data Interfile Transfer, Testing, and Operations utility. An IBM program that provides file-to-file services for disk, tape, and card devices.

DSF. Device Support Facilities.

DSH (R). Data set header record.

dummy device. A device address with no real I/O device behind it. Input and output for that device address are spooled on disk.

duplex. Pertaining to communication in which data can be sent and received at the same time.

DU-AL (dispatchable unit - access list). The access list that is associated with a z/VSE main task or subtask. A program uses the DU-AL associated with its task and the PASN-AL associated with its partition. See also *PASN-AL.*

dynamic class table. Defines the characteristics of dynamic partitions.

dynamic partition. A partition that is created and activated on an 'as needed' basis that does not use fixed static allocations. After processing, the occupied space is released. Dynamic partitions are grouped by class, and jobs are scheduled by class. Contrast with *static partition*.

dynamic partition balancing. A z/VSE facility that allows the user to specify that two or more or all partitions of the system should receive about the same amount of time on the processor.

dynamic space reclamation. A librarian function that provides for space that is freed by the deletion of a library member to become reusable automatically.

E

ECI. See *CICS ECI.*

emulation. The use of programming techniques and special machine features that permit a computer system to execute programs that are written for another system or for the use of I/O devices different from those that are available.

emulation program (EP). An IBM control program that allows a channel-attached 3705 or 3725 communication controller to emulate the functions of an IBM 2701 Data Adapter Unit, or an IBM 2703 Transmission Control.

end user.
1. A person who makes use of an application program.
2. In SNA, the ultimate source or destination of user data flowing through an SNA network. Might be an application program or a terminal operator.

Enterprise Java Bean. An EJB is a distributed bean. "Distributed" means, that one part of an EJB runs inside the JVM of a web application server, while the other part runs inside the JVM of a web browser. An EJB either represents one data row in a database (entity bean), or a connection to a remote database (session bean). Normally, both types of an EJB work together. This allows to represent and access data in a standardized way in heterogeneous environments with relational and non-relational data. See also *JavaBean*.

entry-sequenced file. A VSE/VSAM file whose records are loaded without respect to their contents and whose relative byte addresses cannot change. Records are retrieved and stored by addressed access, and new records are added to the end of the file.

Environmental Record Editing and Printing (EREP) program. A z/VSE base program that makes the data that is contained in the system record file available for further analysis.

EPI. See *CICS EPI.*

ESCON Channel (Enterprise Systems Connection Channel). A serial channel, using fiber optic cabling, that provides a high-speed connection between host and control units for I/O devices. It complies with the ESA/390 and System z I/O Interface until z114. The zEC12 processors do not support ESCON channels.

exit routine.
1. Either of two types of routines: installation exit routines or user exit routines. Synonymous with exit program.
2. See *user exit routine*.

extended addressability. See *31 bit addressing*. The ability of a program to use virtual storage that is outside the address space in which the program is running. Generally, instructions and data reside in a single address space - the primary address space. However, a program can have data in address spaces other than the primary or in data spaces. (The instructions remain in the primary address space, while the data can reside in another address space, or in a data space.) To access data in other address spaces, a program must use access registers (ARs) and execute in access register mode (AR mode).

extended recovery facility (XRF). In z/VSE, a feature of CICS that provides for enhanced availability of CICS by offering one CICS system as a backup of another.

External Security Manager (ESM). A priced vendor product that can provide extended functionality and flexibility that is compared to that of the Basic Security Manager (BSM), which is part of z/VSE.

F

FASTCOPY. See *VSE/Fast Copy.*

fast copy data set program (VSE/Fast Copy). See *VSE/Fast Copy*.

fast service upgrade (FSU). A service function of z/VSE for the installation of a refresh release without regenerating control information such as library control tables.

FAT-DASD. A subtype of Large DASD, it supports a device with more than 4369 cylinders (64 K tracks) up to 64 K cylinders.

FCOPY. See *VSE/Fast Copy.*

fence. A separation of one or more components or elements from the remainder of a processor complex. The separation is by logical boundaries. It allows simultaneous user operations and maintenance procedures.

fetch.
1. To locate and load a quantity of data from storage.
2. To bring a program phase into virtual storage from a sublibrary and pass control to this phase.
3. The name of the macro instruction (FETCH) used to accomplish 2. See also *loader.*

Fibre Channel Protocol (FCP). A combination of hardware and software conforming to the Fibre Channel standards and allowing system and peripheral

connections via FICON and FICON Express feature cards on IBM zSeries processors. In z/VSE, zSeries FCP is employed to access industry-standard SCSI disk devices.

fragmentation (of storage). Inability to allocate unused sections (fragments) of storage in the real or virtual address range of virtual storage.

