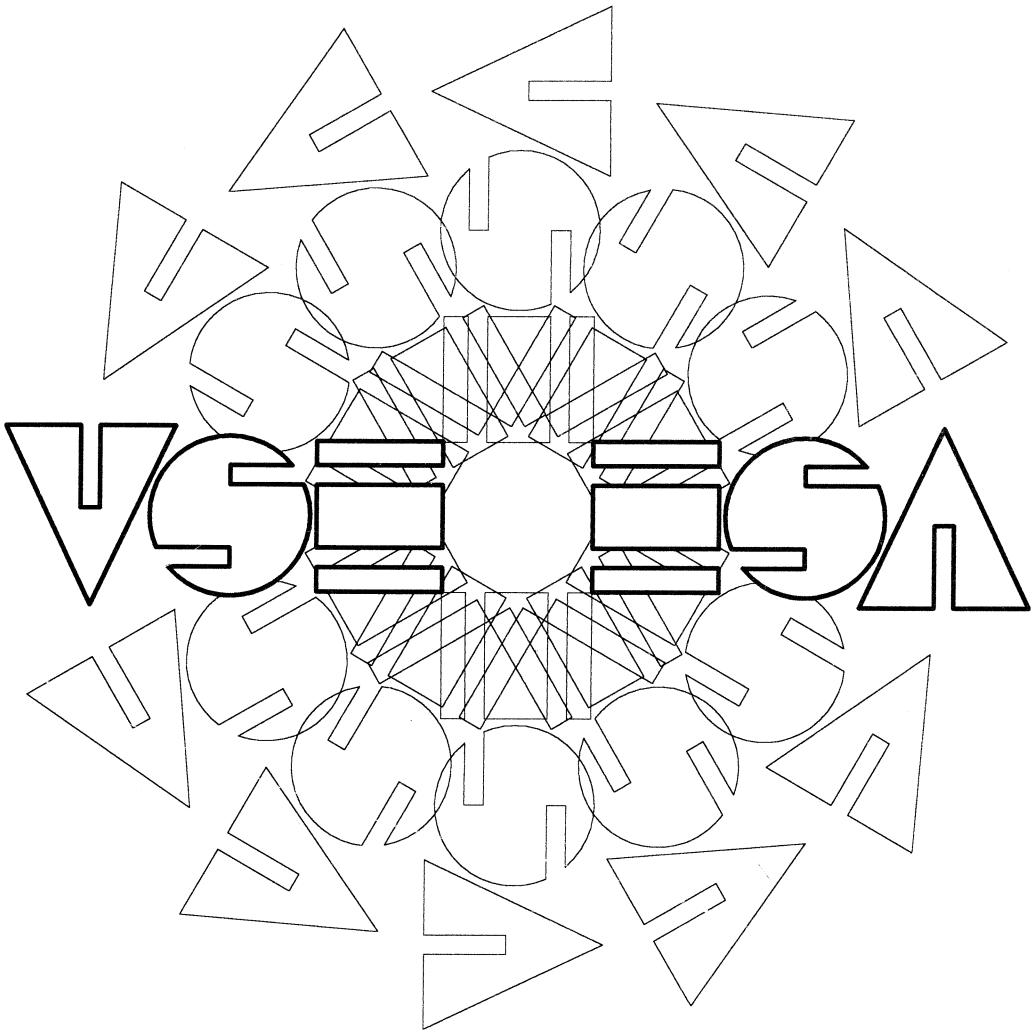
IBM VSE/Enterprise Systems Architecture

SC33-6504-00

Installation

Version 1 Release 1



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Version 1 Release 1

First Edition (December 1990)

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ESA/390	System/370
ES/9000	VM/XA
ES/9370	VSE
ES/4381	VSE/ESA

This manual is intended to help you install VSE/ESA.
It contains installation information. It does not have programming interface information to help you write programs that request or receive the services of VSE/ESA.

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About This Book

This manual describes how to install VSE/Enterprise Systems Architecture (VSE/ESA*), either in native mode or under VM. Installation instructions for migrating your system from an earlier Version of VSE/SP to VSE/ESA is also included.

Who Should Use This Book

This manual is intended for people who install

- VSE/ESA
- Additional VSE* licensed programs
- Apply IBM* service.

Such persons should be familiar with basic VSE and hardware operations.

How to Use This Book

Part 1, "Introduction" and Chapter 2, "Preparing the Installation" have basic information about the structure of VSE/ESA and the installation tasks that you perform.

To complete the tasks in this book, you enter information into the system in a number of ways. 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 or a
- User terminal.

For the initial installation of VSE/ESA, you use the system console. In the hard-copy version of this manual provided by IBM,

- System messages displayed during initial installation are shown in uppercase and on a light blue background. All messages may not be shown in this book. However, the book lists enough messages to let you check that the task is completing correctly. An example of how system messages are illustrated is:

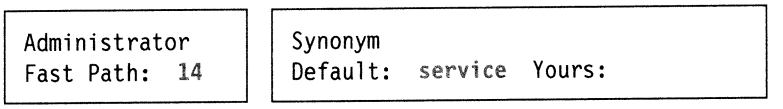
  ```
  BG 000 IESI0059D ENTER A 3270 ADDRESS (CUU) OR "END"
  BG 000
  ```

- The responses you enter are indented on the page and are in color. If a response has a variable, it is printed in lowercase to show you that you have to replace this value. The variables are usually described to the right or before the response. An example of how responses are shown when you are using the console is:

  0 cuu (where cuu is a 3270 terminal address)

To help you access the dialog, this book uses *sequences* which show the selection panel name and selection number you must enter to reach the dialog. If you want to access IBM service, for example, start with the *VSE/ESA Function Selection* panel and select:

1 (Installation)
4 (IBM Service)



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

The right box contains the synonym for this selection. In addition to the fast path, you can use a synonym for a certain dialog selection. For the above example, instead of entering the fast path 14, you could also enter *service*. This would invoke the dialog *IBM Service*. Instead of using the default synonym you can also use your own synonym which you may remember better. You must use the *Maintain Synonym* dialog to create your own synonyms. For more information on *Fast Path* and on the synonym function, refer to the IBM manual *VSE/ESA Using IBM Workstations*.

Conventions Used in This Book

Additional instructions or exceptions for particular users are shown in a box with an appropriate heading. An example is:

FBA Device Users

This is an example of additional instructions for users installing with FBA devices.

If the heading of the box applies to you, follow the instructions in the box.

Where to Find More Information

VSE/ESA is described in a set of manuals called the *VSE/ESA library*. References to some of these manuals occur here.

The IBM manual *VSE/ESA Library Guide* (GC33-6519) has a short description of the manuals provided for VSE/ESA.

Summary of Changes

The installation and service processes have been updated to reflect VSE/ESA changes.

For a complete overview of the functions which are new with VSE/ESA, refer to the IBM manual *VSE/ESA Planning*.

The IBM manual *VSE/SP Installation Planning* no longer exists. The content of *VSE/SP Installation Planning* has been transferred to *VSE/ESA Planning* and to *VSE/ESA Installation*.

Also, the IBM manual *VSE/Advanced Functions Planning and Installation* does not exist as a separate book. The content of that book has been transferred to the IBM manuals *VSE/ESA Planning*, *VSE/ESA Installation*, and *VSE/ESA System Control Statements*.

To make it easy for you to install VSE/ESA in native mode or under VM, **Part 2** (Installation) has been divided into different paths. Depending on the system environment you are using, you can start reading in the applicable Chapter.

Part 3 describes how to apply service to VSE/ESA. You do not need Part 3 for initial installation.

"Appendix A" shows the **disk layouts** for the various disk devices that are supported by VSE/ESA.

Part 1. Introduction

VSE/Enterprise Systems Architecture (VSE/ESA) is a pregenerated system that is easy to install.

In addition, VSE/ESA is easy to maintain. VSE/ESA's Interactive Interface has dialogs that help you apply service. Basic installation can be done in about two hours.

Installation tasks vary. Some you will perform only once (initial installation, for example). Others may be performed periodically. For example, you may decide at a later time to install additional VSE licensed programs. It may also be necessary to install service at certain times.

The installation tasks of VSE/ESA include:

- Initial installation of VSE/ESA.

  Note: This is the only installation task which is required for all users.

- Installation of the VSE/ESA Generation Feature.
- Installation of additional VSE licensed programs.
- IBM service activities.
- Installation of the VM/VSE interface.

Chapter 1. Basic Installation Steps

The following figure gives you an overview on the main VSE/ESA installation tasks.

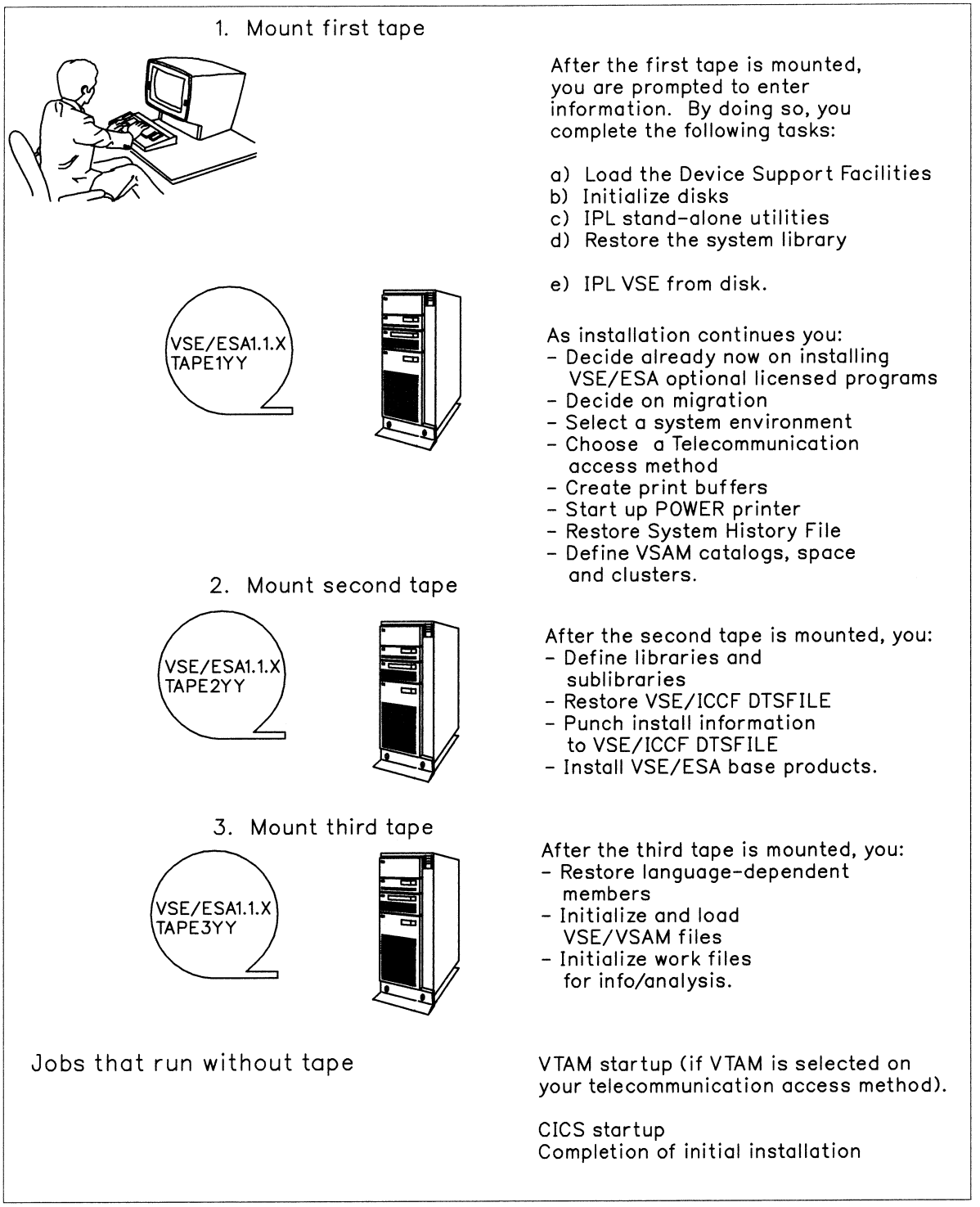


Figure 1. Main Installation Tasks

Overview of the VSE/ESA Base Tapes

VSE/ESA is shipped on three tape reels with the contents listed in Figure 2. If you order VSE/ESA on an IBM 3480, IBM 3490[1] or IBM 9346 cartridge, you will get **one** cartridge with the contents of all three tapes.

Figure 2. Tape Contents of the VSE/ESA Base Tapes

Tape	Tape ID	Contents
1	VSE/ESA1.1.X.TAPE1YY	Device Support Facility; stand-alone utilities program; system library (IJSYSRS.SYSLIB) backup
2	VSE/ESA1.1.X.TAPE2YY	VSE/ICCF DTSFILE backup. Library backup of base product library (=PRD1.BASE)
3	VSE/ESA1.1.X.TAPE3YY	VSE/ICCF DTSFILE containing language-dependent members. Library backup of language library. VSE/VSAM backup of online message explanation file. Library backup of generation feature library (PRD2.GEN1). See also Note below.

Note: The 'X' in the tape ID indicates the latest modification level of the current release. IBM provides National Language Support (NLS) for VSE/ESA. 'YY' is the language indicator for the language used. 'YY' may be

- EN for English
- GE for German
- KA for Kanji
- SP for Spanish

All language-dependent material is on tape 3. This tape also contains the standard Generation Feature of VSE/ESA.

If you have ordered VSE/ESA on an IBM 3480, IBM 3490 or IBM 9346 cartridge, the cartridge is labeled VSE/ESA1.1.X.CART1YY.

[1] The IBM 3490 tape cartridge device is handled like an IBM 3480 type tape device. The device type code is 3480.

How to Install VSE/ESA

There are several ways to install VSE/ESA.

1. You can install it *native* on a processor like an IBM ES/9000*, an IBM ES/9370* or an IBM 43xx processor. This means that VSE/ESA is the only operating system installed on that processor.
2. You can install it under VM as a *guest system*. This means that VSE/ESA runs under control of VM which serves as the host system.
3. You can migrate to VSE/ESA from an earlier VSE system.

If you install VSE/ESA native, start with Chapter 3, "Installing a Native VSE/ESA System" on page 17.

If you install VSE/ESA under VM, start with Chapter 4, "Installing VSE/ESA under VM" on page 37.

If you migrate from an earlier VSE/SP Version to VSE/ESA, refer to "Migration During Initial Installation" on page 12. Also review the section "Planning for Migration" in the IBM manual *VSE/ESA Planning*.

Note: Completing installation is the same whether you install VSE/ESA native or under VM. Chapter 5, "Continuing Installation (Native and VM)" on page 57 describes how to complete installation.

Chapter 2. Preparing the Installation

Before you begin to install VSE/ESA, you should review the IBM manual *VSE/ESA Planning*.

This manual has information on general planning considerations, including

- Content and structure of VSE/ESA
- Disk and hardware requirements needed for VSE/ESA
- Functions provided by VSE/ESA
- Functions of VSE/ESA base licensed programs
- Considerations for VM users
- Considerations for migration users
- System tuning and system tailoring information.

Also see Appendix A, "VSE/ESA Disk Layouts" on page 193 and the *Program Directory* that shows any additional, new VSE/ESA information.

> This manual does **not** include any information on how to operate your system once you have installed it. For information on operating the system, refer to the IBM manual *VSE/ESA Operation* (SC33-6506).

A Minimum Hardware Requirement

For initial installation, VSE/ESA requires a minimum configuration consisting of:

- A processor
- A VSE/ESA system console
- A magnetic tape or cartridge device
- Two disk volumes.
- A channel-attached or adapter-attached printer controlled by VSE/POWER *or* a terminal printer controlled by CICS/VSE.
- A local terminal that supports a 24 x 80 character screen format and has at least 10 Program Function (PF) keys.

Note: Terminals with a screen format larger than 24 x 80 (the IBM 3278-5, for example) are supported by VSE/ESA. However, the Interactive Interface only uses the first 24 x 80 screen positions.

For detailed information on hardware requirements, please refer to the IBM manual *VSE/ESA Planning*.

Supported Disk Devices

You can use the following types of IBM disk devices for initial installation of VSE/ESA:

- 0671 (Models 04, 08). For use of IBM ES/9371 processors only.
- 3350
- 3370 (Models 1 and 2)
- 3375
- 3380 (Models A, D, E, J and K)
- 3390 (Models A and B)
- 9332 (Models 400 and 600 Mb). See second Note below.
- 9335
- 9336 (Models 10, 20)

Notes:

1. The above IBM device types can be used as system volumes or user volumes. The following IBM devices can still be used as **user volumes**, but **not as system volumes**:
   - 3310
   - 3330 (Models 1 and 11)
   - 3340 (Models 70 and 70F)
   - 3344
2. For the 9332 disk devices, there is an additional "small" layout available. For details about disk layouts refer to Appendix A, "VSE/ESA Disk Layouts" on page 193.

IBM-Supplied Supervisors

VSE/ESA provides the following supervisor modes:

Supervisor Mode	Supervisor ID
MODE=370	$$A$SUP3
MODE=VM	$$A$SUPV
MODE=ESA	$$A$SUPX
MODE=VMESA	$$A$SUPM

You may want to generate your own supervisor if the supervisors provided by VSE/ESA do not meet your requirements. For detailed information on how to do this, please refer to the IBM manual *VSE/ESA Planning*.

Figure 7 on page 60 shows predefined system environments for VSE/ESA and the supervisor modes applying to the environments.

Dynamic Partition Support

VSE/ESA has both *static* and *dynamic* partitions. The static partitions correspond to the partitions that were available with the previous VSE/SP versions. The maximum number of static partitions that you can allocate in VSE/ESA is 12. The maximum amount of virtual storage (VSIZE) available for them is about 128 Mb.

Dynamic partitions are new with VSE/ESA. They can be used only in MODE=370 and MODE=ESA environments. Limited virtual storage size (VSIZE) and storage protection capabilities do not allow their use in MODE=VM and MODE=VMESA environments.

> If you select at initial installation the predefined environments 1/2[1], 3 and 5, you get only static partitions. If you select environment 4, up to 12 dynamic partitions are prepared for use at a time. For more information, refer to Figure 7 on page 60.

1 Environment 1 and 2 are identical. Environment 2 is provided to ensure compatibility with previous VSE/SP versions.

With a MODE=370 or MODE=ESA supervisor, you can define up to 150–200 dynamic partitions. This is more or less a theoretical value and depends on your system's processor, configuration, job profiles, and workload. Dynamic partitions allow you to exploit the available virtual storage up to the VSIZE maximum of 256 Mb. Note that for MODE=370 the additional use of dynamic partitions is restricted by the available real storage (16 Mb).

Each dynamic partition occupies an address space of its own. Unlike static partitions, VSE/ESA creates and activates dynamic partitions as they are needed. Also, it releases occupied space when a dynamic partition finishes processing.

Overview of the Job Manager

The Job Manager is a VSE/ESA 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 the "IPL VSE/ESA from restored DOSRES," shown under e) in Figure 1 on page 3, Job Manager controls processing and releases jobs for remaining steps. This is called the *installation job stream processing*. These steps are described in detail in the foldout "Overview of Steps During Job Manager Processing" which is at the back of the book. As shown, Job Manager processing is used by the following installation tasks:

- Initial installation of VSE/ESA.
- Installing Programs - Non-Stacked V2 or V1 Format.
  (For information on programs in V1 format or V2 format non-stacked, see "Install Programs in Version 1 Format or in Non-Stacked Version 2 Format" on page 109.)
- Installing Programs - Stacked V2 Format.
  (For information on programs in stacked V2 format, see "Installing VSE Optional Licensed Programs in Stacked Version 2 Format" on page 104.)
- Applying PTFs.
- Installing an 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.

Job Manager Commands

If problems occur when the Job Manager has been activated, a predefined abend job gets control. You then are asked what to do.

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 (for example, 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.

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 that has run before. All jobs which follow the job in the list will also run.

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 Figure 3.

2. Later on, you will be asked to select one of the three options described above.

   - **RESUME**
   - **RESET**
   - **EXIT**

Figure 3. Abend Job Names for Job Manager Processing

TASK NAME	ABEND JOB NAME
VSE/ESA Initial Installation	INSABEND
Apply PTF dialog	DTRPTFAB
Install Fast Service Upgrade dialog	DTRFSUAB
Install Programs - Non-Stacked V2 Format or V1 Format dialog	DTRABxx[1]
Install Programs - Stacked V2 Format dialog	DTRABxx[1]

[1] In the job names DTRABxx, xx is generated internally by the system. The job stream for the particular dialog will tell you the name of the DTRABxx abend job.

Special Considerations for the Dialogs

Four dialogs create job streams known as *job-managed sequences*. When submitted, they run under the control of the Job Manager.

The four dialogs are described in:

1. "Install Programs in Version 1 Format or in Non-Stacked Version 2 Format" on page 109.
2. "Installing VSE Optional Licensed Programs in Stacked Version 2 Format" on page 104.
3. "Handling of PTFs" on page 137.
4. "Running a Fast Service Upgrade (FSU)" on page 157.

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. If in a partition there is an unfinished job sequence not currently running and another sequence is submitted for the same partition, VSE/ESA issues a message.

You have the following options:

1. Cancel the second job sequence. You can submit it when the current one has completed successfully.
2. Continue the second job sequence by canceling the currently running job sequence.

If a job does not complete successfully, a message explains the problem and what you should do. Under most circumstances, you:

- **EXIT** from Job Manager processing and correct the problem.
- Release the appropriate abend job and **RESUME**.
  The installation process is restarted. The job that was running at the time of failure runs again.

Migration During Initial Installation

If you are migrating your system from VSE/SP Version 2, 3 or 4 to VSE/ESA, you can migrate your:

- Hardware configuration and
- User profiles

by answering "YES" to the migration question shown on page 58.

The easiest way to migrate is during initial installation. Before you migrate your system, you **must have** a:

- Backup of the VSE/SP Version 2, 3 or 4 VSE/ICCF DTSFILE.
  (This backup is done by using DTSUTIL).
- VSE/VSAM copy of the Version 2, 3 or 4 VSE control file.
  (This is done by the REPRO command).
- Backup of all data that resides on previous system volumes.

  Note: The tapes you use for the copy must be of the **same type** (tape or cartridge) as the VSE/ESA installation tapes.

For information on how to produce the backup/copy tapes for migrating to VSE/ESA, refer to the IBM manual *VSE/ESA System Utilities*.

Keep in mind that the migration performed during initial installation is for the above mentioned items only. If you want to migrate your system after initial installation, refer to *VSE/ESA Planning* and to *VSE/ESA System Utilities* for more information.

For information on how to migrate from CKD disk devices to FBA disk devices (and vice versa), refer to the IBM manual *VSE/SP Migration*, which was written for VSE/SP 2.1.

Restrictions for Migration During Initial Installation

Migration is not possible if you:

1. Want to switch over to the 4-digit naming convention which allows you to support more than 255 subareas. In this case a complete initial installation is required. This naming convention is required for the unattended node environment.
2. Plan to use a telecommunication access method with VSE/ESA that is different from the one you used in your VSE/SP system. Thus you cannot migrate if you used BTAM with VSE/SP and now want to use ACF/VTAM* with VSE/ESA.

   If you want to change telecommunication access methods, you must answer "NO" when prompted, whether you want to migrate your configuration data during initial installation of VSE/ESA.

From Program Receipt to IPL on Disk

The next figure gives you an overview on the three basic installation steps that you perform when entering in the first stage of the initial installation of VSE/ESA.

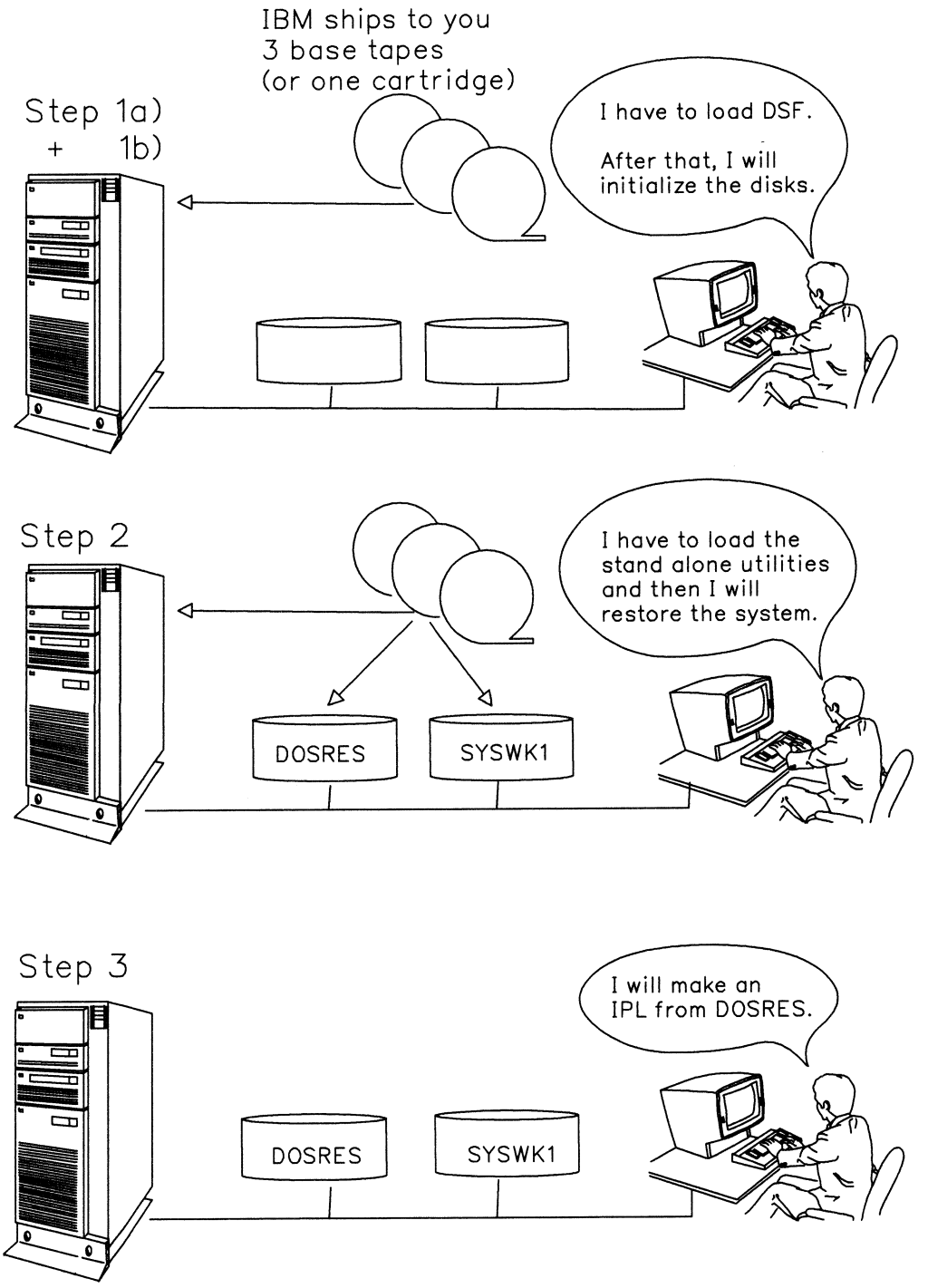


Figure 4. From Program Receipt to IPL on Disk

Part 2. Installation

This part of the manual describes **how** to install VSE/ESA. It is divided into:

- Chapter 3, "Installing a Native VSE/ESA System" on page 17.
- Chapter 4, "Installing VSE/ESA under VM" on page 37.
- Chapter 5, "Continuing Installation (Native and VM)" on page 57.
- Chapter 6, "Doing Optional Installation Tasks (Native and VM)" on page 97.
- Chapter 7, "Doing Optional Installation Tasks (VSE/ESA under VM)" on page 113.

Depending on how you install VSE/ESA, please start reading in the applicable chapter. The completion of installation is the same whether you install a native VSE/ESA or whether you install VSE/ESA under VM.

If you decide to do other installation tasks (like installing the Generation Feature), continue reading in the chapter that describes the optional installation task you want to do.

Chapter 3. Installing a Native VSE/ESA System

This chapter gives installation instructions for installing a native VSE/ESA system.

Introduction

Initial installation of a native VSE/ESA system has two major parts.

1. The first part begins when you perform an IPL from the VSE/ESA distribution tape(s) that you receive from IBM. It ends when CICS/VSE has control of the system.
2. You use the Interactive Interface to perform the second part of initial installation. This involves specifying MSHP information and completing the configuration of your system's hardware.

When you install VSE/ESA native on an IBM ES/9000, an IBM ES/9370 or on an IBM ES/43xx processor, you must perform the steps, described in the next sections. You also follow these steps if you install VSE/ESA under PR/SM* in LPAR mode. See "Using Processor Resource/Systems Manager (PR/SM)" on page 111 for more information.

Basic Installation Steps

"Step 1a): Loading Device Support Facilities" on page 19.

"Step 1b): Initializing Disks and Placing VTOC" on page 23.

"Step 2: Restoring SYSRES" on page 27.

"Step 3: Performing an IPL from SYSRES on DOSRES" on page 30.

For an overview, see also Figure 4 on page 13.

Before You Start Installation

During the installation you will be asked to initialize disks and to place the VTOC. To be able to do so, you must know the command to initialize your disks. You should also know what a VTOC is, and why it is important to place it either in the middle or at the end of the disks.

Initializing Disks

You initialize your disks with the *INIT* command described on pages 24 through 26.

You first initialize the volume ID DOSRES and continue with SYSWK1. Enter the command for your disk type. You can initialize as many data volumes as you need and give them individual names.

In certain cases, additional parameters of the INIT command (VALIDATE, CHECK, DEVTYPE) are required to initialize your disks correctly. Otherwise, you may later have problems when you IPL the restored system.

You should review the INIT command in detail, especially if:

- 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.

The INIT command is described in detail in the IBM manual *Device Support Facilities User's Guide and Reference*.

A list of the supported disk devices is shown in "Supported Disk Devices" on page 8 and in the manual *VSE/ESA Planning*.

In general, two volumes of the **same device type** and of the **same model** are recommended for initial installation. You cannot use one 3350 volume and one 3370 volume, for example.

The first volume always has the ID **DOSRES**. The second volume always has the ID **SYSWK1**. See Appendix A, "VSE/ESA Disk Layouts" on page 193 for the disk layouts of DOSRES and SYSWK1 that are created during initial installation.

Volume Table of Contents (VTOC)

The *VTOC* shows the content 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 also the start block/track of the unused space every disk has.

The VTOC is mandatory and is located on any disk volume you will use. You will be asked later in the initial installation process where you want to place your VTOC.

Before answering this request, consider the following:

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

- About in the middle of the disk device.

  Note: It is recommended that you place the VTOC about in the middle of the disk device. This will result in **better system performance**.

- At the end of the disk device, or
- Anywhere on the disk device, provided that this space is **not** used by system files.

In addition, you can save space and improve system performance by optimizing the space occupied by the VTOC. More information on how to reduce VTOC space is in topic "Tuning the System, Additional Startup Considerations" in the IBM manual *VSE/ESA Planning*.

VTOC for Generalized System Layout for FBA Devices (GFBA)

VSE/ESA defines a generalized system layout for certain FBA devices. This layout is used for the IBM 9336 disk device which is for use of the IBM ES/9000 processors.

Figure 68 on page 212 and Figure 69 on page 213 show the generalized layout.

Step 1a): Loading Device Support Facilities

To initialize your disks, you use **Device Support Facilities** (DSF). The next section shows you how to load Device Support Facilities.

Mount the tape labeled VSE/ESA1.1.X.TAPE1YY. Do not reposition or dismount the tape until you are told to do so.

Users with IBM 3480, 3490 or 9346 Cartridges

If you use a 3480, 3490 or 9346 tape unit to install VSE/ESA, the entire VSE/ESA system (including the Generation Feature and the language-dependent members) is stored on one single cartridge (type 3480, 3490 or 9346). Mount the cartridge labeled *VSE/ESA1.1.X.CART1YY*. **Do not reposition or dismount the cartridge until you are told to do so.**

Note that the following examples show you how to perform an IPL using an IBM ES/9000, an IBM ES/9370 or an IBM 43xx processor. *These are just examples.* If you use a different processor, refer to the operating procedure manual for the particular processor.

Installing on IBM 43xx Processors

- **Users Installing on an IBM 43xx (up to IBM 4361)**

  1. On your system console, press the Mode Selection key.
  2. The *Mode Selection* panel appears on your screen.
  3. Type in

     L (Program load)

  4. Press ENTER.
  5. On the *Program Load* panel, you must specify several parameters. For:

     ADDRESS or cuu
     Depending on the processor used, enter the address of the IPL unit. The IPL unit can either be the address of the tape unit you want to use to install VSE/ESA or the address of DOSRES.

     MODE Enter *370*

- **Users Installing on an IBM 4381:**

  Step 1 to 5 are the same as installing on an IBM 43xx, except for specifying the:

  MODE

  If you want a /370 supervisor, check whether the machine mode is S/370.
  If not, IML the machine for S/370 and IPL then.

  If you want an ESA supervisor, check whether the machine mode is XA/370.
  If not, IML the machine for XA/370 and IPL then.

- **Users Installing on an IBM ES/4381:**

  Step 1 to 5 are the same as installing on an IBM 43xx, except for specifying the:

  MODE

  If you want a /370 supervisor, check whether the machine mode is S/370.
  If not, IML the machine for S/370 and IPL then.

  If you want an ESA supervisor, check whether the machine mode is ESA/370.
  If not, IML the machine for ESA/370 and IPL then.

For more information on these and on the other parameters, see the operating procedure manual for your particular processor.

After having typed in all parameters, press ENTER.

Users Installing on an IBM ES/9370 Processor

1. Access the *Session Selection* panel. On most keyboards you must use the *Scroll/Lock* key to do so. Refer to the IBM manual *IBM 9370 Information System, Operating Your System* (SA24-4036) for more information.
2. On the *Session Selection* panel, select

   1 (Manual Operations)

   You will now see the panel that was last used during the previous *Manual Operations* session.
3. Depending on the panel displayed, you must continue as follows:

   If the function key F2 (=Main Menu) is offered on the panel, press F2 and then continue with steps 4 through 8 below.

   If the *General Selection* panel is displayed, skip steps 4 and 5 and continue with steps 6 through 8 below.

   Otherwise, continue with steps 4 through 8 below.
4. Choose the selection *Mode Selection* by typing in **2** or **QH**, depending on the panel shown.
5. On the *Mode Selection* panel, type in

   3 (System Programmer)
6. On the *General Selection* panel, type in **QL** and then press ENTER.
7. On the *Program Load* panel, specify **4** (=Clear IPL) for the *Perform IPL Option*. Type in **cuu** for the IPL unit. This can either be the address of the tape unit you want to use to install VSE/ESA or the address of DOSRES. Leave the remaining defaults unchanged. Press ENTER.

The message *IPL IN PROCESS* will appear.

As soon as IPL is complete, the last workstation panel used will be displayed on your screen. Note that the terminal on which you first pressed the ENTER key will be used as the system console.

Users Installing on an IBM ES/9000 processor

During processor startup you are guided by panels telling you how to do the next task. Additionally, the processor's *help function* provides complete tutorial assistance. You communicate with the system by using a PS/2*, a mouse, windows, and a keyboard.

The following figure shows the *System Monitor and Control* panel of an air-cooled, rack-mounted model of an IBM ES/9000 processor. Using this panel you start installing VSE/ESA.

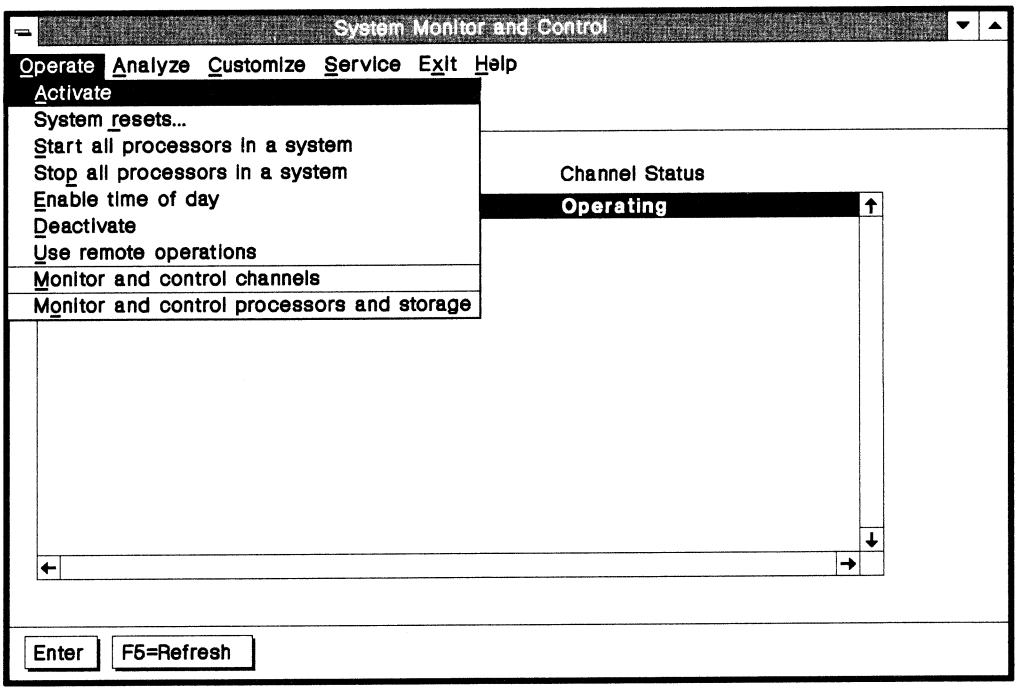


Figure 5. System Monitor and Control Panel

The system will enter the wait state. You should again press END/ENTER.

(**press END/ENTER**)

```
ICK005E DEFINE INPUT DEVICE:  'xxxx,cuu' or 'CONSOLE'
```

(**press END/ENTER**) (*'CONSOLE'* is the default)

```
ICK006E DEFINE OUTPUT DEVICE:  'xxxx,cuu' or 'CONSOLE'
```

(**press END/ENTER**) (*'CONSOLE'* is the default)

Enter Date and Time

If the following message displays, enter the date and time. You must enter two characters in each field.

```
ICK015E SUPPLY TODAY'S DATE, REPLY 'MM/DD/YY'
ENTER INPUT/COMMAND:
```

mm/dd/yy	(mm - month) (dd - day) (yy - year)

```
ICK016E SUPPLY TODAY'S TIME OF DAY, REPLY 'HH:MM:SS'
ENTER INPUT/COMMAND:
```

hh:mm:ss	(hh - hour) (mm - minute) (ss - second)

```
ICKDSF -  SA... ICKDSF 12.0
          TIME: yy:yy:yy    DATE:xx/xx/xx     PAGE  1

ENTER INPUT/COMMAND:
```

Step 1b): Initializing Disks and Placing VTOC

The input requested is an INIT command combined with the location of the VTOC. **You may choose from one of the three commands shown on the following pages.**

If you have not yet decided where to place your VTOC, please read again "Volume Table of Contents (VTOC)" on page 18.

Note: If the Device Support Facilities Program is to initialize a new CKD disk or a CKD disk that was used under another operating system (MVS, for example), the program must validate and rewrite the home address and record 0 on each track of the disk. You accomplish this by specifying the INIT command with **validate**.

As you need two volumes for your VSE/ESA system

- DOSRES
- SYSWK1

you have to initialize these two disks.

Initializing Disks (VTOC in the Middle of Disk Pack)

The following section lists the recommended VTOC locations. These commands place the VTOC 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 disk address:

For a FBA disk of type 0671:

```
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(125307,217,1024) VOLID(DOSRES)
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(305865,217,1024) VOLID(SYSWK1)
```

For FBA disks of type IBM 3370:

```
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(125054,217,1024) VOLID(DOSRES)
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(305908,217,1024) VOLID(SYSWK1)
```

For FBA disks of type IBM 9332:
(Note that this example is only valid for the **standard** layout.
For the small layout the VTOC **must** be at the end of the disk pack).

```
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(124830,252,1024) VOLID(DOSRES)
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(149212,252,1024) VOLID(SYSWK1)
```

For FBA disks of type IBM 9335:

```
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(124676,245,1024) VOLID(DOSRES)
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(304590,245,1024) VOLID(SYSWK1)
```

For FBA disks of type IBM 9336:

```
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(125504,224,1024) VOLID(DOSRES)
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(306624,224,1024) VOLID(SYSWK1)
```

For CKD disks of type IBM 3350:

```
INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(171,0,30) VOLID(DOSRES)
INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(340,0,30) VOLID(SYSWK1)
```

For CKD disks of type IBM 3375:

```
INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(310,0,12) VOLID(DOSRES)
INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(506,0,12) VOLID(SYSWK1)
```

For CKD disks of type IBM 3380:

```
INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(210,0,15) VOLID(DOSRES)
INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(325,0,15) VOLID(SYSWK1)
```

For CKD disks of type IBM 3390:

```
INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(209,0,15) VOLID(DOSRES)
INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(301,0,15) VOLID(SYSWK1)
```

After the following message

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

enter **u**

```
ICK01313I VOLUME CONTAINS nn ALTERNATE TRACKS -- nn AVAILABLE.
ICK01314I VTOC IS LOCATED AT CCHH=X'nnnn nnnn' AND IS nn TRACKS.
ICK00001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS nn
ENTER INPUT/COMMAND:
```

Continue with "Step 2: Restoring SYSRES" on page 27.