FSU. Fast service upgrade.

FULIST (FUnction LIST). A type of selection panel that displays a set of files and/or functions for the choice of the user.

G

generation. See *macro generation.*

generation feature. An IBM licensed program order option that is used to tailer the object code of a program to user requirements.

GETVIS space. Storage space within partition or the shared virtual area, available for dynamic allocation to programs.

guest system. A data processing system that runs under control of another (host) system. On the mainframe z/VSE can run as a guest of z/VM.

H

hard wait. The condition of a processor when all operations are suspended. System recovery from a hard wait is impossible without performing a new system startup.

hash function. A hash function is a transformation that takes a variable-size input and returns a fixed-size string, which is called the hash value. In cryptography, the hash functions should have some additional properties:

- The hash function should be easy to compute.
- The hash function is one way; that is, it is impossible to calculate the 'inverse' function.
- The hash function is collision-free; that is, it is impossible that different input leads to the same hash value.

hash value. The fixed-sized string resulting after applying a *hash function* to a text.

High-Level Assembler for VSE. A programming language providing enhanced assembler programming support. It is a base program of z/VSE.

home interface. Provides the methods to instantiate a new EJB object, introspect an EJB, and remove an EJB instantiation., as for the remote interface is needed because the deployment tool generates the implementation class. Every Session bean's home interface must supply at least one *create()* method.

host mode. In this operating mode, a PC can access a VSE host. For programmable workstation (PWS) functions, the Move Utilities of VSE can be used.

host system. The controlling or highest level system in a data communication configuration.

host transfer file (HTF). Used by the Workstation File Transfer Support of z/VSE as an intermediate storage area for files that are sent to and from IBM personal computers.

HTTP Session. In the context of z/VSE, identifies the web-browser client that calls a servlet (in other words, identifies the connection between the client and the middle-tier platform).

I

ICCF. See *VSE/ICCF.*

ICKDSF (Device Support Facilities). A z/VSE base program that supports the installation, use, and maintenance of IBM disk devices.

include function. Retrieves a library member for inclusion in program input.

index.

1. A table that is used to locate records in an indexed sequential data set or on indexed file.
2. In, an ordered collection of pairs, each consisting of a key and a pointer, used by to sequence and locate the records of a key-sequenced data set or file; it is organized in levels of index records. See also *alternate index.*

input/output control system (IOCS). A group of IBM supplied routines that handle the transfer of data between main storage and auxiliary storage devices.

integrated communication adapter (ICA). The part of a processor where multiple lines can be connected.

integrated console. In z/VSE, the service processor console available on IBM System z server that operates as the z/VSE system console. The integrated console is typically used during IPL and for recovery purposes when no other console is available.

Interactive Computing and Control Facility (ICCF). An IBM licensed program that serves as interface, on a time-slice basis, to authorized users of terminals that are linked to the system's processor.

interactive partition. An area of virtual storage for the purpose of processing a job that was submitted interactively via VSE/ICCF.

Interactive User Communication Vehicle (IUCV). Programming support available in a VSE supervisor for operation under z/VM. The support allows users to communicate with other users or with CP in the same way they would with a non-preferred guest.

intermediate storage. Any storage device that is used to hold data temporarily before it is processed.

IOCS. Input/output control system.

IPL. Initial program load.

irrecoverable error. An error for which recovery is impossible without the use of recovery techniques external to the computer program or run.

IUCV. Interactive User Communication Vehicle.

J

JAR. Is a platform-independent file format that aggregates many files into one. Multiple applets and their requisite components (.class files, images, and sounds) can be bundled in a JAR file, and then downloaded to a web browser using a single HTTP transaction (much improving the download speed). The JAR format also supports compression, which reduces the files size (and further improves the download speed). The compression algorithm that is used is fully compatible with the ZIP algorithm. The owner of an applet can also digitally sign individual entries in a JAR file to authenticate their origin.

Java application. A Java program that runs inside the JVM of your web browser. The program's code resides on a local hard disk or on the LAN. Java applications might be large programs using graphical interfaces. Java applications have unlimited access to all your local resources.