Initializing Disks (VTOC at the End of Disk Pack)

Enter the following to initialize the system volumes and replace cuu with the respective disk address.

For FBA disks (IBM 3370, 9335, 9336, 0671, 9332 (standard and small layout)):

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

For CKD disks (IBM 3350, 3375, 3380, 3390):

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

After the following message

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

enter **u**

```
ICK01313I VOLUME CONTAINS nn ALTERNATE TRACKS -- nn AVAILABLE.
ICK01314I VTOC IS LOCATED AT CCHH=X'nnnn nnnn' AND IS nn TRACKS.

ICK00001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS nn
ENTER INPUT/COMMAND:
```

Note: If the INIT command does not fit into one single line on your screen, use a dash (-) as the continuation character. The system will then ask you for additional information.

Continue with "Step 2: Restoring SYSRES" on page 27.

Initializing Other Work DASDs as System Disks

VSE/ESA allows you to use IBM 3310, 3330, 3340 and 3344 disks as work DASDs **but not** as system devices. To initialize these DASDs, issue the following command(s) and replace **xxxxxx** by a volid **other than** DOSRES and SYSWK1. Replace **cuu** by the respective disk address.

For a 3310 disk:

```
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(125984,99,1024) VOLID(xxxxxx)
```

For a 3330 disk:

```
INIT UNIT(cuu) NVFY NOMAP PURGE DVTOC(403,0,19) VOLID(xxxxxx)
```

For a 3340 and a 3344 disk:

```
INIT UNIT(cuu) NVFY NOMAP PURGE DVTOC(695,0,12) VOLID(xxxxxx)
```

After the following message

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

enter **u**

```
ICK01313I VOLUME CONTAINS nn ALTERNATE TRACKS -- nn AVAILABLE.
ICK01314I VTOC IS LOCATED AT CCHH=X'nnnn nnnn' AND IS nn TRACKS.

ICK00001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS nn
ENTER INPUT/COMMAND:
```

Note: If the INIT command does not fit into one single line on your screen, use a dash (-) as the continuation character. The system will then ask you for additional information.

Refer to Appendix A, "VSE/ESA Disk Layouts" on page 193 for information on disk storage requirements. The *Program Directory* provided with the tapes shows disk layout information. In addition, you can initialize as many data volumes as you like.

Continue with "Step 2: Restoring SYSRES" on page 27.

Step 2: Restoring SYSRES

This task restores the system library IJSYSRS from tape. **Do not reposition or dismount the tape until you are told to do so.**

> IPL the tape labeled *VSE/ESA1.1.X.TAPE1YY* (or the cartridge labeled *VSE/ESA1.1.X.CART1YY*) a second time, without rewinding the tape.
> **(Perform an IPL from tape drive address.)**
>
> According to the type of processor you use, please proceed as described on page 20, 21 or 22.
> Note that the examples there show you how to IPL using an IBM 43xx, an IBM ES/9370 or an IBM ES/9000 processor. *These are just examples.* If you use a different processor, refer to the operating procedure manual for the processor.

The system will enter the wait state. You should again press END/ENTER.

(**press END/ENTER**)

```
***** STAND ALONE PROGRAMS LOADED *****
IF YOU WANT A LISTING,SPECIFY CUU OF PRINTER;
ELSE, OR IF PRINTER IS NOT OPERATIONAL, PRESS END/ENTER.
```

(**press END/ENTER**)

```
SPECIFY DATE  MM/DD/YY
```

Two characters must be entered in each field for the date.

mm/dd/yy (mm - month)
(dd - day)
(yy - year)

```
SELECT ONE OF THE FOLLOWING PROGRAMS OR TYPE END
FASTCOPY, RESTORE, INITEM
```

restore

```
SPECIFY ADDRESS OF INPUT DEVICE  CUU
```

cuu (cuu - tape drive address where VSE/ESA tape is mounted)

```
SPECIFY TYPE OF INPUT DEVICE  XXXXYY
```

xxxxyy (xxxxyy - tape device type)

For the type of IBM tape devices, specify one of the following:

For 8809:	**8809**
For 3410T9:	**3410t9**
For 3420T9:	**3420t9**
For 3422:	**3430**
For 3424:	**3424**
For 3430:	**3430**
For 3480:	**3480**
For 3490:	**3480**
For 9346:	**9346** (For ES/9371 processor only)
For 9347:	**9347**
For 9348:	**9348** (For ES/9371 processor only)

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

```
IF TAPE LABEL CHECKING IS DESIRED, SPECIFY TLBL STATEMENT
```

(**press END/ENTER**)

```
SPECIFY ADDRESS OF SYSRES DISK  CUU  OR PRESS END/ENTER
```

cuu (cuu - address of DOSRES)

```
SPECIFY TYPE OF DISK  XXXX
```

For 3350:	**3350**
For 3370 (all models):	**fba**
For 3375:	**3375**
For 3380 (all models):	**3380**
For 3390	**eckd**
For 9332 (all models):	**fba**
For 9335:	**fba**
For 9336:	**fba**
For 0671:	**fba**

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

yes

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

yes

```
L30xI ORIGINAL ALLOCATION= xxxx   ....
L310A ENTER YES TO KEEP OR NO TO RESPECIFY THE ALLOCATION
```

no

```
L31xI MINIMUM ALLOCATION= xxx   ....
L30xI ENTER THE DESIRED ALLOCATION AS NUMBER OF   ....
L313A ALLOC=
```

For 3350:	**1979**
For 3370 (all models):	**59146**
For 3375:	**1187**
For 3380 (all models):	**959**
For 3390:	**899**
For 9332 (all layouts/all models):	**59128**
For 9335:	**59141**
For 9336:	**59134**
For 0671:	**59155**

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

yes

```
L338I SUMMARY OF RESTORE PARAMETERS:
L318I FILE NAME = IJSYSR1
L319I FILE ID = VSE.SYSRES.LIBRARY
L32xI ALLOCATION=  xxxx   ....
L34xI START=    ......          - END=   ....
L327I RESTORE ALL SUBLIBRARIES
L322A ENTER YES IF THE SPECIFICATION IS CORRECT OR NO TO
      RESPECIFY
```

yes

Starting the Restore Again

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

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

you should enter:

DELETE

CKD Device Users

The system displays the following message:

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

```
L306I RESTORE OF LIBRARY IJSYSR1 IN PROGRESS
L325I RESTORE OF SUBLIBRARY IJSYSR1.SYSLIB IN PROGRESS
L326I RESTORE COMPLETE FOR LIBRARY IJSYSR1
*** END OF STAND ALONE PROCESSING ***
```

Press the **RESET** button in order to prepare for IPL.

SYSRES is now restored.

Do not reposition or dismount the tape.

Step 3: Performing an IPL from SYSRES on DOSRES

Now you IPL VSE. This step uses a VSE/ESA supplied IPL procedure. The correct IPL procedure is automatically chosen based on your disk type and CPU mode. The appropriate options for your system are selected by VSE/ESA.

You do not usually have to add devices during this task. The IPL program for VSE/ESA uses device sensing to automatically define the devices on the system. Therefore, you should power on the devices which you need defined during IPL. Power off any devices which you do not want sensed.

Some devices do not support device sensing. If a device is needed for the minimum configuration and it cannot be sensed, you are asked to enter the IPL ADD command for the device.

VSE/ESA requires the following minimum configuration:

- Tape drive.
- CICS/VSE terminal (327x).
- Disk devices.

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 the presence of a printer.
If you have only terminal printers attached, VSE/ESA must be up and running in order to get the VSE system printer output sent to a terminal printer.

There are always two disks required: DOSRES and SYSWK1. See Appendix A, "VSE/ESA Disk Layouts" on page 193 for the requirements for each disk type.

IBM 3410 and 3420 tape devices do not support device sensing. If you are using an IBM 3410 or IBM 3420 to install VSE/ESA, you are asked to enter the IPL ADD command for the tape.

For some devices, not all the necessary information can be sensed. You will be asked to define these devices when you complete the initial installation in "Completing Initial Installation" on page 86.

Performing an IPL from SYSRES on DOSRES

According to the type of processor you use, please proceed as described on page 20, 21 or 22. (**Perform an IPL from address of DOSRES**.) Note that the examples there show you how to IPL using an IBM 43xx, an IBM ES/9370 or an IBM ES/9000 processor. *These are just examples*. If you use a different processor, refer to the operating procedure manual for that processor.

If you are using IBM 9332 disks with the small layout, see the box on page 31. Then perform an IPL.

Users Using the Small Layout for IBM 9332 Disks

For all disks supported a standard layout applies. In addition, VSE/ESA supports a small layout for the IBM 9332 disk device. For details about disk layouts refer to Appendix A, "VSE/ESA Disk Layouts" on page 193.

Please remember, that in this case the VTOC **must** be at the end of the disk pack!

1. Perform an IPL as described on page 20,21 or 22. Then proceed as described below.
2. Press the external interrupt button on your console keyboard **directly after IPL** so you can enter the appropriate IPL and supervisor parameters.
3. After the message

   0I03D ENTER SUPERVISOR PARAMETERS (OR ASI PARAMETERS)

   appears, enter

   IPL = $IPLxSM,JCL = $$JCL7SM,TYPE = INSTALL

   where

   x selects one of the following supervisor modes:
   - 7 (for 370 mode)
   - E (for ESA mode)

   Note: After cataloging, the procedure names are not $IPLxSM or $$JCL7SM but *$IPL370* or *$IPLESA* and *$$JCL*.

   Each time you interrupt the installation to perform an IPL, you have to enter the **entire** IPL command as shown under Step 3 above.

When the system enters the wait state, press again END/ENTER.

(**press END/ENTER**)

```
0I04I IPLDEV=X'cuu',VOLSER=DOSRES,CPUID=xxxxxxxxxxxx
0J01I IPL=$IPLyxx ,JCL=$$JCL7xx,SUPVR=$$A$SUPn,P
0I30I DATE=xx/xx/xx,CLOCK=yy/yy/yy,ZONE=nnnn/00/00
      THE DATE VALUE FORMAT IS MM/DD/YY

0J47I CHANNEL nn:   nnn DEVICE(S) FOUND OPERATIONAL.
     ...
     ...
0J47I CHANNEL nn:   nnn DEVICE(S) FOUND OPERATIONAL.

     ...
     ...                (additional devices found operational)
     ...

ADD FEC,3505
ADD FFC,3505 ICCF DUMMY DEVICE DON'T DELETE

     ...
     ...                (additional devices added)
     ...
ADD FFF,CONS     DUMMY CONSOLE DON'T DELETE
```

Insufficient System Configuration

If you get the following messages, follow these instructions.

```
IESI0101I INSUFFICIENT SYSTEM CONFIGURATION FOR INITIAL INSTALLATION
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 these messages.

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

```
TAPE DEVICE
CICS TERMINAL/LOCAL SNA CONTROL UNIT
01 DASD DEVICE - TYPE AS SYSRES
```

Remember that you only need two disk volumes for the minimum configuration: DOSRES and SYSWK1. 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 (tape, terminal/control unit, disk).

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

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

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

You would add the address of at least one terminal/local SNA control unit. For instance, you might enter:

ADD 380,3277

After you enter your ADD command(s), press END/ENTER to continue.

(**press END/ENTER**)

Time-of-Day Clock

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

```
0I18D ENTER SET CMD
THE DATE VALUE FORMAT IS MM/DD/YY
```

Enter the SET DATE command.
For DATE=: mm is month, dd is day, yy is year.
For CLOCK=: hh is hour, mm is minutes, ss is seconds.

```
SET DATE=mm/dd/yy,CLOCK=hh/mm/ss
```

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

Enable the setting of the TOD clock via the enable TOD switch, the hardware selection menu, or mode select option.

For more information, refer to the appropriate hardware manual.

The system displays the following message. Follow these instructions:

```
IESI0104D IF YOU WANT TO USE A 3420 TAPE DRIVE FOR INSTALLATION,  SPECIFY
          IPL ADD COMMAND. ELSE HIT ENTER TO CONTINUE.
```

The system **cannot** sense IBM 3420 and IBM 3410 tape drives. If you want to use an IBM 3420 or IBM 3410 to install VSE/ESA, you must define it.

To use an IBM 3420 for VSE/ESA initial installation, enter:

```
add cuu,3420t9
```
(cuu - 3420 address)

Press END/ENTER to continue.

```
(press END/ENTER)
```

If you are using a different tape device for initial installation, press END/ENTER to continue.

```
(press END/ENTER)
```

```
DEF SYSCAT=DOSRES,SYSREC=SYSWK1
0J10I IPL RESTART POINT BYPASSED
```

Duplicate Volume Numbers Found

If you get the following message, follow these instructions.

```
IESI0120I VOLID xxxxxx FOUND ON FOLLOWING
          ADDRESSES (CUU)
          cuu1 cuu2  ...
```

The system checks the volume identifiers (VOLIDs) of all disks. This is to ensure that the VOLIDs for VSE/ESA (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 (cuu1, cuu2 ...).

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

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

For VOLID SYSWK1, the system displays the following message:

```
IESI0121D ENTER ADDRESS OF DASD TO BE USED AS SYSWK1: CUU
```

Enter the address (cuu) of the disk device you are using for VSE/ESA installation.

cuu	(cuu - disk address of SYSWK1)

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

```
IESI0124I FOLLOWING DEVICE(S) WILL BE SET IN DEVICE DOWN
          STATUS: cuu1  cuu2  ...
```

The message is followed by a list of the disk addresses that are set in *device down* status (cuu1, cuu2 ...).

```
SYS JA=YES
SYS SPSIZE=xxxx
SYS NPARTS=xx
DLA VOLID=DOSRES,YYY=xxx,NYYY=x,DSF=N,NAME=AREA1
0I52I LABEL AREA ON  cuu:      LOW       HIGH
                    ......    xxx x     xxx  xx

DPD VOLID=DOSRES,YYY=xxx,NCYL=x,DSF=N
0I52I PDS EXT ON     cuu:      LOW       HIGH
                     YYY:      xxx x     xxx  xx
DPD VOLID=SYSWK1,YYY=xxx,NCYL=x,DSF=N
0I52I PDS EXT ON     cuu:      LOW       HIGH
                     YYY:      xxx x     xxx  xx
```

```
SVA PSIZE=nnnK,SDL=nnn,GETVIS=nnK
0J24I DASD SHARING SUPPORT RESET
0J62I ACTUAL CHANQ IS nnn
0J39I ACTUAL BUFSIZE IS nnn
0I26I $$BFCB23 LOADED              CUU=xxx
0I20I IPL COMPLETE FOR system identification
      SUPVR USERID IS:  VSE.xxx.SUPx


BG 000 // JOB BGINIT
   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 4301I NO FORMAT 1 LABEL FOUND  IJSYSRC SYSREC=SYSWK1
BG 000 1I81I RECORDER FILE OPEN FAILED, RF=CREATE FORCED
BG 000 1I93I RECORDER FILE IS   n% FULL
```

Additional Messages

Some systems may also display the following messages:

```
BG 000 4301I NO FORMAT 1 LABEL FOUND  IJSYSCN SYSREC=xxx SYSWK1
BG 000 1I94I HARDCOPY FILE OPEN FAILED, HC=CREATE FORCED
```

If Second or Additional IPL from Disk

The messages IESI0211I and IESI0222I listed below allow you to interrupt the IPL procedure and to select a startup mode. But do **not** select a startup mode now ! If all partitions will be initialized in the same startup mode, you get the following message:

```
BG 000 IESI0211I  ALL PARTITIONS WILL BE INITIALIZED IN xxxxxxx START MODE.
                  IF YOU WANT TO INTERRUPT ENTER "MSG BG".
```

xxxxxx represents the startup mode to be performed.
If the partitions will be initialized in different startup modes, you get message IESI0221I followed by message IESI0222I:

```
IESI0221I  PARTITIONS xx xx WILL BE INITIALIZED IN yyyyyy START MODE.

IESI0222I  REMAINING PARTITIONS WILL BE INITIALIZED IN xxxxxxx
           START MODE.  IF YOU WANT TO INTERRUPT ENTER  "MSG BG".
```

Refer to the IBM manual *VSE/ESA Operation* for detailed information about VSE startup modes.

```
BG 000 ALLOC BG=xxxxK,Fn=xxxxK

     ...
     ...                (additional ALLOC, SIZE, and PRTY statements)
     ...

BG 000 STOP
F1 001 // JOB POWSTART

     ...
     ...
     ...
```

```
F1 001 1Q20I  AUTOSTART IN PROGRESS
F1 001 1R75I   BG AUTOSTARTED
F1 001 1R75I   F2 AUTOSTARTED
F1 001 1R75I   F3 AUTOSTARTED
F1 001 1R75I   F4 AUTOSTARTED
F1 001 1R75I   F5 AUTOSTARTED
F1 001 1Q12I  VSE/POWER 5.1.0 INITIATION COMPLETED
F1 001 1Q34I   F3 WAITING FOR WORK
F1 001 1Q34I   F2 WAITING FOR WORK
F1 001 1Q34I   F4 WAITING FOR WORK
F1 001 1Q34I   F5 WAITING FOR WORK

BG 000 * ******************************************
BG 000 *                                          *
BG 000 *            INSTALLATION OF               *
BG 000 * ******************************************
BG 000 *                                          *
BG 000 *             VSE/ESA 1.1.0                *
BG 000 *                                          *
BG 000 * ******************************************
BG 000 * LICENSED MATERIALS - PROPERTY OF IBM      *
BG 000 * 5750-ACD (C) COPYRIGHT IBM CORP. 1990     *
BG 000 * ALL RIGHTS RESERVED.                      *
BG 000 * US GOVERNMENT USERS RESTRICTED RIGHTS -   *
BG 000 * USE, DUPLICATION OR DISCLOSURE           *
BG 000 * RESTRICTED BY                            *
BG 000 * GSA ADP SCHEDULE CONTRACT WITH IBM CORP.  *
BG 000 * ******************************************
BG 000 *                                          *
BG 000 * ******************************************
BG 000 1S47I   PRELEASE RDR, INSTALL
BG 000 1N90I   EOP WAS FORCED BY EOJ
BG 000 EOJ BGINIT    MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Completing the Installation

To complete the installation, please skip ahead to Chapter 5, "Continuing Installation (Native and VM)" on page 57.

Chapter 4. Installing VSE/ESA under VM

This chapter gives installation instructions for installing VSE/ESA under VM.

The information in this chapter supplements the information available in the manual *VM Running Guest Operating Systems* (GC19-6212) and *VM/ESA Running Guest Operating Systems*, (SC24-5522). Refer to those manuals when you are planning to install and use VSE/ESA under VM.

Introduction

You can install and use VSE/ESA as a guest machine with any supported version of VM. In this combined environment, you can:

- Log on to VM using the ID and password defined for the VSE/ESA virtual machine. Your terminal can then serve as the VSE/ESA console.
- Dial into the VSE/ESA system and use the functions provided by the Interactive Interface. If your VM system has the VM/PASSTHRU licensed program installed, you can quickly switch between CMS* and VSE/ESA environments.
- Log on to CMS and interact with VSE/ESA. VSE/ESA provides the VM/VSE Interface, which allows CMS users to operate VSE/ESA systems concurrently. This is described in "Using the VM/VSE Interface Routines" on page 119.

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

Basic Installation Steps (VSE/ESA under VM)

Installation under VM involves the following tasks:

1. "Step 1a): Loading Device Support Facilities" on page 41.
2. "Step 1b): Initializing Disks and Placing VTOC" on page 41.
3. "Step 2: Restoring SYSRES" on page 47.
4. "Step 3: Performing an IPL from SYSRES on DOSRES" on page 50.

For an overview also see Figure 4 on page 13.

Before You Start Installation (VSE/ESA under VM)

You install VSE/ESA under VM and must have defined the user in VM with a VM directory entry and a user profile for the guest machine. You find an example of a VM directory entry in the manual *VSE/ESA Planning*.

There are a number of planning and preparation tasks you have to do before you start installing VSE/ESA under VM. These tasks are described in detail in the manual *VSE/ESA Planning*.

Please make sure that you have read the following sections of that manual:

__ 1. IPL and JCL Procedures

__ 2. Supervisors for Running under VM

__ 3. Defining an IBM 3203-5

__ 4. Virtual I/O for Mode=VM and Mode=VMESA

__ 5. Performance under VM

__ 6. VM Operating Modes

__ 7. Using System Activity Dialogs

__ 8. Defining a VM Directory Entry

__ 9. Defining a CMS Profile EXEC

__ 10. Defining a VSE/ESA Console

__ 11. Defining Shared Minidisks.

During the installation, you will be asked to initialize system disks and to place the VTOC. To be able to do so, you must know the command to initialize your disks. An important consideration is where you want to place the VTOC. Information to help you make the decision is below.

Initializing Disks

When installing VSE/ESA under VM, you can initialize your disks as *minidisks* or as *dedicated disks*. When you initialize the disks as minidisks, you can only use a specified number of blocks/tracks of the complete disk volume. Whereas, if you initialize the disks as dedicated disks, you can use all blocks/tracks of the disk.

You initialize disks with the INIT command described on pages 42 through 44. For initializing CKD disk devices as minidisks, the INIT command has additional parameters.

In the INIT command, replace **cuu** with the disk address.

You first initialize the volume ID DOSRES and you continue with SYSWK1. Enter the command for your disk type. You also can initialize as many data volumes as you need and give them individual names.

In certain cases, additional parameters of the INIT command (VALIDATE, CHECK, DEVTYPE) are required to initialize your disks correctly. Otherwise, you may encounter problems later when you IPL the restored system. You should review the INIT command in detail, especially if:

- You define an entire disk as a minidisk.
- 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.

The INIT command is described in detail in the IBM manual *Device Support Facilities User's Guide and Reference*.

A list of the supported disk devices is shown in "Supported Disk Devices" on page 8.

In general, two volumes of the **same device type** and of the **same model** are recommended for initial installation of VSE/ESA. You cannot use one 3350 volume and one 3370 volume, for example.

The first volume always has the ID **DOSRES**. The second volume always has the ID **SYSWK1**. Appendix A, "VSE/ESA Disk Layouts" on page 193 shows for the disk layouts of DOSRES and SYSWK1 that are created during initial installation.

Note: DOSRES and SYSWK1 may *not* have enough space for all of the VSE/ESA optional licensed programs that you order. You may need additional disk volumes.

Initializing Minidisks under VM

If you want to run several VSE/ESA guest machines under VM that do not share DASDs, you will have multiple DOSRES and SYSWK1. VM, however, does not accept duplicate volume IDs on real disks. To solve this problem, you must have two volume IDs on such disks:

- A unique volume ID on the real disk used by VM.
- The label DOSRES or SYSWK1 on a minidisk.

To set this up:

1. Use the information in the applicable VM manual to initialize and format the DASDs that will have the minidisks. This creates the unique volume labels required by VM. The volume label and Allocation Byte Map for CKD devices are on cylinder 0. On FBA devices, the volume label and VTOC are part of the first 16 blocks.
2. In the directory entries for each VSE/ESA guest machine, define minidisks on the DASDs you initialized and formatted. As shown in the examples in Appendix A, "VSE/ESA Disk Layouts" on page 193, do **not** define minidisks that start on block or cylinder 0. For CKD devices, minidisks can begin at cylinder 1. For FBA devices, they can begin at a MAX-CA boundary following the initial blocks reserved for use by VM.
3. Initialize the minidisks for each VSE/ESA guest system. To do this:
   a. Log on to VM using the user ID and password defined for each VSE/ESA system.
   b. Use DSF to initialize the minidisks as shown in the examples on page 42. Note that these definitions do not affect the VM information that you created in item 1 of this list.

Volume Table of Contents (VTOC)

The *VTOC* is mandatory and is located on any disk volume you will use. It shows the content 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 also the start block/track of the unused space every disk has. You will be asked later in the initial installation process where you want to place your VTOC.

Before answering this request, consider the following:

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

- About in the middle of the disk device.

  Note: It is recommended that you place the VTOC about in the middle of the disk device. This will result in **better system performance**.

- At the end of the disk device, or
- Anywhere on the disk device, provided that this space is **not** used by system files.

In addition, you can save space and improve the system performance by optimizing the space occupied by the VTOC. *VSE/ESA Planning* gives details about how to reduce VTOC space.

Generalized System Layout for FBA Devices (GFBA)

VSE/ESA defines a generalized system layout for certain FBA devices. This layout is used for the IBM 9336 disk device which is for use of the IBM ES/9000 processors.

Figure 68 on page 212 and Figure 69 on page 213 show the generalized layout.

Step 1a): Loading Device Support Facilities

To initialize your disks, you use **Device Support Facilities** (DSF). The next section shows you how to load Device Support Facilities.

Mount the tape labeled VSE/ESA1.1.X.TAPE1YY. Do not reposition or dismount the tape until you are told to do so.

Users with IBM 3480, 3490 or 9346 Cartridges

If you use a 3480, 3490 or 9346 tape unit to install VSE/ESA, all of the VSE/ESA system information including the Generation Feature and the language-dependent members are stored on one single cartridge (type 3480, 3490 or 9346). Mount the cartridge labeled *VSE/ESA1.1.X.CART1YY*. **Do not reposition or dismount the cartridge until you are told to do so.**

Loading the DSF Program

Define 1 megabyte of storage for this part of the installation. This can result in better system performance. To enter the CP mode press PA1.

In CP mode, enter:

```
DEF STOR 1M
```

If you have not yet defined the console mode, enter in CP mode:

```
TERM CON 3270
```

Then enter in CP mode:

```
IPL cuu
```
(cuu - address of tape drive with VSE/ESA tape)

Note: IPL stands for the *initial program load* procedure for your computer.

The system will enter the wait state. You should again press END/ENTER.

```
   (press END/ENTER)
ICK005E DEFINE INPUT DEVICE:  'xxxx,cuu' or 'CONSOLE'
   (press END/ENTER)  ('CONSOLE' is the default)
ICK006E DEFINE OUTPUT DEVICE:  'xxxx,cuu' or 'CONSOLE'
   (press END/ENTER)  ('CONSOLE' is the default)
ICKDSF -  SA.. ICKDSF 12.0
          TIME: yy:yy:yy    DATE:xx/xx/xx     PAGE  1
ENTER INPUT/COMMAND:
```

Step 1b): Initializing Disks and Placing VTOC

The last input requested is an INIT command combined with the location of the VTOC. You may choose from one of the three commands shown on the following pages. **If you have not yet decided where to place your VTOC, please read again "Volume Table of Contents (VTOC)" on page 40.**

If the Device Support Facilities Program is to initialize a new CKD disk or a CKD disk that was used under another operating system (MVS, for example), the program must validate and rewrite the home address and record 0 on each track of the disk. You accomplish this by specifying the INIT command with

validate

If you initialize your disk under VM, dedicate the disk (by the CP ATTACH command) to your user ID before you start initialization.

Since you need two volumes for your VSE/ESA system

- DOSRES
- SYSWK1

you have to initialize these two disks.

Dedicated Disks or Minidisks

If you want your VSE/ESA system on dedicated disks, continue on page 44 or 45. If you want your VSE/ESA system on minidisks, the following applies:

Initializing Minidisks under VM

Examples for initializing the system volumes follow.

Enter the following INIT command to initialize the system volumes and replace **cuu** with the respective disk address.

In the following example for a CKD Device (IBM 3380), VTOC placed at the end of the disk pack:

- **Purge** indicates that you want to write over existing data during initialization.
- *Mimic(mini(800))* indicates that a minidisk with 800 cylinders is to be initialized for a VM environment.
- *Dosvtoc(799,***0,15**) indicates that the VTOC is to be placed on the last primary cylinder (here: 799) and that 15 tracks are to be reserved for the VTOC.

INIT UNIT(cuu) NVFY NOMAP PURGE *MIMIC(MINI(800)) DEVTYPE(3380) DOSVTOC(799,***0,15**) **VOLID(DOSRES)**

INIT UNIT(cuu) NVFY NOMAP PURGE *MIMIC(MINI(800)) DEVTYPE(3380) DOSVTOC(799,***0,15**) **VOLID(SYSWK1)**

Example for an FBA Device (IBM 3370), placed at the middle of the disk pack:

```
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(125054,217,1024) VOLID(DOSRES)
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(305908,217,1024) VOLID(SYSWK1)
```

Example for a CKD Device (IBM 3380), placed at the middle of the disk pack:

```
INIT UNIT(cuu) NVFY NOMAP PURGE MIMIC(MINI(800)) DEVTYPE(3380)
DOSVTOC(210,0,15) VOLID(DOSRES)

INIT UNIT(cuu) NVFY NOMAP PURGE MIMIC(MINI(800)) DEVTYPE(3380)
DOSVTOC(325,0,15) VOLID(SYSWK1)
```

After the following message

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

enter **u**

```
ICK01313I VOLUME CONTAINS nn ALTERNATE TRACKS -- nn AVAILABLE.
ICK01314I VTOC IS LOCATED AT CCHH=X'nnnn nnnn' AND IS nn TRACKS.

ICK00001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS nn
ENTER INPUT/COMMAND:
```

Note: If the INIT command does not fit into one single line on your screen, use a dash (-) as the continuation character. The system will then ask you for additional information.

Continue with "Step 2: Restoring SYSRES" on page 47.

Initializing Dedicated Disks (VTOC in the Middle of Disk Pack)

The following section lists the recommended VTOC locations. 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 disk address.

For a FBA disk of type 0671:

```
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(125307,217,1024) VOLID(DOSRES)
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(305865,217,1024) VOLID(SYSWK1)
```

For FBA disks of type IBM 3370:

```
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(125054,217,1024) VOLID(DOSRES)
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(305908,217,1024) VOLID(SYSWK1)
```

For CKD disks of type IBM 3350:

```
INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(171,0,30) VOLID(DOSRES)
INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(340,0,30) VOLID(SYSWK1)
```

For CKD disks of type IBM 3375:

```
INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(310,0,12) VOLID(DOSRES)
INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(506,0,12) VOLID(SYSWK1)
```

For CKD disks of type IBM 3380:

```
INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(210,0,15) VOLID(DOSRES)
INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(325,0,15) VOLID(SYSWK1)
```

For CKD disks of type IBM 3390:

```
INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(209,0,15) VOLID(DOSRES)
INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(301,0,15) VOLID(SYSWK1)
```

For FBA disks of type IBM 9332:
(Note that for the IBM 9332 with the small layout the VTOC **must** be placed at the end of the disk pack):

```
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(124830,252,1024) VOLID(DOSRES)
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(149212,252,1024) VOLID(SYSWK1)
```

For FBA disks of type IBM 9335:

```
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(124676,245,1024) VOLID(DOSRES)
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(304590,245,1024) VOLID(SYSWK1)
```

For FBA disks of type IBM 9336:

```
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(125504,224,1024) VOLID(DOSRES)
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(306624,224,1024) VOLID(SYSWK1)
```

After the following message

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

enter u

```
ICK01313I VOLUME CONTAINS nn ALTERNATE TRACKS -- nn AVAILABLE.
ICK01314I VTOC IS LOCATED AT CCHH=X'nnnn nnnn' AND IS nn TRACKS.
ICK00001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS nn
ENTER INPUT/COMMAND:
```

Continue with "Step 2: Restoring SYSRES" on page 47.

Initializing Dedicated Disks (VTOC at End of Disk Pack)

Enter the following to initialize the system volumes. Replace cuu with the respective disk address.

For FBA disks (IBM 3370, 9335, 9336, 9332 (standard layout and small layout), 0671):

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

For CKD disks (IBM 3350, 3375, 3380, 3390):

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

After the following message

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

enter u

```
ICK01313I VOLUME CONTAINS nn ALTERNATE TRACKS -- nn AVAILABLE.
ICK01314I VTOC IS LOCATED AT CCHH=X'nnnn nnnn' AND IS nn TRACKS.

ICK00001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS nn
ENTER INPUT/COMMAND:
```

Note: If the INIT command does not fit into one single line on your screen, use a dash (-) as the continuation character. The system will then ask you for additional information.

Continue with "Step 2: Restoring SYSRES" on page 47.

Initializing Other Work DASDs as System Disks

Remember that VSE/ESA allows you to use 3310, 3330, 3340 and 3344 disks as work DASDs but not as system devices.

To initialize these DASDs, issue the following command(s) and replace **xxxxxx** with a volid **other than** DOSRES and SYSWK1. Replace **cuu** with the respective disk address.

For 3310:

```
INIT UNIT(cuu) NVFY NOMAP PURGE FBAVTOC(125984,99,1024) VOLID(xxxxxx)
```

For 3330:

```
INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(403,0,19) VOLID(xxxxxx)
```

For 3340 and 3344:

```
INIT UNIT(cuu) NVFY NOMAP PURGE DOSVTOC(695,0,12) VOLID(xxxxxx)
```

After the following message

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

enter **u**

```
ICK01313I VOLUME CONTAINS nn ALTERNATE TRACKS -- nn AVAILABLE.
ICK01314I VTOC IS LOCATED AT CCHH=X'nnnn nnnn' AND IS nn TRACKS.

ICK00001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS nn
ENTER INPUT/COMMAND:
```

Note: If the INIT command does not fit into one single line on your screen, use a dash (-) as the continuation character. The system will then ask you for additional information.

Continue with "Step 2: Restoring SYSRES" below.

Step 2: Restoring SYSRES

This task restores the system library IJSYSRS from tape. **Do not reposition or dismount the tape until you are told to do so**.

You start this task with a second IPL of the tape labeled *VSE/ESA1.1.X.TAPE1YY* or the cartridge labeled *VSE/ESA1.1.X.CART1YY*. *Do not rewind the tape before issuing the IPL command.*

> If you have not already set ECMODE on, enter the following command in CP mode:
>
> **set ecmode on**

To begin restoring SYSRES, press PA1 and enter in CP mode:

IPL cuu (cuu - tape drive address)

The system will enter the wait state. You should again press END/ENTER.

(press END/ENTER)

```
***** STAND ALONE PROGRAMS LOADED *****
IF YOU WANT A LISTING,SPECIFY CUU OF PRINTER;
ELSE, OR IF PRINTER IS NOT OPERATIONAL, PRESS END/ENTER.
```

(press END/ENTER)

```
SPECIFY DATE  MM/DD/YY
```

Two characters must be entered in each field for the date.

mm/dd/yy (mm - month)
(dd - day)
(yy - year)

```
SELECT ONE OF THE FOLLOWING PROGRAMS OR TYPE END
FASTCOPY, RESTORE, INITEM
```

restore

```
SPECIFY ADDRESS OF INPUT DEVICE  CUU
```

cuu (cuu - tape drive address where VSE/ESA tape is mounted)

```
SPECIFY TYPE OF INPUT DEVICE  XXXXYY
```

xxxxyy (xxxxyy - tape device type)

For the type of IBM tape devices, specify one of the following:

For 8809:	**8809**
For 3410T9:	**3410t9**
For 3420T9:	**3420t9**
For 3422:	**3430**
For 3424:	**3424**
For 3430:	**3430**
For 3480:	**3480**
For 3490:	**3480**

For 9346:	**9346** (for ES/9371 processor only)
For 9347:	**9347**
For 9348:	**9348** (for ES/9371 processor only)

You may get the following message:

```
S2001   SPECIFY TAPE MODE XX OR PRESS END/ENTER.  DEFAULT IS xx
```

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

```
IF TAPE LABEL CHECKING IS DESIRED, SPECIFY TLBL STATEMENT
```

(press END/ENTER)

```
SPECIFY ADDRESS OF SYSRES DISK  CUU  OR PRESS END/ENTER
```

cuu (cuu - address of DOSRES)

```
SPECIFY TYPE OF DISK  XXXX
```

For 3350:	**3350**
For 3370 (all models):	**fba**
For 3375:	**3375**
For 3380 (all models):	**3380**
For 3390:	**eckd**
For 9332 (all models):	**fba**
For 9335:	**fba**
For 9336:	**fba**
For 0671 (all models):	**fba**

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

yes

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

yes

```
L30xI ORIGINAL ALLOCATION= xxxx   ....
L310A ENTER YES TO KEEP OR NO TO RESPECIFY THE ALLOCATION
```

no

```
L31xI MINIMUM ALLOCATION= xxx   ....
L30xI ENTER THE DESIRED ALLOCATION AS NUMBER OF   ....
L313A ALLOC=
```

For 3350:	**1979**
For 3370 (all models):	**59146**
For 3375:	**1187**
For 3380 (all models):	**959**
For 3390:	**899**
For 9332 (all layouts/all models):	**59128**
For 9335:	**59141**
For 9336:	**59134**
For 0671:	**59155**

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

yes

```
L338I SUMMARY OF RESTORE PARAMETERS:
L318I FILE NAME = IJSYSR1
L319I FILE ID = VSE.SYSRES.LIBRARY
L32xI ALLOCATION=  xxxx   ....
L34xI START=    ......          - END=   ....
L327I RESTORE ALL SUBLIBRARIES
L322A ENTER YES IF THE SPECIFICATION IS CORRECT OR NO TO
      RESPECIFY
```

yes

Starting the Restore Again

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

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

you should enter:

DELETE

CKD Device Users

The system displays the following message:

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

```
L306I RESTORE OF LIBRARY IJSYSR1 IN PROGRESS
L325I RESTORE OF SUBLIBRARY IJSYSR1.SYSLIB IN PROGRESS
L326I RESTORE COMPLETE FOR LIBRARY IJSYSR1
*** END OF STAND ALONE PROCESSING ***
```

The system displays the message:

```
CP ENTERED; DISABLED WAIT PSW'0000...'
```

Define 16 megabytes of storage. Enter the following in CP mode:

DEF STOR 16M

If you have not yet defined your BTAM-ES or ACF/VTAM terminals to VM (for example, in the directory entry), enter the following in CP mode:

DEF GRAF cuu (cuu - terminal address)

Repeat this command for every terminal you want to define.

If you have already defined your terminal addresses in the VM directory, you can check them by entering in CP mode:

QUERY GRAF

SYSRES is now restored.

Do not reposition or dismount the tape.

Step 3: Performing an IPL from SYSRES on DOSRES

Now you IPL VSE. This step uses a VSE/ESA-supplied IPL procedure. The correct IPL procedure is automatically chosen based on your disk type and CPU mode. The appropriate options for your system are selected by VSE/ESA.

You do not usually have to add devices during this task. The IPL program for VSE/ESA uses device sensing to automatically define the devices on the system. Therefore, you should power on the devices which you need defined during IPL. Power off any devices which you do not want sensed.

Some devices do not support device sensing. If a device is needed for the minimum configuration and it cannot be sensed, you are asked to enter the IPL ADD command for the device. VSE/ESA requires the following minimum configuration:

- Tape drive
- CICS/VSE terminal (327x)
- Disk devices.

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 the presence of a printer.
If you have only terminal printers attached, VSE/ESA must be up and running in order to get the VSE system printer output sent to a terminal printer.

IBM 3410 and 3420 tape devices do not support device sensing. If you are using an IBM 3410 or 3420 to install VSE/ESA, you are asked to enter the IPL ADD command for the tape. As you are running under VM, you do not have to add the IBM 3410 or 3420.

For some devices, not all the necessary information can be sensed. You will be asked to define these devices when you complete the initial installation in "Completing Initial Installation" on page 86.

Performing an IPL from SYSRES on DOSRES

Enter in CP mode:

IPL cuu (cuu - address of DOSRES)

Note: If you are using IBM 9332 disks with the small layout, see the box on page 51. Then perform an IPL.

Users Using the Small Layout for IBM 9332 Disks

For all disks supported a standard layout applies. In addition, VSE/ESA supports a small layout for the IBM 9332 disk device.

Please remember, that in this case the VTOC **must** be located at the end of the disk pack !

Do the following to interrupt the IPL:

- Press PA1 to enter CP mode.
- Type in EXT.
- Press ENTER.

1. After the message

   0I03D ENTER SUPERVISOR PARAMETERS (OR ASI PARAMETERS)

   appears, enter

   IPL = $IPLxSM,JCL = $$JCL7SM,TYPE = INSTALL

   where

   x selects one of the following supervisor modes:

   V (for VM mode)

   VE (for VMESA mode)

   Note: After cataloging, the procedure names are not $IPLxSM or $$JCL7SM but *$IPL370* or *$IPLESA* and *$$JCL*.

   Each time you interrupt the installation to perform an IPL, you have to enter the **entire** IPL command as shown under Step 1 above.

When the system enters the wait state, press again END/ENTER.

```
   (press END/ENTER)
0I04I IPLDEV=X'cuu',VOLSER=DOSRES,CPUID=xxxxxxxxxxxx
0J01I IPL=$IPLyxx ,JCL=$$JCL7xx,SUPVR=$$A$SUPn,P
0I30I DATE=xx/xx/xx,CLOCK=yy/yy/yy,ZONE=nnnn/00/00
      THE DATE VALUE FORMAT IS MM/DD/YY

0J47I CHANNEL nn:   nnn DEVICE(S) FOUND OPERATIONAL.
     ...
     ...
0J47I CHANNEL nn:   nnn DEVICE(S) FOUND OPERATIONAL.
     ...
     ... (additional devices found operational)
     ...
ADD FEC,3505
ADD FFC,3505 ICCF DUMMY DEVICE DON'T DELETE
     ...
     ... (additional devices added)
     ...
ADD FFF,CONS     DUMMY CONSOLE DON'T DELETE
```

Insufficient System Configuration

If you get the following messages, follow these instructions.

```
IESI0101I INSUFFICIENT SYSTEM CONFIGURATION FOR INITIAL INSTALLATION
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 these messages.

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

```
TAPE DEVICE
CICS TERMINAL/LOCAL SNA CONTROL UNIT
01 DASD DEVICE - TYPE AS SYSRES
```

Remember that you only need two disk volumes for the minimum configuration: DOSRES and SYSWK1. 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 (tape, terminal/control unit, disk).

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

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

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

You would add the address of at least one terminal/local SNA control unit. For instance, you might enter:

```
ADD 380,3277
```

After you enter your ADD command(s), press END/ENTER to continue.

(**press END/ENTER**)

Duplicate Volume Numbers Found

If you get the following message, follow these instructions.

```
IESI0120I VOLID xxxxxx FOUND ON FOLLOWING ADDRESSES (CUU) cuu1 cuu2 ...
```

The system checks the volume identifiers (VOLIDs) of all disks. This is to ensure that the VOLIDs for VSE/ESA (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 (cuu1, cuu2 ...).

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

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

For VOLID SYSWK1, the system displays the following message:

```
IESI0121D ENTER ADDRESS OF DASD TO BE USED AS SYSWK1: CUU
```

Enter the address (cuu) of the disk device you are using for VSE/ESA installation.

```
cuu                    (cuu - disk address of SYSWK1)
```

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

```
IESI0124I FOLLOWING DEVICE(S) WILL BE SET IN DEVICE DOWN
          STATUS: cuu1  cuu2  ...
```

The message is followed by a list of the disk addresses that are set in *device down* status (cuu1, cuu2 ...).

```
DEF SYSCAT=DOSRES,SYSREC=SYSWK1
0J10I IPL RESTART POINT BYPASSED

SYS JA=YES
DLA VOLID=DOSRES,YYY=xxx,NYYY=x,DSF=N,NAME=AREA1
0I52I LABEL AREA ON  cuu:      LOW       HIGH
                     ......    xxx x     xxx  xx


SVA PSIZE=nnnK,SDL=nnn,GETVIS=nnK
0J24I DASD SHARING SUPPORT RESET
0J62I ACTUAL CHANQ IS nnn
0I26I $$BFCB23 LOADED              CUU=xxx
0I20I IPL COMPLETE FOR system identification
      SUPVR USERID IS:  VSE.xxx.SUPx

BG 000 VMCF10I CMS - VSE CONSOLE INTERFACE ACTIVATED
```

```
BG 000 // JOB BGINIT

   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 4301I NO FORMAT 1 LABEL FOUND  IJSYSRC SYSREC=SYSWK1
BG 000 1I81I RECORDER FILE OPEN FAILED, RF=CREATE FORCED
BG 000 1I93I RECORDER FILE IS   n% FULL
```

Additional Messages

Some systems may also display the following messages:

```
BG 000 4301I NO FORMAT 1 LABEL FOUND  IJSYSCN SYSREC=xxx SYSWK1
BG 000 1I94I HARDCOPY FILE OPEN FAILED, HC=CREATE FORCED
```

If Second or Additional IPL from Disk

The messages IESI0211I and IESI0222I listed below allow you to interrupt the IPL procedure and to select a startup mode. But do **not** select a startup mode now! If all partitions will be initialized in the same startup mode, you get the following message:

```
BG 000 IESI0211I  ALL PARTITIONS WILL BE INITIALIZED IN xxxxxxx START MODE.
                  IF YOU WANT TO INTERRUPT ENTER "MSG BG".
```

xxxxxx represents the startup mode to be performed.
If the partitions will be initialized in different startup modes, you get message IESI0221I followed by message IESI0222I:

```
IESI0221I  PARTITIONS xx xx WILL BE INITIALIZED IN yyyyyy START MODE.

IESI0222I  REMAINING PARTITIONS WILL BE INITIALIZED IN xxxxxxx
           START MODE.  IF YOU WANT TO INTERRUPT ENTER  "MSG BG".
```

Refer to the IBM manual *VSE/ESA Operation* for detailed information about VSE/ESA startup modes.

```
BG 000 ALLOC BG=xxxxK,Fn=xxxxK

     ...
     ...                (additional ALLOC, SIZE, and PRTY statements)
     ...

BG 000 STOP
F1 001 // JOB POWSTART

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

```
F1 001 1Q20I  AUTOSTART IN PROGRESS
F1 001 1R75I   BG AUTOSTARTED
F1 001 1R75I   F2 AUTOSTARTED
F1 001 1R75I   F3 AUTOSTARTED
F1 001 1R75I   F4 AUTOSTARTED
F1 001 1R75I   F5 AUTOSTARTED
F1 001 1Q12I  VSE/POWER 5.1.0 INITIATION COMPLETED
F1 001 1Q34I   F3 WAITING FOR WORK
F1 001 1Q34I   F2 WAITING FOR WORK
F1 001 1Q34I   F4 WAITING FOR WORK
F1 001 1Q34I   F5 WAITING FOR WORK

BG 000 * ******************************************
BG 000 *                                          *
BG 000 *            INSTALLATION OF               *
BG 000 * ******************************************
BG 000 *                                          *
BG 000 *             VSE/ESA 1.1.0                *
BG 000 *                                          *
BG 000 * ******************************************
BG 000 * LICENSED MATERIALS - PROPERTY OF IBM      *
BG 000 * 5750-ACD (C) COPYRIGHT IBM CORP. 1990     *
BG 000 * ALL RIGHTS RESERVED.                      *
BG 000 * US GOVERNMENT USERS RESTRICTED RIGHTS -   *
BG 000 * USE, DUPLICATION OR DISCLOSURE           *
BG 000 * RESTRICTED BY                            *
BG 000 * GSA ADP SCHEDULE CONTRACT WITH IBM CORP.  *
BG 000 * ******************************************
BG 000 *                                          *
BG 000 * ******************************************
BG 000 1S47I   PRELEASE RDR INSTALL
BG 000 1N90I   EOP WAS FORCED BY EOJ
BG 000 EOJ BGINIT    MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Completing the Installation

To complete the installation of VSE/ESA, please continue in Chapter 5, "Continuing Installation (Native and VM)" on page 57.

Chapter 5. Continuing Installation (Native and VM)

From Installation of VSE Licensed Programs to CICS Startup

The following figure gives you an overview on the different tasks that you perform in this stage of initial installation.

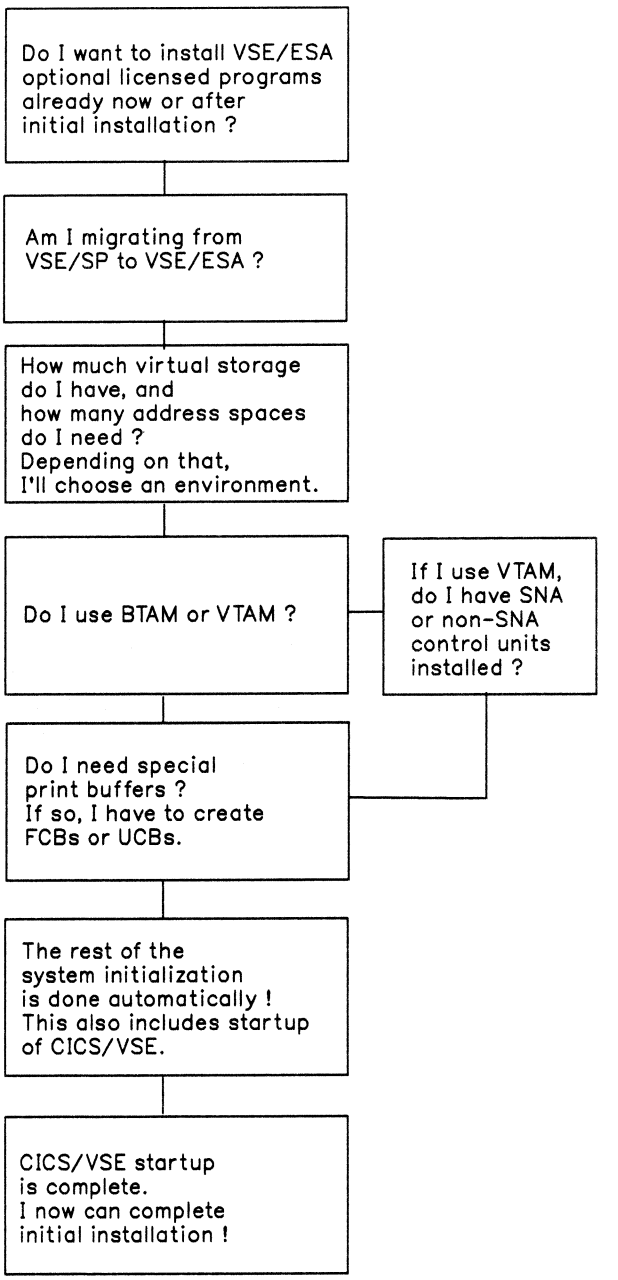


Figure 6. Installation Tasks During Job Stream Processing

Installation 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.

You have the option of installing VSE optional licensed programs already during this part of initial installation. Carefully review "Types of VSE Licensed Programs" on page 101 and "Installing VSE Optional Licensed Programs at Initial Installation" on page 102 before making your decision.

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 "Overview of the Job Manager" on page 9.

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

```
r rdr,install
```

Refer to *VSE/ESA Messages and Codes* for an explanation of the messages that the system may display when the jobs run.

Running the Install Program for VSE/ESA

```
F1 001 1Q47I   BG INSTALL xxxxx FROM  (SYSA), TIME=yy:yy:yy
BG 000 // JOB INSTALL VSE/ESA INSTALL PROGRAM
                DATE xx/xx/xx,CLOCK yy/yy/yy
BG-000 IESI0056D ENTER ADDRESS OF TAPE DRIVE WHERE INSTALL TAPE
                IS MOUNTED: CUU
```

0 cuu (cuu - tape drive address where VSE/ESA is mounted)

```
BG-000 IESI0063D AUTOMATIC INSTALLATION OF OPTIONAL PROGRAMS REQUIRED ?
                YES/NO
```

0 xxx (xxx - yes or no)

It is recommended that you answer

0 no

Refer to "Installing VSE Optional Licensed Programs in Stacked Version 2 Format" on page 104 for information on how to install the VSE optional licensed programs later.

If you answer **yes**, job streams are built which later install the VSE optional licensed programs. The programs are **not** installed at this point. The actual installation is described in "Automatic Installation of VSE Optional Licensed Programs" on page 77.

```
BG-000 IESI0077D DO YOU WANT TO MIGRATE YOUR CONFIGURATION DATA FROM
                A PREVIOUS VSE VERSION ?  YES/NO
```

0 xxx (xxx - yes or no)

For migrating your system, ensure that the hardware table configuration contains the complete and correct hardware specifications.

Answer "YES" if the necessary information is already stored on tapes that are of the same type as the VSE/ESA tape volumes:

- Backup of the VSE/ICCF DTSFILE.
- VSE/VSAM copy of the VSE control file.

> Specify **YES** if you want to perform migration during installation, otherwise enter **NO**.
>
> For background information on migration please refer to "Migration During Initial Installation" on page 12. The IBM manual *VSE/ESA Planning* gives also more information.
>
> If you answer 'YES', the migration job will run later in the installation process and ask you to mount the backup tapes.

```
BG-000 IESI0078D SELECT AN ENVIRONMENT OUT OF 1 .. n.
```

0 x (x is 1 ... 5)

where x stands for the environment number.

Select one of the VSE/ESA environments 1 to 4 if you do not want to build an unattended node environment.

The IBM manuals *VSE/ESA Planning* and *VSE/ESA Administration* have more information on these predefined environments.

Select environment 5 if you plan to use an unattended node environment. Environment 5 is the special pregenerated system layout for unattended node operation. This system layout is shown in the manual *VSE/ESA Unattended Node Support*. As nothing special needs to be considered for the initial installation in an unattended node environment, proceed as described below.

The environment specification automatically will take effect at the next IPL.

The numbers 1...5 correspond to the following system sizes:

Figure 7. VSE/ESA Predefined Environments

Predefined Environment	Virtual Storage in Mb (VSIZE)	Number of Address Spaces	Number of Partitions	Unattended Node	Possible Supervisor Modes
1/2	16	1	6	NO	VM, VMESA, 370, ESA
3	24	9	12	NO	370, ESA
4	40	9[1]	12/12[1]	NO	370, ESA
5	40	8	12	YES	370, ESA

[1] All predefined environments offer static partitions; in environment 4 a maximum number of 12 dynamic partitions are ready for use.

Environments 1 and 2 are identical and have one address space only. Environment 1/2 is provided only to ensure compatibility with previous VSE releases. Environments 3, 4, and 5 make use of the Virtual Addressability Extension (VAE), which allows multiple address spaces. Environment 5 provides a special partition layout for unattended node support.

The system layout is different depending on the supervisor mode. For a supervisor with MODE=370 or MODE=VM, the Shared Virtual Area (SVA) and shared partitions are located in the upper address area (from 16 Mb downwards). For a supervisor with MODE=ESA and MODE=VMESA the SVA and shared partitions are located in the low address area (from 0 MB upwards) with the supervisor.

You can change this system layout later using the *IPL Tailoring* dialog. Refer to *VSE/ESA Planning* for more information.

Note: If you install under VM and select environment 1/2, you get a supervisor with MODE=VM or MODE=VMESA. But you can also select environments 3, 4 or 5. At the next IPL, the supervisor mode is automatically switched to MODE=370 or MODE=ESA. This may impact the performance of the guest machine, but it gives you the advantage of having VAE or dynamic partitions.

```
BG-000 IESI0051D ENTER YOUR TP ACCESS METHOD: BTAM OR VTAM

   0 xxxx                    (xxxx - btam or vtam)
```

Note: You should carefully consider your response. The telecommunications access method you select cannot be easily changed after the system is installed. VSE/ESA uses this information in later configuration steps to create the proper startup books, for example.

```
BG-000 IESI0062D CHECK YOUR ANSWERS. MAY WE CONTINUE ?  YES/NO

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

BTAM-ES users see "Defining BTAM-ES User Terminals."

ACF/VTAM users skip the following section and turn to "Defining ACF/VTAM User Terminals."

Defining BTAM-ES User Terminals

If you chose BTAM-ES for your TP access method, follow these instructions.

This step defines **at least one**, but not more than three, 3270 display terminals.

```
BG 000 IESI0058I TO START CICS/VSE, YOU MAY DEFINE UP TO
                 3 3270 TERMINALS
BG-000 IESI0059D ENTER A 3270 ADDRESS (CUU) OR "END"
```

```
   0 cuu          (where cuu is an IBM 3270 terminal address)
```

```
BG-000 IESI0059D ENTER A 3270 ADDRESS (CUU) OR "END"
```

```
   0 cuu          (where cuu is an IBM 3270 terminal address.
                   If you want to define only one terminal,
                   enter 0 END and then press ENTER.)
```

```
BG-000 IESI0059D ENTER A 3270 ADDRESS (CUU) OR "END"
```

```
   0 cuu          (where cuu is an IBM 3270 terminal address.
                   If you want to define only two terminals,
                   enter 0 END and then press ENTER.)
```

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

```
BG-000 IESI0062D CHECK YOUR ANSWERS. MAY WE CONTINUE ?  YES/NO
```

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

```
BG 000 EOJ INSTALL   MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Turn to "Cataloging Hardware Information" on page 64 to continue.

Defining ACF/VTAM User Terminals

If you chose ACF/VTAM as your TP access method, follow these instructions. You enter information about up to three IBM 3270 terminals and a control unit.

If you have a System Network Architecture (SNA) control unit installed, you should respond **yes** to the first message below.

VSE/ESA Networking Support has more information about System Network Architecture.

```
BG-000 IESI0065D IS THE LOCAL CONTROL UNIT AN SNA CU ? YES/NO
```

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

Figure 8 gives you an overview of SNA and Non-SNA control units.

Figure 8. List of Local SNA and Non-SNA Control Units

Local NON-SNA Control Units	Local SNA Control Units
• DPA (for IBM 4300 processors) • WSA (for IBM 4300 processors) • channel-attached non-SNA control unit (IBM 3274-x1B, 3274-x1D) • channel-attached non-SNA control unit (IBM 3174-S1L, 3174-T1L, 3174-01L) • Workstation Subsystem Controller (for IBM 9370 processors) • Workstation Subsystem Controller (for IBM ES/9000 processors, Model 120, 130, 150, 170).	• channel-attached SNA control unit (IBM 3274-x1A) • channel-attached SNA control unit (IBM 3174-S1L, 3174-T1L, 3174-01L)

If you enter **yes**, turn to "Local SNA ACF/VTAM Users" on page 63.

If you enter **no**, continue with "Local Non-SNA ACF/VTAM Users."

Local Non-SNA ACF/VTAM Users

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

```
BG 000 IESI0064I DEFINE UP TO 3 LOCAL VTAM/VSE TERMINALS
BG-000 IESI0059D ENTER A 3270 ADDRESS (CUU) OR "END"
```

0 cuu (where cuu is a 3270 terminal address)

```
BG-000 IESI0059D ENTER A 3270 ADDRESS (CUU) OR "END"
```

0 cuu (where cuu is a 3270 terminal address. If you want to define only one terminal, enter **0 END** and then press ENTER.)

```
BG-000 IESI0059D ENTER A 3270 ADDRESS (CUU) OR "END"
```

0 cuu (where cuu is a 3270 terminal address. If you want to define only two terminals, enter **0 END** and then press ENTER.)

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

```
BG-000 IESI0062D CHECK YOUR ANSWERS. MAY WE CONTINUE ?  YES/NO
```

0 xxx (xxx - yes or no)

```
BG 000 EOJ INSTALL   MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Continue with "Cataloging Hardware Information" on page 64.

Local SNA ACF/VTAM Users

You have selected ACF/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.

Note: 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 your TP access method incorrectly.

```
BG-000 IESI0071D ENTER ADDRESS OF 3270 CONTROL UNIT: CUU
```

```
0 cuu
```
(where cuu is your control unit address)

```
BG 000 IESI0066I DEFINE TERMINAL TYPE ATTACHED TO THIS CONTROL UNIT
BG-000 IESI0067D ENTER 3277-2, 3278-2, 3278-3, 3278-4, 3279-2 OR 3279-3
```

```
0 327x-y
```
(where 327x-y is your display terminal type)

IBM 5550 Terminal Users

If you have a 5550 terminal, enter
```
0 3278-3
```

```
BG 000 IESI0064I DEFINE UP TO 3 LOCAL ACF/VTAM TERMINALS
BG-000 IESI0073D ENTER PORT NUMBER OF A 3270 TERMINAL
                 (0 TO 31) OR "END"
```

```
0 xx
```
(where xx is a port number
0 to 31 of a 3270 terminal)

```
BG-000 IESI0073D ENTER PORT NUMBER OF A 3270 TERMINAL
                           (0 TO 31) OR "END"
```

```
0 xx
```
(where xx is a port number
0 to 31 of a 3270 terminal.
If you want to define only one terminal,
enter 0 END and then press ENTER.)

```
BG-000 IESI0073D ENTER PORT NUMBER OF A 3270 TERMINAL
                           (0 TO 31) OR "END"
```

```
0 xx
```
(where xx is a port number
0 to 31 of a 3270 terminal.
If you want to define only two terminals,
enter 0 END and then press ENTER.)

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

```
BG-000 IESI0062D CHECK YOUR ANSWERS. MAY WE CONTINUE ?
                           YES/NO
```

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

```
BG 000 EOJ INSTALL   MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Cataloging Hardware Information

The job DTRIHARD catalogs hardware information from the IPL procedure.

```
F1 001 1Q47I   BG DTRIHARD nnnnn FROM LOCAL , TIME=yy:yy:yy
BG 000 // JOB DTRIHARD CATALOG HARDWARE RELATED INFORMATION
   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 EOJ DTRIHARD  MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Cataloging ASI IPL Procedure

The job DTRIASI catalogs the ASI IPL procedure.

```
F1 001 1Q47I   BG DTRIASI nnnnn FROM LOCAL , TIME=yy:yy:yy
BG 000 // JOB DTRIASI CATALOG ASI IPL PROCEDURE
   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 EOJ DTRIASI   MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Assigning BTAM-ES Terminals

BTAM-ES Users

The job DTRIBTAM runs for **BTAM-ES users** only. It assigns the terminals for CICS/VSE startup.

```
F1 001 1Q47I   BG DTRIBTAM nnnnn FROM LOCAL , TIME=yy:yy:yy
BG 000 // JOB DTRIBTAM CREATE BTAM STARTUP ASSIGNMENTS
   DATE xx/xx/xx,CLOCK xx/xx/xx
BG 000 EOJ DTRIBTAM  MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Cataloging ACF/VTAM Startup Information

ACF/VTAM Users

The job DTRIVTAM runs for **ACF/VTAM users** only. It catalogs ACF/VTAM startup information.

```
F1 001 1Q47I   BG DTRIVTAM nnnnn FROM LOCAL , TIME=yy:yy:yy
BG 000 // JOB DTRIVTAM CREATE VTAM STARTUP BOOK  ...
   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 EOJ DTRIVTAM  MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Building the List of Jobs

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

```
F1 001 1Q47I   BG DTRIJBLD nnnnn FROM LOCAL , TIME=yy:yy:yy
BG 000 // JOB DTRIJBLD BUILD ORDERED JOB LIST
   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 EOJ DTRIJBLD  MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,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 10 for information about recovering.

Note: **Before you continue, turn to the foldout page at the back of the book.** It carries the title "Overview of Steps During Job Manager Processing." **Unfold the page** to have a guide for reference and error diagnosis during Job Manager processing.

Creating Print Buffers

You should only read this section if you have a system printer attached to your system.

The job **LFCBLINK** creates 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.

An 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 of not creating an FCB or an UCB. In this case you enter

```
0
```

when you are prompted for creating an FCB or an UCB. You then use the default settings.

Users Installing under VM

If you have a dedicated real printer, you **must** create an 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 an UCB since the printer is not under the control of VSE/ESA. For more information, refer to chapter "System Buffer Load" in the manual *VSE/ESA System Control Statements*.

If you have one of the printer train/belt combinations shown in Figure 9, the default UCB supplied with VSE/ESA matches the train/belt.

If you do not have any of the defaults shown in Figure 9, refer to Figure 10 on page 66.

Figure 9. Default Printer Train/Belt Combinations

IBM Printer	Train/Belt
3211	A11 train
3203-3/4/5	AN or HN train
3262	64 character belt
3289-4	64 character belt
4245	Not applicable
1403U[2]	AN or HN train
4248	Not applicable
6262-014	Not applicable

The VSE/ESA standard FCB is generated with the following parameters:

- 6 lines per inch
- 12 inch page

If you have different requirements, refer to Figure 11 on page 67.

```
F1 001 1Q47I   BG LFCBLINK nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 000 // JOB LFCBLINK
   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 *  EXECUTE THE PROCEDURE FOR THE FORMS CONTROL BUFFER THAT YOU
BG 000 *  WANT LOADED INTO YOUR PRINTER OR IF NOT REQUIRED EXECUTE THE
BG 000 *  PROCEDURE FOR THE CHARACTER SET BUFFER YOU WANT LOADED INTO
BG 000 *  YOUR PRINTER. IF NEITHER IS REQUIRED REPLY "0 (END/ENTER)".
BG 000 // PAUSE
BG 000
```

If you accept the default UCB and FCB, reply

```
0              (End/Enter)
```

and proceed to "Starting a Printer Controlled by VSE/POWER" on page 69.

The following two figures list the procedure names for the FCBs and UCBs.

Note: In the figures, the letters are capitalized to distinguish between letters and numbers. However, you do not have to enter uppercase letters.

Figure 10. Procedure Names for UCBs

IBM Printer	Train/Belt	UCB Procedure Name
3211	(P11 TRAIN)	LUCBP11A
3203-3/4/5	(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
4248	No Entry Required	No Entry Required
6262-014	No Entry Required	No Entry Required

[2] This printer requires a dual-feature so that the default UCB matches the HN train.

Figure 11. 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
3203-3/4/5	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

You can enter an FCB **or** UCB procedure name. The names are shown in Figure 10 on page 66 and Figure 11. You have two choices:

1. If you want to create a **FCB**, enter the FCB procedure name.
2. If you do not want an FCB, but you want to create an UCB, enter the UCB procedure name.

FCB Procedure

0 exec proc = LFCBxxxx (xxxx - procedure name suffix)

Refer to Figure 11.

If you enter an FCB procedure name, the system displays:

```
BG 000 *  THIS PROC WILL ASSEMBLE, LINK, AND
               CATALOG $$BFCBxx FCB PHASE FOR
BG 000 *  xx INCH LONG PAPER WITH A LINE DENSITY OF x LINES PER INCH
BG 000 *  FOR THE PRINTER TYPE :  xxxx
BG 000 *
BG 000 *  EXECUTE THE PROCEDURE FOR THE CHARACTER SET BUFFER YOU WANT
BG 000 *  LOADED INTO YOUR PRINTER OR REPLY
               "0 (END/ENTER)" IF NONE
BG 000 *  IS REQUIRED.
BG-000 EOP LFCBxxxx
```

Enter the LFCB attention command for your printer type. Replace **cuu** with the 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 an UCB, enter:

0

UCB Procedure

```
0 exec proc=LUCBxxxx
```
(xxxx - procedure name suffix)

Refer to Figure 10 on page 66.

If you enter an UCB procedure name, the system displays:

```
BG 000 * THIS PROC WILL LINK, AND CATALOG THE UCB PHASE: $$BUCBxx
BG 000 * FOR A PRINTER TYPE : xxxx WITH A xx-YYYYYYY YYYYY
BG 000 *
BG 000 * ENTER THE LUCB ATTENTION COMMAND TO LOAD YOUR CHARACTER SET
BG 000 * BUFFER INTO THE PRINTER. ONCE THAT IS COMPLETED REPLY
BG 000 *  "0 (END/ENTER)" TO CONTINUE.
BG-000 EOP LUCBxxxx
```

Enter the LUCB attention command for your printer type. The commands are shown below in Figure 12 on page 69. Replace cuu with the address of your real printer.

```
LUCB cuu,$$BUCBxx,NOCHK[,FOLD]
```

After entering the command you may now 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 015 1I40I READY
```

Enter

```
0
```

Note: In the following figure, the letters are capitalized to distinguish between letters and numbers. However, you do not have to enter uppercase letters.

Figure 12. LUCB Attention Commands

IBM Printer	LUCB Attention Command
3211	LUCB CUU,$$BUCB,NOCHK,FOLD
3203-3/4/5	LUCB CUU,$$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 000 EOJ LFCBLINK  MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,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/VSE is started and then activate your terminal printer. "Telecommunications Access Method and CICS/ICCF Startup" on page 82 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.

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 - device address)
                    (class - printer class, replace class, for example,
                    with a)
```

```
F1 001 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,,vm    (cuu - device address)
                       (class - printer class, replace class,
                       for example, with a)
```

This starts a list-writer task to print spooled list output to the virtual printer with address cuu. 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.

VSE/POWER Administration and Operation describes the PSTART command in detail.

The operands in the *S LST* command are positional. You **must** insert the two commas (,,) between the *class* and *vm*.

Review the following information about the printer:

1. If the printer has an FCB, the system displays the following message:

   ```
   F1 016 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 001 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,

     that is, if you run without VM or dedicate a printer to the VSE guest under VM.

   - VM virtual printer,

     that is, if you run under VM without a printer dedicated to the guest.

Restoring System History File

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

```
F1 001 1Q47I   BG HISTREST nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 000 // JOB HISTREST RESTORE SYSTEM HISTORY FILE
   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 EOJ HISTREST  MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,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 and a return code of 8 are to be expected.

```
F1 001 1Q47I   BG VSAMDEFS nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 000 // JOB VSAMDEFS - DEFINE VSAM MCAT, UCAT SPACE AND CLUSTERS
   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 * THIS JOB WILL DEFINE THE VSAM MASTER CATALOG, A USER CATALOG,
BG 000 * VSAM DATA SPACE, AND VSAM CLUSTERS. FIRST TIME EXECUTION
BG 000 * WILL RESULT IN A VSAM OPEN ERROR X'B4' (180) ON FILE
BG 000 * IJSYSCT AND A RETURN CODE OF 8, WHICH CAN BE IGNORED.
BG 000 4228I FILE IJSYSCT  OPEN  ERROR X'B4'(180) CAT=..N/A..
          (IKQOPNCT) VOLUME 'DOSRES' NOT OWNED BY VSAM
BG 000 EOJ VSAMDEFS  MAX.RETURN CODE=0008
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Defining Libraries and Sublibraries

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

```
F1 001 1Q47I   BG LIBRDEFS nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 000 // JOB LIBRDEFS DEFINE LIBRARIES AND SUBLIBRARIES
   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 EOJ LIBRDEFS  MAX.RETURN CODE=0000
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Users Using IBM 3480, 3490 or 9346 Cartridges

If you use an IBM 3480, 3490 or 9346 tape unit to install VSE/ESA, all of the VSE/ESA system information (including the Generation Feature and the language-dependent members) is stored on one single cartridge. You do not have to do anything at this point. **Do not reposition or dismount the cartridge until you are told to do so**.

Restoring VSE/ICCF DTSFILE

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

```
F1 001  1Q47I  BG ICCFREST nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 000 // JOB ICCFREST RESTORE THE VSE/ESA ICCF DTSFILE
   DATE xx/xx/xx,CLOCK yy/yy/yy
```

Mount Request for VSE/ESA Tapes

Note: This message appears if you are using a tape device other than an IBM 3480, 3490 or 9346 cartridge device.

```
BG 000 *  PLEASE MOUNT THE TAPE LABELED "VSE/ESA1.1.X.TAPE2YY"
BG 000 *  ON TAPE DRIVE CUU
BG-000 // PAUSE  WHEN READY, REPLY "0 (END/ENTER)"

  0
```

Dismount the first VSE/ESA tape labeled *VSE/ESA1.1.X.TAPE1YY*.

Mount and ready the second VSE/ESA tape labeled *VSE/ESA1.1.X.TAPE2YY* **on the same tape drive.**

```
BG 000 * PLEASE REPLY "0 GO" TO MESSAGE K238D
BG 000 K237I LIBRARY REALLOCATION FROM nnnn TO nnnn
BG 000 K236I USER REALLOCATION FROM nnnn TO nnnn
BG 000 K235I RESTORE FROM BACKUP OF mm/dd/yy hh.mm.ss
BG-000 K238D RESPOND 'GO' TO RESTORE /  'NOGO' TO IGNORE

   0 go

BG 000 EOJ ICCFREST  MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Punching Install Information to VSE/ICCF DTSFILE

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

```
F1 001 1Q47I   BG ICCFLOAD nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 000 // JOB ICCFLOAD PUNCH INSTALL INFO TO ICCF LIBRARY
   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 K246I AT LEAST ONE DTSUTIL COMMAND FAILED
BG 000 EOJ ICCFLOAD  MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Installing VSE/ESA Base Products

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

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

```
F1 001 1Q47I   BG BASEREST nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 000 // JOB BASEREST - RESTORE SUB-LIBRARY PRD1.BASE

   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 EOJ BASEREST  MAX.RETURN CODE=xxxx

   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Users Using IBM 3480, 3490 or 9346 Cartridges

If you use an IBM 3480, 3490 or 9346 tape unit to install VSE/ESA, all of the VSE/ESA system information (including the Generation Feature and the language-dependent members) is stored on one single cartridge. You do not have to do anything at this point.

Restoring Language-Dependent Members

The jobs **NLLIBRES** and **NLICFRES** restore all national language-dependent members from tape into IJSYSRS.SYSLIB and into the VSE/ICCF DTSFILE.

```
F1 001 1Q47I  BG NLLIBRES nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 000 // JOB NLLIBRES - RESTORE LANGUAGE DEPENDENT MEMBERS INTO SYSLIB
   DATE xx/xx/xx,CLOCK yy/yy/yy
```

Mount Request for VSE/ESA Tapes

Note: This message appears if you are using a tape device other than an IBM 3480, 3490 or 9346 cartridge device.

```
BG 000 * PLEASE MOUNT THE TAPE LABELED "VSE/ESA1.1.X.TAPE3YY"
BG 000 * ON TAPE DRIVE CUU
BG 000 // PAUSE WHEN READY, REPLY "0 (END/ENTER)"

   0
```

Dismount the second VSE/ESA tape labeled *VSE/ESA1.1.X.TAPE2YY* **.**

Mount and ready the third VSE/ESA tape labeled *VSE/ESA1.1.X.TAPE3YY* **on the same tape drive.**

```
BG 000 EOJ NLLIBRES MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz

F1 001 1Q47I  BG NLICFRES nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 000 // JOB NLICFRES - RESTORE LANGUAGE DEPENDENT MEMBERS INTO DTSFILE
   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 EOJ NLICFRES MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Initializing and Loading VSE/VSAM Files

The job **VSAMINIT** initializes and loads VSAM files needed by VSE/ESA.

Under some circumstances, the job may complete with a return code of 8. This is **not** an error.

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

```
F1 001 1Q47I   BG VSAMINIT nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 000 // JOB VSAMINIT - INITIALIZE AND LOAD VSAM FILES
   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 EOJ VSAMINIT  MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Initializing Work Files for Info/Analysis

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

```
F1 001 1Q47I   BG DUMPINIT nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 000 // JOB DUMPINIT - INITIALIZE INFO/ ANALYSIS WORK FILES
   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 EOJ DUMPINIT  MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Users Using IBM 3480, 3490 or 9346 Cartridges

If you use an IBM 3480, 3490 or 9346 tape unit to install VSE/ESA, all of the VSE/ESA system information (including the Generation Feature and the language-dependent members) is stored on one single cartridge. Dismount the cartridge at this point.

Dismount the third VSE/ESA tape labeled *VSE/ESA1.1.X.TAPE3YY.*

Requesting Migration

This step is only performed if you earlier answered "YES" to the question whether you want to migrate your VSE/SP system to VSE/ESA. If you have have answered "NO" continue at "Cataloging Members into VSE System Libraries" on page 76.

The migration step consists of the two jobs MIGRAT and DTRMIGR, which catalog configuration-related tables and user IDs from your previous VSE system into the new system.

Please note that you must do certain tasks **before** you can migrate from an earlier VSE version to VSE/ESA. Please read again "Migration During Initial Installation" on page 12.

Wrong Tape Labels

The system expects the label 'ICCF01' on the backup tape containing the DTSFILE. If you used another tape label the system issues message:

```
BG 000 4112D VOL SERIAL NO. ERROR TLBL=XXXX01 YYYYYY SYS004=CUU ZZZZZZ
```

Reply

```
0 ignore
```

to process the tape. Should the above message (4112D) appear again, repeat this reply (0 ignore).

The system expects the label 'CF0001' on the backup tape containing the control file. If you used another tape label the system issues message:

```
BG 000 4111D NO VOL1 LABEL FOUND  CFCOPY    SYS004=CUU
```

Reply

```
0 ignore
```

```
BG 000 4130D EOF OR EOV INQUIRY  CFCOPY    SYS004=CUU
```

Reply

```
0 eof
```

```
F1 001 1Q47I  BG MIGRAT nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 000 // JOB MIGRAT  MIGRATE VSE USER IDS AND HARDWARE TABLES
   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 * PLEASE MOUNT YOUR BACKUP TAPE CONTAINING THE
BG 000 * DTSFILE ON TAPE DRIVE CUU
BG 000 // PAUSE WHEN READY, REPLY "0 (END/ENTER)"
```

Mount the tape containing the backup of the VSE/SP Version 2, 3 or 4 VSE/ICCF DTSFILE on the specified tape drive. You should have created the backup before starting initial installation. After you have mounted the tape, enter

```
0              (END/ENTER)
```

```
BG 000 1T20I SYSxxx HAS BEEN ASSIGNED TO devaddr (TEMP)
BG 000 IESU0020A MOUNT CONTROL FILE TAPE ON 'nnn', PRESS ENTER WHEN READY
BG 000 OR ENTER 'CANCEL' TO CANCEL JOB
```

Mount the tape containing the VSE/VSAM copy of the VSE/SP Version 2, 3 or 4 control file on the specified tape drive. You should have created the backup before starting initial installation. After you have mounted the tape, enter

```
0              (END/ENTER)
```

```
BG 000 EOJ MIGRAT MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz

F1 001 1Q47I  BG DTRMIGR nnnnn FROM LOCAL, TIME=yy:yy:yy
BG 000 // JOB DTRMIGR  UPDATE ICCF DTSFILE
   DATE xx/xx/xx,CLOCK yy/yy/yy

BG 000 EOJ DTRMIGR MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,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.

Under some circumstances, the job may complete with a return code of 4. This is **not** an error.

```
F1 001 1Q47I   BG SAVEMEMB nnnnn FROM (SYSA) , TIME=yy:yy:yy
BG 000 // JOB SAVEMEMB CATALOG MEMBERS INTO PRD2.CONFIG AND PRD2.SAVE
   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 EOJ SAVEMEMB  MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Overview of Remaining Initial Installation Processing

The remaining initial installation tasks are different depending on whether or not you are installing VSE/ESA optional licensed programs during initial installation. You were asked about installing VSE/ESA optional licensed program in "Running the Install Program for VSE/ESA" on page 58.

If you answered no, turn to "Telecommunications Access Method and CICS/ICCF Startup" on page 82 to continue.

If you answered yes, several jobs will be executing **concurrently** during the next part of the installation:

1. The job TPSTART runs. This starts ACF/VTAM (for ACF/VTAM users), CICS/VSE, and VSE/ICCF.
2. The job OPTSCAN runs. It scans VSE/ESA optional licensed program tapes and creates the jobs which install the optional licensed programs.

Because these two jobs run at the same time, the messages from the different partitions appear together on the console. To redisplay messages of only one partition, enter

```
d l,xx
```

where xx is the partition ID, for example F3, of the partition of which you want to see the message(s). In the above command, 'l' is the lowercase letter 'l' and not to be confused with the numeral '1'.

The following table shows which job runs in what partition:

Figure 13. Partitions and Related Jobs

Jobname	Partition	Remarks
OPTxxxx	BG	Only if optional products are installed. Several jobs with the prefix OPT all run in the partition.
VTAMSTRT	F3	Only if ACF/VTAM is installed.
CICSICCF	F2	

To leave this display environment, enter

```
d e
```

It is recommended that you review the information for TPSTART in "Telecommunications Access Method and CICS/ICCF Startup" on page 82. You should carefully follow the instructions for the OPTSCAN job in "Automatic Installation of VSE Optional Licensed Programs."

BTAM-ES Users

TPSTART awaits a reply for the terminal printer definition.

In addition, the task to install the VSE/ESA optional licensed programs asks you to mount tapes and answer system messages.

Turn to "Automatic Installation of VSE Optional Licensed Programs" to install the optional licensed programs. Review the terminal screen carefully to see the messages and required responses for the job.

Automatic Installation of VSE Optional Licensed Programs

The job OPTSCAN scans the tape(s) and creates jobs which install the VSE optional licensed programs. You may have one or more tapes to install depending on the number of VSE optional licensed programs you have ordered. These VSE optional licensed programs are automatically installed.

The flow of the installation process is:

1. You are asked to mount the first VSE optional licensed program tape.
2. The tape is scanned. The job stream makes sure the tape format is correct and that there is enough space in the libraries PRD2 and PRD1.

   All of the VSE optional licensed programs will be stored in PRD2 with the exception of the following programs:

   VSE/OCCF
   NetView
   NetView DCO
   VSE/DSNX

   As defined, these programs need to reside on PRD1.BASE. This is the case, as an operation in unattended mode depends most on these programs.

   Note: If there is a problem with the tape format **or** there is **not** enough space, a message is displayed informing you of this. The VSE optional licensed

programs are **not** installed and the job stream ends. Later, use the dialog *Install Programs - Stacked V2 Format* to install the tape.

3. You are asked if you have another tape to install after this one.
4. Jobs for the installation are built.
5. VSE optional licensed programs on the current tape are installed.
6. If you have another tape, the current tape is unloaded. You are asked to mount the next tape. The installation continues with step 2 above.
7. When the last tape is processed, two jobs run for cleanup activities.

Mount the first tape *VSE OPTIONAL TAPE*. The basic machine-readable material is distributed together with other ordered program products.

The external label on the stacked tape(s) or cartridge(s) is:

VSE OPTIONAL TAPE 1 OF X

When the number of products require multiple stacked tapes, the tapes will externally be identified with:

"1 of X","2 of X", etc.

where "X" is the total number of stacked tapes shipped. Use the same tape drive you used for the other VSE tapes. Do not reposition or dismount the tape until you are told to do so.

```
F1 001 1Q47I   BG OPTSCAN nnnnn FROM LOCAL , TIME=yy:yy:yy
BG 000 // JOB OPTSCAN SCAN THE OPTIONAL PROGRAM TAPE
   DATE xx/xx/xx,CLOCK yy/yy/yy
```

Mount Request

```
  :
BG 000 *  PLEASE MOUNT THE TAPE LABELED "VSE OPTIONAL TAPE"
BG 000 *  ON TAPE DRIVE CUU
BG-000 // PAUSE  WHEN READY, REPLY "0 (END/ENTER)"
  :
```

When the tape is ready, enter:

0

Scanning the Tape

The job OPTSCAN scans the tape. It checks if the tape has the correct format. It also makes sure there is enough space in the PRD2 and PRD1 libraries to install all the optional licensed programs on the tape.