Java bytecode. Bytecode is created when a file containing Java source language statements is compiled. The compiled Java code or "bytecode" is similar to any program module or file that is ready to be executed (run on a computer so that instructions are performed one at a time). However, the instructions in the bytecode are really instructions to the *Java Virtual Machine*. Instead of being interpreted one instruction at a time, bytecode is instead recompiled for each operating-system platform using a just-in-time (JIT) compiler. Usually, this enables the Java program to run faster. Bytecode is contained in binary files that have the suffix**.CLASS**

Java servlet. See *servlet.*

JHR. Job header record.

job accounting interface. A function that accumulates accounting information for each job step, to be used for charging the users of the system, for planning new applications, and for supervising system operation more efficiently.

job accounting table. An area in the supervisor where accounting information is accumulated for the user.

job catalog. A catalog made available for a job by means of the file name IJSYSUC in the respective DLBL statement.

job entry control language (JECL). A control language that allows the programmer to specify how VSE/POWER should handle a job.

job step. In 1 of a group of related programs complete with the JCL statements necessary for a particular run. Every job step is identified in the job stream by an EXEC statement under one JOB statement for the whole job.

job trailer record (JTR). As VSE/POWER parameter JTR, alias NJT. An NJE control record terminating a job entry in the input or output queue and providing accounting information.

K

key. In VSE/VSAM, one or several characters that are taken from a certain field (key field) in data records for identification and sequence of index entries or of the records themselves.

key sequence. The collating sequence either of records themselves or of their keys in the index or both. The key sequence is alphanumeric.

key-sequenced file. A VSE/VSAM file whose records are loaded in key sequence and controlled by an index. Records are retrieved and stored by keyed access or by addressed access, and new records are inserted in the file in key sequence.

KSDS. Key-sequenced data sets. See *key-sequenced file.*

L

label.
1. An identification record for a tape, disk, or diskette volume or for a file on such a volume.
2. In assembly language programming, a named instruction that is generally used for branching.

label information area. An area on a disk to store label information that is read from job control statements or commands. Synonymous with *label area*.

Language Environment for z/VSE. An IBM software product that is the implementation of Language Environment on the VSE platform.

language translator. A general term for any assembler, compiler, or other routine that accepts statements in one language and produces equivalent statements in another language.

Large DASD. A DASD device that
1. Has a capacity exceeding 64 K tracks and
2. Does not have VSAM space created prior to VSE/ESA 2.6 that is owned by a catalog.

LE/VSE. Short form of Language Environment for z/VSE.

librarian. The set of programs that maintains, services, and organizes the system and private libraries.

library block. A block of data that is stored in a sublibrary.

library directory. The index that enables the system to locate a certain sublibrary of the accessed library.

library member. The smallest unit of a data that can be stored in and retrieved from a sublibrary.

line commands. In VSE/ICCF, special commands to change the declaration of individual lines on your screen. You can copy, move, or delete a line declaration, for example.

linkage editor. A program that is used to create a phase (executable code) from one or more independently translated object modules, from one or more existing phases, or from both. In creating the phase, the linkage editor resolves cross-references among the modules and phases available as input. The program can catalog the newly built phases.

linkage stack. An area of protected storage that the system gives to a program to save status information in a branch or a program call.

link station. In SNA, the combination of hardware and software that allows a node to attach to and provide control for a link.

loader. A routine, commonly a computer program, that reads data or a program into processor storage. See also *relocating loader*.

local shared resources (LSR). A VSE/VSAM option that is activated by three extra macros to share control blocks among files.

lock file. In a shared disk environment under VSE, a system file on disk that is used by the sharing systems to control their access to shared data.

logical partition. In LPAR mode, a subset of the server unit hardware that is defined to support the operation of a system control program.

logical record. A user record, normally pertaining to a single subject and processed by data management as a unit. Contrast with *physical* record, which may be larger or smaller.

logical unit (LU).
1. A name that is used in programming to represent an I/O device address. *physical unit (PU), system services control point (SSCP), primary logical unit (PLU), and secondary logical unit (SLU).*
2. In SNA, a port through which a user accesses the SNA network,
   a. To communicate with another user and
   b. To access the functions of the SSCP. An LU can support at least two sessions. One with an SSCP and one with another LU and might be capable of supporting many sessions with other LUs.

logical unit name. In programming, a name that is used to represent the address of an input/output unit.

logical unit 6.2. A SNA/SDLC protocol for communication between programs in a distributed processing environment. LU 6.2 is characterized by
1. A peer relationship between session partners,
2. Efficient utilization of a session for multiple transactions,
3. Comprehensive end-to-end error processing, and
4. A generic Application Programming Interface (API) consisting of structured verbs that are mapped into a product implementation.

logons interpret interpret routine. In VTAM, an installation exit routine, which is associated with an interpret table entry, that translates logon information. It also verifies the logon.

LPAR mode. Logically partitioned mode. The CP mode that is available on the Configuration (CONFIG) frame when the PR/SM feature is installed. LPAR mode allows the operator to allocate the hardware resources of the processor unit among several logical partitions.

M

macro definition. A set of statements and instructions that defines the name of, format of, and conditions for generating a sequence of assembler statements and machine instructions from a single source statement.

macro expansion. See *macro generation*

macro generation. An assembler operation by which a macro instruction gets replaced in the program by the statements of its definition. It takes place before assembly. Synonymous with *macro expansion*.

macro (instruction).
1. In assembler programming, a user-invented assembler statement that causes the assembler to

process a set of statements that are defined previously in the macro definition.
2. A sequence of VSE/ICCF commands that are defined to cause a sequence of certain actions to be performed in response to one request.

maintain system history program (MSHP). A program that is used for automating and controlling various installation, tailoring, and service activities for a VSE system.

main task. The main program within a partition in a multiprogramming environment.

master console. In z/VSE, one or more consoles that receive all system messages, except for those that are directed to one particular console. Contrast this with the *user* console, which receives only those messages that are specifically directed to it, for example messages that are issued from a job that was submitted with the request to echo its messages to that console. The operator of a master console can reply to all outstanding messages and enter all system commands.

maximum (max) CA. A unit of allocation equivalent to the maximum control area size on a count-key-data or fixed-block device. On a CKD device, the max CA is equal to one cylinder.

memory object. Chunk of virtual storage that is allocated above the bar (2 GB) to be created with the IARV64 macro.

message. In VSE, a communication that is sent from a program to the operator or user. It can appear on a console, a display terminal or on a printout.

MSHP. See maintain system history program.

multitasking. Concurrent running of one main task and one or several subtasks in the same partition.

MVS. Multiple Virtual Storage. Implies MVS/390, MVS/XA, MVS/ESA, and the MVS element of the z/OS (OS/390) operating system.

N

NetView. A z/VSE optional program that is used to monitor a network, manage it, and diagnose its problems.

network address. In SNA, an address, consisting of subarea and element fields, that identifies a link, link station, or NAU. Subarea nodes use network addresses; peripheral nodes use local addresses. The boundary function in the subarea node to which a peripheral node is attached transforms local addresses to network addresses and vice versa. See also *network name*.

network addressable unit (NAU). In SNA, a logical unit, a physical unit, or a system services control point. It is the origin or the destination of information that is transmitted by the path control network. Each NAU has a network address that represents it to the path control network. See also *network name, network address*.

Network Control Program (NCP). An IBM licensed program that provides communication controller support for single-domain, multiple-domain, and interconnected network capability. Its full name is ACF/NCP.

network definition table (NDT). In VSE/POWER networking, the table where every node in the network is listed.

network name.
1. In SNA, the symbolic identifier by which users refer to a NAU, link, or link station. See also *network address*.
2. In a multiple-domain network, the name of the APPL statement defining a VTAM application program. This is its network name, which must be unique across domains.

node.
1. In SNA, an end point of a link or junction common to several links in a network. Nodes can be distributed to host processors, communication controllers, cluster controllers, or terminals. Nodes can vary in routing and other functional capabilities.
2. In VTAM, a point in a network that is defined by a symbolic name. Synonymous with *network node*. See *major node and minor node*.

node type. In SNA, a designation of a node according to the protocols it supports and the network addressable units (NAUs) it can contain.

O

object module (program). A program unit that is the output of an assembler or compiler and is input to a linkage editor.

online application program. An interactive program that is used at display stations. When active, it waits for data. Once input arrives, it processes it and send a response to the display station or to another device.

operator command. A statement to a control program, issued via a console or terminal. It causes the control program to provide requested information, alter normal operations, initiate new operations, or end existing operations.

optional licensed program. An IBM licensed program that a user can install on VSE by way of available installation-assist support.

output parameter text block (OPTB). in VSE/POWER's spool-access support, information that

is contained in an output queue record if a * $$ LST or * $$ PUN statement includes any user-defined keywords that have been defined for autostart.

P

page data set (PDS). One or more extents of disk storage in which pages are stored when they are not needed in processor storage.

page fixing. Marking a page so that it is held in processor storage until explicitly released. Until then, it cannot be paged out.

page I/O. Page-in and page-out operations.

page pool. The set of page frames available for paging virtual-mode programs.

panel. The complete set of information that is shown in a single display on terminal screen. Scrolling back and forth through panels like turning manual pages. See also *selection panel*.

partition balancing, dynamic. A z/VSE facility that allows the user to specify that two or more or all partitions of the system should receive about the same amount of time on the processor.

PASN-AL (primary address space number - access list). The access list that is associated with a partition. A program uses the PASN-AL associated with its partition and the DU-AL associated with its task (work unit). See also *DU-AL*.