Automatic Install Terminated

If the system displays any of the following messages, follow these instructions.

```
IESI0089I UNSUPPORTED BACKUP TAPE FORMAT

IESI0088I INSUFFICIENT LIBRARY SPACE TO INSTALL ALL PRODUCTS ON TAPE

IESI0094I AUTOMATIC INSTALL TERMINATED. INSTALL VIA VSE/ESA DIALOGS.
```

There is either a problem with the tape format or there is not enough space in the libraries PRD2 and PRD1. To solve the problem, install the tape after initial installation is complete using the *Install Programs - Stacked V2 Format* dialog. This is described in "Types of VSE Licensed Programs" on page 101.

The OPTSCAN job now ends with a return code that is **not** equal 0.

```
BG 000 EOJ OPTSCAN   MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

The TPSTART job was running at the same time as the OPTSCAN job. If VSE/ICCF, ACF/VTAM (for ACF/VTAM users), and CICS/VSE are started, you can continue with "Completing Initial Installation" on page 86.

If the scan completes successfully, the system displays the following message. The job is still processing the tape that is mounted. However, it needs to know if you will install an additional tape after this one.

```
BG-000 IESI0090A ARE THERE ANY MORE OPTIONAL PROGRAM TAPES ?
       YES/NO
```

If you **want to** install another tape, enter:

```
0 yes
```

If you **do not want to** install another tape, enter:

```
0 no
```

You Will Install Another Tape

If you answered YES, the system displays the following message:

```
IESI0095I YOU WILL BE ASKED FOR TAPE MOUNT IF CURRENT TAPE IS INSTALLED
```

```
BG 000 EOJ OPTSCAN  MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Building List of Installation Jobs

The job OPTIBLDx builds the list of jobs that install the VSE optional licensed programs. In the job name, *x* is the number of the tape that is being installed.

```
F1 001 1Q47I   BG OPTIBLD xnnnnn FROM LOCAL , TIME=yy:yy:yy
BG 000 // JOB OPTIBLDx BUILD JOB MANAGER LIST
   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 EOJ OPTIBLDx  MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Installing Each VSE Optional Program

The job OPTINxyy installs each VSE optional licensed program. In the job name, *x* is the number of the tape and *yy* is the number of the optional licensed programs on the tape.

As an example, OPTIN102 means that the second (02) optional licensed program on the first tape (1) is being installed.

If you install a VSE optional program which contains a generation sublibrary, the system displays the messages:

- M235I INSTALLATION WILL BE DONE AS FOLLOWS:

  This message will inform you which sublibraries will be restored into which target sublibraries. This is displayed in the case where MSHP took defaults for the target specification.

- M089D ENTER "GO" TO CONTINUE, OR "CANCEL" TO TERMINATE

Enter

0 go to continue with the installation.

You can determine whether a particular VSE licensed program contains a generation sublibrary by reviewing the documentation which is shipped with the licensed program.

```
F1 001 1Q47I   BG OPTINxyy nnnnn FROM LOCAL , TIME=yy:yy:yy
BG 000 // JOB OPTINxyy INSTALLS 'optional program name'
   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 * *
BG 000 * *    THIS IS JOB yy OF TAPE NUMBER x
BG 000 * *    INSTALLING 'optional program name'
BG 000 * *

BG 000 EOJ OPTINxyy  MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

Install Additional Tape

If you have another tape to install, the job OPTISCNx runs. The job rewinds and unloads the current tape and asks you to mount the next tape.

In the job name OPTISCNx, *x* is the number of the next tape that will be installed.

```
F1 001 1Q47I  BG OPTISCNx nnnnn FROM LOCAL , TIME=yy:yy:yy
BG 000 // JOB OPTISCNx HANDLE NEXT OPTIONAL PROGRAM TAPE
   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 * *
BG 000 * *   ALL PROGRAMS FROM TAPE x
BG 000 * *   ARE SUCCESSFULLY INSTALLED NOW
BG 000 * *
BG 000 *** PLEASE MOUNT THE TAPE LABELED
           "VSE OPTIONAL TAPE"
BG 000 *** ON TAPE DRIVE cuu
BG 000 * *
```

Dismount the tape on the drive. Mount the next VSE optional licensed program tape. Use the **same** tape drive.

```
BG 000 EOJ OPTISCNx  MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

The installation of the next tape begins. Return to "Scanning the Tape" on page 78 to follow the job flow for this tape.

Cleanup Activities

After all VSE optional licensed program tapes are installed, two jobs will run: OPTINx99 and OPTCLNUP.

In the job name OPTINx99, *x* is the number of the last tape that was installed.

```
F1 001 1Q47I   BG OPTINx99 nnnnn FROM LOCAL , TIME=yy:yy:yy
BG 000 // JOB OPTINx99 FINAL ACTIVITIES
   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 EOJ OPTINx99  MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz

F1 001 1Q47I   BG OPTCLNUP nnnnn FROM LOCAL , TIME=yy:yy:yy
BG 000 // JOB OPTCLNUP CLEANUP OF OPTIONAL PROGRAM INSTALL
   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 * *
BG 000 * *  ALL OPTIONAL PROGRAM TAPES ARE SUCCESSFULLY INSTALLED
BG 000 * *  INITIAL INSTALLATION IS NOW FINISHED
BG 000 * *  TO COMPLETE INSTALL PROCESS USE VSE/ESA DIALOGS
BG 000 * *

BG 000 EOJ OPTCLNUP  MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

When OPTCLNUP successfully completes, message 1S78I is issued.

The job TPSTART to start VSE/ICCF, ACF/VTAM (for ACF/VTAM users), and CICS/VSE should have also completed. This is described in "Telecommunications Access Method and CICS/ICCF Startup" on page 82.

Note: If the *VSE/ESA Online* panel appears on your user terminal, turn to "Completing Initial Installation" on page 86 to continue.

This step is mandatory !

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 console. Review the console screen carefully to see the various messages. To redisplay messages of only one partition, enter

```
d l,xx
```

where xx is the partition ID, for example F3. In the above command, 'l' is the lowercase letter 'l' and not to be confused with the numeral '1'.

Figure 13 on page 77 shows you which job runs in what partition.

To leave this environment, enter

```
d e
```

The job TPSTART runs. It has several steps. For ACF/VTAM users, it releases the job VTAMSTRT which starts ACF/VTAM in partition F3. The partition controls the ACF/VTAM terminals defined earlier in the installation. VTAMSTRT does not run for BTAM-ES users.

TPSTART also releases the job CICSICCF. This job runs for all users. It starts CICS/VSE and VSE/ICCF in partition F2.

If you **did not** install VSE optional programs during initial installation, the job CLEANUP runs. It completes initial installation processing.

Note: The messages for this task may appear on your screen in a different order than that shown in this book.

```
F1 001 1Q47I   BG TPSTART nnnnn FROM (SYSA), TIME=yy:yy:yy
BG 000 // JOB TPSTART START ICCF, CICS AND VTAM (IF APPLICABLE)
   DATE xx/xx/xx,CLOCK yy/yy/yy
```

ACF/VTAM Users

The system displays the following messages:

```
BG 000 1S47I  PRELEASE RDR,VTAMSTRT WAS ISSUED
F1 001 1R88I  OK

F1 001 1Q47I  F3 VTAMSTRT nnnnn FROM (SYSA), TIME=yy:yy:yy
F3 003 // JOB VTAMSTRT START UP VTAM
   DATE xx/xx/xx,CLOCK yy/yy/yy
F1 001 1R88I  OK
```

```
BG 000 1S47I  PRELEASE RDR,CICSICCF WAS ISSUED
F1 001 1Q47I   F2 CICSICCF nnnnn FROM (SYSA), TIME=yy:yy:yy
F2 002 // JOB CICSICCF CICS/ICCF STARTUP
   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 EOJ TPSTART   MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

ACF/VTAM Users

The system displays the following messages:

```
F3 018 1T20I SYS001 HAS BEEN ASSIGNED TO X'xxx'
F3 018 1T20I SYS004 HAS BEEN ASSIGNED TO X'xxx'

F3 018 IST315I VTAM INTERNAL TRACE ACTIVE - MODE = INT,
            SIZE = 002, OPTIONS = API PIU MSG
F3 018 IST093I VTMAPPL ACTIVE
F3 018 IST093I VTMSNA ACTIVE
F3 018 IST093I VTMNSNA ACTIVE
```

You may get the following message:

```
F3 018 IST342I SLU D72xxxx HAS CONTROLLING PLU DBDCCICS -
            NO SESSION - CODE = 12

F3 018 IST093I VTMCA1 ACTIVE
F3 018 IST093I VTMCA2 ACTIVE
F3 018 IST093I VTMCA3 ACTIVE
F3 018 IST093I VTMCTCA ACTIVE
F3 018 IST093I VTMPATH ACTIVE
F3 018 IST093I VTMCDRM ACTIVE
F3 018 IST093I VTMCDRS ACTIVE
F3 018 IST093I VTMSW1 ACTIVE

F3 018 IST020I VTAM INITIALIZATION COMPLETE
```

You may get the following message:

```
F3 018 IST264I SESSION SETUP FOR PLU = DBDCCICS
            SLU = D72xxxx FAILED - REQUIRED RESOURCE
            D72xxxx UNDEFINED

    ...
    ...     (additional SESSION SETUP messages may be
    ...      displayed)
```

You may get the following message:

```
F3 018 IST264I SESSION SETUP FOR PLU = DBDCCICS
            SLU = P42xxxx FAILED - REQUIRED RESOURCE
            P42xxxx UNDEFINED
```

BTAM/ES Users

Now you may define one terminal printer:

```
* AT THIS POINT, YOU MAY OPTIONALLY ASSIGN SYS027 TO
* A 3270 PRINTER SUPPORTED AS 3286. ENTER:
* "// ASSGN SYS027,CUU" WHERE CUU IS THE PRINTER ADDRESS
F2-002 // PAUSE
```

Enter the following command:

```
2 // assgn sys027,cuu
```

where cuu is your terminal printer address.

If you do not want to add a printer, enter

```
2                (End/ENTER)
```

Job Manager Cleanup

The job CLEANUP completes initial installation processing. Messages from job CLEANUP may be displayed with messages from the CICS/ICCF startup job.

If you successfully installed at least one VSE optional licensed program tape, CLEANUP does not run. Instead, the job OPTCLNUP ran to complete initial installation processing.

```
F1 001 1Q47I  BG CLEANUP nnnnn FROM (SYSA), TIME=yy:yy:yy
BG 000 // JOB CLEANUP
   DATE xx/xx/xx,CLOCK yy/yy/yy
BG 000 *  BASE INSTALL PROCESSING IS NOW FINISHED.
BG 000 *  COMPLETION OF THE INSTALL PROCESS MUST
BG 000 *  BE PERFORMED USING THE VSE/ESA DIALOGS.

BG 000 EOJ CLEANUP   MAX.RETURN CODE=xxxx
   DATE xx/xx/xx,CLOCK yy/yy/yy,DURATION zz/zz/zz
```

```
F2 002 K002I  BEGIN ICCF INITIALIZATION FOR TERMINAL SYSTEM
F2 002 K006I  INITIALIZATION OF DTSFILE PARAMETERS IN PROGRESS
F2 002 K481I  DYNAMIC FILE SPACE INITIALIZATION BYPASSED

F2 002 K001I  DEVICE TYPE IS xxxx
F2 002 K088I  HI FILE RECORDS=  nnn (mm%)
F2 027 K029I  ICCF INITIALIZED, NEXT MESSAGES FROM TERMINAL CONTROL

F2 027 DFH1500 - CICS/VSE VERSION 2.1, START-UP IS IN PROGRESS.
F2 027 DFH1501 - DFHSITSP IS BEING LOADED
F2 027 DFH1500 - LOADING CICS NUCLEUS
F2 027 DFH1500 - CICS START-UP IS COLD

F2 027 DFH1500 - TERMINAL DATA SETS ARE BEING OPENED
F2 027 DFH0710 - DBDCCIDS: DUMP DATA SET DFHDMPA IS BEING OPENED

F2 027 DFH1500 - SUBPOOL SIZE BEFORE LOADING RESIDENT PROGRAMS IS nnnnnK
F2 027 DFH1500 - CPU-TERMINAL SUPPORT AVAILABLE
F2 027 DFH1500 - STXIT MACROS ARE BEING ISSUED

F2 027 DFH1280 - DBDCICCS: TRANSIENT DATA INITIALIZATION STARTED
F2 027 DFH1281 - DBDCICCS: TRANSIENT DATA INITIALIZATION ENDED

F2 027 DFH1500 - INSTALLING GROUPLIST VSELIST
F2 027 DFH1500 - PROCESSING RESIDENT PROGRAMS

F2 027 DFH1500 - SUBPOOL SIZE AFTER LOADING RESIDENT PROGRAMS nnnnnK
F2 027 DFH1500 - SUBPOOL SIZE AVAILABLE FOR THIS START-UP IS nnnnnK
F2 027 DFH1500 - DBDCCICS : CONTROL IS BEING GIVEN TO CICS
```

With this last message, control has been given to CICS. The system is now available. Turn to "Completing Initial Installation" on the next page to continue.

Completing Initial Installation

You now complete VSE/ESA initial installation. This **must be done before** you do any optional installation tasks or use the VSE/ESA system. If you do not complete this task, your system may not operate properly.

For this task, you use the Interactive Interface. VSE/ESA has a special user ID and password that is used **only** for this task.

> Depending on whether you performed a migration from a previous VSE/SP release to VSE/ESA or whether you installed a new VSE/ESA system, you follow "Completing Initial Installation (for Non-Migration Users)" on page 87 or "Completing Initial Installation (for Migration Users)" on page 88. Starting with "Entering Personalized Information (for Migration and Non-Migration Users)" on page 89, the tasks are the same independent of whether you performed a migration or installed a new VSE/ESA.

The one, two, or three terminals which you specified during initial installation will display the VSE/ESA sign-on panel (*VSE/ESA Online* panel) if they were powered on during system startup. The *VSE/ESA Online* panel is shown in Figure 14.

Note: When you start up the system after initial installation, all terminals which are powered on will display the sign-on panel. If you are using BTAM-ES and a terminal is powered on **after** CICS/VSE is started, you must press **ENTER** to display the sign-on panel.

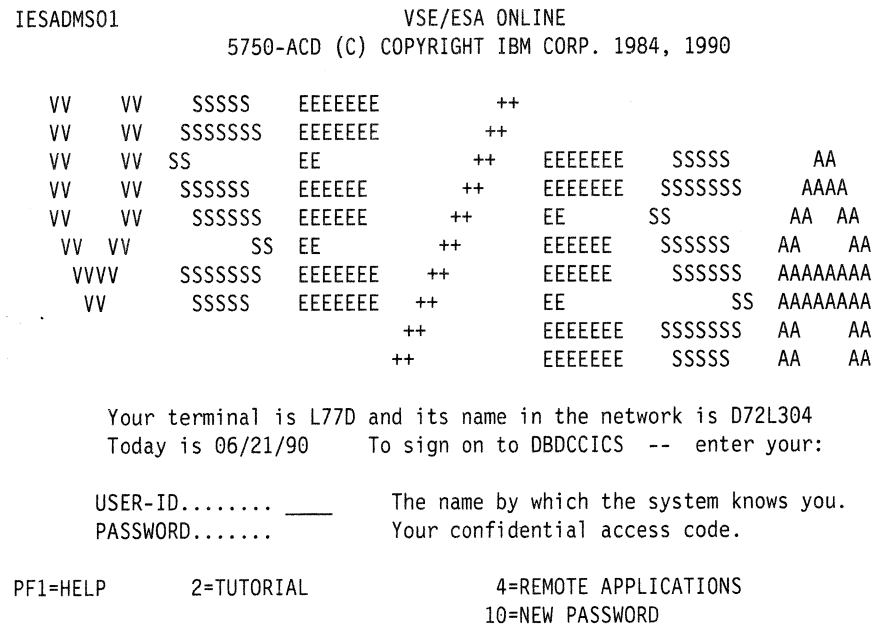


Figure 14. VSE/ESA Online Panel

Sign on to the system from the *VSE/ESA Online* panel using the predefined user ID **POST** and the Password **BASE**:

```
USER ID.... = = >     post
PASSWORD... = = > base
```

After you have signed on with the user ID *POST*, the system will display the following message:

```
INPUT ACCEPTED, PLEASE WAIT
```

The system will now complete the online installation task of the initial installation.

This processing takes several minutes. Do not interrupt this process.

Completing Initial Installation (for Non-Migration Users)

You still are logged on to the User ID **POST**.

The following panel asks you to specify the naming convention you want to use for VTAM resource names. These names are generated in the hardware configuration dialogs.

```
ADM$CNV1        VSE/ESA NAMING CONVENTION FOR VTAM RESOURCES

Enter the required data and press ENTER.



CONVENTION..................... 1          1 = naming convention to support
                                              two byte subarea addressing
                                          2 = naming convention to support
                                              extended subarea addressing




PF1=HELP       2=REDISPLAY  3=END
```

Figure 15. VSE Naming Convention for VTAM Resources

Choose **convention 1** (2-digit subarea naming convention) if you want to use VTAM resource names generated for a VSE/SP Version 4 or an earlier VSE/SP system. Also choose convention 1 if you are a new VSE/ESA user and do not want to

- Support more than 255 subareas
- Use unattended node operation.

Choose **convention 2** (4-digit subarea naming convention) if you plan to support more than 255 subareas. This **must** be chosen if you want to use unattended node operation.

Users Installing a Native VSE/ESA

If you are installing a native VSE/ESA, the *Unidentified Device List* panel similar to the one shown on page 91 may be displayed.

This happens when the system knows the address (cuu), but neither the device nor the device type code. To keep or delete a device, proceed as described on page 91.

Completing Initial Installation (for Migration Users)

If you are migrating your system from a previous VSE/SP release to VSE/ESA, the processing may take more than 30 minutes. You do not have to enter any information. Do not interrupt the process.

You will get the naming convention you used with your previous VSE/SP version. Please remember that you cannot migrate from the 2-digit subarea naming convention to the 4-digit subarea naming convention. See "Restrictions for Migration During Initial Installation" on page 12 for more information.

Starting with VSE/ESA, the hardware dialog creates entries for the CICS System Definition file (CSD) instead of Terminal Control Tables (TCTs) as was the case with previous VSE/SP releases.

If you changed the IBM-supplied CICS parameter tables or defined your own CICS parameter tables, these newly defined tables will be transferred to *group* **VSETYPE1** in the CSD. This is done via the job CSDMIGR which is created and stored in library 10. This job will be automatically submitted and you get the following message:

```
JOB HAS BEEN SUBMITTED AND FILED AS CSDMIGR
```

For each changed or newly defined CICS parameter table, *typeterm names* are created, as follows:

VSEDIxxx (**DI** = display)

VSEPRxxx (**PR** = printer)

with **xxx** ascending from 001 to 999.

Information about the relationship between the former CICS parameter table names and the new typeterm names can be found in table ADM$CICF in library 50.

Here is a short description of what you find in some of the columns in ADM$CICF:

Column name in ADM$CICF	Typeterms
FTNAME	Former CICS parameter table name
TYPETN	Non-SNA typeterms
TYPETSL	SNA-LU2/-LU3 typeterms
TYPETSS	SNA-SCS typeterms

For previously defined devices which are no longer supported by the Interactive Interface of VSE/ESA you get the *Unidentified Device List* panel similar to the one

shown on page 91. You have to delete these unsupported devices. Refer to "Supported Disk Devices" on page 8 for a list of supported devices for VSE/ESA.

ACF/VTAM Users Migrating from VSE/SP Version 2

If you are migrating from **VSE/SP Version 2** your ACF/VTAM resource names may be changed. Programs using these names must be changed accordingly.

The migrated names correspond to the 2-digit subarea naming convention described in the manual *VSE/ESA Networking Support*.

Entering Personalized Information (for Migration and Non-Migration Users)

The dialog now asks you to enter data unique to your installation.

The following panel will be displayed:

```
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 16. Panel - Complete Initial Installation

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 having entered all required information, press ENTER.

The Interactive Interface has the *Personalize History File* dialog to update the system history data. If you need to change any system history information of that type after this task, use this dialog. "Special Characteristics of the Userid POST" on page 95 has more information.

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
```

On the next panel that appears, the system will inform you that

- Initial Installation is complete,
- Final housekeeping is finished,
- An MSHP job stream was submitted, and
- You have validated the hardware configuration table.

Press ENTER. Pressing ENTER automatically signs you off and displays the VSE/ESA Online panel.

The first action after the POST session should be the *Hardware Configuration* dialog to create and activate the ACF/VTAM and CICS/VSE definitions of your system.

Completing the Hardware Tables (for Migration and Non-Migration Users)

Sign on to the Interactive Interface with the SYSA user ID. On the VSE/ESA Online panel, enter:

```
USER ID.... = = >      sysa
PASSWORD... = = > sysa
```

During the initial installation process, the IPL program sensed and defined the devices on your system. These definitions were used to create hardware configuration tables. The hardware configuration tables 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. If the system has found all necessary information for all sensed devices, this step is **not required**. If you are migrating from VSE/SP Version 2, 3 or 4 it may happen that devices known to one of these versions will not be identified by VSE/ESA. Define them using the *Configure Hardware* dialog as described below.

To add the missing information, start with the *Function Selection* panel and select:

```
2      (Resource Definition)
4      (Hardware Configuration and IPL)
1      (Configure Hardware)
```

```
Administrator
Fast Path:  241
```

```
Synonym
Default:            Yours:
```

Figure 17 on page 91 shows an example of the Unidentified Device List. This panel lists all devices of which the system knows the address (cuu), but nothing else.

```
ADM$HDWF          HARDWARE CONFIGURATION: UNIDENTIFIED DEVICE LIST


   OPTIONS: 1=DEFINE A DEVICE      5=DELETE A DEVICE
            '=' = REPEAT LAST DEFINED DEVICE

         OPT     ADDR    DEVICE   DEVICE TYPE   DEVICE SPECIFICATION
                                     CODE             (MODE)
          _       009     ?        3277
          _       280     ?        3420T9
          _       380     ?        3277
          _       381     ?        3277
          _       382     ?        3277
          _       383     ?        3277
          _       384     ?        3277
          _       385     ?        3277
          _       386     ?        3277
          _       387     ?        3277

PF1=HELP      2=REDISPLAY  3=END                5=PROCESS
              8=FORWARD
```

Figure 17. Unidentified Device List

If you want to delete a device from the list of unidentified devices, enter 5 in the option column next to that device.

If devices are listed which are attached through a link that occupies more than **one** address (cuu), you cannot define these devices in this panel. Examples are links from:

- An integrated communication adapter into an X.25 network.
- 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.

If you want to keep a device, you must define it by entering 1 in the option column next to the device you want to keep.

You can directly enter the device name on this panel. It may happen that the device name you entered is invalid or that you forgot to replace a question mark "?." In this case the system displays some selection menus on which you may select the device name.

You must go through the complete list of devices and define or delete each of the given addresses before you can press **PF5** to process your input. The system displays Figure 18 below. This panel contains the information you added.

```
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    ADDR    DEVICE    DEVICE TYPE   DEVICE SPECIFICATION   DEFINITION
                            CODE            (MODE)            INCOMPLETE
  _       009     3278-2A     3277
  _       00C     2540-R      2540R
  _       00D     2540-P      2540P
  _       00E     1403        1403
  _       111     3174-1L     3791L
  _       112     3174-1L     3791L
  _       113     3174-1L     3791L
  _       114     3174-1L     3791L
  _       115     ICA-SDLC    3705              10
  _       116     3174-1L     3791L

PF1=HELP       2=REDISPLAY  3=END                5=PROCESS    6=ADD ADDR
               8=FORWARD    9=PRINT
```

Figure 18. Hardware Configuration : Unit Address List (Information Added)

Check carefully if your hardware configuration is complete or if there is a need to add or delete a device.

Do not delete addresses

FEC,
FED,
FEE,
FFA,
FFC,
FFD,
FFE.

They are required by VSE/ICCF and VSE/POWER startup. Also **do not delete** address FFF. It provides the capability to use the system console as ACF/VTAM or CICS/VSE terminal. Refer to the manuals *VSE/ESA Planning* or *VSE/ESA Operation* for information about disconnecting the system console.

Press PF5 again to 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 ICA 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 19. Hardware Configuration : Catalog Startup Members

Note: The panel shown above is just an example. If you have a different hardware configuration, other objects may be marked by an x.

Press ENTER to build a job which will make the added information known to the system. You will get the *Job Disposition Panel* displayed. Submit that job.

If there is a need to change your hardware configuration at a later time, refer to the IBM manual *VSE/ESA Networking Support*. This manual has information how to add or delete a device or change the characteristics of a device.

You are almost done with the initial installation of VSE/ESA. From now on you **must use new passwords** to prevent unauthorized access to your VSE/ESA system. Therefore, you should change the passwords for the predefined VSE/ESA User IDs.

Changing Passwords for VSE/ESA User IDs

You should now change the passwords of the four predefined VSE/ESA user IDs. The passwords are defined with no expiration date. You should change them, however, for security reasons. Doing this helps ensure that unauthorized users do not have access to your system. The following table shows the user IDs and passwords that VSE/ESA ships besides *POST/BASE* (which is **only** used to complete initial installation):

Figure 20. VSE/ESA Predefined User Profiles

PROFILE	USER ID	PASSWORD
System administrator	SYSA	SYSA
Programmer	PROG	PROG
System console operator	OPER	OPER
Remote problem determination	$SRV	$SRV

For remote problem determination, VSE/ESA provides a special user ID $SRV. With this user ID, an IBM Support Center, for example, can log on to a user 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 it.
- Exchange messages with other users.
- Use the Problem Handling dialogs of VSE/ESA.

See the manual *VSE/ESA Guide for Solving Problems* for further information on $SRV.

You can change the passwords from the VSE/ESA Online panel shown in Figure 14 on page 86. You use the PF10 (NEW PASSWORD) key. On the panel, type in the following and then press **PF10**:

```
USER ID.... = = >      sysa
PASSWORD... = = > sysa
```

Note that for security reasons the password is not displayed on the screen. The system displays the *Change Password* panel. Enter a new password in both fields on the panel. The password can be 3 - 6 alphanumeric characters including the special characters @, #, $. The system checks the two entries for accuracy.

After you enter the new password, you are signed on to the Interactive Interface. Press **PF3** to sign off and redisplay the VSE/ESA Online panel. Follow these instructions again to change the passwords of the other three user IDs:

- PROG
- OPER
- $SRV.

The passwords of the four VSE/ESA user IDs are defined with no expiration date. If you want to specify an expiration date, you can use the *Maintain User Profiles* dialog. The dialog is described in the IBM manual *VSE/ESA Administration*.

Additional Considerations

There are some additional issues described as follows which you may want to consider.

Updating Hardware Tables After Initial Installation: If you need to update the hardware table or personalized data of the system history **after** initial installation is completed, there are two dialogs you can use:

1. *Configure Hardware*
2. *Personalize History File*

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 TCTs into CSDs without Using the Interactive Interface: Although it is recommended to use the Interactive Interface, you **may** use the CICS MIGRATE command for migrating your self-defined and modified CICS/VSE parameter tables. This command is part of the CICS/VSE DFHCSDUP utility.

If you use the MIGRATE command of the CICS/VSE DFHCSDUP utility be aware that:

- Many changes have to be made manually.
- There is no special VSE/ESA support for this type of migration.

For more information on the DFHCSDUP utility, refer to the IBM manual *CICS/VSE Resource Definition (Online)*.

Special Characteristics of the Userid POST: The user ID POST is reserved. It is only used to complete initial VSE/ESA installation. The profile for the POST user ID is set up to do special processing. After the system has signed you off automatically (after you have finished initial installation), *POST/BASE* will be rejected. The user ID POST cannot be used to sign on to the system after you have completed initial installation.

Initial installation is now complete.

If you wish, you can now turn to the optional installation tasks and:

1. Delete VSE/ESA licensed programs you do not need.
2. Install the VSE/ESA generation feature.
3. Install VSE optional licensed programs.

You can continue with Chapter 6, "Doing Optional Installation Tasks (Native and VM)."

Chapter 7, "Doing Optional Installation Tasks (VSE/ESA under VM)" on page 113 describes optional installation tasks that can only be performed by users having installed VSE/ESA under VM.

Chapter 6. Doing Optional Installation Tasks (Native and VM)

This chapter describes optional installation tasks that you may perform when you install a native VSE/ESA or when you install VSE/ESA under VM.

Deleting VSE/ESA Programs You Do Not Need

As soon as you have finished the initial installation of your VSE/ESA system, you may decide to delete certain VSE licensed programs that you do not need. VSE/ESA provides *delete jobs* for this purpose in the VSE/ICCF library 59.

The names of the delete jobs always start with *DEL*, followed by an identifier for the licensed program, for example, *BTM* for the base product BTAM-ES. You switch to library 59 and copy the selected delete jobs to your library. Then you submit the delete jobs. They will delete the program(s) not needed and update the history file accordingly.

Below is a list of the available delete jobs, together with the corresponding licensed program.

Delete Job	VSE/ESA Program
DELBTM	BTAM-ES
DELDTO	DITTO for VM and VSE
DELDTS	VSE/ICCF
DELFCO	VSE/FAST COPY
DELPWR	VSE/POWER
DELVSM	VSE/VSAM
DELVSMBR	VSE/VSAM Backup/Restore
DELVS	VSE/VSAM S/M Feature
DELVTM	ACF/VTAM
DELXX3	CICS/VSE
DELXX3RC	CICS/VSE Report Controller

Figure 21. Delete Jobs for VSE/ESA Programs

Overview on the Generation Feature

The VSE/ESA distribution tape(s) contain **source code** that provides generation capability for the VSE/Advanced Functions supervisor and certain CICS/VSE control programs. *Installation of this code (called the Generation Feature) is optional.* You only need it if the options of the pregenerated system are not adequate for your needs.

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.* If you receive VSE/ESA on an IBM 3480, IBM 3490 or IBM 9346 cartridge tape, the Generation Feature will be part of that tape. Otherwise, it and your system's National Language Support will be stacked on a separate tape.

CICS/VSE Generation Modules

VSE/ESA provides generated versions of the CICS/VSE control programs that have few SYSGEN options and no user exits. With the CICS/VSE source code of the Generation Feature, you can generate modules that need user exits or have other local requirements. For a list of the CICS/VSE modules, refer to the IBM manual *VSE/ESA Planning* or to the manual *CICS/VSE Customization Guide.*

Installing VSE/ESA Generation Feature

The tape containing the Generation Feature is labeled *VSE/ESA1.1.X.TAPE3YY*, or, if you have an IBM 3480, IBM 3490 or IBM 9346 cartridge, *VSE/ESA1.1.X.CART1YY.*

The Interactive Interface provides the *Install Generation Feature* dialog to install the Generation Feature. This feature of VSE/ESA provides generation capability for the VSE/Advanced Functions supervisor and certain CICS/VSE control programs. *VSE/ESA Planning* has more information on CICS/VSE generation modules and supervisor generation parameters.

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 is needed if service is installed that affects the Generation Feature.

The approximate space allocations required for the PRD2.GEN1 sublibrary are shown below. The disk devices listed are those that can be used for initial installation of VSE/ESA.

Figure 22. Space Requirements for PRD2.GEN1

IBM Disk Device	Required Space for PRD2.GEN1	Library Blocks
3350	2195 tracks (73 cylinders, 5 tracks)	32,900
3375	1316 tracks (109 cylinders, 8 tracks)	32,900
3380	1063 tracks (70 cylinders, 13 tracks)	32,900
3390	997 tracks (66 cylinders, 7 tracks)	32,900
All FBA disks, except 3310	65,800 blocks	32,900

To access the dialog, start with the *VSE/ESA Function Selection* panel and select:

1 (Installation)
3 (Install Generation Feature)

```
Administrator
Fast Path:  13
```

```
Synonym
Default:    ——    Yours:
```

You are asked only for the tape address, cuu. 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 now submit the job to the VSE system by doing the following:

1. On the *VSE/ESA Function Selection* panel, select

   5 (Program Development)

2. On the *Program Development* panel, select

   1 (Program Development Library)

```
Administrator
Fast Path:  51
```

```
Synonym
Default:  iccfs    Yours:
```

3. On the *Program Development Library* panel, press ENTER.
4. On the *Primary Library* panel, type in

   7 (Submit)

   in the option (OPT) column next to the library member INSGEN.
5. Press ENTER to submit the job.

The job asks you to mount the tape containing the Generation Feature (if not on a cartridge, this is the tape labeled *VSE/ESA1.1.X.TAPE3YY*). Use the **same** tape unit you specified in the dialog.

The job INSGEN restores the supervisor source into the sublibrary PRD2.GEN1. To actually regenerate the supervisor, you must now execute an assembly job and catalog it into the system library IJSYSRS.SYSLIB.

Installing the Generation Feature after Service Has Been Installed

If you want to install the Generation Feature after you have installed service to either VSE/Advanced Functions or CICS/VSE, you must do additional tasks before using the *Install Generation Feature* dialog. *You first must bring your system to the same service level as the Generation Feature*. This means that you have to do one of the following:

1. If a system refresh for VSE/ESA is available (that is, at a service level higher than your present system):
   a. Order the refresh and the Generation Feature.
   b. Use the *Fast Service Upgrade (FSU)* dialogs to install the refresh tapes.
   c. Use the *Install Generation Feature* dialog to install the Generation Feature.
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 CICS/VSE and VSE/Advanced Functions that you previously applied to the system. By specifying the reapplication of these PTFs, you force MSHP to apply also the related Generation Feature PTFs. To get a list of the service applied, you may use stage 0 (down-level check) of Fast Service Upgrade. For a detailed description of the Fast Service Upgrade, refer to "Running a Fast Service Upgrade (FSU)" on page 157.

You must follow one of these two procedures to ensure that your system operates correctly. If you do not, you may have mixed 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.

See also "Service Affecting the Generation Feature of VSE/ESA" on page 130 for more information.

Installing VSE Licensed Programs

VSE/ESA supports the installation of VSE licensed programs. Certain VSE licensed programs are designated as VSE *optional licensed programs*. These optional licensed programs are tested together with VSE/ESA and supported for simplified installation via a dialog *(Prepare for Installation (Stacked Tapes Only))*.

A preliminary list of VSE optional licensed programs is shown in the IBM manual *VSE/ESA Planning*. For the most current information, refer to the *Program Directory* provided with these tapes.

You can also install other VSE licensed programs which are not VSE optional licensed programs.

> The VSE optional licensed programs are shipped in stacked format, whereas the other VSE licensed programs may be shipped in stacked or in non-stacked format on tape, as shown below.

Types of VSE Licensed Programs

- **Stacked format**, Version 2 (V2)
  - The programs are stacked on tape.
  - The tape can be scanned to determine the space needed by each licensed program on the tape.
  - Distributed in librarian format of VSE/Advanced Functions Version 2.
  - **Dialogs** are offered to **scan** these tapes.
- **Non-stacked format**, Version 2 (V2)
  - The programs are not stacked on a tape.
  - One licensed program resides on a single tape.
  - Distributed in librarian format of VSE/Advanced Functions Version 2.
  - **No dialog** is offered to **scan** these tapes.
- **Non-stacked format**, Version 1 (V1)
  - The programs are not stacked on a tape.
  - One licensed program resides on a single tape.
  - Distributed in librarian format (V1) of **pre-version 2** VSE/Advanced Functions.
  - **No dialog** is offered to **scan** these tapes.

After initial installation of your system, you can install all VSE licensed programs in MSHP format using dialogs supplied by the Interactive Interface. You can also install VSE optional licensed programs automatically at initial installation. Review the information in the following sections to decide when you will install VSE optional licensed programs.

Installing VSE Optional Licensed Programs at Initial Installation

You can install VSE optional licensed programs automatically during initial installation. This is provided **only** for VSE optional licensed programs.

During initial installation, you are asked if you want to automatically install the optional licensed programs.

Reply no, if you:

- Have no VSE optional licensed program tapes to install.
- Want to select only a few products from the tape.
- Do not want to accept the default characteristics of automatic installation.
- Are sure that sufficient space is **not** available in the PRD1 or PRD2 library.
- Want to use the dialog to install for whatever reason.
- Want to install products in libraries other than the default libraries.

Reply yes to install VSE optional licensed programs. The characteristics of the installation are:

- VSE optional licensed programs are automatically installed during initial installation.
- All VSE optional licensed programs on a tape are installed.
- VSE optional licensed programs are installed in library PRD2 and specific default sublibraries. A description of the default sublibraries is in topic "VSE/ESA Overview" in the IBM manual *VSE/ESA Planning*.
- Installation terminates if problems occur. A problem may be that there is not enough space in library PRD2 or in the specific default sublibraries. If this is the case, the optional licensed programs are not installed. You then use the dialog to install the tape.

If you answer YES, a job stream is built to install the VSE optional licensed programs. The job stream runs during initial installation. For details, see "Automatic Installation of VSE Optional Licensed Programs" on page 77.

Note: It is recommended that you install the VSE optional licensed programs **after** initial installation is complete. This allows you a better control of your installation. In addition, you can install your own libraries at a later time.

Installing VSE Optional Licensed Programs and Other VSE Licensed Programs after Initial Installation

1. When you install optional licensed programs or other licensed programs in stacked Version 2 format after initial installation, you use the:

   a. *Prepare for Installation* dialog to print a tape scan report. The report provides information about the optional licensed 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 optional licensed programs.

b. *Install Product(s) from Tape* dialog to install one or more of the optional licensed programs or other VSE licensed programs in stacked Version 2 format that you received.

2. When you install other licensed programs in Version 1 or in non-stacked Version 2 format, you use the *Install Programs - Non-Stacked V2 Format or V1 Format* dialog.

A Note about Multiple Product Versions

If you want to install a new **version** of an already installed product and if you want to:

- Keep the old version

  You *must not* install the new version into the same sublibrary as where the old (kept) version is installed, 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 product information from the system history file using the MSHP REMOVE command. For details see the IBM manual *VSE/ESA System Control Statements*.

  However, this command will not delete the corresponding members from the library. The subsequent installation will replace them.

Note: A *new product* version does not mean a new release or modification level. For example, for VSE/POWER

- 5 is the version indicator.
- 1 is the release indicator.
- 0 is the modification level indicator.

Installing VSE Optional Licensed Programs Using the Dialog

You can install VSE optional licensed programs using the *Install Programs - Stacked V2 Format* dialog, if you want to:

- Choose at which point in time the VSE optional licensed programs are installed.

  By using the dialog, you can install VSE optional licensed programs at any time after installing the initial VSE/ESA system.

- Install only one or some (not all) optional licensed programs on the tape.
- Install the VSE optional licensed programs into different libraries/sublibraries than the default ones.
- Extend the default library before installation.
- Define new libraries for the installation.

Note: It is possible to install VSE optional licensed programs without using the Interactive Interface dialogs. But if you later use the dialogs to apply maintenance to these products refer to "Applying Service to Optional Licensed Program that Were Installed without Using the Dialog" on page 177 for more information.

Installing VSE Optional Licensed Programs in Stacked Version 2 Format

The *Install Programs - Stacked V2 Format* dialog installs VSE optional licensed programs or other VSE licensed programs distributed in the librarian format of VSE/Advanced Functions Version 2.

This librarian format enables distribution of more than one licensed 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 licensed program. You can install one, several, or all licensed programs on the tape at one time. If you install other VSE licensed programs (*not on stacked tapes*), you cannot use the dialog *Prepare for Installation (Stacked Tapes Only)* and scan the tape.

The dialog creates job streams which use the Job Manager to manage the installation. "Additional Considerations" on page 107 describes Job Manager processing for the dialog.

The dialog consists of two separate tasks:

1. *Prepare for Installation (Stacked Tapes Only)*

   This scans the distribution tape and gathers statistics about it. It prints a report on SYSLST and builds a list of the licensed programs you can selectively install from the tape. The list is shown in the next step. Do not use this dialog to scan programs that are not stacked on tape. See "Types of VSE Licensed Programs" on page 101 for more information.

2. *Install Product(s) from Tape*

   The dialog shows a list of products with default libraries. You can select one or more licensed programs for installation into the appropriate library.

If you are using the dialog for the first time and if the tape contains optional licensed programs (stacked on tape), you should complete the installation by performing tasks 1 and 2.

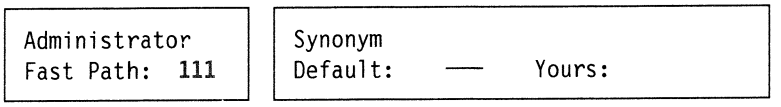
If the tape contains any other VSE licensed programs (**not** stacked on tape), you should do the installation by performing only task 2.

If you have used the dialog before, you may have a program list saved and not need to perform *Prepare for Installation (Stacked Tapes Only)*. The following sections describe the dialog process in more detail.

To access the dialog, start with the *VSE/ESA Function Selection* panel and select:

1 (Installation)
1 (Install Programs - Stacked V2 Format)

1 (Prepare for Installation (Stacked Tapes Only))
or
2 (Install Product(s) from Tape)



or

Administrator Fast Path: 112	Synonym Default: —— Yours:

Select each of the two tasks in order (1, 2).

Prepare for Installation

Prepare for Installation (Stacked Tapes Only) creates a job which:

- Scans one or more distribution tapes.
- Gathers licensed program statistics.

The job prints a *scan report* on the system printer. It also creates an internal list of all licensed programs on each tape. The list is displayed when you use *Install Product(s) from Tape*.

Note: The dialog *Prepare for Installation (Stacked Tapes Only)* should **not** be used if the programs you want to install are not stacked on tape. For more information, refer to "Types of VSE Licensed Programs" on page 101.

A program list saved from a previous installation is replaced whenever you perform *Prepare for Installation (Stacked Tapes Only)*.

You only need to enter the tape address. On 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, you are asked to mount the first tape. Use the **same** 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 licensed 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 VSE/VSAM space where a library/sublibrary resides, you can use the:

  1. *File and Catalog Management* dialog. The following libraries reside in space managed by VSE/VSAM:

     - PRD1.BASE
     - PRD2.AFP
     - PRD2.PROD
     - PRD2.DBASE
     - PRD2.SQL310
     - PRD2.COMM
     - PRD2.COMM2

     For more information, refer to the section on "Files and Libraries" in the IBM manual *VSE/ESA Planning*.

  2. Skeleton SKLIBEXT in VSE/ICCF library 59 for libraries not managed by VSE/VSAM. You would only use this skeleton if you have specified explicitly that you want your optional licensed programs to be installed in a particular

library not managed by VSE/VSAM. The section on "Files and Libraries" in the manual *VSE/ESA Planning* has more information available.

The manual *VSE/ESA Administration* describes the dialog and skeleton.

If a VSE licensed program contains a generation sublibrary, the scan report shows two entries for the licensed program. The second entry is for the generation sublibrary. The first entry is for the production sublibrary.

If you install the licensed program, both entries will be installed.

When you are ready to install, continue with *Install Product(s) from Tape*.

Install Products from Tape

Install Product(s) from Tape installs some or all licensed programs on the distribution tape.

A FULIST displays the licensed programs on the tape. The list was created during the *Prepare for Installation (Stacked Tapes Only)* task.

Note: If you **did not** use *Prepare for Installation (Stacked Tapes Only)* and you **do not** have a list saved from a previous installation, refer to "Additional Considerations" on page 111 for more information about the dialog and the values you can specify.

On the FULIST, indicate which licensed programs you want to install. In the OPT column, enter:

1 - Install
2 - Skip Installation

The FULIST displays the following information:

IDENTIFIER
This identifies the licensed program on the tape.

LIBRARY and SUBLIBRARY NAME
This is the default library/sublibrary where the licensed program will be installed. You can change the library or sublibrary name.

If a licensed program has a production and generation part, both will be installed in the same library. The sublibrary will be used only for the production part.

For the generation part, the licensed 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 licensed program on the tape. This is helpful if you want to check your entries with the licensed program documentation.

You **cannot** change this value.

TAPE NUMBER
This shows the tape number where the licensed program resides. This is helpful if you want to check your entries with the licensed program documentation.

You **cannot** change this value.

Select the licensed programs you want to install. Press PF5 to process the information.

You also need the following information:

KEEP PRODUCT LIST
Specify whether you want to save or erase the list of licensed 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 program products now and others later (from the same tape), the list is available. You do not have to perform *Prepare for Installation (Stacked Tapes Only)* again.

If you erase the list, you can create a new one by using *Prepare for Installation (Stacked Tapes Only)*.

TAPE ADDRESS
Specify the tape address (cuu) for the installation.

A job sequence is created. On 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, mount the first tape. Use the **same** 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" for information. If you have more than one tape, you are asked to mount the next tape.

If you install a VSE licensed program which contains a generation sublibrary, the system displays the messages:

- `M235I  INSTALLATION WILL BE DONE AS FOLLOWS:`

  This message will inform 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.

Additional Considerations

1. Before you install a licensed program, you should ensure there is sufficient space in the library/sublibrary. Review the scan report for space requirements.
2. If you save the program list for a tape, you can use the list again by starting with *Install Product(s) from Tape*.
3. *Prepare for Installation (Stacked Tapes Only)* replaces any lists that were previously saved.
4. If you use the Access Control Table DTSECTAB to protect your libraries, make sure that the user ID you use to perform the *Install Programs - Stacked V2 Format* dialog has the ALTER authorization for IJSYSRS.SYSLIB.
5. If you have problems installing a feature for an IBM licensed program, you may need a COMPATIBLE statement for MSHP. This statement is used to indicate to MSHP at installation time those products that are compatible with the shipped

product(s). Refer to the IBM manual *VSE/ESA System Control Statements* for information about this MSHP statement.

Job Manager Processing: 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.

"Overview of the Job Manager" on page 9 describes the Job Manager and what you should do if problems occur. Refer to this section for general information and whenever a job does not complete successfully.

Installing without a Program List

You can perform *Install Product(s) from Tape* without having a program list. You would not have a list if you did not:

1. Use *Prepare for Installation (Stacked Tapes Only).*

   or

2. Save a list from a previous installation.

You can install licensed programs without a list. However, you do not have the information about the tape contents that is provided by the scan report. If you install without a program list, there are special considerations for the entries you specify in *Install Product(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 licensed program. This is identical to the *backup ID*. The identifier must be unique.

Check the licensed program documentation for the correct value. If you specify an incorrect identifier, the licensed program cannot be located on the tape.

If the licensed program has a production and generation part, specify **two** entries with the **same** identifier.

LIBRARY and SUBLIBRARY NAME

If a licensed 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 is only used for the production part. For the generation part, the licensed program provides a default sublibrary name for the installation.

SEQUENCE NUMBER

You can disregard the sequence number.

TAPE NUMBER

This shows the tape number where the licensed program resides. The numbers you specify must be in ascending order.

Reinstallation

You can use the *Install Programs - Stacked V2 Format* dialog to reinstall a licensed program. If you specify a different sublibrary than where the licensed program was originally installed, the dialog displays an additional panel. The panel shows the:

- Backup ID of the licensed program.
- Sublibrary it is presently installed in.
- New sublibrary you want to reinstall it in.

You can only install a licensed 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 to the new sublibrary, the dialog updates the system history file. However, the licensed program is **still** in the original sublibrary. You must **delete** it from the original sublibrary. Review the documentation for the individual licensed program to determine the names of the library members you must delete from the particular sublibrary.

Install Programs in Version 1 Format or in Non-Stacked Version 2 Format

The *Install Programs - Non-Stacked V2 Format or V1 Format* dialog installs one or more MSHP formatted VSE licensed programs that are distributed in the librarian format of Version 2 of VSE/Advanced Functions, but not stacked on tape, and in the librarian format of pre-Version 2 VSE/Advanced Functions. In VSE/ESA, this is referred to as Version 1 format.

VSE licensed programs distributed in Version 1 format or non-stacked Version 2 format differ from stacked Version 2 format in two ways:

1. Only one licensed program resides on a single tape.
2. The tape cannot be scanned to gather program statistics.

The dialog creates a job stream which installs the licensed programs under MSHP control, based on the sequence you specify in the dialog. Each licensed program is installed from a single tape. The job stream requests that the next tape in the sequence is mounted.

The job stream runs under the control of the Job Manager. "Additional Considerations" on page 111 has information about Job Manager processing for the dialog.

The dialog creates a job stream which installs each licensed program from a single tape into the appropriate library. Furthermore, it updates system information that is needed by the Interactive Interface.

To access the dialog, start with the *VSE/ESA Function Selection* panel and select:

1 (Installation)
2 (Install Programs - Non-Stacked V2 Format or V1 Format)