Each partition has its own unique PASN-AL. All programs running in this partition can access data spaces through the PASN-AL. Thus a program can create a data space, add an entry for it in the PASN-AL, and obtain the ALET that indexes the entry. By passing the ALET to other programs in the partition, the program can share the data space with other programs running in the same partition.

PDS. Page data sets.

phase. The smallest complete unit of executable code that can be loaded into virtual storage.

physical record. The amount of data that is transferred to or from auxiliary storage. Synonymous with *block*.

PNET. Programming support available with VSE/POWER; it provides for the transmission of selected jobs, operator commands, messages, and program output between the nodes of a network.

POWER. See *VSE/POWER*.

pregenerated operating system. An operating system such as z/VSE that is shipped by IBM mainly in object code. IBM defines such key characteristics as the size of the main control program, the organization, and size of libraries, and required system areas on disk. The customer does not have to generate an operating system.

preventive service. The installation of one or more PTFs on a VSE system to avoid the occurrence of anticipated problems.

primary address space. In z/VSE, the address space where a partition is executed. A program in primary mode fetches data from the primary address space.

primary library. A VSE library owned and directly accessible by a certain terminal user.

printer/keyboard mode. Refers to 1050 or 3215 console mode (device dependent).

Print Services Facility (PSF)/VSE. An access method that provides support for the advanced function printers.

private area. The virtual space between the shared area (24 bit) and shared area (31 bit), where (private) partitions are allocated. Its maximum size can be defined during IPL. See also *shared area*.

private memory object. Memory object (chunk of virtual storage) that is allocated above the 2 GB line (bar) only accessible by the partition that created it.

private partition. Any of the system's partitions that are not defined as shared. See also *shared partition*.

production library.
1. In a pre-generated operating system (or product), the program library that contains the object code for this system (or product).
2. A library that contains data that is needed for normal processing. Contrast with *test library*.

programmer logical unit. A logical unit available primarily for user-written programs. See also *logical unit name*.

program temporary fix (PTF). A solution or by-pass of one or more problems that are documented in APARs. PTFs are distributed to IBM customers for preventive service to a current release of a program.

PSF/VSE. Print Services Facility/VSE.

PTF. See *Program temporary fix*.

Q

Queue Control Area (QCA). In VSE/POWER, an area of the data file, which might contain:
- Extended checkpoint information
- Control information for a shared environment.

queue file. A direct-access file that is maintained by VSE/POWER that holds control information for the spooling of job input and job output.

R

random processing. The treatment of data without respect to its location on disk storage, and in an arbitrary sequence that is governed by the input against which it is to be processed.

real address area. In z/VSE, processor storage to be accessed with dynamic address translation (DAT) off

real address space. The address space whose addresses map one-to-one to the addresses in processor storage.

real mode. In VSE, a processing mode in which a program might not be paged. Contrast with *virtual mode*.

recovery management support (RMS). System routines that gather information about hardware failures and that initiate a retry of an operation that failed because of processor, I/O device, or channel errors.

refresh release. An upgraded VSE system with the latest level of maintenance for a release.

relative-record file. A VSE/VSAM file whose records are loaded into fixed-length slots and accessed by the relative-record numbers of these slots.

release upgrade. Use of the FSU functions to install a new release of z/VSE.

relocatable module. A library member of the type object. It consists of one or more control sections cataloged as one member.

relocating loader. A function that modifies addresses of a phase, if necessary, and loads the phase for running into the partition that is selected by the user.

remote interface. In the context of z/VSE, the remote interface allows a client to make method calls to an EJB although the EJB is on a remote z/VSE host. The container uses the remote interface to create client-side stubs and server-side proxy objects to handle incoming method calls from a client to an EJB.

remote procedure call (RPC).
1. A facility that a client uses to request the execution of a procedure call from a server. This facility includes a library of procedures and an external data representation.
2. A client request to service provider in another node.

residency mode (RMODE). A program attribute that refers to the location where a program is expected to reside in virtual storage. RMODE 24 indicates that the program must reside in the 24-bit addressable area (below 16 megabytes), RMODE ANY indicates that the program can reside anywhere in 31-bit addressable storage (above or below 16 megabytes).

REXX/VSE. A general-purpose programming language, which is particularly suitable for command procedures, rapid batch program development, prototyping, and personal utilities.

RMS. Recovery management support.

RPG II. A commercially oriented programming language that is specifically designed for writing application programs that are intended for business data processing.

S

SAM ESDS file. A SAM file that is managed in VSE/VSAM space, so it can be accessed by both SAM and VSE/VSAM macros.

SCP. System control programming.

SDL. System directory list.

search chain. The order in which chained sublibraries are searched for the retrieval of a certain library member of a specified type.

second-level directory. A table in the SVA containing the highest phase names that are found on the directory tracks of the system sublibrary.

Secure Sockets Layer (SSL). A security protocol that allows the client to authenticate the server and all data and requests to be encrypted. SSL was developed by Netscape Communications Corp. and RSA Data Security, Inc..

segmentation. In VSE/POWER, a facility that breaks list or punch output of a program into segments so that printing or punching can start before this program has finished generating such output.

selection panel. A displayed list of items from which a user can make a selection. Synonymous with *menu*.

sense. Determine, on request or automatically, the status or the characteristics of a certain I/O or communication device.

sequential access method (SAM). A data access method that writes to and reads from an I/O device record after record (or block after block). On request, the support performs device control operations such as line spacing or page ejects on a printer or skip some tape marks on a tape drive.

service node. Within the VSE unattended node support, a processor that is used to install and test a master VSE system, which is copied for distribution to

the unattended nodes. Also, program fixes are first applied at the service node and then sent to the unattended nodes.

service program. A computer program that performs function in support of the system. See with *utility program*.

service refresh. A form of service containing the current version of all software. Also referred to as a *system refresh*.

service unit. One or more PTFs on disk or tape (cartridge).

shared area. In z/VSE, shared areas (24 bit) contain the Supervisor areas and SVA (24 bit) and shared areas (31 bit) the SVA (31 bit). Shared areas (24 bit) are at the beginning of the address space (below 16 MB), shared area (31 bit) at the end (below 2 GB).

shared disk option. An option that lets independent computer systems use common data on shared disk devices.

shared memory objects. An option that lets independent computer systems uses common data on shared disk devices.

shared partition. In z/VSE, a partition that is allocated for a program (VSE/POWER, for example) that provides services and communicates with programs in other partitions of the system's virtual address spaces.

shared spooling. A function that permits the VSE/POWER account file, data file, and queue file to be shared among several computer systems with VSE/POWER.

shared virtual area (SVA). In z/VSE, a high address area that contains a list system directory list (SDL) of frequently used phases, resident programs that are shared between partitions, and an area for system support.

SIT (System Initialization Table). A table in CICS that contains data used the system initialization process. In particular, the SIT can identify (by suffix characters) the version of CICS system control programs and CICS tables that you have specified and that are to be loaded.

skeleton. A set of control statements, instructions, or both, that requires user-specific information to be inserted before it can be submitted for processing.

socksified. See *socks-enabled*.

Socks-enabled. Pertaining to TCP/IP software, or to a specific TCP/IP application, that understands the *socks protocol*. "Socksified" is a slang term for socks-enabled.

socks protocol. A protocol that enables an application in a secure network to communicate through a firewall via a *socks server*.

socks server. A circuit-level gateway that provides a secure one-way connection through a firewall to server applications in a nonsecure network.

source member. A library member containing source statements in any of the programming languages that are supported by VSE.

split. To double a specific unit of storage space (CI or CA) dynamically when the specified minimum of free space gets used up by new records.

spooling. The use of disk storage as buffer storage to reduce processing delays when transferring data between peripheral equipment and the processor of a computer. In z/VSE, this is done under the control of VSE/POWER.

Spool Access Protection. An optional feature of VSE/POWER that restricts individual spool file entry access to user IDs that have been authenticated by having performed a security logon.

spool file.
1. A file that contains output data that is saved for later processing.
2. One of three VSE/POWER files on disk: queue file, data file, and account file.

stacked tape. An IBM supplied product-shipment tape containing the code of several licensed programs.

standard label. A fixed-format record that identifies a volume of data such as a tape reel or a file that is part of a volume of data.

stand-alone program. A program that runs independently of (not controlled by) the VSE system.

startup. The process of performing IPL of the operating system and of getting all subsystems and applications programs ready for operation.

start option. In VTAM, a user-specified or IBM specified option that determines conditions for the time a VTAM system is operating. Start options can be predefined or specified when VTAM is started.

static partition. A partition, which is defined at IPL time and occupying a defined amount of virtual storage that remains constant. See also *dynamic partition*.

storage director. An independent component of a storage control unit; it performs all of the functions of a storage control unit and thus provides one access path to the disk devices that are attached to it. A storage control unit has two storage directors.

storage fragmentation. Inability to allocate unused sections (fragments) of storage in the real or virtual address range of virtual storage.

suballocated file. A VSE/VSAM file that occupies a portion of an already defined data space. The data space might contain other files. See also *unique file*.

sublibrary. In VSE, a subdivision of a library. Members can only be accessed in a sublibrary.

sublibrary directory. An index for the system to locate a member in the accessed sublibrary.

submit. A VSE/POWER function that passes a job to the system for processing.