```
Administrator
Fast Path:  12
```

```
Synonym
Default:      ——   Yours:
```

Install Products from Tape

You need the following information:

TAPE NUMBER
This shows the sequence in which the licensed program tapes are mounted. You **cannot** change this value.

You should sort the tapes themselves in the order that they are to be installed. 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 physically sorted in the sequence used in the dialog.

TAPE LABEL
Enter a tape label for each licensed 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 particular installation, the label name must be unique.

LIBRARY and SUBLIBRARY NAME
Enter the library/sublibrary where you want the licensed 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 licensed 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 a licensed program has a production and generation part, both are installed in the same sublibrary.

TAPE ADDRESS
Enter the address of the tape unit to be used for the installation.

Enter information for **each** licensed program you want to install. On 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, you are asked to mount the first tape in the sequence. Use the **same** 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.

Additional Considerations

1. Before you install a licensed 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 licensed program.

2. The job stream installs each licensed 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 licensed 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 IBM licensed program, you may need a COMPATIBLE statement for MSHP. Refer to *VSE/ESA System Control Statements* for information about this MSHP statement.

Using Processor Resource/Systems Manager (PR/SM)

Processor Resource/Systems Manager* (PR/SM*) is a feature, that lets you:

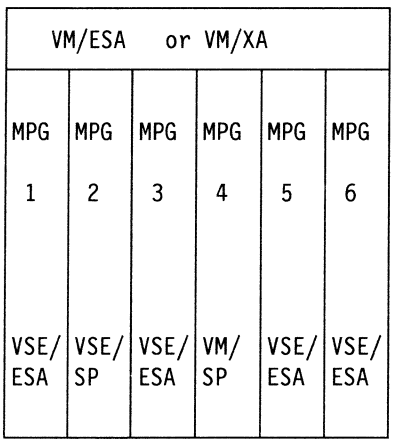
- Run up to six preferred guests under VM/XA or VM/ESA Release 1 ESA feature. Depending on the processor you are using this is referred to as ESA/390 or ESA/370 mode.

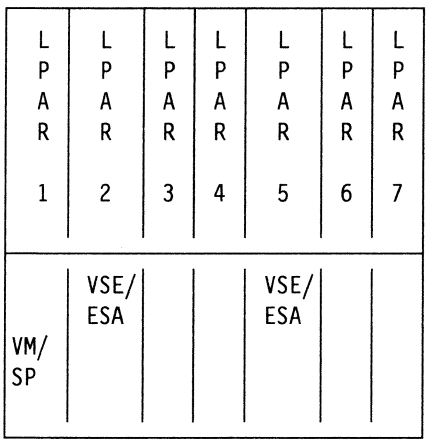
or

- Divide the system into up to seven logical CPUs.
  This is called logical partitioned (LPAR) mode.

VSE/ESA can run together with the PR/SM feature and with VM/ESA on all Enterprise Systems Architecture processors.

The simplified diagram below shows the difference between the two modes. This is just an example.





PR/SM Support of Multiple Preferred Guests

When PR/SM operates in either ESA/390 or ESA/370 mode (depending on the processor you are using), the VM/ESA Release 1 ESA feature supports up to six preferred guests. These may comprise either one V=R guest and up to five V=F guests or no V=R guest and up to six V=F guests concurrently. Note that on a physically partitioned multiprocessor, the VM/ESA Release 1 ESA feature supports up to 14 preferred guests.

PR/SM Support of Logical Partitioning

When PR/SM operates in LPAR mode, it provides flexible partitioning of processor resources across multiple logical partitions. Each logical partition contains some portion of the processor and storage resources and some number of channel paths.

PR/SM provides a maximum of seven logical partitions on uniprocessor models and a maximum of fourteen logical partitions on physical partitioned multiprocessor models. Each logical partition can be used to run either a System/370*, ESA/370* or ESA/390* operating system. When the VM/ESA Release 1 ESA feature runs in a logical partition, it does not support V=R or V=F guests.

For more information about operating PR/SM in LPAR mode, see the *IBM 3090 Processor Complex Processor Resource/Systems Manager Planning Guide, GA22-7123.*

Before a processor complex can be activated, it has to be made aware of its physical I/O configuration. This is done by providing a description of that configuration to the Input/Output Configuration Program (IOCP).

Note that, depending on the hardware processor you use, the service processor console is not the same console you use for installing VSE/ESA.

To install VSE/ESA under PR/SM, you perform the installation steps described in Chapter 3, "Installing a Native VSE/ESA System" or in Chapter 4, "Installing VSE/ESA under VM."

Chapter 7. Doing Optional Installation Tasks (VSE/ESA under VM)

This chapter describes optional installation tasks that you may perform when installing VSE/ESA under VM.

Accessing the VSE/ESA Guest Machine

There are two methods to dial to your VSE/ESA guest machine that is installed under VM. You can either use the CP DIAL command or you can use **VM/PASSTHRU**. (VM/PASSTHRU is an optional VM licensed program).

Dialing into the System

If you have a VSE/ESA guest machine installed on your VM system, you can access it using the CP command:

```
DIAL user cuu
```

where user = the name defined in the directory entry for the VSE/ESA system and cuu = the terminal address to be used. If you do not enter the address, you will get the first available port.

Dial into the VSE/ESA system *instead of* logging on to the VM system. You cannot enter the DIAL command if you have already logged on to VM.

The DIAL command initiates a VM session with the VSE/ESA system. When the *VSE/ESA Online* panel appears, sign on to the VSE/ESA system using an ID and password known to it.

After completing your work, return to the *VSE/ESA Online* panel and press PF3 (TO VM). This terminates the session and returns you to CP mode. You can then log on to the VM system, if you wish.

Note: To use PF3 for the return function, *the last three characters of the CICS/VSE terminal ID must equal the cuu.*

Using PASSTHRU

You can also access the VSE/ESA guest, if your VM system has the VM/PASSTHRU optional licensed program installed. The following example of using VM/PASSTHRU to access a VSE/ESA guest machine assumes that:

- You have a user ID for the VM system **NODVM1**.
- You work from an IBM 3278 terminal with a 24 X 80 screen.
- NODVM1 is in a network with another VM system **NODVM2**.
- The VSE/ESA guest machine **VSEESA1** is installed and running on the NODVM2 system.

To access the VSE/ESA guest machine, you would:

1. Log on to NODVM1 with your VM user ID and password.

2. Enter the following command when in CMS:

   ```
   PASSTHRU NODVM2 3 PVM 11 24 80 $$ %%%%
   ```

   The command parameters specify:

   a. NODVM2 as the VM system you want to access using port 3.

   b. PVM as the name of the PASSTHRU virtual machine.

   c. PF11 as the PF key to be used for the "capture" function. Pressing PF11 will save a copy of what is shown on the entire terminal screen.

   d. Number of lines per screen to be captured; and width of the lines.

   e. Character strings for temporary and permanent disconnect.

3. Enter the following CP command after reaching NODVM2:

   ```
   DIAL VSEESA1
   ```

4. Enter your VSE/ESA user ID and password from the *VSE/ESA Online* panel.

Once you have signed on to the VSE/ESA system, you can easily switch back and forth between it and CMS. To return to CMS, just enter the character string **$$** after the arrow (= = >) in any selection panel of the Interactive Interface. To return from CMS to VSE/ESA, enter the command:

```
PASSTHRU
```

This redisplays the selection panel where you made the temporary disconnect.

Notes:

1. It is recommended that you sign off from the Interactive Interface (return to the *VSE/ESA Online* panel) *before* you perform a permanent disconnect. If you do not sign off first, the terminal remains dialed into the VSE/ESA system, waiting for a reconnect.
2. You will have problems with the use of the Interactive Interface if you use PASSTHRU and extended data streams (double-byte character data). The problems will arise every time a screen is saved, for example, if you press PF1 for HELP or if you send a message to another user. In these cases the screen cannot be redisplayed.
3. If you use a PF key for the capture facility that VSE/ESA defines for one of its functions, *your* setting will override the setting in the Interactive Interface. For example, if you use PF5 for the capture facility, you cannot use the function which PF5 represents in the Interactive Interface.

   Therefore, if your keyboard has more than twelve PF keys, use a PF key greater than PF12 for the capture facility.

Using SQL/DS Guest Sharing Support

This support is provided for a VM/SP and VM/ESA environment with VSE/ESA guest systems. It allows you to run SQL*/DS applications in a VM environment, either under VM/CMS or under a VSE guest system, and to share one or more SQL/DS databases. These databases must be installed either on a VM/SP system or a VM/ESA system.

Note: If you run VSE/ESA under VM/XA, **no** SQL/DS guest sharing support is available.

Guest Sharing is based on APPC/VM. This requires fix areas in real storage. The amount of this PFIX storage required depends on the number of communication paths. The amount can be estimated by the number of links per partition multiplied by 32K.

The following matrix shows where guest sharing support with SQL/DS Version 2 Release 2 or higher is possible:

Figure 23. SQL/DS Support under Different VM Operating Systems

	VM/SP 5 + 6 (+ VM/SP HPO)	**VM/ESA ESA feature**	**VM/ESA 370 feature**	**VM/XA**
Supervisor MODE=370	SQL/DS YES	SQL/DS YES	SQL/DS YES	–
Supervisor MODE=ESA	–	SQL/DS YES	SQL/DS YES	–
Supervisor MODE=VM	SQL/DS YES	SQL/DS YES	SQL/DS YES	–
Supervisor MODE=VMESA	–	SQL/DS YES	SQL/DS YES	–

Note: SQL/DS guest sharing support cannot run in dynamic partitions.

If you are running VSE/ESA together with SQL/DS and are using the VSE Guest Sharing feature, the VSE guest machine is required to have the:

```
OPTION MAXCONN nn
```

entry in the VM directory. For an example of a VM directory, please refer to the manual *VSE/ESA Planning* .

The value of the `MAXCONN nn` depends on the estimated number of APPC/VM links required to be established between VSE guest machines to the SQL/DS database machines. This number can be estimated as:

```
maxconn = NUMBER OF CICS LINKS (involved in guest sharing)
          + NUMBER OF BATCH LINKS
          + SPARE
```

Note: If `nn` is not specified, the default is set to MAXCONN 4. This means that VSE SQL guest users are not able to establish connections to the SQL/DS databases when the four available links are already in use.

The support is activated during IPL if VSE/ESA is initialized as a VM guest system. For details about the SET XPCC commands to be included in the IPL procedure and required for activation, refer to the manual *VSE/ESA System Control Statements.* See the IBM manual *VSE/ESA Administration* for information about the *Tailor IPL Procedure* dialog and for specifying IPL parameters.

You cannot use the SQL/DS guest sharing support together with the Preferred Machine Assist support described below.

Installing Preferred Machine Assist (PMA) Support

This support is part of a VSE supervisor with MODE=370. You can make use of the support on an IBM 4381 processor with the hardware PMA feature if this processor is operated under control of a VM system with VM/SP HPO Release 5 or a later release.

The support allows you to use your VSE/ESA system as a preferred guest machine under control of a VM system (VM/SP or VM/XA). This avoids most of the overhead that otherwise exists if VSE/ESA with a MODE=370 supervisor is running under a VM system. As a preferred guest, VSE/ESA generally performs faster than as a non-preferred guest with a MODE=VM supervisor.

Notes:

1. PMA is **not** supported under VM/ESA ESA feature.
2. Only one preferred virtual machine can be started and used under a VM system at a time.

A virtual VSE/ESA guest system taking advantage of PMA support behaves largely like VSE/ESA running in native mode on a processor not under control of a VM system. In particular, the preferred VSE/ESA guest gets direct control over I/O channels that are dedicated to the preferred guest machine: any of the channels 0 through F that were not defined as owned by CP when the VM system was generated on your computer system.

To run VSE/ESA as a preferred guest, you must observe certain rules when you:

- Define a VM directory entry for VSE/ESA as described in *VSE/ESA Planning* and below.
- Install VSE/ESA as described on page 117.
- Prepare VSE/ESA for initial program load (IPL) as described on page 117.
- Do an IPL of VSE/ESA as described on page 118.
- Use VSE/ESA as described on page 118.

This manual describes requirements and considerations in addition to those documented in your *VM Running Guest Operating Systems* manual for the operation of VSE/ESA without PMA support.

Defining the VM Directory Entry

There are a few additional considerations and requirements:

- The storage that you define for your preferred machine is no longer available to CP once the machine is started. Therefore, IBM recommends that you initially specify (in the USER statement) a storage size of 8 Mb. The maximum you can specify is 12 Mb.
- The OPTION statement, which defines optional services to the virtual machine, must include the operands:

  ```
  VIRT=REAL
  PMA
  ```

  in the sequence as shown and in the same card-image record. Following is an example of a valid OPTION statement:

  ```
  OPTION ECMODE BMX VIRT=REAL PMA
  ```

- Do not include definitions for I/O devices attached to channels that are to be controlled by the preferred VSE/ESA guest. Otherwise, you must detach them after having logged on to the VM system and before you initiate the initial program load for the preferred VSE/ESA.
- Avoid that VSE volumes on a dedicated channel and CP-owned volumes share the same string and control unit. Otherwise, a deadlock can occur in case of an I/O error. This danger of a deadlock exists if the volumes can be accessed via two paths:
  - A channel under control of the preferred machine (of which VM/SP HPO is not aware).
  - A channel under control of VM/SP HPO.

  A deadlock of this kind does not occur if the following conditions are true for the VSE- and CP-owned volumes sharing a string:

  1. They are IBM 3380 disk storage devices, and
  2. The head-of-string device is connected to two storage directors.

  You can configure the string such that the VSE and CP-owned volumes do not share an internal path. For detailed information about address assignments for such a string of IBM 3380s, see your *IBM 3380 Direct Access Storage: Planning and Use* manual.
- No SPOOL statement should be included for a device attached to a channel that is dedicated to the preferred virtual machine.

Installing VSE/ESA

When you do the initialize-disk and restore-SYSRES installation steps, **do not** define storage (by CP def stor commands). This is in contrast to the instructions given in "Step 1b): Initializing Disks and Placing VTOC" on page 41.

Preparing VSE/ESA for IPL

This is the same as for VSE/ESA that is to be operated in native mode. Consider the following when you code your automated system initialization (ASI) IPL procedure:

- Your preferred VSE/ESA guest can own an I/O channel only if this is not owned by CP. Ownership of a channel by CP is defined in the real-I/O-configuration (DMKRIO) file. Your ASI IPL procedure should, therefore, include an IPL ADD command for each of the devices attached to the dedicated channel. None of these devices can be serviced by CP.
- If a device on a CP-owned channel is to be used under exclusive control of your preferred VSE/ESA, include an IPL ADD command for the device in your ASI IPL procedure. In addition, before you do an IPL for your preferred VSE/ESA guest, submit a command sequence for each of these devices as follows:
  - For a disk or tape device

    ```
    CP VARY ONLINE cuu
    CP ATTACH cuu pmaguest [cxx]
    ```

  - For a locally attached 3270-type terminal

    ```
    CP DISABLE cuu
    CP ATTACH cuu pmaguest [cxx]
    ```

  where:

cuu The address of the device that is to be used under exclusive control of VSE/ESA. This must be the address used to define the device to the VM system in the DMKRIO file.

pmaguest
The name by which the preferred VSE/ESA guest is known to CP.

cxx An address of the device which is either of the following:

- The real address of the device.
- An address not defined for any device in the DMKRIO file.

For c, specify the number of the channel (which is owned by CP).

For xx, give the unit number.

- An ADD statement for an I/O device attached to a dedicated channel must specify the real (actual hardware) address of the device.

Doing an IPL of VSE/ESA

To IPL your VSE/ESA system for preferred-machine operation, use an IPL command of a format as follows:

```
CP IPL cuu PMA
```

where cuu is the real address of the disk volume from which the VSE supervisor is to be loaded.

Note: Do not specify PMAV.

Your IPL device must be a CKD disk if the specified channel is dedicated to VSE/ESA; it may be an FBA disk if the channel is CP controlled.

Using the Preferred VSE/ESA Guest

Except for the restrictions listed below, using a preferred VSE/ESA guest is the same as using VSE/ESA in native mode.

The restrictions are:

- Spooling unit-record I/O, a typical VM service, is not available for an I/O device that is under direct control of your VSE/ESA guest. VSE/POWER must be part of your VSE/ESA system to have these I/O-spooling services available. However, input from or output to a unit-record device not under direct control of your VSE/ESA guest will be spooled by the VM system.
- DIAGNOSE is another, typical VM service which is not available to your VSE/ESA guest if used as a preferred machine under VM/SP HPO.
- A programmed power-off request will be rejected.
- The interval timer, although a hardware function accessed in supervisor state, is not available to the preferred virtual machine. VM/SP HPO uses this function exclusively to control the allocation of time slices.
- To use a stand-alone program of VSE, proceed as follows:
  1. Have the tape with the stand-alone program mounted on a CP-owned tape drive.
  2. Place the devices to be accessed by the stand-alone program (but not the tape drive at the IPL address) under exclusive control of the stand-alone supervisor. How to do this is described on page 117.

3. Do an IPL of the program by using the command

   ```
   CP IPL cuu PMA
   ```

   or

   ```
   CP IPL cuu PMAV
   ```

   where cuu is the real address of the tape volume from which the VSE supervisor is to be loaded.

   Note: To start the **stand-alone dump** program of VSE, you must specify PMAV.

4. Submit control statements as if your stand-alone VSE program were running in native mode, not under control of a VM system.

- If you run the VSE stand-alone dump program, the system information (of your preferred VSE/ESA guest) may happen to be unusable. In this case, the stand-alone dump program will dump processor (real) storage up to 16 Mb, including CP storage.

Processor Resource/Systems Manager Support of Multiple Preferred Guests

For information on PR/SM support of Multiple Preferred Guests (MPG) for installing and running VSE/ESA under VM, please refer to "Using Processor Resource/Systems Manager (PR/SM)" on page 111.

Using the VM/VSE Interface Routines

The VM/VSE Interface is a set of VSE phases and CMS modules supplied by VSE/ESA. These phases and modules provide functions for interfacing to one or more VSE/ESA guest machines from CMS.

Functions Supported by the VM/VSE Interface

Using the VM/VSE Interface, you can:

1. Retrieve up to twenty of the most recent messages from a VSE/ESA guest machine.
2. Have none, some, or all messages from the job be echoed to a specified job owner (CMS user ID).
3. Reply to messages resulting from the execution of a job. The job must have a unique job owner ID (CMS user ID).
4. Execute CP commands within JCL statements and have the resulting CP messages routed to the CMS job owner.
5. Submit jobs from a CMS terminal to a VSE/ESA guest machine.
6. Issue VSE commands to a VSE/ESA guest machine and have the resulting AR (Attention Routine) messages echoed to the CMS user.
7. 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 routines are distributed in IJSYSRS.SYSLIB. You must obtain the routines from the library and install them on a CMS minidisk.

Notes:

1. The above functions can be used for communication with a VSE/ESA guest machine using VSE/ESA supervisors.
2. Items 1 to 4 in the above list are valid for static partitions only.

Installing the VM/VSE Interface

Before you can use the VM/VSE Interface, you must distribute the following CMS modules and the related EXPLAIN files to all CMS users who are authorized to use the appropriate function.

- VSEREP (reply to outstanding messages)
- VSEMSG (retrieve messages)
- VSECMD (issue VSE commands)
- VSECP (issue CP commands)
- SUBVSE (submit a job to VSE (CMS EXEC2 file))

The use of VSECMD and VSECP should be carefully controlled. VSEREP, VSEMSG, and the CMS EXEC2 file SUBVSE can be loaded onto a disk to which all CMS users have access. However, VSECMD and VSECP are mainly intended for the system administrator.

VSE/ESA provides the SKVMVSE skeleton in VSE/ICCF library 59. You use this skeleton to punch the MODULES, EXPLAINS, and EXECs from the VSE machine to the VM machine MAINT. The skeleton is shown in Figure 24 on page 121.
Note that for the punch job to work correctly, the VSE/POWER punch writer must be started with the VM parameter and must process class A jobs.

You should first copy the skeleton SKVMVSE from library 59 to your primary library. You can use the *Program Development Library* dialog to copy VSE/ICCF library members. The dialog is described in the IBM manual *VSE/ESA Administration*.

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 you execute the job, the members are placed in the reader queue with the name you specified for the variable. 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:

1. MAINT 319 for general access.
2. A specific minidisk (for example, 301).

> In the following figure, do not overwrite the comma which is included in the parenthesis. It is not part of the variable *-V001-* which you should replace.

Note: If the VM/VSE interface routines - VSECP, VSECMD, VSEMSG, VSEREP - are used in a procedure, the language EXEC2 or REXX must be used.

Figure 25 on page 122 lists the modules and phases of the VM/VSE Interface.

```
* $$ JOB JNM=PUNVMVSE,CLASS=0,DISP=D
* $$ PUN CLASS=A,DISP=D,DEST=(,-V001-)
// JOB PUNVMVSE    PUNCH VM/VSE MODULES FOR INSTALLATION
* ********************************************************************
* *                                                                  *
* * - - - - - -   INSTALL VM/VSE FEATURE       - - - - - - - - - - -*
* *                                                                  *
* *  THIS JOB PUNCHES DIFFERENT CMS MODULES AND EXPLAIN PANELS       *
* *  OF THE VM/VSE FEATURE TO A DEFINED VM USERID.                   *
* *  AT THIS USER-ID, THE MODULES/PANELS 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
* $$ SLI MEM=VSECP.Z
* $$ SLI MEM=VSECMD.Z
* $$ SLI MEM=VSEMSG.Z
* $$ SLI MEM=VSEREP.Z
* $$ SLI MEM=EXPCP.Z
* $$ SLI MEM=EXPCMD.Z
* $$ SLI MEM=EXPMSG.Z
* $$ SLI MEM=EXPREP.Z
* $$ SLI MEM=SUBVSE.Z
* $$ SLI MEM=SUBVSX.Z
)))))))
$$DITTO  EOJ
/*
/*
/&
* $$ EOJ
```

Figure 24. VSE/ESA Skeleton SKVMVSE

Overview of VM/VSE Interface Routines

CMS File Name (fn)	CMS File Type (ft)	VSE Library Book Name	Function
		$VMCF.PHASE	VM/VSE Interface processing routines.
		$VMCFOPN.PHASE	VM/VSE Interface initialization routines.
VSEMSG	MODULE	VSEMSG.Z	Retrieve messages from VSE system.
VSEMSG	EXPLAIN	EXPMSG.Z	VSEMSG command HELP panel.
SUBVSE	EXEC	SUBVSE.Z	Submit a job for execution on a virtual VSE system.
SUBVSE	XEDIT	SUBVSX.Z	Submit a job for execution from an XEDIT environment.
VSEREP	MODULE	VSEREP.Z	Reply to outstanding messages.
VSEREP	EXPLAIN	EXPREP.Z	VSEREP command HELP panel.
VSECMD	MODULE	VSECMD.Z	Execute VSE commands on VSE/ESA system.
VSECMD	EXPLAIN	EXPCMD.Z	VSECMD command HELP panel.
VSECP	MODULE	VSECP.Z	Execute CP commands on VSE/ESA system.
VSECP	EXPLAIN	EXPCP.Z	VSECP command HELP panel.

Figure 25. Modules and Phases of the VM/VSE Interface

The manual *VSE/ESA Operation* explains how to use the VM/VSE interface.

Note: If the VM/VSE interface is activated during IPL (SYS command VMCF=YES) and the console is defined as TERM CONMODE 3270, **SET HC=CREATE** and **SET HC=YES** will not be accepted. If issued, the system will issue the message:

1S02D INVALID STATEMENT

Respond to the message by pressing ENTER. This causes the system to continue normal operation.

To recreate the hardcopy file you must IPL the system with VMCF=NO in the SYS command of IPL. Then you must reactivate VMCF again by another IPL with VMCF=YES in the SYS command.

Part 3. IBM Service Overview

This part of the manual describes how to apply service to the VSE/ESA system.

Applying service means that you first have to locate the problem in your system. You then have to find out whether a solution for your problem exists. And, of course, you have to implement the solution to resolve your problem.

This part describes how to do all these tasks.

Chapter 8. General Service Strategy for VSE/ESA

IBM recommends that you apply corrective service to your VSE/ESA system only if you have encountered a problem that needs to be corrected. That is, you just fix the actual problems that may occur in your system.

Service Recommendations for VSE/ESA

The following section outlines what you need to do if a problem occurs. If the problem is caused by IBM software, you should contact your IBM Support Center and order a corrective fix. In response to your order, IBM may send you a *PTF* (Program Temporary Fix). See Figure 28 on page 127 for more information.

Situation	PTF	Refresh
Initial Installation	–	X
Corrective Service	X	–
Preventive Service in a stable environment	–	–
Preventive Service in a changed environment	–	X[1]

Figure 26. Service Overview

[1] Pending investigation of refresh benefits

As shown above:

- The installation tapes for VSE/ESA that you receive from IBM will be at the latest *system refresh* level. IBM will (as long as required) periodically "refresh" VSE/ESA by adding available corrective service to the VSE/ESA libraries. A refresh may also provide additional functions.

  IBM plans to provide refreshes at identical service levels as required for the pregenerated system, the Generation Feature, the National Language Feature, and the optional IBM licensed programs.

  When you receive your VSE/ESA installation tapes, therefore, you get a system with the most recent level of *complete* system service that is available.

  Note: To receive the latest refresh, you should request that IBM ships VSE/ESA to you just before the date that you plan for initial installation.

- If you detect a problem with your installed IBM software, you normally correct it by applying a *Program Temporary Fix (PTF)*. IBM recommends application of such corrective service as the usual method of resolving problems.

- Under certain conditions, it may be advisable to apply preventive service to an existing system by installing the latest system refresh.

Performing Problem Analysis

You are responsible for handling problems that may occur in your VSE/ESA system. To help you with this task, VSE/ESA provides the manual *VSE/ESA Guide for Solving Problems*. It has valuable information on how to analyze error situations and recover from them.

The next figure outlines, how to perform problem analysis.

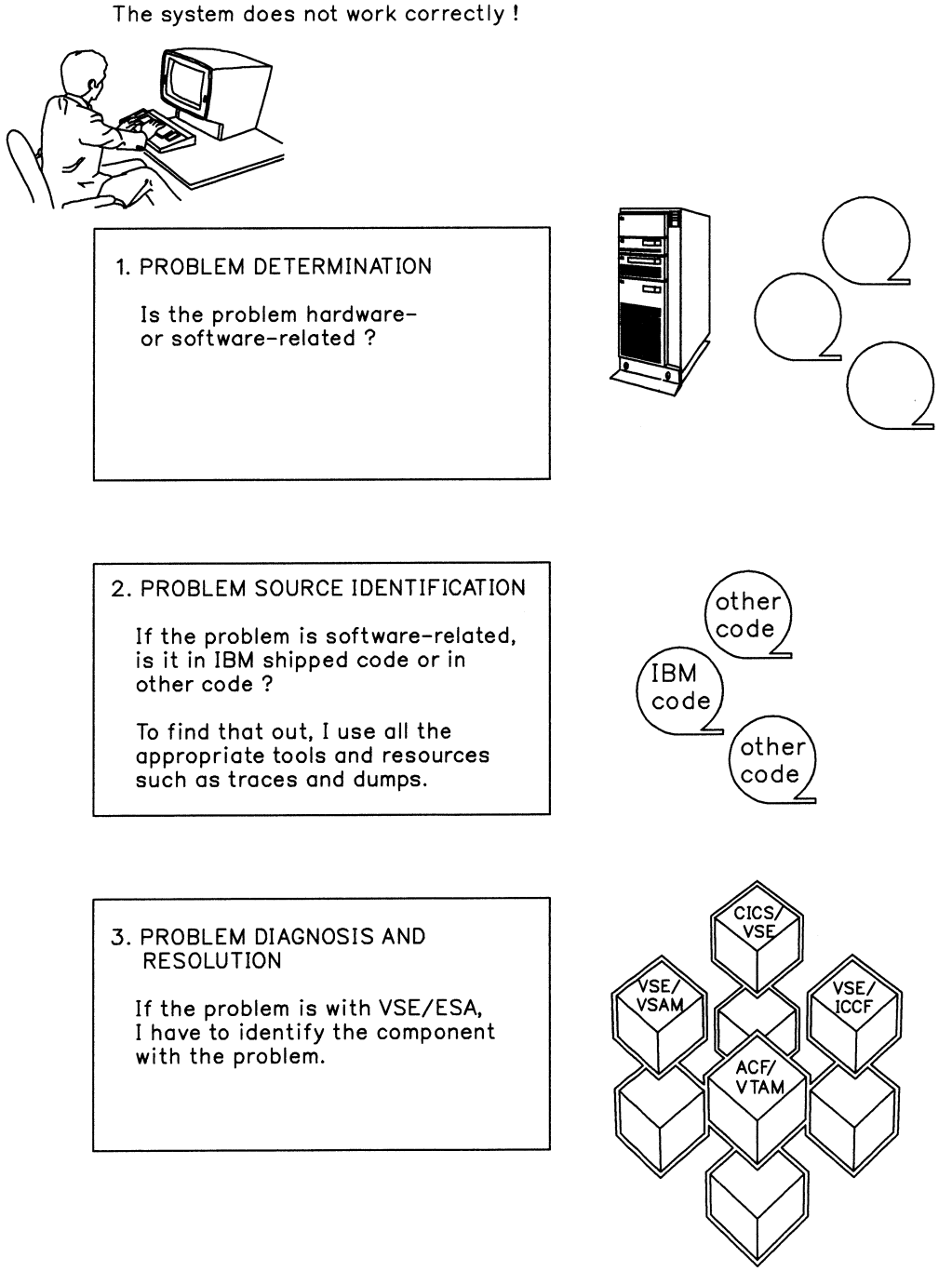


Figure 27. Three Distinct Tasks for Problem Analysis

Receiving Corrective Service from IBM

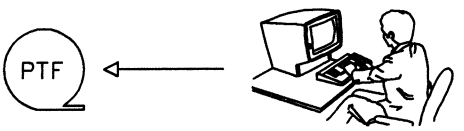
Your IBM Support Center can assist you in all phases of problem handling. When a problem is detected, you can contact the Support Center with a description and the symptoms of the problem.

I now call the IBM Support Center and give them a description and the symptoms of the problem.

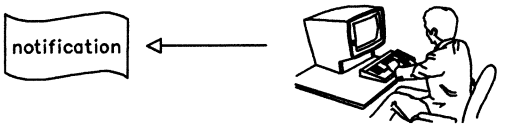
IBM will use this information to perform a search of the IBM databases using the information I provided.

If the problem is known to IBM and a PTF is available, IBM sends the PTF to me.

It contains fixes for the problem code in my system libraries.



If the problem is known to IBM but no PTF is available, I can request to be notified as soon as the PTF is available.



If the problem is not known, IBM creates an APAR and sends it to the IBM Change Team.

The Change Team writes an APAR fix and creates a PTF.
In some cases an APAR fix might also be created by the Change Team as a temporary solution for my problem before the PTF is generally available.
I can later get this, if I want.

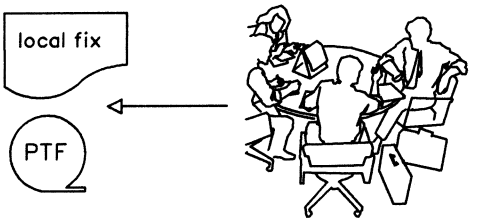


Figure 28. Receiving Corrective Service from IBM

A Note about System Refreshes

IBM will periodically refresh VSE/ESA by adding available corrective service to the VSE/ESA libraries. This refreshed system will be thoroughly tested. It also may provide additional functions for VSE/ESA.

When you initially order VSE/ESA, you will automatically receive installation tapes which reflect the latest system refresh. Thus your new system will have the most recent level of complete system service. You will not meet problems that were discovered and fixed at earlier refresh levels.

Refreshes are not intended as service mechanisms for VSE/ESA systems that are already installed and functioning properly. If your system and its environment are both stable, you should only need to apply corrective service for individual problems that may occur. In such cases, ordering and installing refreshes should not be necessary.

If you later want to make major changes to your system (add hardware devices or IBM licensed programs, for example), you should research the maintenance requirements for these changes. Installing a refresh may be the most efficient way to meet these requirements.

Your IBM System Engineer can help you decide whether a refresh should be installed before making the changes. Your IBM Support Center also will have information about refreshes for VSE/ESA. This includes general information, documentation changes, and service recommendations. Service recommendations may discuss corrections that were not available for inclusion in the latest refresh.

If you order a system refresh, install it using the *Fast Service Upgrade (FSU)* dialog. Below is more information on doing an FSU.

Fast Service Upgrade (FSU)

If you have initially installed VSE/ESA, you can install a refresh using the Fast Service Upgrade (FSU) process. The *Install Fast Service Upgrade* dialog creates a job stream which replaces VSE/ESA information. It **does not** change or delete your own user libraries or installation unique-information.

Note that you should not add your own members to the system library IJSYSRS. In addition, a certain set of VSE/ICCF libraries and library PRD1 are reserved for use by VSE/ESA. If you do add some members to these libraries, then they should also be cataloged in PRD2.SAVE. Otherwise, they will be lost during installation of a system refresh using FSU. Also, you should not store any IBM-supplied members in PRD2.SAVE.

During FSU, the dialog asks you if you want to refresh the VSE/ESA Generation Feature. You can choose not to refresh it. In this case, the entry for the Generation Feature is removed from the system history file. The sublibraries where the Generation Feature resides still exist, even if the contents are deleted. *All* members are deleted.

Note: If you order a refresh of VSE/ESA, you should also reorder any updated VSE optional programs or other VSE licensed programs that you have installed. Reinstalling these programs after refreshing VSE/ESA ensures that all IBM licensed programs on your system are at the same level.

For a detailed description of the FSU, refer to "Before Running an FSU" on page 157.

Service Application via PTF

Note that there are several aspects of service application via PTF:

- Direct service application
- Indirect service application
- Service for VSE/ICCF members
- Service for the VSE/ESA Generation Feature.

Direct Service Application for PTFs

PTFs are merged directly into the running system. This is the most common way of PTF application.

Indirect Service Application for PTFs

Indirect service application means that the PTF is applied to a copy of the system library (IJSYSRS), rather than to IJSYSRS in use at the time of service application. Some PTFs require this form of application, and the MSHP statements force this technique **without your intervention**. Note that indirect service is **only** applied to members of the system library IJSYSRS.

In addition, you can force indirect application for all SYSRES service which you apply. You specify this in the *Apply PTF* dialog.

When **indirect** service is applied, the following occurs:

1. A work system library is created on a different volume than where the current system library resides. The default is SYSWK1. Members from the service tape and unserviced members from the current system library are moved to the work system library.
2. The system instructs you to shut down your system.

   If you have the Generation Feature installed and use your own supervisor and this supervisor is affected by the service application, reassemble your supervisor into the system work library IJSYSR1. After that shut down your system.
3. You are requested to perform an IPL from the work system library.
4. After testing you are asked to run the DTRMRG procedure to move the contents of the work system library to the system library.
5. You are requested to perform an IPL from the system library.

Service for VSE/ICCF Members

When service affects VSE/ICCF members provided by VSE/ESA the member is simply replaced. If you modify any system-provided members such as the SUBMIT procedure you should rename them or copy them to another VSE/ICCF library.

When you use a VSE/ESA skeleton, you should copy it to another library before you make your changes. If you do not do this, the member will be replaced if it is affected by service.

Figure 29 shows the VSE/ICCF libraries and their use. Note the libraries that are reserved for VSE/ESA.

Figure 29. VSE/ICCF Libraries

Library	Type	Contents	Usage
1	Private	VSE/ICCF administrative library. Contents shipped with VSE/ICCF.	system
2	Common	Common library. Macros and procedures. VSE/ICCF and VSE/ESA code members.	system
3 - 6	Public	Empty.	user
7	Private	Empty.	user
8	Private	Default primary library for operator profile.	system
9	Private	Default primary library for programmer profile.	system
10	Private	Default primary library for administrator profile.	system
11 - 49	Private	Empty.	user
50 - 58	Public	Reserved for VSE/ESA.	system
59	Public	VSE/ESA job streams, skeletons, CICS/VSE tables, and PWS sample programs.	system
60 - 67	Public	Reserved for VSE/ESA.	system
68	Public	VSE/ESA members for Personal Computer tasks.	system
69	Public	Reserved for VSE/ESA.	system
70 - 99	Private	Empty.	user

Service Affecting the Generation Feature of VSE/ESA

Service to VSE/Advanced Functions and CICS/VSE consists of two PTFs. If you have the Generation Feature installed, both PTFs for the pregenerated system and the Generation Feature are automatically applied.

- 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 either VSE/Advanced Functions or CICS/VSE. 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.

Please note that your pregenerated system and the Generation Feature must be on the same service level. Thus, if you install the Generation Feature after having applied service to either VSE/Advanced Functions or CICS/VSE, 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:

- If a system refresh of VSE/ESA is available that is at a service level higher than your present system:
  1. Order the refresh. The Generation Feature is automatically included.
  2. Use the *Fast Service Upgrade (FSU)* dialogs to install the refresh.
  3. Use the *Install Generation Feature* dialog to install the Generation Feature from the refresh tapes.
- If no refresh at a higher service level is available:
  1. Use the *Install Generation Feature* dialog to install the Generation Feature with your system.
  2. Reinstall any service for VSE/Advanced Functions or CICS/VSE that you previously had applied to the system. By specifying the reapplication of these PTFs, you force MSHP to apply also the related Generation Feature PTFs. To get a list of the service applied, you may use stage 0 (down-level check) of Fast Service Upgrade.

Note: "Running a Fast Service Upgrade (FSU)" on page 157 has information about system refreshes for VSE/ESA.

Service Summary

Figure 30 summarizes some important points for VSE/ESA service. If you have any further questions regarding service, contact your local IBM Branch Office.

Figure 30. Service Summary	
Corrective Service	• Fix the detected problem individually. • Use the PTF and APAR process.
Preventive Service	• Possible using a system refresh. • Should be thoroughly investigated and planned.

MSHP Requirements

Note that the *minimum* partition size to run MSHP is 1024K, plus a 256K partition GETVIS area. In certain cases, this minimum size may not be enough. The size of the partition needed for MSHP depends on the number of records in the system history file.

For information on the default partition size values specified for the predefined environment refer to topic "System Organization and Support" in the IBM manual *VSE/ESA Planning*.

Chapter 9. Applying Service by Using the Dialogs

> IBM recommends you using the dialogs provided by the Interactive Interface to help you with your service activity. If for any reason you do not want to use the dialogs, refer to Chapter 10, "Example Jobs for Installing Service Changes without Using the Dialogs" on page 179 for your service activity.

The following dialogs for applying service are provided by VSE/ESA:

- *Verify Location of Involved Serviced Files*
  This selection allows you to change the values of some EXTENT parameters and volume serial numbers of system files involved during the service application (FSU, PTF).
- *PTF Handling*
  This applies PTFs from one or more service tapes. You can also print different types of service documentation from the service tape. In addition, you can remove a PTF using this dialog.
- *Apply APAR/Local Fix*
  This incorporates an APAR or local fix.
- *Undo APAR/Local Fix*
  This revokes either an APAR or local fix.
- *Fast Service Upgrade (FSU)*
  FSU is used to refresh the system.
- *Retrace History File*
  This prints information from the system history file.
- *Personalize History File*
  This allows you to update personalized information in the system history file.
- *Change Nicknames*
  This allows you to change nicknames of products and components.

Most of the dialogs create jobs which use MSHP to maintain service on your system. For more information about using MSHP functions, refer to Chapter 10, "Example Jobs for Installing Service Changes without Using the Dialogs" on page 179 or the IBM manual *VSE/ESA System Control Statements*. "MSHP Requirements" on page 132 has information on the minimum partition size required to run MSHP.

To access the service dialogs, start with the *Function Selection* panel and select:

1 (Installation)
4 (Service)

```
Administrator
Fast Path:  14
```

```
Synonym
Default:  service  Yours:
```

The different service dialogs listed are described in the following sections.

Verifying Location of Involved Serviced Files

You need to use the dialog *Verify Location of Involved Serviced Files* only if you have changed the location of any of the system files. The dialog allows you to change the location *information* of the files affected by service application. Using this dialog, **you cannot change the location itself**. Note, however, that the system needs accurate location information for all other IBM service dialogs. **You should choose this selection only if you have changed the location of any of the following files:**

Descriptive File Name	File ID	Technical File Name
System residence file	VSE.SYSRES.LIBRARY	IJSYSRS[1]
System residence work file	SYS.NEW.RES	IJSYSR1[1]
System history file	VSE.SYSTEM.HISTORY.FILE	IJSYSHF
System work history file	WORK.HIST.FILE	IJSYSHF
Job manager file	VSESP.JOB.MANAGER.FILE	VSEJMGR
Text repository file	VSE.TEXT.REPSTORY.FILE	IESTRFL
Text repository work file	TEXT.REPSTORY.WORKFILE	IESTRWF
Online message file	VSE.MESSAGES.ONLINE	IESMSGS

[1] Note that IJSYSRS and IJSYSR1 must start at the beginning of the disk device.

To access the dialog, start with the *Function Selection* panel and select:

1 (Installation)
4 (IBM Service)
1 (Verify Location of Involved Serviced Files)

```
Administrator
Fast Path:  141
```

```
Synonym
Default:     ——     Yours:
```

The system then displays the panel shown in Figure 31 on page 135. Note that the example shown in this figure refers to a DASD of type 3380. The layout may look different, depending on the type of DASD you use.

```
SRV$LOC1              FILE LOCATION FOR SERVICE DIALOGS

LIST OF AFFECTED FILES

                                                              PAGE 1 OF 3

FILENAME           VOLUME SERIAL      START        NUMBER OF
                      NUMBER          TRK/BLK       TRK/BLK

IJSYSR                DOSRES          1             959
IJSYSR1               SYSWK1          1             959
IJSYSHF (SYSTEM)      DOSRES          6135          75
IJSYSHF (WORK)        SYSWK1          960           75
VSEJMGR               SYSWK1          8805          15




PF1=HELP       2=REDISPLAY  3=END                    5=PROCESS
               8=FORWARD
```

Figure 31. Verify Location of Involved Serviced Files - Panel 1

The above panel applies to the following files:

- System residence file
- System residence work file.
- System history file.
- System work history file.
- Job manager file.

For these files you can change the

- Volume serial number.
- Start track/block.
- Number of tracks/blocks.

Note: The IJSYSHF (system history file) and the VSEJMGR (job manager file) are also used by other programs. This means that if you change their location, you should also change your standard labels.

You can change location information on three panels. To reach the panels, use the scrolling keys PF8 (FORWARD) and PF7 (BACKWARD). Simply type the desired parameters over the existing ones and then press PF5. Note that if you have pressed PF5 on the first or the second page, you will not reach the subsequent page(s). Only after you have changed all the information you want on all three pages, press PF5. This will store all your changes in internally-used tables.

If you have typed in wrong information or if you want to quit the dialog for whatever reason, press PF3. None of the information you have entered so far will be saved.

Pressing PF8 takes you to the panel shown in Figure 32 on page 136.

```
SRV$LOC2              FILE LOCATION FOR SERVICE DIALOGS

LIST OF AFFECTED FILES

                                                              PAGE 2 OF 3

FILENAME: IESMSGS   FILE-ID: VSE.MESSAGES.ONLINE

          CATALOG NAME:      VSESPUC



FILENAME: IESTRFL   FILE-ID: TEXT.REPOSITORY.FILE

          CATALOG NAME:      VSESPUC



PF1=HELP       2=REDISPLAY  3=END                        5=PROCESS
PF7=BACKWARD   8=FORWARD
```

Figure 32. Verify Location of Involved Serviced Files - Panel 2

The panel shown in Figure 32 applies to the following files:

- Text repository file.
- Online message file.

For these files you can change the catalog name. Simply type the desired catalog name over the existing one.

Pressing PF8 takes you to the panel shown in Figure 33 on page 137.

```
SRV$LOC3              FILE LOCATION FOR SERVICE DIALOGS

LIST OF AFFECTED FILES

                                                              PAGE 3 OF 3


FILENAME: IESTRWF    FILE-ID: TEXT.REPOSITORY.WORKFILE

      CATALOG ID:             VSESP.USER.CATALOG

      CATALOG NAME:           VSESPUC

      VOLUME SERIAL NUMBER:   DOSRES



PF1=HELP       2=REDISPLAY  3=END                    5=PROCESS
PF7=BACKWARD
```

Figure 33. Verify Location of Involved Serviced Files - Panel 3

The panel shown in Figure 33 applies to the text repository work file (only needed to run FSU). For these files, you can change the following:

- Catalog ID.
- Catalog name.
- Volume serial number.

Note: Keep in mind that the dialog *Verify Location of Involved Serviced Files* does not move the files. Instead, the information gathered during this dialog is used during the service dialogs later on. If you have changed the position of any of the files affected, the system needs to know the new position for the service dialogs.

Handling of PTFs

The *PTF Handling* dialog applies PTFs from one or more service tapes. You can apply all or selected PTFs. You can also apply PTFs selected by:

- Product
- Component

You can use the dialog to apply PTFs for a number of licensed programs from different PTF tapes.

To access the dialog, start with the *Function Selection* panel and select:

1 (Installation)
4 (IBM Service)
2 (PTF Handling)

Administrator Fast Path: 142	Synonym Default: —— Yours:

This displays the following panel:

```
IESADMSL.IESEPTF              PTF HANDLING
                                                        APPLID: DBDCCICS
  Enter the number of your selection and press the ENTER key:

        1  Print Service Document
        2  Analyze and Apply PTFs from Service Tape
        3  Apply PTFs from Service Tape
        4  Remove PTF Records from History File









  PF1=HELP                    3=END       4=RETURN              6=ESCAPE(U)
                              9=Escape(m)                  PATH: 142
==>
```

Figure 34. Selection Panel for PTF Handling

The *Print Service Document* dialog allows you to print service documentation from the service tape, such as service tape documents, cross reference lists and PTF cover letters.

Note that there are **two types of service dialogs**:

1. The dialog *Apply PTFs from Service Tape*.

   This dialog is used in most cases. The service tape is used to resolve one or more **specific** problems. In this case the tape is not analyzed.

2. The dialog *Analyze and Apply PTFs from Service Tape*.

   You would use this dialog if you have several problems that need to be fixed. In this case, you would use a cumulative service tape which contains all kinds of PTFs. You may have to apply one or more of these PTFs in case of problems. This dialog displays a list of PTFs. From the list, you can choose the desired PTF(s) by marking it with an 'X'.

   Before job submission, this dialog shows you

   - Whether the PTF you need is on the service tape.
   - Which prerequisites and corequisites are necessary for the application of a PTF.
   - Whether these prerequisites or corequisites are stored on a different tape.

The dialog allows you to choose PTFs from a hierarchical order of products, components and PTFs for application.

Note that the selections which apply service create a job sequence which is managed by the Job Manager. "Additional Considerations" on page 148 has information about Job Manager processing and other dialog considerations.

The dialog *Remove PTF Records from History File* allows you to remove the PTF records of one or more components from the system history file.

Printing Service Documents

The *Print Service Document* dialog prints various types of service documentation from the service tape on SYSLST. Using the dialog, you can print:

- Service tape document
  This contains information about installing service from the service tape.
- Cross-reference list
  This provides a cross-reference of all PTFs on the service tape.
- PTF cover letters
  The dialog prints each cover letter containing the following information:
  - APAR information (a short error description)
  - Comments, hints.

In the dialog you enter the following information:

TAPE UNIT ADDRESS
The address (cuu) of the tape unit used for the service tape.

Specify whether or not you want the following three types of documentation printed. For each type, specify:

1 - YES (print documentation)
2 - NO (do not print documentation)

PRINT DOCUMENT
Print service tape document.

PRINT CROSS-REF LIST
Print cross-reference of all PTFs.

PRINT COVER LETTERS
Print all or selected PTF cover letters.

If you print PTF cover letters, you can print all cover letters on the tape or select the ones you want to print. You can also start the printing of each cover letter on a new page. You need the following information:

- ALL PTFs

  Specify one of the following:

  1 - Print all cover letters

  If you decided to print the cover letters of all PTFs, the *Job Disposition* panel will display after you have pressed ENTER.

  2 - Select the cover letters you want printed

If you decided to print selected cover letters, another panel will display after you have pressed ENTER. Type in the numbers of the PTFs whose cover letters you want to print. The dialog redisplays the panel until the last field on the panel is left blank.

- CONTINUOUS
  Specify one of the following:

  1 - Do not start at a new page for each cover letter
  2 - Start at a new page for each cover letter

The dialog creates a job with the default name DOCPRINT. On the *Job Disposition* panel, you can submit the job to batch, file it in your default primary library, or both.

When you submit the job, mount the service tape. Use the **same** tape address you specified in the dialog.

Analyzing and Applying PTFs from Service Tape

The *Analyze and Apply PTFs from Service Tape* selection allows you to choose among a list of all service tapes that have been processed as described in the following paragraph.

Processing Service Tapes

Before you can apply PTFs using the dialog *Analyze and Apply PTFs from Service Tape*, you must first make the contents of the tape(s) available for the dialogs. You do this by pressing **PF6 = ADD TAPE** on the panel shown in Figure 35 on page 141 or by using the option *ADD TAPE TO THE LIST* of the dialog *Apply PTFs from Service Tape*. You must do this for every service tape you receive from IBM if you want to use this dialog.

Using the dialog *Analyze and Apply PTFs from Service Tape* helps you avoid typing errors since you do not have to type in the PTFs you want to apply. Instead, you can select the desired PTF(s) from a fulist.

If you have chosen the selection *Analyze and Apply PTFs from Service Tape*, the system will display a panel showing a list of all processed service tapes. An example is:

```
SRV$PH01              ANALYZE AND APPLY PTF
                                                          PAGE 1 of 1
              LIST OF ALL PROCESSED SERVICE TAPES

OPTIONS: 5 = DELETE  7 = LIST PROD/COMP/PTF   8 = LIST PTFS ON TAPE

       OPT       TAPE NAME        DATE ADDED

         _         PTFCICS          11/05/90
         _         SZENST11         10/31/90
         _         SZENALL          10/31/90
         _
         _
         _
         _
         _
         _
         _

PF1=HELP      2=REDISPLAY    3=END                          6=ADD TAPE
                             9=FORGET   10=ALL PTFS
```

Figure 35. Panel - List of All Processed Service Tapes

The options offered for the above panel are described in detail below:

Delete a service tape (option 5)

All internal tables which keep the information related to the specified service tape are deleted. Simply type 5 in the option column next to the tape you want to delete and then press ENTER. The tape name disappears from the list, but information is not deleted until you press PF3=END. If you have deleted a tape by mistake, press PF9=FORGET. This will keep the original tables. In the next session, the tape name will again appear on the list.

List Prod/Comp/PTF (option 7)

This selection allows you to choose from a hierarchical order of

1. Products
2. Components
3. PTFs

the PTF(s) that you want to apply. You may decide whether you want to apply all or selected PTFs of a product/component.
If you decide to apply service on the product level, the lower levels (components, PTFs) will be automatically included in the final job stream.
The dialog does not allow you to select a product not installed in the system. First, the system will display a list of the products among which you may choose. An example of this list is shown in Figure 36 on page 142.

```
SRV$PH02              ANALYZE AND APPLY PTF
                                                          PAGE 1 of 1
             LIST OF PRODUCTS

          SERVICE TAPE: SZENST11
OPTIONS: 1=INCLUDE PRODUCT    2=COMPONENT/PTF    3=SHOW SUBLIBRARIES
         4=AFFECTED MEMBERS   5=REQUIREMENTS     6=APARS FIXED  7=EXCLUDE

OPT       NICKNAME     INCLUDED     PRODUCT ID    RESIDENCE LIBRARY
                                                   FIRST        ADDITIONAL
          VSE/AF                     032C55        IJSYSRS.SYSLIB
_
-
-
-
-
-
-
-
-
-

PF1=HELP      2=REDISPLAY    3=END      5=PROCESS        6=NOCHECK
                             9=FORGET
```

Figure 36. Panel - Apply PTF (List of Products)

The options for this list are explained in detail below:

- Include product (option 1)
  This option allows you to select among the listed products those products that you want to be included for processing. After you have typed in 1 in the option column and then pressed ENTER, the system will display an in the INCLUDED column. At the end of the session, a job stream is built which causes MSHP to apply the corresponding PTFs.

- Component/PTF (option 2)
  This option leads you to the next level which shows you a list of all components for a selected product. **This level will be skipped** if either the product is composed by only one component or if only one of the components receives service. The third level follows the list of components or, if the product is composed by only one component, it follows the list of products. It lists all PTFs for a selected component/product. Select option 2 to reach both the second and the third level.

- Show Sublibraries (option 3)
  This option appears for both the first level (list of products) and the second level (list of components). If you have selected this option, the system will display the sublibrary/-ies which is/are affected by the PTF(s). For example, the affected sublibrary for component ID '5686 03206 C55' of product VSE/Advanced Functions is IJSYSRS.SYSLIB.

- Affected Members (option 4)
  This option appears for all three levels (products, components and PTFs). Depending on the level from which you selected this option (which is option 4 on all three levels), the system displays the affected members by product, component or PTF. For example, if

you selected option 4 from the list of PTFs, the system may display $LNKEDT.PHASE as the affected member for PTF UD34191.

- Requirements (option 5)
  This option appears for all three levels (products, components and PTFs). Depending on the level from which you selected this option (which is option 5 on all three levels), the system displays the requirements for a product, component or PTF. These requirements may be prerequisites and/or corequisites. A prerequisite, for example, may be that you have to apply PTF UD34191 before you can apply PTF UD52347.

- APARs Fixed (option 6)
  This option appears for all three levels (products, components and PTFs). Depending on the level from which you selected this option (which is option 6 on all three levels), the system displays the APARs fixed by product, component or PTF.

- Exclude (option 7)
  This option appears for all three levels (products, components and PTFs). By using the EXCLUDE option you reset the INCLUDE option that you have used before. After you have typed in 7 in the option column and then pressed ENTER, all PTFs that were flagged to be included are excluded again. The in the INCLUDE column will disappear.
  You may use this option if:
  - You selected option 1 (include product/component/PTF) accidentally.
  - You want to apply all PTFs except for the one(s) you specified.

    Example: Assume you have one product with 6 PTFs. You want to include all PTFs but PTF number 5. Proceed as follows:
    1) On the fulist of products shown in Figure 36 on page 142 type in 1 (include product) next to the desired product.
    Press ENTER.
    2) On the same panel, type in 2 (component/PTF) next to the desired product. Press ENTER.
    3) The 6 PTFs will be listed. Type in 7 (exclude) next to PTF number 5. Press ENTER.

List PTFs on Tape (option 8)

This selection lists all PTFs that are located on the service tape you chose in one FULIST. You do not have to go through the hierarchy of products, components and PTFs if you want to apply single PTFs. You can also locate a PTF by typing in the PTF number in the Locate PTF line.

You may choose among the following:

- Include PTF (option 1)
  This option allows you to select among the listed PTFs those PTFs that you want to be included for processing. After you have typed in 1 in the option column and then pressed ENTER, the system will display an in the INCLUDED column. At the end of the session, a job stream is built which causes MSHP to apply this/these PTF(s).

- Component/Library (option 3)
  This option lists the affected sublibraries for a component, for example, PRD1.BASE.

- Affected Members (option 4)
  This option lists the affected members for a specified PTF, for example, $LNKEDT.PHASE.
- Requirements (option 5)
  This option shows you a list of all requirements which must be satisfied to apply this PTF. You may ask for the actual status of the requirements by pressing a PF key. The system will then tell you whether the PTF is already applied or not. (see Note below).
- APARs Fixed (option 6)
  This option lists the APARs fixed by the PTF that you specified.
- Exclude PTF (option 7)
  You may use this option if you selected option 1 (include PTF) accidentally for a PTF.

The following additional **PF keys** are used in the panel shown in Figure 35 on page 141 and in the subsequent panels:

PF3 (End) If you press this PF key, all data that you have entered on this panel up to this point will be saved. The system will go one level back in the hierarchy. If you are on a higher level in the hierarchy and you press PF3, a message will inform you that all your input will be lost if you press PF3 again. If you do not want to loose your data, press PF5=PROCESS. This will create a job stream.

PF5 (Process) PF5 is only offered on the highest level in the hierarchy when all necessary data are available for processing.

Use PF5 to check whether the PTF(s) selected for application are already applied. (This is similar to the PF10=STATUS key in the requirements option).

This process does **not** check all requirements defining whether a PTF can be applied or not, as was the case with previous VSE/SP versions. When you use PF5, only the current status of the selected PTF(s) is checked (applied or not applied).

PF6 (NOCHECK) You can use PF6 if you do not want to check whether the PTF(s) are already applied. In this case, the system begins creating the job stream at once.

Note: As the system creates the *PTF Apply* job stream, it displays the following information panels:

- List of PTFs already applied (if you used PF5).

  The panel shows all selected PTFs that are already installed in the system. The reapply option lets you force a new installation of these PTFs.
- List of PTFs to be applied (if you used either PF5 or PF6).

  The panel shows the final list of PTFs that are applied when the job stream is run.

In the final step in creating the job stream, the system will ask you for:

- The tape unit you want to use for mounting your PTF tapes.
- The tape quantity.

  Specify the number of service tapes you want to have processed by this PTF application.

- Whether you want to have a backup of the affected libraries or not.

  For more information, refer to the description of the parameter **BACKUP** under "Applying PTFs from Service Tape."

- Whether you want to force an indirect application of the PTFs or not.

  For more information, refer to the description of the parameter **FORCE INDIRECT** under "Applying PTFs from Service Tape."

The dialog creates a job with the default name APPLYSRV. On the *Job Disposition* panel, you can submit the job to batch, file it in your default library, or both.

PF6 (Add tape) Press PF6 if you want to add a new tape for service processing. The system will ask you for a unique tape name and for the tape drive on which you have mounted the tape. Then the system will scan the tape and then store all relevant information in a table for further processing. Note that you must perform this step to have all data on tape interactively available.

PF9 (Forget) If you press this PF key, all input that you entered on this panel will be ignored. No data will be saved. All options that you have already performed on this level will be reset. The dialog takes you back one level.

PF10 (All PTFs) If you want all PTFs from all tapes displayed in one single fulist, press PF10. The panel(s) displayed provide(s) the same functions as *List Prod/Comp/PTF (option 7)* on page 141 or *List PTFs on Tape (option 8)* on page 143. The only difference is that the three possibilities start from a different level.

Applying PTFs from Service Tape

If you have chosen this selection, you can decide whether you want one or more tapes to be processed. The dialog asks you for the following:

TAPE UNIT ADDRESS
Specify the address (cuu) of the tape drive.

TAPE QUANTITY
Specify the number of service tapes you have for the PTFs. If all requirements were met for the PTFs you wish to apply, you will not be asked for this number of tape mounts during job execution.

TYPE
Specify whether you want to apply all or selected PTFs of a particular tape. You can choose among the following:

1 = ALL All PTFs of the corresponding tape will be applied.

2 = INCLUDE
Another panel will be displayed on which you can specify all the PTFs you want to apply.

3 = EXCLUDE
Another panel will be displayed on which you can specify all the PTFs you do want to exclude. All remaining PTFs will be applied.

BACKUP
Specify whether you want to backup all base and optional products listed in the system history file. If you specify 'yes' (backup), all sublibraries which were installed by installation dialogs will be backed up. Enter one of the following:

1 - YES (Backup taken)
2 - NO (Backup is not taken)

FORCE INDIRECT

For licensed programs in the system library IJSYSRS, there are two types of PTFs:

- Direct
  PTFs are directly merged in the running system.
- Indirect
  PTFs are first applied to a work system library. For more details, see "Indirect Service Application for PTFs" on page 129.

PTFs for licensed programs **not** residing in the system library IJSYSRS are always applied directly.

The type of application for each PTF on the service tape is predetermined. You can accept the predetermined application or apply **all** PTFs indirectly. Specify one of the following:

1 - YES (All PTFs applied indirectly)
2 - NO (PTFs applied according to predetermined type)

You should accept the predetermined application by entering **2** (NO).

Note: For IJSYSRS licensed programs, if one PTF is applied indirectly, all PTFs will be applied indirectly.

UNATTENDED NODE

If you specify **1** = yes, this job will be used to apply PTFs on the service node in an unattended node environment. The required preparation steps will be performed.

ADD TAPE TO THE LIST

If you specify **1** = yes, the system will ask you for a unique tape name and for the tape drive on which you have mounted the tape. Then the system will scan the tape and then store all relevant information in a table for further processing. Note that for the dialog *Analyze and Apply PTFs from Service Tape* you must perform this step to have all data on tape interactively available. Specify one of the following:

1 - YES (Add new tape for service processing)
2 - NO (Do not add new tape)

The dialog creates a job with the default name APPLYALL. On the *Job Disposition* panel, you can submit the job to batch, file it in your default library, or both.

Removing a PTF Record from the System History File

Note: This is an exceptional case and should only be done on IBM advice. You may want to use this function, for example, if a PTF is in error and you want to reapply the (correct) PTF with the same PTF number.

This selection displays a list of all components installed in the system. You can now specify the components that are related to the PTFs which you want to remove from the system history file. Simply type **1** in the option column next to these component(s). The next panel allows you to specify the PTF you want to remove.

Optionally you can decide whether you want to verify immediately that the specified PTF(s) actually is/are applied. If you want the system to check in the system history

file before generating a job which will remove the PTF(s), enter 1 in the *Verify PTF* field. Then press ENTER. If you are sure that the PTF number is correct and you want to renounce the verification, enter 2 in the same field. The job which removes the PTF(s) will then be generated without verification.

If you have specified all PTFs you want to remove, press PF5 to create a job which removes the history record(s) of the specified PTF(s) from the System History File. **The fix itself, however, remains in the system** after the job stream is executed.

Additional Considerations

The information on the pages 148 through 153, refers to the selections

- Analyze and Apply PTFs from Service Tape
- Apply PTFs from Service Tape

1. The dialog creates a job sequence which runs under the control of the Job Manager. For information on Job Manager processing, refer to "Overview of the Job Manager" on page 9.

   If a problem occurs and you **cannot** resume or reset, delete the following jobs in the VSE/POWER reader queue:

   - DTRSTPTF
   - DTRCLPTF
   - All jobs beginning with the prefix DTRPTF.

   If you do not do this, the Job Manager may not work correctly at a later time.

2. The job sequence runs in the background partition (BG). This is the default. You should start BG with CLASS=0. If you prefer to use a different class, you can do this in the *Job Disposition* panel as long as you select a class that was started in VSE/POWER. The partition size should be at least 1280K.

3. Only one job sequence from this dialog must be in the reader queue at one time.

4. If you use the automatic startup facility, do not request a BASIC start during IPL from IJSYSR1 as part of the indirect PTF application. This is not possible because these two tasks share the same locations for their work files. For a detailed description of the different startup modes, refer to *VSE/ESA Administration*.

5. If service affects a generation library, the library must be online. If it is not, the job fails. You would then have to do the following:

   a. Enter

      x EXIT (where *x* is the reply ID)

      to temporarily stop the job sequence and exit from the Job Manager.

   b. Restore the generation library using the *Install Generation Feature* dialog (fast path: 13).

   c. Enter **R RDR,DTRPTFAB** to restart apply service.

   d. Reply

      x RESUME (where *x* is the reply ID)

      to proceed with service application.

6. You should have a current backup of your system available, if service application is not successful. If you do not have one, specify 1 (YES) in the BACKUP field of the service dialog panel.

Overview of PTF Application

The following information outlines the process of PTF application.

For all PTFs, the job sequence:

1. Backs up all sublibraries with the option RESTORE = ONLINE, if backup was requested.

   Note that only the system library IJSYSRS is backed up with the option RESTORE = STANDALONE. IJSYSRS will always be at the beginning of the backup tape.

2. Copies system history file to work history file.
3. Applies service.

   This processing step depends on whether the PTFs are applied directly or indirectly.

   - PTFs applied directly:
     a. Service is merged directly into the system. All changes are recorded by updating the work history file.
     b. For VSE/ICCF members the job asks you to either:
        - Stop VSE/ICCF
        - Disconnect the VSE/ICCF DTSFILE

     c. Further processing for the text repository file.
     d. The work history file is copied back to the system history file.
     e. Service application is complete.
   - PTFs applied indirectly (only for components which reside in IJSYSRS):

     PTFs Forced Indirect

     VSE/ESA does the following:

     - IJSYSR1 is created to store members.
     - The residence of the products is changed in the work history file.
     - The complete IJSYSRS.SYSLIB is copied into IJSYSR1.SYSLIB.
     - Service is merged into IJSYSR1.SYSLIB. All changes are recorded by updating the work history file.

PTFs Flagged as Indirect

VSE/ESA does the following:

- Service is merged into a temporary sublibrary. All changes are recorded by updating the work history file.
- IJSYSR1.SYSLIB is created.
- The complete IJSYSRS.SYSLIB is copied into IJSYSR1.SYSLIB.
- The temporary sublibrary is merged into IJSYSR1.SYSLIB.

For both cases (PTFs forced indirect and PTFs flagged as indirect), processing continues as follows:

a. For VSE/ICCF members the job asks you to either:
   - Stop VSE/ICCF
   - Disconnect the VSE/ICCF DTSFILE

b. Further processing for the text repository file.

c. A procedure is cataloged to merge service.

d. The job sequence instructs you to shut down your system.

e. If you are a generation user using your own supervisor and the supervisor is affected by this service application, reassemble your own supervisor into IJSYSR1 before shutting down your system.

   After applying service to the CICS/VSE generation part, recatalog the following:

   - CICS System Definition (CSD) file.
   - Startup procedures.
   - VTAM books.

     For the above tables and procedures, proceed as follows: Start with the *Function Selection* panel and select:

     2 (Resource Definition)
     4 (Hardware Configuration and IPL)
     1 (Configure Hardware)

```
Administrator
Fast Path:  241
```

```
Synonym
Default:     ——     Yours:
```

     On the *Configure Hardware* panel, press PF5. Select the CSD or startup procedures you want to regenerate. The dialog then generates a job which will assemble the books and also recatalog the CSD file. The dialog is described in *VSE/ESA Networking Support*.

   - User modified tables
     Submit your own jobs for any tables you use.

Note that you should review the output of the job to make sure everything is correct. Error messages in the job output may result in a difficult IPL. After PTF application, the updated text repository file must be activated. See the instructions for updating default selection panels and application profiles on page 164.

f. IPL from the DASD on which IJSYSR1 resides (default is SYSWK1).

You should now test the service application. After testing, you can merge the service into your system. However, if you have problems, you do **not** have to merge the service. You can return to your original system. Decide what you want to do. Follow the appropriate steps below.

Merge Service

If testing was successful, do the following to continue PTF application:

- Run the DTRMRG procedure by entering:

  ```
  R RDR, PAUSEBG
  0 EXEC PROC=DTRMRG
  ```

  The DTRMRG procedure applies service permanently.
- Shut down your system.
- IPL from DOSRES.

Do Not Merge Service

If you have problems when testing, you do not have to merge the service. Do the following:

- Shut down your system.
- IPL from DOSRES (your old system resident volume).
- Restore all libraries affected by service application.
  If you do not do this, you may have mixed service levels in the different libraries on your system.
- Restore the system library IJSYSRS.
- Restore the VSE/ICCF DTSFILE if the VSE/ICCF DTSFILE members were affected by the service application.

Note that you do **not** have to restore the system history file which has not yet been changed by service application.

Your system is at its original service level. This is the level before you started the PTF application.

Note: You must not do any kind of service application between the application step and the merge step of indirect service. For example, you should not apply local fixes.

Dialog Problem Checking

The job sequence checks that **indirect** PTFs from a **previous** PTF application have been merged before it installs new PTFs.

The job sequence checks for an internal indicator. When PTFs are applied indirectly into IJSYSR1, the indicator is set, showing that:

1. PTFs are installed in IJSYSR1.
2. PTFs have **not** yet been merged.

When the DTRMRG procedure merges the PTFs, service application is completed. DTRMRG deletes the internal indicator. However, if DTRMRG is **not** run, the indicator is still set.

If the indicator is set when a job sequence starts, the job stops and displays a message. The message:

```
PREVIOUS INDIRECT SERVICE APPLICATION HAS NOT BEEN MERGED
TO THE SYSTEM
```

- Informs you that indirect service application was not finished successfully.
- Asks you to do one of the following:
  - Cancel the job.
  - Continue with the job.

The message **does not** necessarily mean there is a problem. It simply indicates that the DTRMRG procedure was **not** run during a **previous** PTF application. You may not have run DTRMRG for two reasons:

1. Prior PTF testing was **not** successful, and you did **not** want to merge the service.

   In this case, you did not want service applied, so you did not run DTRMRG. Therefore, the internal indicator is still set. This is **not** a problem. You can simply continue with the current (new) PTF application.

   Before you reply to the message, make sure you restored the affected sublibraries and the VSE/ICCF DTSFILE with the status before the **previous** PTF application. Continue as follows:

   - Affected sublibraries and VSE/ICCF DTSFILE restored.

     Type in

     `x` where *x* is the reply ID

     Then press **ENTER**. The current PTF application continues.

   - Affected sublibraries **not** restored.
     - Cancel the current PTF job and EXIT from the Job Manager.
     - Restore sublibraries.
     - Restore VSE/ICCF DTSFILE
     - Release the job **DTRSTPTF** from the reader queue.
       The new PTF application continues.

       If you do not follow the above instructions, you may have mixed service levels in the different libraries on your system.

2. Prior PTF testing **was** successful, but you did **not** run DTRMRG to complete PTF application.

   Perhaps you overlooked the information about running DTRMRG. Service has been installed, but it has not been merged.

   In this case, you should do the following:

   - Cancel the current PTF job and EXIT from the Job Manager.
   - Shutdown the system (if not already having IPLed from IJSYSR1).
   - IPL from IJSYSR1 (if not already having IPLed from IJSYSR1).
   - Run the DTRMRG procedure:

```
EXEC PROC=DTRMRG
```

Previous service is merged into your system.

- Shutdown the system.
- IPL from IJSYSRS.
- Release the job **DTRSTPTF** from the reader queue.
  The new PTF application continues.

If you **do not** do this, you may have mixed service levels in the different libraries on the system.

Applying APAR/Local Fix

The *Apply APAR/Local Fix* dialog applies an APAR or local fix to your system. To access the dialog, start with the *Function Selection* panel and select:

1 (Installation)
4 (IBM Service)
3 (Apply APAR/Local Fix)

```
Administrator                  Synonym
Fast Path:  143                Default:    ___    Yours:
```

A panel displays three selections. Choose the type of member you want to change:

1. Alter Phase
2. Alter Module
3. Alter Source Member.

The input you need depends on the selection you choose. The information in "Input for All Selections" is needed for each of the three selections. Following this section, additional information is described for altering either a phase, module, or source member.

Note: If you have multiple versions of the same product installed in your system, the APAR/Local Fix function is *not* supported (no MSHP support).

Input for All Selections

You need the following information for all three selections which the dialog offers:

APAR/LOCAL NUMBER
APAR number in the format XXYYYYY, where XX is:

- Alphabetic for a formal APAR fix.
- The character '#' for a local fix.

BACKUP
Specify whether you want the libraries (sublibraries) affected by the service backed up.

1 - YES (Back up libraries)
2 - NO (Do not back up libraries)

REVOKABLE
Specify whether the fix can be removed by the *UNDO* dialog at a later time.

1 - YES (Fix can be removed)
2 - NO (Fix cannot be removed)

The Interactive Interface provides the *Undo APAR/Local Fix* dialog which removes a fix to a phase or module. The dialog is described in "Removing APAR/Local Fix" on page 156.

If a fix for a source member is revokable, the dialog punches a job to SYSPCH. The job is used to remove the fix. Refer to "Removing Source Member" on page 156 for information about removing a source fix.

TAPE ADDRESS
The address (**cuu**) of the tape unit used for this task.

AFFECTED COMPONENT
Specify the ID of the affected component.

AFFECTED MEMBER
The phase, module, or macro affected by the fix, depending on whether you are altering a phase, module, or source member.

Additional Input for Altering a Phase

If you alter a phase, a fix for self-relocatable phases can be expanded. This provides a patch area at the end. Specify a 1 - 6 digit decimal number (additional bytes) for the patch area.

You have the following options:

1. **SCAN PHASE**
   This allows you to:
   a. Scan by address (to look at contents).
   b. Scan for content (to look for address).

   Using both options allows you to verify the phase.
2. **ALTER PHASE**
   With this option, you can alter a phase.
3. **CONTINUE**
   Specify whether you have additional phases for the APAR fix. When you are done, you can include a comment in the system history file about the change. This is optional. The comment **must** be enclosed in single quotes.

The dialog creates a job with the default name SRV. On the *Job Disposition* panel, you can submit the job to batch, file it in your default primary library, or both.

Additional Input for Altering a Module

If you alter a module, you also need the following information:

EXPAND LENGTH
Fixes to modules can be expanded. This provides a patch area at the end. Specify a 1 - 6 digit decimal number (additional bytes) for the patch area.

CSECT ID
Specify 1 - 3 hexadecimal characters. This is used for the CSECT number to which the change in the module is applied.

RELATIVE ADDRESS
Specify the address where the text is replaced. This is the address from the start of the module.

VERIFY OLD TEXT
Enter the hexadecimal data which is presently at the relative address.

REPLACEMENT NEW TEXT
Enter the hexadecimal data which replaces the old data. The length must be the same as the length of the old data (VERIFY OLD TEXT).

ADDITIONAL MODULE
Specify whether you want to change additional modules. When you are done, the dialog continues.

INCLUDE LINK BOOK
Specify the name of the book that will link edit the fix into the library. If this is not required, press ENTER.

You can include a comment in the system history file about the change. This is optional. The comment must be enclosed in single quotes.

The dialog creates a job with the default name SRV. On the *Job Disposition* panel, you can submit the job to batch, file it in your default primary library, or both.

Additional Input for Altering a Source Member

If you alter a source member, you also need the following information:

SYSPCH ASSIGNMENT
You must assign SYSPCH (cuu) if the fix is revokable.

MACRO TYPE
Specify the type of macro affected by the fix.

You have the following options:

1. VERIFY
   This is only valid for 'E' type macros. You can check that the existing data in the macro is correct.
2. INSERT
   This allows you to insert new lines of data.
3. REPLACE
   You can replace statements with new data.
4. DELETE
   You can delete statements.
5. RESTART
   This allows you to restart line numbering.
6. ADDITIONAL MACRO
   You can process an additional macro for the fix.
7. CONTINUE
   Processing for the fix is completed.
   You can include a comment in the system history file about the change. This is optional. The comment must be enclosed in single quotes.

The dialog creates a job with the default name SRV. On the *Job Disposition* panel, you can submit the job to batch, file it in your default primary library, or both.

Removing APAR/Local Fix

The *Undo APAR/Local Fix* dialog removes either an APAR or a local fix which has been applied specifying REVOKABLE. To access the dialog, start with the *Function Selection* panel and select:

1 (Installation)
4 (IBM Service)
4 (Undo APAR/Local Fix)

```
Administrator
Fast Path:  144
```

```
Synonym
Default:     ——     Yours:
```

Removing Phase or Module

After you have accessed the *Undo APAR/Local Fix* panel, two selections are displayed. Select the type of member for the fix you want to remove:

1 Undo Phase
2 Undo Module

For either selection, specify the component and fix number:

- APAR/LOCAL FIX NUMBER
- COMPONENT ID

The dialog creates a job with the default name UNDO. On the *Job Disposition* panel, you can submit the job to batch, file it in your default primary library, or both.

Removing Source Member

If a fix affecting a source member is applied revocably by using the *Apply APAR/Local Fix* dialog, a job is punched to SYSPCH. This job is used to remove the fix.

To remove the fix, do the following:

- Release a PAUSE job for the BG partition.
  The PAUSE job is in the reader queue.
- Assign SYSIN to the same device you used as SYSPCH (cuu) when you applied the fix:

```
ASSGN SYSIN,cuu
```

The job runs and removes the fix. After the job has finished, unassign SYSIN or assign SYSIN to the previously used device.

Running a Fast Service Upgrade (FSU)

The VSE/ESA system libraries are periodically upgraded with the latest level of maintenance. This is known as a *system refresh.*

After you install VSE/ESA, you can install a refresh using the Fast Service Upgrade (FSU) process. **The FSU simply replaces the VSE/ESA system information.** It **does not** change or delete your own libraries or installation information. The FSU is not intended for optional licensed programs. If you also want to refresh your VSE optional licensed programs, you must reinstall the VSE optional licensed programs (using the new version) after having gone through the FSU process.

Restrictions for Running an FSU

You cannot use the FSU function to upgrade your system, if you want to:

1. Use other disk device types than you are using presently. For example, if you have installed your VSE system on IBM 3350 disk devices and now want to use IBM 3380 disk devices, you cannot run an FSU.
2. Change your system's telecommunication access method (switching from BTAM to VTAM or vice versa).
3. Change your system from one language to another (English to Spanish, for example).
4. Switch from the 2-digit subarea naming convention to the 4-digit subarea naming convention (in an unattended node environment, for example).

Before Running an FSU

Before you go through the dialogs and run the jobs, consider the following:

1. For stage 1, the job sequence runs in the background partition (BG). This is the default. You can run the job stream in any partition as long as the partition leaves enough space for MSHP (at least 1024K plus 256K partition GETVIS area). You can also change the class on the *Job Disposition* panel.
2. Only one job sequence from this dialog can be in the reader queue at one time.
3. In case of problems you should have a current backup of your system available.

   If you do not have one, specify 1 (YES) in the BACKUP field for the libraries you wish to backup as you go through the dialog.
4. If service affects a VSE/ICCF library member, the VSE/ICCF member is replaced.

   If you modify any VSE/ICCF members supplied by IBM, such as the SUBMIT procedure, you should also save them in another library.

   When you use a VSE/ESA skeleton, you should first copy it to another VSE/ICCF library before you change it.
5. For the importance and for details of PRD2.SAVE, refer to *VSE/ESA Planning.*
6. Do not have your own information in the following libraries. These libraries are replaced completely.

   - PRD2.GEN1
   - PRD1.BASE
7. If the Generation Feature is installed:

- It must reside in library PRD2.GEN1.
- The generation library must be online. If it is not, the job fails. You would then have to do the following:

  a. Enter

     x EXIT (where *x* is the reply ID)

     to temporarily stop the job sequence and exit from the Job Manager.

  b. Restore the generation library using the *Install Generation Feature* dialog (fast path: 13).

  c. Enter R RDR,DTRFSUAB to release this job again.

  d. Reply

     x RESUME (where *x* is the reply ID)

     to restart processing.

8. In Stage 2, Fast Service Upgrade defines a work file for the Text Repository file. The work file is defined in VSAM space. You should make sure that your system has sufficient VSAM space on DOSRES for the definition of this work file. To perform this, do the following:

   - Estimate the required space for the work file by looking at the space your current Text Repository file uses. Access the *File and Catalog Management* catalog, enter VSESPUC for CATALOG NAME, choose selection 1 and use option 1.
   - Check how much VSAM space is free on DOSRES. Choose selection 5 of the *File and Catalog Management* dialog and use option 1.
     If there is not sufficient space left, use option 4 to define new space.

9. You should have jobs in the VSE/POWER queue to restore your original:

   - VSE/ICCF DTSFILE.
   - PRD1.BASE sublibrary.
   - Generation Feature sublibrary.

   This is needed if there are problems during FSU, and you have to restore these files.

10. The VSE/ESA library structure must be present. This means that FSU is dependent on having IJSYSRS.SYSLIB, PRD1.BASE, PRD2.CONFIG and PRD2.SAVE present. Note that if you have combined or renamed these libraries and sublibraries, the FSU job stream will not work without modification.

Using the Fast Service Upgrade Dialog

The *Fast Service Upgrade* dialog creates a job sequence to install the refresh. The job sequence is managed by the Job Manager. "Before Running an FSU" on page 157 has information about Job Manager processing and other dialog considerations.

To access the dialog, start with the *Function Selection* panel and select:

1 (Installation)
4 (IBM Service)
5 (Fast Service Upgrade)

Administrator Fast Path: 145	Synonym Default: —— Yours:

The following panel is displayed:

```
IESADMSL.IESEFSU          FAST SERVICE UPGRADE
                                                        APPLID: DBDCCICS
  Enter the number of your selection and press the ENTER key:


       1  Down-Level Check

       2  FSU Preparation

       3  FSU Installation


PF1=HELP            3=END        4=RETURN              6=ESCAPE(U)
                    9=ESCAPE(m)

==> _                                                 PATH: 145
```

Figure 37. Fast Service Upgrade Selection Panel

Note that "Overview of Fast Service Upgrade Processing" on page 160 has valuable information on the selections offered in the above panel.

For selections 1 and 2, specify the

TAPE UNIT ADDRESS
The address (cuu) of the tape unit used for the FSU.

For selection 3, you need the following information:

TAPE UNIT ADDRESS
The address (cuu) of the tape unit used for the FSU.

GEN-LIB REFRESH
This selection appears for the generation user only.

If you have the VSE/ESA Generation Feature installed, specify whether you want to refresh the generation library during Fast Service Upgrade.

- **1** - YES (Refresh)
- **2** - NO (Remove Generation Feature, go back to Production user)

If you enter **2** (NO), the entry for the generation library is removed from the system history file. The sublibrary where the feature resides (PRD2.GEN1) is refreshed. This sublibrary is kept, but all contents are deleted. After FSU, the history file reflects that you do not have the VSE/ESA Generation Feature installed.

REORGANIZE VSE/ICCF DTSFILE

Specify whether you want to reorganize the *refreshed* VSE/ICCF DTSFILE. Reorganization of the VSE/ICCF DTSFILE helps you improve the system performance.

1 - YES (Reorganize VSE/ICCF DTSFILE)
2 - NO (Do not reorganize VSE/ICCF DTSFILE)

BACKUP LIBRARIES

Specify whether you want to back up the sublibraries IJSYSRS.SYSLIB and PRD1.BASE.

1 - YES (Back up sublibraries)
2 - NO (Do not back up sublibraries)

BACKUP VSE/ICCF DTSFILE

Specify whether you want to back up the *existing* VSE/ICCF DTSFILE.

1 - YES (Back up)
2 - NO (Do not back up)

The dialog creates a job with the default name DTRFSU. On the *Job Disposition* panel, you can submit the job to batch, file it in your default primary library, or both. You can also change the VSE/POWER class (for stage 1 only).

Overview of Fast Service Upgrade Processing

The following information outlines FSU processing. To plan for an FSU, a down-level check should first be performed which is followed by an FSU preparation (Stage 0). The FSU installation itself has two stages: Stage 1 and Stage 2. The following describes the three steps of an FSU:

Down-level Check

This selection creates a job stream which performs a down-level check **without** installing the new refresh. This step does **not** change your system. Down-level check is useful to decide and plan FSU installation. Note that this check can be done independent of the FSU itself. During down-level check, the current system status is checked and compared with the refresh version.

Then the system provides a list output which contains all PTFs and APARs which are not included in the refresh level but which are already installed in your current system. Note that these PTFs and APARs must be reapplied after FSU installation because the FSU removes the PTFs. Down-level check is performed against the following sublibraries:

- IJSYSRS.SYSLIB
- PRD1.BASE
- PRD2.GEN1 (for generation user only)

FSU Preparation (Stage 0)

The FSU preparation must immediately precede the FSU installation (stages 1 and 2).

This selection creates a job stream which restores the new FSU function and the FSU skeletons from refresh tapes, performing a selective restore of those members via LIBR and DTSUTIL. This way you can always be sure that only the newest FSU version is used for the refresh.

Do not run the *FSU Installation* **dialog** until this job has completed. The FSU preparation job must have finished **before** you generate the FSU Installation job (stage 1).

FSU Installation (Stage 1)

Note that the FSU installation (stage 1) must immediately follow the FSU preparation (stage 0).

You can run stage 1 while the system is running normally. There is no need to shut down any partitions.

In Stage 1, the job sequence:

1. Builds up the job manager environment.
2. Backs up the following libraries, if specified:
   - IJSYSRS.SYSLIB (stand-alone)
   - PRD1.BASE

   You need a scratch tape for this purpose.
3. Backs up VSE/ICCF DTSFILE, if specified.
   The job asks you to disconnect the VSE/ICCF DTSFILE.

   Before you continue, check the list output to make sure the backup is complete.

   You need a scratch tape for this purpose.
4. Copies system history file to work history file.
5. Installs the system libraries of the refresh into a system work library (IJSYSR1).

   Depending on your software levels, MSHP lists down-level service information. You must reapply this list of PTFs after you are done with the FSU.
6. Refreshes Generation Feature, if specified. This is done only if you installed the Generation Feature and answered **YES** when you were asked for a Gen-Lib refresh as shown on page 159. If you answered **NO**, the members in the library PRD2.GEN1 and the MSHP entry are deleted.
7. Copies members from PRD2.SAVE and user procedures from IJSYSRS to IJSYSR1.SYSLIB. Furthermore, the following members are copied from IJSYSRS to IJSYSR1:
   - STDLABEL.PROC
   - STDLABUP.PROC
   - STDLABUS.PROC
   - DTRPOWR.PROC
8. Catalogs jobs which have to run in stage 2.
   Also, the VSE/POWER start-up job that is later used in stage 2 is cataloged. This is the same for your own generated VSE/POWER phase.
9. Clean-up for stage 1.

Steps Between Stage 1 and Stage 2

Generation Feature Users

If you have generated your own supervisor, you must reassemble your supervisor and catalog it into IJSYSR1 library at this point.

At this point you should

- Shut down all partitions except for the VSE/POWER partition.
- Save your VSE/POWER queues on a scratch tape. To do so, issue the following command:

  where is the address of the tape drive you want to use. You need to backup the VSE/POWER queues because in stage 2 the VSE/POWER queues will be formatted.
- Shut down the VSE/POWER partition.

FSU Installation (Stage 2)

Note that the IPL procedure of stage 2 brings up a system that can only be used for service installation.

IPL from the refreshed SYS.NEW.RES (which is normally on SYSWK1). You must use a JCL procedure that has been tailored especially for FSU. To use this JCL procedure, do the following:

1. At the very beginning, interrupt the IPL to specify the IPL parameter. to do so.

   VM Users

   If your system is running under VM, do the following to interrupt the IPL:

   1. (SYSWK1)
   2. Press .
   3. Press to enter CP mode.
   4. Type in
   5. Press .

2. Now you are asked to enter the IPL parameters. Depending on the supervisor mode you have chosen, specity either:

   a. or

   b. .

You are allowed to use your normal IPL procedure, but you must use the $$JCLFSU procedures.

This IPL will:

- Perform a formatting of the VSE/POWER queues.

  Answer all messages beginning with:

  ```
  F1 001 4733D EQUAL FILE ID IN VTOC .....
  ```

  by entering
- Load all FSU stage 2 jobs.
- Execute all FSU stage 2 jobs.
- Start up a mini system, which allows you to perform the necessary steps in stage 2 of FSU.

In Stage 2, the job sequence:

1. Builds up the job manager environment.
2. Selectively restores VSE/ICCF DTSFILE.
   (Only those members serviced by IBM since the last refresh will be replaced).
3. Refreshes the base products in PRD1.BASE.

   Depending on your software levels, MSHP lists down-level service information. You must reapply this list of PTFs after you are done with the FSU.
4. Restores the language-dependent part of VSE/ESA. The language-dependent members in library IJSYSR1 will be replaced. Depending on your software levels, a down-level message appears.
   - Restores message files
   - Refreshes text repository file
   - Does a selective restore of the language-dependent members in the VSE/ICCF DTSFILE.
5. Backs up and restores VSE/ICCF DTSFILE.
   This reorganizes the VSE/ICCF DTSFILE for better VSE/ICCF performance. Note that this step is optional and only done if you specified **1(YES)** to the REORGANIZE DTSFILE parameter described on page 160.
6. Copies the system work library IJSYSR1 to the system library IJSYSRS and renames system procedures.
7. Updates work history file residencies and copies work history file to system history file.

   Note: Code replacement is completed. The job sequence now processes startup information.
8. Starts cleanup job.

The job to process the startup information does the following:

1. Generates *base* startup for CICS/VSE.

   Note: You can regenerate your own CICS/VSE tables and options later.

   During this step, you have to respond to certain messages. You need to define the following:
   - BTAM-ES users must define up to three 3270 terminal addresses (cuu).
   - VTAM users must specify whether the local control unit is a SNA control unit (YES/NO).

     If you reply YES, define:
     - Control unit address (cuu).
     - Terminal type (327x-y).
     - Up to three local ACF/VTAM terminals (port number).

     If you reply NO, define up to three local ACF/VTAM terminals (cuu).
2. Starts CICS/ICCF and ACF/VTAM (for ACF/VTAM users).

You can now generate your own CICS/VSE tables, options and all other tables. Do not forget to update your default selection panels and your default application profiles. To update your selection panels, proceed as follows:

1. Sign on to the VSE/ESA Interactive Interface **using the user ID SYSA**.
2. On the *Function Selection* panel, select

   2 (Resource Definition)
3. On the *Resource Definition* panel, select

   1 (User Interface Tailoring)
4. On the *User Interface Tailoring* panel, select

   2 (Maintain Selection Panels)

```
Administrator                 Synonym
Fast Path:  212               Default:    SPM    Yours:
```

5. Press PF6=SYSTEM.

   This refreshes the VSE default selection panel hierarchies and ensures that the new system panels are available.

To update your application profiles, proceed as follows:

1. If not already done, sign on to the VSE/ESA Interactive Interface **using the user ID SYSA**.
2. On the *Function Selection* panel, select

   2 (Resource Definition)
3. On the *Resource Definition* panel, select

   1 (User Interface Tailoring)
4. On the *User Interface Tailoring* panel, select

   3 (Maintain Application Profiles)

```
Administrator                 Synonym
Fast Path:  213               Default:    APM    Yours:
```

5. Press PF6=SYSTEM.

   This refreshes the list of application profiles and ensures that the new profiles are available.

When you are done, do the following:

- Shut down all partitions except for the VSE/POWER partition.
  Restore your VSE/POWER queues from your backup tape. To do so, issue the following command:

  ```
  POFFLOAD LOAD,ALL,cuu
  ```

  where cuu is the address of the tape drive you want to use.

- Shut down the VSE/POWER partition.
- IPL from DOSRES.

Considerations after an FSU

1. After Fast Service Upgrade, recatalog the following:
   - CICS System Definition (CSD) file.
   - Startup procedures.
   - VTAM books.

     For the above tables and procedures, proceed as follows: Start with the *Function Selection* panel and select:

     2 (Resource Definition)
     4 (Hardware Configuration and IPL)
     1 (Configure Hardware)

```
Administrator
Fast Path:  241
```

```
Synonym
Default:     ---     Yours:
```

     On the *Configure Hardware* panel, press PF5. Select the CSD or startup procedures you want to regenerate. The dialog then generates a job which will assemble the books and also recatalog the CSD file. The dialog is described in *VSE/ESA Networking Support*.

   - User modified tables
     Submit your own jobs for any tables you use as you already did in your system before FSU.

   Note that you should review the output of the job to make sure everything is correct. Error messages in the job output may result in a difficult IPL.
2. After having completed Fast Service Upgrade, update your default selection panels and your default application profiles. For information on how to do this, refer to page 164.
3. If you upgrade your system to a higher service level, you should consider reinstalling your VSE optional licensed programs after you complete FSU. This ensures that there are matching service levels for all licensed programs.

Problem Handling

The FSU dialog creates a job sequence which runs under the control of the Job Manager. Job Manager processing is described in "Overview of the Job Manager" on page 9.

If a problem occurs and you cannot resume, delete the following jobs in the VSE/POWER reader queue before resubmitting the original job from the VSE/ICCF library:

- DTRSTFSU
- DTRCLFSU
- All jobs beginning with the prefix DTRFSU.

If you do not do this, the Job Manager may not work correctly at a later time.

If you cannot resume, there are other things you should also do. This depends on whether you exit during Stage 1 or Stage 2 of the FSU process.

- Stage 1

  Your system has not been changed up to the refresh of the Generation Feature (for Generation Feature users only). If you exit either during or after this job step, you must restore your old generation library, if it was online.

- Stage 2

  If you exit and cannot resume during Stage 2, do the following:

  - Shut down your system.
  - IPL from DOSRES.
  - Restore the following:
    - Old VSE/ICCF DTSFILE
    - Old PRD1.BASE library
    - Old generation library.

Retracing History File

The *Retrace History File* dialog prints selected information from the system history file. To access the dialog, start with the *Function Selection* panel and select:

```
1      (Installation)
4      (IBM Service)
6      (Retrace History File)
```

```
Administrator                 Synonym
Fast Path:  146               Default:    ___     Yours:
```

This displays the following panel:

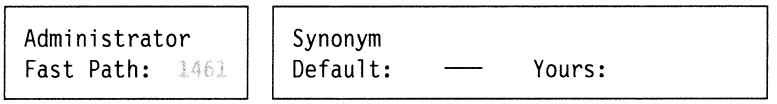
```
IESADMSL.IESERHFS          RETRACE HISTORY FILE
                                                    APPLID: DBDCCICS
  Enter the number of your selection and press the ENTER key:

       1  Retrace
       2  Retrace Products
       3  Retrace Components
       4  Retrace PTFs
       5  Retrace APARs
       6  Retrace Members
       7  Retrace Component ID
       8  Lookup PTF/APAR


PF1=HELP          3=END        4=RETURN              6=ESCAPE(U)
                  9=ESCAPE(m)

==> _                                                PATH: 146
```

Figure 38. Retrace History File Panel

A panel displays eight selections. Select the type of information you want printed.

Note: The header of each retrace list contains the refresh level of VSE/ESA.

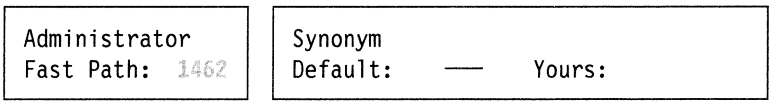
1. Retrace



This dialog creates a job to print the following information from the system history file:

- A list of all products and components installed
- A sorted list of all local fixes and applied PTFs
- An APAR cross-reference list
- A member cross-reference list
- Comments from any RESOLVES statements

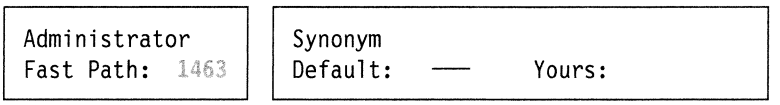
2. Retrace Products



The dialog creates a job to print the following information for each product installed in the system:

- Installation date
- Components within the product
- Comments, if any
- Residence of the product

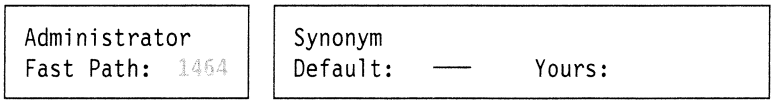
3. Retrace Components



This option creates a job to print information for all installed components:

- Component ID
- Release level
- Installation date
- List of PTFs and APARs applied
- All generated members
- Residence of the components

4. Retrace PTFs



This dialog creates a job to print all applied PTFs by sequence number. For each PTF number, the list output provides the following information:

- PTF number
- Indication if PTF was revoked
- Component to which PTF applies
- Affected modules
- Resolved APARs
- Prerequisites and corequisites
- Negative prerequisites
- PTFs which supersede the PTF
- PTFs which are superseded by the PTF

5. Retrace APARs

```
Administrator          Synonym
Fast Path:  1465       Default:   ——      Yours:
```

This dialog creates a job to print all APARs which have been fixed by either a PTF or APAR fix. For each APAR number, the list output provides the following information:

- APAR number
- Affected component
- PTF number (for PTF fix)
- Application date
- Affected modules (for APAR fix)

6. Retrace Members

```
Administrator          Synonym
Fast Path:  1466       Default:   ——      Yours:
```

This dialog creates a job to print all phases, relocatable modules, and macros which are affected by a PTF or an APAR fix. The list output provides the following information:

- Module name
- Component to which a module belongs
- Application date of PTF/APAR fix
- PTF/APAR number affecting a module

7. Retrace Component ID

```
Administrator          Synonym
Fast Path:  1467       Default:   ——      Yours:
```

This dialog creates a job to print information about selected components. You can print information about one or more components by entering

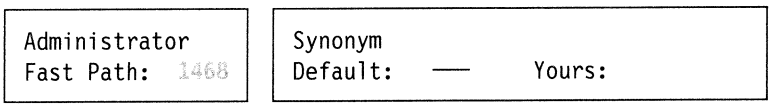
```
1       (Retrace Component)
```

in the option column next to the component you want to retrace.

The list output provides the following information for each selected component:

- Component ID
- Release level
- Installation date
- List of PTFs and APARs applied
- All generated members

8. Lookup PTF/APAR



This selection allows you to find out interactively whether a PTF or APAR is installed or not. In the following panel (*Retrace History File* - List of Components) you must enter

1 (Lookup PTF/APAR)

in the option column next to the component of which you wish to retrace the PTFs/APARs.

The next panel lets you enter up to 10 PTF/APAR numbers. Type in the PTF/APAR number(s) in the provided fields and then press ENTER.

Possible results may be, for example

```
PTF/APAR   |--  RESULT  -----------------------------|

UD12345      NOT APPLIED FOR THIS COMPONENT
UD23456      LOCAL FIX
DY34567      FIXED IN PTF UP12345
DY12345      APPLIED
```

Note that you have two choices:

1. If you enter:

   1 **(YES)** in the *EXTENDED SEARCH* field on the panel on which you specify the PTFs/APARs,

   the system will scan the whole system history and not only the history of the component you specified. If the system retraces the specified PTF/APAR in another component than the one you specified, the component ID will be displayed on the result panel.

2. If you enter

   2 **(NO)** in the *EXTENDED SEARCH* field on the panel on which you specify the PTFs/APARs,

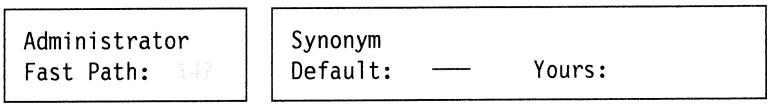
   the system will restrict the scope of the retrace to only one component.

Personalizing History File

The *Personalize History File* dialog updates personalized information for the system history file. You first entered MSHP information when you completed the initial installation of VSE/ESA. You should use this dialog whenever you want to update the information.

To access the dialog, start with the *Function Selection* panel and select:

1 (Installation)
2 (IBM Service)
7 (Personalize History File)



A panel is displayed into which you must enter the following MSHP data:

- Customer name
- Customer address
- Telephone number
- Programmer name
  This is the name of the person who is responsible for maintaining the system. It is usually the system administrator.

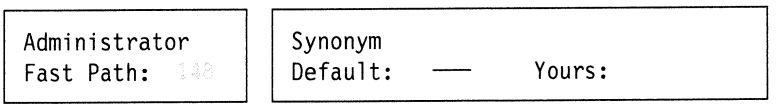
For additional information, refer to "Entering Personalized Information (for Migration and Non-Migration Users)" on page 89.

Changing Nicknames

This function allows you to change the nicknames displayed on the fulist panels related to products and components.

To access the dialog, start with the *Function Selection* panel and select:

1 (Installation)
4 (IBM Service)
8 (Change Nicknames)



You will now get a FULIST panel of all products that are in the system. This list includes

- The nickname of the product, for example *POWER*
- The product ID, for example, *033D95*

Note that the system is shipped with an initial meaningful setting for the nicknames. Figure 39 on page 171 shows you a list of the predefined nicknames that VSE/ESA offers. Now you can do one of the following:

- Select **option** 2 for a particular product.

  This option will display another FULIST panel, listing the components with their nicknames of the product you chose.
  Type **3** in the option column if you want to change the component nickname.
  In the *Change Component Nickname* panel, enter the new nickname that will identify the component in the future. The nickname may have 1 to 8 characters for products or components.

- Select **option** 3 for a particular product.

  This option lets you change the nickname of a product.
  In the *Change Product Nickname* panel, enter the new nickname that will identify the product in the future. The nickname may have 1 to 8 characters.

The Service dialogs use predefined nicknames for the licensed programs included in VSE/ESA. You will see these nicknames in their panels. Figure 39 lists the nicknames that are predefined by the system.

COMPONENT	NICKNAME
VSE/Advanced Functions	VSE/AF
VSE/AF (Source Code)	AF.GEN
ACF/VTAM	VTAM
BTAM ES	BTAM
CICS/VSE	CICS
CICS/VSE (Source Code)	CICS.GEN
VSE/ICCF	ICCF
VSE/POWER	POWER
VSE/VSAM	VSAM
VSE/VSAM Space Management	VSAMSM
VSE/VSAM Backup and Restore	VSAMBR
DITTO for VSE and VM	DITTO
VSE/Fast Copy	FASTCOPY
VSE/SP Unique Code	SP.CODE
VSE/SP NLS (for English)	SP.NLS.E
Device Support Facilities	DSF
EREP	EREP
VSE/OLTEP	OLTEP

Figure 39. System Nicknames Used by Service Dialogs

Fixing Programs Not Built in MSHP Format

Some programs (products) are not built in MSHP format. Many of these programs come from software manufacturers other than IBM. Sometimes, however, IBM programs are also not in MSHP format.

Programs that are not in MSHP format do not have any history file information delivered with the program code. In the following text, such programs are generally referred to as *non-IBM programs*.

There are two ways to fix such programs:

- By using the skeleton SKARCHIV provided in library 59 to archive a dummy entry in the system history file and then using the APAR/Local Fix dialog to apply the fix.
- By using the PATCH function of MSHP, interactively from the console or via input from SYSIPT.

Using a Skeleton

To correct a non-IBM program using the skeleton, do the following:

1. Archive a dummy entry for each library into which you have installed a non-IBM program in the history file.
2. Apply the fix (referring to dummy entry) by using the *Alter Phase, Module, or Source* dialog described under "Applying APAR/Local Fix" on page 153.

VSE/ESA provides a skeleton (SKARCHIV) in VSE/ICCF library 59 which you can use to archive the dummy entry.

The skeleton is shown in Figure 40.

```
* $$ JOB JNM=ARCHIVE,CLASS=0,DISP=D,PRI=8,LDEST=*
// JOB ARCHIVE
*
* THIS JOB CREATES AN USER PRODUCT-ID AND COMPONENT-ID ENTRY
* INTO SYSTEM HISTORY FILE
*
// EXEC MSHP
 ARCHIVE zapuse[3] /*  USER PRODUCT-ID ENTRY  */
 COMPRISES 9999-zap-it[3]
 RESOLVE 'ENTRY FOR USER/OEM PROGRAM CORRECTIONS'
 ARCHIVE 9999-zap-it-use[3] /*  USER COMPONENT-ID ENTRY  */
 RESIDENCE PRODUCT=zapuse[3] PRODUCTION=prd2.user1[3]
/*
// EXEC DTRIPST,SIZE=500K
/&
* $$ EOJ
```

Figure 40. VSE/ESA Skeleton SKARCHIV

Note: You must run the ARCHIVE job once for **every** non-IBM program for which you want to apply a fix. Use the CORRECT and AFFECTS PHASE commands. Change the product ID each time.

The following list gives you some information on the parameters used in the skeleton below:

ARCHIVE This statement is used to make entries in the system history file.

COMPRISES
This statement is used to specify the component(s) comprised in the shipped product and the library members that make up the component(s). The information is entered in the system history file. A separate COMPRISES statement must be entered for each component contained in the shipped product.

---

3 'zapuse', '9999-zap-it', '9999-zap-it-use' and 'prd2.user1' are values which you must change.

RESOLVE This statement associates a comment with a product, a PTF, an APAR/local fix, or a generated member. It is also used to indicate which APARs are fixed by a PTF.

RESIDENCE
This statement defines the names of the production and generation sublibraries in which the named products are to reside. This information is recorded in the history file for the service application.

In Figure 40 on page 172, '9999-zap-it' is the complete component ID. It always has the form xxxx-yyy-zz. Note that the first ARCHIVE statement always uses yyy plus the component level code (CLC) which is in this case *use*. The COMPRISES statement uses the complete component ID xxxx-yyy-zz. The second ARCHIVE statement uses the complete component ID xxxx-yyy-zz plus the component level code. The RESIDENCE statement uses yyy plus the component level code.

Using the PATCH Function

This function may be useful if your task involves *application programming* and you want to do hands-on debugging. The function allows you to change (patch) a phase stored in a sublibrary.

You can use the function from the console or via input from SYSIPT.

A phase that you patch may or may not be under control of MSHP. In either case, MSHP does not record the change in your system's history. However, MSHP writes a warning message to the console for MSHP-controlled phases.

Note: We do not recommend use of the PATCH function for MSHP-controlled members.

Using the Function from the Console

This is explained below by an example. Assume that:

1. A phase named PAYPRNT is to be changed at location X'0404' (relative to the beginning of the phase).
2. The phase is stored in sublibrary PAYAPPL of library WEEKLY.

Figure 41 on page 175 shows how the patch operation is started and controlled from the system's console. Note that this is **just an example. You may get some other messages**. In Figure 41:

- Operator-submitted data is indicated by an arrow (= = =►) to the left of that data.
- Numbers within parentheses in the left hand margin refer to explanations in the lower half of Figure 41.
- **Pressing END/ENTER is indicated by a square bullet** (▪).

The PATCH Statement

This section describes only the new function control statement: PATCH. For a description of the detail control statements used to patch a phase, see the IBM manual *VSE/ESA System Control Statements.*

Operation	Operands
PAtch	Sublibrary=lib.sublib

The function requires no logical unit assignments if it is requested from the console.

If the function is requested within a job, it requires:

```
SYSLST          System printer
```

Related detail control statements:

```
Required:       AFFECTS

Optional:       ALTER
                SCAN
```

The AFFECTS statement must precede the other optional detail control statements.

Description of Operands:

Sublibrary=lib.sublib

For **lib** in lib.sublib, supply the name of the library that is to be accessed.

For **sublib** in lib.sublib, supply the name of the sublibrary in which the affected phase is stored.

Assuming that the phase to be changed resides in sublibrary PAYAPPL of library WEEKLY, then your specification is:

```
sublibrary=weekly.payappl.
```

In the example below, pressing END/ENTER is indicated by a square bullet (■).

```
    ===► 0 // job patch a phase  ■
    ===► 0 // exec mshp  ■
         BG 000 M005D ENTER CONTROL STATEMENT, OR PRESS END/ENTER TO QUIT
    ===► 0 patch sublib=weekly.payappl  ■
         BG 000 M015D ENTER DETAIL STATEMENT OR "?"
(1) ===► 0 ?  ■
(2)      BG 000 M017I LIST OF ALLOWED DETAIL STATEMENTS:
                      AFFECTS (AFF)    - IDENTIFIES MEMBER TO BE UPDATED
         BG 000 M015D ENTER DETAIL STATEMENTS OR "?"
    ===► 0 affects phase=payprnt  ■
         BG 000 M105I UPDATE OF PHASE   PAYPRNT   IN PROGRESS
         BG 000 M015D ENTER DETAIL STATEMENTS OR "?"
    ===► 0 ?  ■
(2)      BG 000 M017I LIST OF ALLOWED DETAIL STATEMENTS:
                      ALTER (AL)       - IDENTIFIES MODIFICATION TO BE MADE
                      SCAN (SC)        - IDENTIFIES SCANNING TO BE PERFORMED
                      CANCEL (CANCEL)  - TO QUIT
         BG 000 M015D ENTER DETAIL STATEMENTS OR "?"
(3) ===► 0 scan 03fc  ■
         BG 000 M145I 2034D20110003002FFFF40C18B5040C1 ---► '..K..... A.. A+'
         BG 000 M015D ENTER DETAIL STATEMENTS OR "?"
(4) ===► 0 scan arg=ffff  ■
         BG 000 M144I SCAN CONTINUES FROM OFFSET 0003FC
         BG 000 M147I SCAN DATA:  FOUND AT OFFSET = 000404
         BG 000 M145I FFFF40C18B5040C14E58F0C1624110C1 ---► '.. A.. A+.0A...A'
(5) ===► 0 alter 0404 ffff:05ef  ■
(6)      BG 000 M138I CHANGE ADDRESS: 000404
(6)      BG 000 M139I OLD DATA: FFFF
(6)      BG 000 M140I NEW DATA: 05EF
         BG 000 M017I LIST OF ALLOWED DETAIL STATEMENTS:
                      ALTER (AL)       - IDENTIFIES MODIFICATION TO BE MADE
                      SCAN (SC)        - IDENTIFIES SCANNING TO BE PERFORMED
(7)                   CANCEL (CANCEL)  - TO QUIT
                      PRESS END/ENTER TO FINISH THE CORRECTION
         BG 000 M015D ENTER DETAIL STATEMENTS OR "?"
    ===► 0  ■
         BG 000 M106I UPDATE OF PHASE   PAYPRNT   SUCCESSFULLY FINISHED
         BG 000 M041I FUNCTION COMPLETED
         BG 000 M005D ENTER CONTROL STATEMENT, OR PRESS END/ENTER TO QUIT
    ===► 0  ■
         BG 000 M009I MSHP EXECUTION COMPLETED
         /&
```

Figure 41. Example of an MSHP Patch Operation

Note: The comments for the above example are shown on the opposite page.

(1) 0 ? ■

Requests MSHP to display help information. MSHP responds by an information message as shown.

(2) M017I LIST OF ALLOWED DETAIL STATEMENTS:

This is the heading line for a list of allowed detail control statements. The list that follows includes also acceptable responses other than detail control statements. For a listed control statement, MSHP shows the allowed abbreviation in parentheses. In the display line

```
AFFECTS (AFF)    - IDENTIFIES MEMBER TO BE UPDATED
```

for example, AFF is the allowed abbreviation for AFFECTS.

```
(3) 0 scan 03fc: ■
```

Requests MSHP to display 16 bytes of data beginning at the address 03FC. In this example, the scan begins at location 03fc (and not at location 0404) to give you some information on the environment of location 0404.

```
(4) 0 scan arg=ffff ■
```

Requests MSHP to scan for a string of two bytes containing X'FFFF'.

```
(5) alter 0404 ffff:05ef ■
```

Requests 'FFFF' at the location 0404 to be replaced by a branch and link register instruction.

```
(6)
```

Messages M138I, M139I, and M140I are MSHP's confirmation of the requested change.

```
(7) CANCEL (CANCEL)  - TO QUIT
```

A response of CANCEL (to quit) at this point causes the function to end, leaving the phase unchanged. If this were done in the above example, the two bytes at location 0404 would still contain 'FFFF'.

Using the Function Via Input from SYSIPT

To have MSHP do the same change in phase PAYPRNT as shown in Figure 41, submit a job as follows:

```
// JOB PATCH A PHASE
// EXEC MSHP
   PATCH SUBLIB=WEEKLY.PAYAPPL
   AFFECTS PHASE=PAYPRNT
   ALTER 0404 FFFF:05EF
/*
/&
```

Applying Service to Optional Licensed Program that Were Installed without Using the Dialog

You can install VSE optional licensed programs without using the Interactive Interface dialogs. But to later use the dialog to apply maintenance to these products, you first need to run program **DTRIPST** in order update the Maintain System History Program file (MSHP) correctly.

DTRIPST reads the MSHP file and updates member **DTRIHIST.Z** in **IJSYSRS.SYSLIB.**

DTRIHIST.Z refreshes member **ADM$SHIP** in VSE/ICCF Library 50 whenever a dialog that needs this table is used. ADM$SHIP must contain entries for all the components or products that have been installed. If this is not the case, the maintenance dialogs issue the message:

```
'PRODUCT NOT INSTALLED'
```

DTRIPST is a phase. All you have to do to run this program is to release a pause job and start the DTRIPST program:

```
R RDR,PAUSEBG
```

(press END/ENTER)

```
0  EXEC DTRIPST
```

When the program is ready, enter

```
0
```

to continue.

Chapter 10. Example Jobs for Installing Service Changes without Using the Dialogs

IBM recommends that you use the dialogs provided by the Interactive Interface for installing service changes to VSE/ESA. If you cannot use the dialogs for some reason, this chapter shows example jobs for installing the service changes without using the dialogs provided by the Interactive Interface.

> The product IDs, phase and macro names used in the following examples do **not reflect** a system environment; they are used for demonstration purposes only.

IBM distributes service changes for VSE/Advanced Functions and related licensed programs as either of the following:

One or a number of program temporary fixes (PTFs) on tape.
An authorized program analysis report (APAR) fix.

A PTF contains one or more phases, modules, or macros, each of them replacing an existing phase, module, or macro, respectively. An APAR is an update to a phase, a module, or a macro. How to handle PTFs and APARs is summarized below.

- Handling of PTFs

  Normally, PTFs are shipped on a service tape. This tape contains (in the sequence as listed):

  A history file or a null file.
  A preventive service document.
  A dummy file.
  An EXCLUDE list or a null file.
  PTF cover letters or a null file.
  PTFs.
  Two dummy files.

  Note: MSHP can install PTFs from a service tape only if the PTFs are stored on the tape as the sixth file with a block size of 10320 bytes. Service tapes which you received from IBM before you migrated to Version 4 may be unsuitable for processing on your Version-4 system.

  When you receive a service tape, then:

  1. Have MSHP produce a listing of the service document and give this printout a careful reading. This helps you in planning and performing the task of installing required PTFs.
  2. Install those PTFs which correct system problems, if you have any at your location, and which avoid potential problems in the future. You may install all PTFs supplied by IBM if this is desirable. This approach is referred to as preventive service.

     The service tape as shipped by IBM may not include the PTFs whose installation on your system is a prerequisite for one or more of the PTFs you want to install. In this case, MSHP does not install the affected PTF and informs you by a message.

If you know that prerequisite PTFs exist on another service tape and that these PTFs are not yet installed, have MSHP scan one or more additional tape volumes for the prerequisite PTFs and retrieve them for installation.

You may also receive, from IBM, a single PTF. You get this PTF in the form of an executable job which invokes MSHP.

- Handling of APAR or Local Fixes

  Normally, such fixes are not distributed in machine readable form; you install them using the CORRECT function of MSHP.

- Revokable or Irrevocable Installation

  The REVOKABLE option of MSHP produces so called backout jobs of PTFs that are being installed, if this option is specified. Use the option only if you install just one or few PTFs for the purpose of solving a specific problem.

  MSHP writes backout jobs onto the tape mounted on the drive to which SYS004 is assigned. You can use this tape as input to MSHP should there be need for a backout of a PTF. Installing a backout PTF amounts to a re-installation of the library member(s) replaced by the installation of the PTF.

  Note: Do not install the backout job for a PTF that is a pre- or corequisite for other PTFs or has comparable APAR/local fix dependencies.

  This appendix gives sample jobs for both the installation of PTFs and the installation of backout jobs. It gives sample jobs for installing and removing an APAR or a local fix.

- Preparing the System

  Before the installation of service changes, you should produce a backup on tape. Ensure that you have an up-to-date backup of the sublibrary (or licensed program) on which you want to install a service change. Perform a librarian BACKUP run to get a backup of VSE/Advanced Functions; perform an MSHP BACKUP run to get a backup of an individual licensed program.

  There is no need to define the libraries or sublibraries that hold the products which are to be serviced. MSHP establishes required search chains based on the information recorded in the history file; it uses the services of the librarian to actually delete replaced members and to catalog new, replacement members.

Service-Related Activities: This appendix includes a discussion of activities that IBM recommends after successful completion of a service run; it gives sample jobs for history-related activities for which there may be a need occasionally at your location.

Sample Jobs: Where applicable, the sample jobs in this appendix include statements for running the installation jobs under VSE/POWER. If your service partition is not under VSE/POWER control when you run these jobs, the system ignores those statements.

Handling of PTFs

This activity includes the installation of PTFs and the backout of installed PTFs, if this is necessary.

Installing PTFs from a Service Tape

For the installation of PTFs, IBM recommends that you use the VSE/ESA dialogs. If you do not want to use the dialogs for some reason, you may proceed as follows:

1. List the service document

   Submit a job similar to the one shown in Figure 42 on page 182. The job produces, on the device assigned to SYSLST, a printout of service documentation as requested by the MSHP LIST statement.

2. Examine the service document

   The information contained in the printed document helps you decide which of the PTFs on the tape are to be installed.

   You may want to install only those PTFs which correct a problem or prevent a potential problem. In that case, you should prepare a list of the PTFs you want to be included (by way of INCLUDE statements) or excluded (by way of EXCLUDE statements), whichever is the shorter list.

   Write INCLUDE statements in the form

   ```
   INCLUDE PTF=(UDnnnnn,UDnnnnn,...)
   ```

   Write EXCLUDE statements in the form

   ```
   EXCLUDE PTF=(UDnnnnn,UDnnnnn,...)
   ```

   To install all PTFs on the service tape as a preventive service, do not supply any INCLUDE or EXCLUDE statements.

3. Set up and run the installation job

   To install the required PTFs, set up and submit a job similar to the one shown in Figure 43 on page 183. The sample assumes that:

   - Label information for the affected libraries is stored in the system's label information area.
   - The affected sublibraries are online.