SVA. See shared virtual area.

Synchronous DataLink Control (SDLC). A discipline for managing synchronous, code-transparent, serial-by-bit information transfer over a link connection. Transmission exchanges might be duplex or half-duplex over switched or non-switched links. The configuration of the link connection might be point-to-point, multipoint, or loop.

SYSRES. See system residence volume.

system control programming (SCP). IBM supplied, non-licensed program fundamental to the operation of a system or to its service or both.

system directory list (SDL). A list containing directory entries of frequently used phases and of all phases resident in the SVA. The list resides in the SVA.

system file. In z/VSE, a file that is used by the operating system, for example, the hardcopy file, the recorder file, the page data set.

System Initialization Table (SIT). A table in CICS that contains data that is used by the system initialization process. In particular, the SIT can identify (by suffix characters) the version of CICS system control programs and CICS tables that you have specified and that are to be loaded.

system recorder file. The file that is used to record hardware reliability data. Synonymous with *recorder file*.

system refresh. See *service refresh*.

system refresh release. See *refresh release*.

system residence file (SYSRES). The z/VSE system sublibrary IJSYSRS.SYSLIB that contains the operating system. It is stored on the system residence volume DORSES.

system residence volume (SYSRES). The disk volume on which the system sublibrary is stored and from which the hardware retrieves the initial program load routine for system startup.

system sublibrary. The sublibrary that contains the operating system. It is stored on the system residence volume (SYSRES).

T

task management. The functions of a control program that control the use, by tasks, of the processor and other resources (except for input/output devices).

time event scheduling support. In VSE/POWER, the time event scheduling support offers the possibility to schedule jobs for processing in a partition at a predefined time once repetitively. The time event scheduling operands of the * $$ JOB statement are used to specify the wanted scheduling time.

track group. In VSE/POWER, the basic organizational unit of a file for CKD devices.

track hold. A function that protects a track that is being updated by one program from being accessed by another program.

transaction.
1. In a batch or remote batch entry, a job or job step. 2. In CICS TS, one or more application programs that can be used by a display station operator. A given transaction can be used concurrently from one or more display stations. The execution of a transaction for a certain operator is also referred to as a task.
2. A given task can relate only to one operator.

transient area. An area within the control program that is used to provide high-priority system services on demand.

Turbo Dispatcher. A facility of z/VSE that allows to use multiprocessor systems (also called CEC: Central Electronic Complexes). Each CPU within such a CEC has accesses to be shared virtual areas of z/VSE: supervisor, shared areas (24 bit), and shared areas (31 bit). The CPUs have equal rights, which means that any CPU might receive interrupts and work units are not dedicated to any specific CPU.

U

UCB. Universal character set buffer.

universal character set buffer (UCB). A buffer to hold UCS information.

user console. In z/VSE, a console that receives only those system messages that are specifically directed to it. These are, for example, messages that are issued from a job that was submitted with the request to echo its messages to that console. Contrast with *master console*.

user exit. A programming service that is provided by an IBM software product that can be requested during the execution of an application program for the service of transferring control back to the application program upon the later occurrence of a user-specified event.

V

variable-length relative-record data set (VRDS). A relative-record data set with variable-length records. See also *relative-record data set*.

variable-length relative-record file. A VSE/VSAM relative-record file with variable-length records. See also *relative-record file*.

VIO. See virtual I/O area.

virtual address. An address that refers to a location in virtual storage. It is translated by the system to a processor storage address when the information stored at the virtual address is to be used.

virtual addressability extension (VAE). A storage management support that fives the user of VSE multiple address spaces of virtual storage.

virtual address space. A subdivision of the virtual address area available to the user for the allocation of private, nonshared partitions.

virtual disk. A range of up to 2 gigabytes of contiguous virtual storage addresses that a program can use as workspace. Although the virtual disk exists in storage, it appears as a real FBA disk device to the user program. All I/O operations that are directed to a virtual disk are intercepted and the data to be written to, or read from, the disk is moved to or from a data space.

Like a data space, a virtual disk can hold only user data; it does not contain shared areas, system data, or programs. Unlike an address space or a data space, data is not directly addressable on a virtual disk. To manipulate data on a virtual disk, the program must perform I/O operations.

virtual I/O area (VIO). An extension of the page data set; used by the system as intermediate storage, primarily for control data.

virtual mode. The operating mode of a program can be paged.

virtual partition. In VSE, a division of the dynamic area of virtual storage.

virtual storage. Addressable space image for the user from which instructions and data are mapped into processor storage locations.

virtual tape. In z/VSE, a virtual tape is a file (or data set) containing a tape image. You can read from or write to a virtual tape in the same way as if it were a physical tape. A virtual tape can be:

- A VSE/VSAM ESDS file on the z/VSE host side.
- A remote file on the server side; for example, a Linux, UNIX, or Windows file. To access such a remote virtual tape, a TCP/IP connection is required between z/VSE and the remote system.

volume ID. The volume serial number, which is a number in a volume label that is assigned when a volume is prepared for use by the system.

VRDS. Variable-length relative-record data sets. See *variable-length relative record file*.

VSAM. See *VSE/VSAM*.

VSE (Virtual Storage Extended). A system that consists of a basic operating system and any IBM supplied and user-written programs that are required to meet the data processing needs of a user. VSE and hardware it controls form a complete computing system. Its current version is called z/VSE.

VSE/Advanced Functions. As part of VSE Central Functions, a base program of z/VSE. A program that provides basic system control and includes the supervisor and system programs such as the Librarian and the Linkage Editor.

VSE Connector Server. Is the host part of the VSE JavaBeans, and is started using the job STARTVCS, which is placed in the reader queue during installation of z/VSE. Runs by default in dynamic class R.

VSE/DITTO (VSE/Data Interfile Transfer, Testing, and Operations Utility). An IBM licensed program that provides file-to-file services for disk, tape, and card devices.

VSE/ESA (Virtual Storage Extended/Enterprise Systems Architecture). The predecessor system of z/VSE.

VSE/Fast Copy. A utility program for fast copy data operations from disk to disk and dump/restore operations via an intermediate dump file on magnetic tape or disk.

VSE/FCOPY (VSE/Fast Copy Data Set program). An IBM licensed program for fast copy data operations from disk to disk and dump/restore operations via an intermediate dump file on magnetic tape or disk. There is also a stand-alone version: the FASTCOPY utility.

VSE/ICCF (VSE/Interactive Computing and Control Facility). An IBM licensed program that serves as interface, on a time-slice basis, to authorized users of terminals that are linked to the system's processor.

VSE/ICCF library. A file that is composed of smaller files (libraries) including system and user data, which can be accessed under the control of VSE/ICCF.

VSE JavaBeans. Are JavaBeans that allow access to all VSE-based file systems (VSE/VSAM, Librarian, and VSE/ICCF), submit jobs, and access the z/VSE operator console. The class library is contained in the *VSEConnector.jar* archive. See also *JavaBeans*.

VSE library. A collection of programs in various forms and storage dumps stored on disk. The form of a program is indicated by its member type such as source code, object module, phase, or procedure. A VSE library consists of at least one sublibrary, which can contain any type of member.

VSE/POWER. An IBM licensed program that is primarily used to spool input and output. The program's networking functions enable a VSE system to exchange files with or run jobs on another remote processor.

VSE/VSAM (VSE/Virtual Storage Access Method). An IBM access method for direct or sequential processing of fixed and variable length records on disk devices.

VSE/VSAM catalog. A file containing extensive file and volume information that VSE/VSAM requires to locate files, to allocate and deallocate storage space, to verify the authorization of a program or an operator to gain access to a file, and to accumulate use statistics for files.

VSE/VSAM managed space. A user-defined space on disk that is placed under the control of VSE/VSAM.

W

wait for run subqueue. In VSE/POWER, a subqueue of the reader queue with dispatchable jobs ordered in execution start time sequence.

wait state. The condition of a processor when all operations are suspended. System recovery from a hard wait is impossible without performing a new system startup. See *hard wait*.

Workstation File Transfer Support. Enables the exchange of data between IBM Personal Computers (PCs) linked to a z/VSE host system where the data is kept in intermediate storage. PC users can retrieve that data and work with it independently of z/VSE.

work file. A file that is used for temporary storage of data being processed.

Numerics

24-bit addressing. Provides addressability for address spaces up to 16 megabytes.

31-bit addressing. Provides addressability for address spaces up to 2 gigabytes.

64-bit addressing. Provides addressability for address spaces up to 2 gigabytes and above. See also *24-bit addressing*.

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IBM z/VSE
Installation
Version 5

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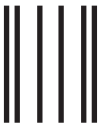

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71032 Boeblingen
Germany

Fold and Tape | **Please do not staple** | Fold and Tape

Cut or Fold
Along Line

Product Number: 5609-ZV5

Printed in USA

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