```
     * $$ JOB JNM=LSTSVCE,CLASS=0
     // JOB   LIST SERVICE INFORMATION
(1)  // ASSGN SYS006,cuu
     // EXEC  MSHP
(2)  LIST SERVICETAPE -
          DOCUMENT COVER SEPARATE
(3)  PTF=(UD12345,UD45678,...)

     /*
     /&
     * $$ EOJ
```

(1) // ASSGN SYS006,cuu
Assign SYS006 to the tape drive on which you mounted the service tape.

(2) LIST SERVICETAPE DOCUMENT COVER SEPARATE
Specifying:

DOCUMENT
Produces a printout of the service document stored on the service tape.

COVER
Produces a printout of PTF cover letters (see also reference (3) below).

SEPARATE
Causes a new page to be started for each PTF cover letter that is to be printed.

(3) PTF=(UD12345,UD45678,...)
This detail control statement causes MSHP to print only the cover letters of those PTFs that are specified. If you omit this statement, MSHP prints all PTF cover letters.

Figure 42. Sample Job for Listing the Service Document

```
     * $$ JOB JNM=INSTSVE,CLASS=0
     // JOB   INSTALL SERVICE
(1)  // ASSGN SYS002,cuu
(2)  // ASSGN SYS006,cuu
     // EXEC  MSHP
(3)  INSTALL SERVICE TAPES=2
(4)  INCLUDE PTF=(UD12345,UD45678,...)
     /*
     /&
     * $$ EOJ
```

(1) // ASSGN SYS002,cuu
Assign SYS002 to a work disk for use by MSHP.

(2) // ASSGN SYS006,cuu
Assign SYS006 to the tape drive on which you mounted the service tape.

(3) INSTALL SERVICE TAPES=2
You may supply the statement with REVOKABLE specified (for example: INSTALL SERVICE REVOKABLE). Do this only if you install just one or few PTFs and you are sure that none of the PTFs being installed is a requirement for other PTFs or has APAR/local-fix dependencies. An attempt to revoke a PTF with such dependencies may result in a down-leveled (inoperative) system.

Specifying REVOKABLE requires that you mount an extra tape to which MSHP can write the created backout job(s). Assign SYS004 to the tape drive you use.

TAPES=2 indicates to MSHP that it is to scan and process two service tapes. You can specify up to nine service tapes. The tapes are to be mounted one after the other, in response to MSHP's mount request, on the tape drive assigned to SYS006.
When MSHP has scanned the last tape, it issues another mount request. Now mount the tapes for processing, one after the other, in response to the mount requests from MSHP.

(4) INCLUDE PTF=(UD12345,UD45678,...)
PTFs defined here are installed by MSHP. All other PTFs stored on the service tape are not installed. If you were using an EXCLUDE statement, MSHP would install all PTFs not defined in the statement.

Figure 43. Sample Job for Installing PTFs

Restarting a PTF Installation Run

The installation of PTFs may require modules to be link-edited into phases. Before this link-editing under MSHP control starts, MSHP takes a checkpoint. Should this link-editing fail, then MSHP terminates PTF installation, but allows you to set up the installation job again at the recorded checkpoint. To restart the installation process at this checkpoint, submit a job similar to the one shown below:

```
* $$ JOB JNM=RSTRTSV,CLASS=0
// JOB   INSTALL SERVICE
// EXEC  MSHP
INSTALL SERVICE RESTART
/*
/&
* $$ EOJ
```

For a restart, MSHP needs no input other than the INSTALL statement as shown in the above sample job.

Installing a Backout PTF

To install a backout PTF, which amounts to recataloging the library member(s) replaced by the corresponding PTF, you proceed in nearly the same way as for the installation of a PTF from the service tape:

1. Mount the MSHP created backout tape.
2. Submit a job similar to the one shown in Figure 44.

For the MSHP job to complete successfully, it is necessary that:

- Label information for the affected library is stored in the system's label information area.
- The affected sublibrary is on-line.

```
     * $$ JOB JNM=INSTBKO,CLASS=0
     // JOB    INSTALL BACKOUT PTF
(1)  // ASSGN  SYS002,cuu
(2)  // ASSGN  SYS006,cuu
     // EXEC   MSHP
     INSTALL BACKOUT
(3)  INCLUDE PTF=UD12345
     /*
     /&
     * $$ EOJ
```

(1) `// ASSGN SYS002,cuu`
Assign SYS002 to a work disk for use by MSHP.

(2) `// ASSGN SYS006,cuu`
Assign SYS006 to the tape drive on which you mounted the backout tape.

(3) `INCLUDE PTF=UD12345`
MSHP installs the backout PTF that corresponds to the PTF whose number you specify. Any other backout PTF stored on the backout tape is not installed. If you use an EXCLUDE statement, MSHP installs any backout PTF whose number is not specified in the statement.

Figure 44. Sample Job for Installing a Backout PTF

Handling of APAR and Local Fixes

An APAR or a local fix, a correction of software to resolve a problem, may be developed locally or may come from IBM. To install such a fix on your system, use the CORRECT function of MSHP. MSHP, in turn, uses system programs as required to implement the fix; it supplies input to those programs based on your specifications. MSHP records the installation of a fix in the system history file.

Later on, weeks or months after you installed the fix, you may have to install a PTF that overlays this fix. If this occurs, remove the fix by using MSHP's UNDO function before you install the PTF. You can do this if you installed the fix with REVOKABLE specified either explicitly or by default. Reinstall the fix after having installed the PTF, should this be necessary.

If you install a fix revokable, MSHP does the following in addition:

- For phases and modules – It records the old and the new data.
- For macros – It writes the affected macros to SYSPCH before actually altering them.

MSHP handles a CORRECT request for a macro as a fix for an edited macro, except when a member type is specified in the AFFECTS statement. In that case, MSHP handles the request as a fix for an unedited macro.

MSHP can be requested to *expand* a *phase* or a *module* if this phase or module consists of only one CSECT. This allows you to add code to the end of the affected phase or module. You do this by specifying, in the AFFECT statement, the number of bytes by which the phase or module is to be expanded. Figure 45 shows an AFFECT statement used to expand a phase by 100 bytes.

This section gives sample jobs for the installation of fixes to the various types of library members. These jobs assume that permanently stored label information exists for the affected libraries. For a list of component names – IBM assigned numbers such as 1111-222-33-444, which is used in the first sample job – refer to your MSHP RETRACE COMPONENTS listing. In this listing, this component name would be printed as 1111-22233.

Handling a Fix for a Phase

The first sample job shown in Figure 45 on page 186 corrects phase IPW$$OT. The job causes MSHP to expand the phase by 100 bytes. The second sample job shown in Figure 45 removes this fix again.

Installing the Fix:

```
     * $$ JOB JNM=CORPHASE,CLASS=0
     // JOB CORRECT PHASE
     // EXEC MSHP
(1)  CORRECT 1111-222-33-444  :  DY21001
     AFFECTS PHASES=IPW$$OT EXPAND=100
(2)  ALTER F0 9200B0F8:92F180F8
(3)  ALTER 6FA 00000000:4700C426
     RESOLVES 'ERROR ON TAPE OPEN'
     /*
     /&
     * $$ EOJ
```

Removing the Fix:

```
     * $$ JOB JNM=UNDO,CLASS=0
     // JOB UNDO FIX
     // OPTION CATAL
     // EXEC MSHP
(4)  UNDO 1111-222-33-444  :  DY21001
     /*
     /&
    * $$ EOJ
```

---

(1) CORRECT 1111-222-33-444 : DY21001
1111-222-33 is the component identifier and 444 the component level code;
DY21001 is the APAR number assigned to the fix.

(2) ALTER F0 9200B0F8:92F180F8
F0 is the (hexadecimal) displacement into the phase of the data that is to be altered. This example alters the operands of an MVI (92) instruction from 00B0F8 to F180F8.

(3) ALTER 6FA 00000000:4700C426
The statement inserts the specified BC (47) instruction into the expansion area.

(4) UNDO 1111-222-33-444 : DY21001
Causes MSHP to restore the original instruction and to record the APAR (in the history file) as having been revoked.

Figure 45. Sample Job for Installing and Removing an APAR/Local Fix

Handling a Fix for an Edited Macro

Installing the Fix: The sample job shown in Figure 46 on page 187 corrects macros in a sublibrary named PRDSLA. This job assumes that permanent assignments have been made for the required system work files on disk (SYS001 through SYS004) and for SYSPCH (to a tape drive).

Since the REVOKABLE option is effective (by default), MSHP writes revoke jobs for the macros to SYSPCH before actually altering them.

Note: MSHP does not support the sequence-number restart function of ESERV. Therefore, to update a macro that requests statement-sequence numbers to be restarted, use ESERV and record the update in your system's history file.

Use MSHP's ARCHIVE function for recording the update; the sample job given under "Archiving an Update in the History File" on page 190 shows how to do this.

```
     * $$ JOB JNM=CORSRCE,CLASS=0,DISP=H
     // JOB CORRECT SOURCE MACRO
     // EXEC MSHP
(1)  CORRECT 1111-222-33-444 : DY17291
     AFFECTS MACROS=CDLOAD
(2)  VERIFY 007100
              AIF   (K'&PHASE LE 8).FOUR
(3)  INSERT 7100
            AGO  STOP
(5)  /$
(3)  INSERT 9100
     STOP    ANOP
(5)  /$
(1)  CORRECT 1111-222-33-444: DY18456
     AFFECTS MACROS=SETL
(4)  REPLACE : 300000+21
     RETURN ANOP
(5)  /$
     AFFECTS MACROS=SECHECK
(6)  DELETE 071000 : 072000
     /*
     /&
     * $$ EOJ
```

---

(1) CORRECT 1111-222-33-444 : DY1nnnn
DY17291 and DY18456 are APAR numbers by which MSHP records the changes.

(2) VERIFY 007100
Tells MSHP to verify that the text on the next input line is identical to the data stored at the specified line (7100 in this example). This verification must be successful for the operation to continue.

(3) INSERT nnnn
Requests MSHP to insert the next input line immediately behind the specified line (7100 and 9100, respectively, in the example).

(4) REPLACE : 300000+21
The colon preceding the line number indicates that only one line of code is to be replaced. If a macro includes statements without line numbers, use the relative addressing technique shown here. The statement requests MSHP to replace the 21st line after line 300000 by the source code on the next line (RETURN ANOP in this example).

(5) /$
Indicates end of data input for the current MSHP function.

(6) DELETE 071000 : 072000
Requests MSHP to delete the statements from line 71000 to 72000.

Figure 46. Sample Job for Installing a Fix for an Edited Macro

Removing the Fix: To remove a fix implemented for an edited macro:

1. Add VSE/POWER JECL statements as shown in Figure 47, if this is possible.
2. Start the revoke run with the MSHP produced job on the device assigned to SYSIN (if on tape) or SYSRDR and SYSIPT (if in card image).

The sample job given in Figure 47 revokes the corrections implemented with the sample job shown in Figure 46 on page 187.

```
* $$ JOB JNM=UNDO,CLASS=0,DISP=H
```

MSHP generated jobs

```
// JOB DY17291  (UNDO) 05/06/90
// EXEC MSHP
UNDO 1111-222-33-444 : DY17291
DATA
 ...  ...  ...
/$
/*
/&
// JOB DY18456  (UNDO) 05/06/90
// EXEC MSHP
UNDO 1111-222-33-444 : DY18456
DATA
 ...  ...  ...
/$
/*
/&
```

```
* $$ EOJ
```

Figure 47. Sample Job for Removing a Fix from an Edited Macro

Handling a Fix for an Unedited Macro

Figure 48 shows a sample job for implementing a fix for an unedited macro in the system source statement library.

MSHP implements the fix with the REVOKABLE option effective (by default). Therefore, before it alters this macro, MSHP writes a revoke job for the macro to the device assigned to SYSPCH.

The sample job assumes that permanent assignments have been made for the required system work files on disk (SYS001 through SYS004) and for SYSPCH (to a tape drive).

To remove a fix for an unedited macro, you proceed the same way as for revoking a fix for an edited macro, which is described under "Removing the Fix" on page 188.

```
    * $$ JOB JNM=CORSORCA,CLASS=0
    // JOB CORRECT UNEDITED SOURCE MACRO
(1) // PAUSE ASSGN SYSPCH TO TAPE FOR BACKOUT CREATION
    // EXEC MSHP
    CORRECT 1111-222-33-444 :  PP73336
(2) AFFECTS MACROS=DLZCKOPT TYPE=A
    DELETE : 000400
    INSERT 450
           LCLB@B(9),@NGP
    @B(9)  SETB  (@PIO(@P))
    /$
    /*
    /&
    * $$ EOJ
```

---

(1) // PAUSE ASSGN SYSPCH TO TAPE FOR BACKOUT CREATION
Gives the operator a chance to enter an ASSGN command for SYSPCH.

(2) AFFECTS MACROS=DLZCKOPT TYPE=A
By specifying a macro type (TYPE=A in this example) you indicate that an unedited macro is to be corrected.

A specification of TYPE=F indicates that a macro of the F-book format is to be corrected. MSHP uses the NCP assembler rather than VSE's assembler in this case.

Figure 48. Sample Job for Installing a Fix for an Unedited Macro

Service-Run Complete Activities

When you have finished installing a PTF or an APAR/local fix, then:

1. Create a new backup tape for each of the sublibraries that have been changed. Submit a job similar to the one as indicated below, whichever applies:
   - If the system sublibrary IJSYSRS.SYSLIB was serviced.
   - If a licensed program was serviced.

2. Obtain a listing of the history file. Submit a job similar to this sample job:

```
* $$ JOB JNM=LSTHIST, CLASS=0
// JOB RETRACE
// EXEC MSHP
RETRACE
/*
/&
* $$ EOJ
```

History-File Related Service Activities

This section describes how to:

- Archive the update of a library member in the system history file.
- Handle a history-file-full situation.
- Record the (new) residence of a previously installed system component.

Archiving an Update in the History File

The need for this may arise if, because of unusual circumstances, you change a member in the system sublibrary without using MSHP for this purpose. At a later point in time, this change may have become an APAR fix which MSHP requires for the installation of a PTF. MSHP cannot install this PTF until you have recorded your change as the installation of the required APAR fix.

To record the change in your system's history file, run a job similar to the one shown below:

```
* $$ JOB JNM=ARCHUPD,CLASS=0
// JOB   ARCHIVE UPDATE
// EXEC  MSHP
ARCHIVE  1111-222-33-444 APAR=DY12345
AFFECTS  MODULE=IJWCCDZ
/*
/&
* $$ EOJ
```

The above sample job records, in the system history file, a change by APAR DY12345; it records this change for module IJWCCDZ of the component 1111-222-33 on level 444.

Handling a History-File Full Situation

It may happen that your system's history file becomes full during installation of service changes; MSHP indicates this by a message. To recover, run a job as shown in Figure 49 on page 191. Run the job in your system's background partition.

```
    * $$ JOB JNM=CRTEHST,CLASS=0
    // JOB CREATE NEW HISTORY FILE
(1) // ASSGN SYS002,cuu
    // EXEC  MSHP
    CREATE HISTORY AUXILIARY
(2) DEFINE HISTORY AUX EXT=xx:yy
    COPY HISTORY SYSTEM AUXILIARY
    /*
(3) ***** Making the New History File Accessible *****
    // OPTION STDLABEL=DELETE
    IJSYSHF
    /*
    // OPTION STDLABEL=ADD
    // DLBL IJSYSHF,'VSE.SYSTEM.HISTORY.FILE',99/365
    // EXTENT ,vol-id,,,xx,yy
    /*
    /&
    * $$ EOJ
```

---

(1) // ASSGN SYS002,cuu
For cuu give the address of the disk drive whose volume contains the full system history file.

(2) DEFINE HISTORY AUX EXT=xx:yy
With this command, you define an area, on the same volume, to where MSHP is to copy the contents of the full history file.

Replace xx with the begin of the extent.
Replace yy with the size of blocks/tracks.
Make sure you define the area yy significantly larger than the history file that has become full.

(3) ***** Making the New History File Accessible *****
The remaining statements up to (but not including) /& make the new history file accessible by MSHP. Omit these statements if, at your location, you do not have permanently stored label information for the system history file. You may then have to change cataloged procedures instead.

Figure 49. Sample Job for Handling a History-File Full Situation

Recording the Residence of a Licensed Program

If you move a licensed program (or a system component) to another sublibrary, this change is to be recorded in the system history file. To have MSHP record the changed residence, use a job similar to the one shown below:

```
* $$ JOB JNM=RECRES,CLASS=0
// JOB    RECORD NEW RESIDENCE
// EXEC   MSHP
RESIDENCE PRODUCT=222444 -
          PRODUCTION=DSFSLIB.PROD -
          GENERATION=DSFSLIB.GENE
/*
/&
* $$ EOJ
```

The above sample job assumes that the Device Support Facilities program, an SCP prerequisite of VSE/Advanced Functions, has been moved to a different sublibrary.

This ends the discussion of service installation and service-related activities.

Appendix A. VSE/ESA Disk Layouts

The figures in this appendix show the space that is reserved on DOSRES and SYSWK1 for VSE/ESA. If values have changed since this manual was printed, the *Program Directory* that you receive with your VSE/ESA distribution tapes will document the changes.

In the hardcopy version of this manual, the DOSRES layout for a disk type is on the left-hand page, and the SYSWK1 layout is on the right-hand page. Thus, you can easily study the figures.

Layout for Different DASD Models

Please note that the **UNUSED.SPACE** and **END.VTOC** may be different, depending on the DASD model you use. For information on the exact disk capacity of your DASD model, refer to the hardware description of your respective DASD model.

IBM 0671 Disk

DOSRES -------- IBM 0671 Disk

START BLOCK	NUMBER BLOCKS	FILE IDENTIFICATION
2	59155	VSE.SYSRES.LIBRARY
59157	315	DOS.LABEL.FILE.CPUID.AREA1
59472	378	VSE.POWER.QUEUE.FILE
59850	441	UNUSED.SPACE
60291	2520	VSAM.MASTER.CATALOG
62811	62496	VSAM.DATA.SPACE.DOSRES
		%DOS.WORKFILE.SYSLNK
		VSE.CONTROL.FILE
		VSE.TEXT.REPSTORY.FILE
		VSE.MESSAGES.ONLINE
		VSE.ONLINE.PROB.DET.FILE
		VSE.MESSAGE.ROUTING.FILE
		%DOS.WORKFILE.SYS001.RECOVER
		CICS.AUTO.STATS.A
		CICS.AUTO.STATS.B
		CICS.TD.INTRA
		DFHTEMP
		CICS.CSD
		CICS.RSD
125307	63	RECOMMEN.VTOC
125370	16947	PAGING.DATA.SET.ONE
142317	155232	LIBR.DATA.SPACE.DOSRES
		VSE.PRD1.LIBRARY
		VSE.PRD2.LIBRARY
297549	3024	CICS.SYSTEM.LOG.A
300573	3024	CICS.SYSTEM.LOG.B
303597	3024	CICS.USER.JOURNAL.A
306621	3024	CICS.USER.JOURNAL.B
309645	5040	VSE.SYSTEM.HISTORY.FILE
314685	16443	PAGING.DATA.SET.THREE
331128	32823	PAGING.DATA.SET.FOUR
363951	210105	UNUSED.SPACE
574056	63	END.VTOC

Figure 50. DOSRES Layout for an IBM 0671 Disk

SYSWK1 -------- IBM 0671 Disk

START BLOCK	NUMBER BLOCKS	FILE ID
2	59155	SYS.NEW.RES
59157	5040	WORK.HIST.FILE
64197	131544	LIBR.DATA.SPACE.SYSWK1
195741	37044	VSE.DUMP.LIBRARY
232785	3024	VSESP.USER.CATALOG
235809	70056	VSAM.DATA.SPACE.SYSWK1
		%DOS.WORKFILE.SYS001
		%DOS.WORKFILE.SYS002
		%DOS.WORKFILE.SYS003
		%DOS.WORKFILE.SYS004
		%DOS.WORKFILE.SYS002.RECOVER
		%DOS.WORKFILE.SYS001.SORT
		%WORK.FILE.N11
		TO
		%WORK.FILE.N54
		CICS.DUMPA
		CICS.DUMPB
		CICS.AUXTRACE
305865	63	RECOMMEN.VTOC
305928	48006	ICCF.LIBRARY
353934	16947	PAGING.DATA.SET.TWO
370881	72009	VSE.POWER.DATA.FILE
442890	2079	VSE.POWER.ACCOUNT.FILE
444969	189	VSESP.JOB.MANAGER.FILE
445158	5040	VSE.HARDCOPY.FILE
450198	1071	VSE.RECORDER.FILE
451269	5040	VSE.ALT.HISTORY.FILE
456309	252	INFO.ANALYSIS.DUMP.MGNT.FILE
456561	126	INFO.ANALYSIS.EXT.RTNS.FILE
456687	504	VTAM.TRACE.FILE
457191	3024	CU37XX.LOAD.FILE
460215	441	CICS.MSGUSR
460656	113400	UNUSED.SPACE
574056	63	END.VTOC

Figure 51. SYSWK1 Layout for an IBM 0671 Disk

IBM 3350 Disks

DOSRES -------- IBM 3350 Disk

Start Track	Number of Tracks	File ID
1	1979	VSE.SYSRES.LIBRARY
1980	60	DOS.LABEL.FILE.CPUID.AREA1
2040	12	VSE.POWER.QUEUE.FILE
2052	18	UNUSED.SPACE
2070	150	VSAM.MASTER.CATALOG
2220	2910	VSAM.DATA.SPACE.DOSRES
		%DOS.WORKFILE.SYSLNK
		VSE.CONTROL.FILE
		VSE.TEXT.REPSTORY.FILE
		VSE.MESSAGES.ONLINE
		VSE.ONLINE.PROB.DET.FILE
		VSE.MESSAGE.ROUTING.FILE
		%DOS.WORKFILE.SYS001.RECOVER
		CICS.AUTO.STATS.A
		CICS.AUTO.STATS.B
		CICS.TD.INTRA
		DFHTEMP
		CICS.CSD
		CICS.RSD
5130	30	RECOMMEN. VTOC
5160	540	PAGING.DATA.SET.ONE
5700	5190	LIBR.DATA.SPACE.DOSRES
		VSE.PRD1.LIBRARY
		VSE.PRD2.LIBRARY
10890	120	CICS.SYSTEM.LOG.A
11010	120	CICS.SYSTEM.LOG.B
11130	120	CICS.USER.JOURNAL.A
11250	120	CICS.USER.JOURNAL.B
11370	180	VSE.SYSTEM.HISTORY.FILE
11550	540	PAGING.DATA.SET.THREE
12090	1050	PAGING.DATA.SET.FOUR
13140	3480	UNUSED SPACE
16620	30	END.VTOC

Figure 52. DOSRES Layout for an IBM 3350 Disk

SYSWK1 -------- IBM 3350 Disk

Start Track	Number of Tracks	File ID
1	1979	SYS.NEW.RES
1980	180	WORK.HIST.FILE
2160	4410	LIBR.DATA.SPACE.SYSWK1
6570	1260	VSE.DUMP.LIBRARY
7830	180	VSESP.USER.CATALOG
8010	2190	VSAM.DATA.SPACE.SYSWK1
		%DOS.WORKFILE.SYS001
		to
		%DOS.WORKFILE.SYS004
		%DOS.WORKFILE.SYS002.RECOVER
		%DOS.WORKFILE.SYS001.SORT
		%WORK.FILE.N11
		to
		%WORK.FILE.N54
		CICS.DUMPA
		CICS.DUMPB
		CICS.AUXTRACE
10200	30	RECOMMEN.VTOC
10230	1950	ICCF.LIBRARY
12180	540	PAGING.DATA.SET.TWO
12720	2880	VSE.POWER.DATA.FILE
15600	120	VSE.POWER.ACCOUNT.FILE
15720	30	VSESP.JOB.MANAGER.FILE
15750	180	VSE.HARDCOPY.FILE
15930	90	VSE.RECORDER.FILE
16020	180	VSE.ALT.HISTORY.FILE
16200	30	INFO.ANALYSIS.DUMP.MGNT.FILE
16230	30	INFO.ANALYSIS.EXT.RTNS.FILE
16260	30	VTAM.TRACE.FILE
16290	120	CU37XX.LOAD.FILE
16410	30	CICS.MSGUSR
16440	180	UNUSED.SPACE
16620	30	END.VTOC

Figure 53. SYSWK1 Layout for an IBM 3350 Disk

IBM 3370 Disks

DOSRES -------- IBM 3370 Disk

Start Block	Number of Blocks	File ID
2	59146	VSE.SYSRES.LIBRARY
59148	372	DOS.LABEL.FILE.CPUID.AREA1
59520	372	VSE.POWER.QUEUE.FILE
59892	434	UNUSED.SPACE
60326	2232	VSAM.MASTER.CATALOG
62558	62496	VSAM.DATA.SPACE.DOSRES
		%DOS.WORKFILE.SYSLNK
		VSE.CONTROL.FILE
		VSE.TEXT.REPSTORY.FILE
		VSE.MESSAGES.ONLINE
		VSE.ONLINE.PROB.DET.FILE
		VSE.MESSAGE.ROUTING.FILE
		%DOS.WORKFILE.SYS001.RECOVER
		CICS.AUTO.STATS.A
		CICS.AUTO.STATS.B
		CICS.TD.INTRA
		DFHTEMP
		CICS.CSD
		CICS.RSD
125054	62	RECOMMEN.VTOC
125116	16926	PAGING.DATA.SET.ONE
142042	155496	LIBR.DATA.SPACE.DOSRES
		VSE.PRD1.LIBRARY
		VSE.PRD2.LIBRARY
297538	3038	CICS.SYSTEM.LOG.A
300576	3038	CICS.SYSTEM.LOG.B
303614	3038	CICS.USER.JOURNAL.A
306652	3038	CICS.USER.JOURNAL.B
309690	5022	VSE.SYSTEM.HISTORY.FILE
314712	16430	PAGING.DATA.SET.THREE
331142	32798	PAGING.DATA.SET.FOUR
363940	193316	UNUSED.SPACE
557256	62	END.VTOC

Figure 54. DOSRES Layout for an IBM 3370-1 Disk

Note: There are several DASD models of this disk device. For all models of this disk device the space requirement and file location for VSE/ESA are the same. The **UNUSED.SPACE** and **END.VTOC**, however, depend on the DASD model you use. Please remember that it is recommended to place the VTOC in the middle of the disk device.

SYSWK1 -------- IBM 3370 Disk

Start Block	Number of Blocks	File ID
2	59146	SYS.NEW.RES
59148	5022	WORK.HIST.FILE
64170	131688	LIBR.DATA.SPACE.SYSWK1
195858	37014	VSE.DUMP.LIBRARY
232872	2976	VSESP.USER.CATALOG
235848	70060	VSAM.DATA.SPACE.SYSWK1
		%DOS.WORKFILE.SYS001
		to
		%DOS.WORKFILE.SYS004
		%DOS.WORKFILE.SYS002.RECOVER
		%DOS.WORKFILE.SYS001.SORT
		%WORK.FILE.N11
		to
		%WORK.FILE.N54
		CICS.DUMPA
		CICS.DUMPB
		CICS.AUXTRACE
305908	62	RECOMMEN.VTOC
305970	70060	ICCF.LIBRARY
376030	16926	PAGING.DATA.SET.TWO
392956	72044	VSE.POWER.DATA.FILE
465000	2108	VSE.POWER.ACCOUNT.FILE
467108	186	VSESP.JOB.MANAGER.FILE
467294	5022	VSE.HARDCOPY.FILE
472316	1054	VSE.RECORDER.FILE
473370	5022	VSE.ALT.HISTORY.FILE
478392	248	INFO.ANALYSIS.DUMP.MGNT.FILE
478640	124	INFO.ANALYSIS.EXT.RTNS.FILE
478764	496	VTAM.TRACE.FILE
479260	3038	CU37XX.LOAD.FILE
482298	434	CICS.MSGUSR
482732	74524	UNUSED.SPACE
557256	62	END.VTOC

Figure 55. SYSWK1 Layout for an IBM 3370-1 Disk

IBM 3375 Disks

DOSRES -------- IBM 3375 Disk

Start Track	Number of Tracks	File ID
1	1187	VSE.SYSRES.LIBRARY
1188	36	DOS.LABEL.FILE.CPUID.AREA1
1224	7	VSE.POWER.QUEUE.FILE
1231	17	UNUSED.SPACE
1248	132	VSAM.MASTER.CATALOG
1380	2340	VSAM.DATA.SPACE.DOSRES
		%DOS.WORKFILE.SYSLNK
		VSE.CONTROL.FILE
		VSE.TEXT.REPSTORY.FILE
		VSE.MESSAGES.ONLINE
		VSE.ONLINE.PROB.DET.FILE
		VSE.MESSAGE.ROUTING.FILE
		%DOS.WORKFILE.SYS001.RECOVER
		CICS.AUTO.STATS.A
		CICS.AUTO.STATS.B
		CICS.TD.INTRA
		DFHTEMP
		CICS.CSD
		CICS.RSD
3720	12	RECOMMEN.VTOC
3732	312	PAGING.DATA.SET.ONE
4044	3096	LIBR.DATA.SPACE.DOSRES
		VSE.PRD1.LIBRARY
		VSE.PRD2.LIBRARY
7140	60	CICS.SYSTEM.LOG.A
7200	60	CICS.SYSTEM.LOG.B
7260	60	CICS.USER.JOURNAL.A
7320	60	CICS.USER.JOURNAL.B
7380	96	VSE.SYSTEM.HISTORY.FILE
7476	300	PAGING.DATA.SET.THREE
7776	588	PAGING.DATA.SET.FOUR
8364	3132	UNUSED.SPACE
11496	12	END.VTOC

Figure 56. DOSRES Layout for an IBM 3375 Disk

SYSWK1 -------- IBM 3375 Disk

Start Track	Number of Tracks	File ID
1	1187	SYS.NEW.RES
1188	96	WORK.HIST.FILE
1284	2628	LIBR.DATA.SPACE.SYSWK1
3912	744	VSE.DUMP.LIBRARY
4656	156	VSESP.USER.CATALOG
4812	1260	VSAM.DATA.SPACE.SYSWK1
		%DOS.WORKFILE.SYS001
		to
		%DOS.WORKFILE.SYS004
		%DOS.WORKFILE.SYS002.RECOVER
		%DOS.WORKFILE.SYS001.SORT
		%WORK.FILE.N11
		to
		%WORK.FILE.N54
		CICS.DUMPA
		CICS.DUMPB
		CICS.AUXTRACE
6072	12	RECOMMEN.VTOC
6084	2148	ICCF.LIBRARY
8232	312	PAGING.DATA.SET.TWO
8544	2112	VSE.POWER.DATA.FILE
10656	96	VSE.POWER.ACCOUNT.FILE
10752	12	VSESP.JOB.MANAGER.FILE
10764	96	VSE.HARDCOPY.FILE
10860	72	VSE.RECORDER.FILE
10932	96	VSE.ALT.HISTORY.FILE
11028	12	INFO.ANALYSIS.DUMP.MGNT.FILE
11040	12	INFO.ANALYSIS.EXT.RTNS.FILE
11052	12	VTAM.TRACE.FILE
11064	60	CU37XX.LOAD.FILE
11124	12	CICS.MSGUSR
11136	360	UNUSED.SPACE
11496	12	END.VTOC

Figure 57. SYSWK1 Layout for an IBM 3375 Disk

IBM 3380 Disks

DOSRES -------- IBM 3380 Disk

Start Track	Number of Tracks	File ID
1	959	VSE.SYSRES.LIBRARY
960	45	DOS.LABEL.FILE.CPUID.AREA1
1005	5	VSE.POWER.QUEUE.FILE
1010	10	UNUSED.SPACE
1020	120	VSAM.MASTER.CATALOG
1140	2010	VSAM.DATA.SPACE.DOSRES
		%DOS.WORKFILE.SYSLNK
		VSE.CONTROL.FILE
		VSE.TEXT.REPSTORY.FILE
		VSE.MESSAGES.ONLINE
		VSE.ONLINE.PROB.DET.FILE
		VSE.MESSAGE.ROUTING.FILE
		%DOS.WORKFILE.SYS001.RECOVER
		CICS.AUTO.STATS.A
		CICS.AUTO.STATS.B
		CICS.TD.INTRA
		DFHTEMP
		CICS.CSD
		CICS.RSD
3150	15	RECOMMEN.VTOC
3165	225	PAGING.DATA.SET.ONE
3390	2505	LIBR.DATA.SPACE.DOSRES
		VSE.PRD1.LIBRARY
		VSE.PRD2.LIBRARY
5895	60	CICS.SYSTEM.LOG.A
5955	60	CICS.SYSTEM.LOG.B
6015	60	CICS.USER.JOURNAL.A
6075	60	CICS.USER.JOURNAL.B
6135	75	VSE.SYSTEM.HISTORY.FILE
6210	210	PAGING.DATA.SET.THREE
6420	420	PAGING.DATA.SET.FOUR
6840	6420	UNUSED.SPACE
13260	15	END.VTOC

Figure 58. DOSRES Layout for an IBM 3380-A, 3380-D, 3380-J Disk

Note: There are several DASD models of this disk device. For all models of this disk device the space requirement and file location for VSE/ESA are the same. The **UNUSED.SPACE** and **END.VTOC**, however, depend on the DASD model you use. Please remember that it is recommended to place the VTOC in the middle of the disk device.

SYSWK1 -------- IBM 3380 Disk

Start Track	Number of Tracks	File ID
1	959	SYS.NEW.RES
960	75	WORK.HIST.FILE
1035	2115	LIBR.DATA.SPACE.SYSWK1
3150	600	VSE.DUMP.LIBRARY
3750	150	VSESP.USER.CATALOG
3900	975	VSAM.DATA.SPACE.SYSWK1 %DOS.WORKFILE.SYS001 to %DOS.WORKFILE.SYS004 %DOS.WORKFILE.SYS002.RECOVER %DOS.WORKFILE.SYS001.SORT %WORK.FILE.N11 to %WORK.FILE.N54 CICS.DUMPA CICS.DUMPB CICS.AUXTRACE
4875	15	RECOMMEN.VTOC
4890	1800	ICCF.LIBRARY
6690	225	PAGING.DATA.SET.TWO
6915	1800	VSE.POWER.DATA.FILE
8715	90	VSE.POWER.ACCOUNT.FILE
8805	15	VSESP.JOB.MANAGER.FILE
8820	75	VSE.HARDCOPY.FILE
8895	60	VSE.RECORDER.FILE
8955	75	VSE.ALT.HISTORY.FILE
9030	15	INFO.ANALYSIS.DUMP.MGNT.FILE
9045	15	INFO.ANALYSIS.EXT.RTNS.FILE
9060	15	VTAM.TRACE.FILE
9075	60	CU37XX.LOAD.FILE
9135	15	CICS.MSGUSR
9150	4110	UNUSED.SPACE
13260	15	END.VTOC

Figure 59. SYSWK1 Layout for an IBM 3380-A, 3380-D, 3380-J Disk

IBM 3390 Disks

DOSRES -------- IBM 3390 Disk

START TRACK	NUMBER TRACK	FILE IDENTIFICATION
1	899	VSE.SYSRES.LIBRARY
900	45	DOS.LABEL.FILE.CPUID.AREA1
945	4	VSE.POWER.QUEUE.FILE
949	11	UNUSED.SPACE
960	120	VSAM.MASTER.CATALOG
1080	2040	VSAM.DATA.SPACE.DOSRES
		%DOS.WORKFILE.SYSLNK
		VSE.CONTROL.FILE
		VSE.TEXT.REPSTORY.FILE
		VSE.MESSAGES.ONLINE
		VSE.ONLINE.PROB.DET.FILE
		VSE.MESSAGE.ROUTING.FILE
		%DOS.WORKFILE.SYS001.RECOVER
		CICS.AUTO.STATS.A
		CICS.AUTO.STATS.B
		CICS.TD.INTRA
		DFHTEMP
		CICS.CSD
		CICS.RSD
3120	15	RECOMMEN.VTOC
3135	180	PAGING.DATA.SET.ONE
3315	2340	LIBR.DATA.SPACE.DOSRES
5655	60	CICS.SYSTEM.LOG.A
5715	60	CICS.SYSTEM.LOG.B
5775	60	CICS.USER.JOURNAL.A
5835	60	CICS.USER.JOURNAL.B
5895	75	VSE.SYSTEM.HISTORY.FILE
5970	180	PAGING.DATA.SET.THREE
6150	345	PAGING.DATA.SET.FOUR
6495	10185	UNUSED.SPACE
16680	15	END.VTOC

Figure 60. DOSRES Layout for an IBM 3390 Disk

SYSWK1 -------- IBM 3390 Disk

START TRACK	NUMBER TRACK	FILE IDENTIFICATION
1	899	SYS.NEW.RES
900	75	WORK.HIST.FILE
975	1980	LIBR.DATA.SPACE.SYSWK1
2955	570	VSE.DUMP.LIBRARY
3525	150	VSESP.USER.CATALOG
3675	840	VSAM.DATA.SPACE.SYSWK1
		%DOS.WORKFILE.SYS001
		%DOS.WORKFILE.SYS002.RECOVER
		%DOS.WORKFILE.SYS003
		%DOS.WORKFILE.SYS004
		%DOS.WORKFILE.SYS002
		%DOS.WORKFILE.SYS001.SORT
		%WORK.FILE.N11
		TO
		%WORK.FILE.N54
		CICS.DUMPA
		CICS.DUMPB
		CICS.AUXTRACE
4515	15	RECOMMEN.VTOC
4530	1800	ICCF.LIBRARY
6330	180	PAGING.DATA.SET.TWO
6510	1740	VSE.POWER.DATA.FILE
8250	90	VSE.POWER.ACCOUNT.FILE
8340	15	VSESP.JOB.MANAGER.FILE
8355	60	VSE.HARDCOPY.FILE
8415	60	VSE.RECORDER.FILE
8475	75	VSE.ALT.HISTORY.FILE
8550	15	INFO.ANALYSIS.DUMP.MGNT.FILE
8565	15	INFO.ANALYSIS.EXT.RTNS.FILE
8580	15	VTAM.TRACE.FILE
8595	60	CU37XX.LOAD.FILE
8655	15	CICS.MSGUSR
8670	8010	UNUSED.SPACE
16680	15	END.VTOC

Figure 61. SYSWK1 Layout for an IBM 3390 Disk

IBM 9332 Disks

DOSRES -------- IBM 9332 Disk (Small Layout)

Start Block	Number of Blocks	File ID
2	59128	VSE.SYSRES.LIBRARY
59130	365	DOS.LABEL.FILE.CPUID.AREA1
59495	365	VSE.POWER.QUEUE.FILE
59860	438	UNUSED.SPACE
60298	2336	VSAM.MASTER.CATALOG
62634	62196	VSAM.DATA.SPACE.DOSRES
		%DOS.WORKFILE.SYSLNK
		VSE.CONTROL.FILE
		VSE.TEXT.REPSTORY.FILE
		VSE.MESSAGES.ONLINE
		VSE.ONLINE.PROB.DET.FILE
		VSE.MESSAGE.ROUTING.FILE
		%DOS.WORKFILE.SYS001.RECOVER
		CICS.AUTO.STATS.A
		CICS.AUTO.STATS.B
		CICS.TD.INTRA
		DFHTEMP
		CICS.CSD
		CICS.RSD
124830	16936	PAGING.DATA.SET.ONE
141766	154468	LIBR.DATA.SPACE.DOSRES
		VSE.PRD1.LIBRARY
		VSE.PRD2.LIBRARY
296234	3504	VSE.SYSTEM.HISTORY.FILE
311783	47961	UNUSED.SPACE
359744	73	END.VTOC

Figure 62. DOSRES Layout for an IBM 9332 Disk (Small Layout)

SYSWK1 -------- IBM 9332 Disk (Small Layout)

Start Block	Number of Blocks	File ID
2	59128	SYS.NEW.RES
59130	3504	WORK.HIST.FILE
62634	33069	VSE.DUMP.LIBRARY
95703	2628	VSESP.USER.CATALOG
98331	45406	VSAM.DATA.SPACE.SYSWK1
		%DOS.WORKFILE.SYS001
		to
		%DOS.WORKFILE.SYS004
		%DOS.WORKFILE.SYS002.RECOVER
		%DOS.WORKFILE.SYS001.SORT
		%WORK.FILE.N11
		to
		%WORK.FILE.N54
		CICS.DUMPA
		CICS.DUMPB
		CICS.AUXTRACE
143737	40004	ICCF.LIBRARY
183741	16936	PAGING.DATA.SET.TWO
200677	40004	VSE.POWER.DATA.FILE
240681	2117	VSE.POWER.ACCOUNT.FILE
242798	146	VSESP.JOB.MANAGER.FILE
242944	5037	VSE.HARDCOPY.FILE
247981	1095	VSE.RECORDER.FILE
249076	3504	VSE.ALT.HISTORY.FILE
252580	219	INFO.ANALYSIS.DUMP.MGNT.FILE
252799	73	INFO.ANALYSIS.EXT.RTNS.FILE
252872	511	VTAM.TRACE.FILE
253383	438	CICS.MSGUSR
253821	105923	UNUSED.SPACE
359744	73	END.VTOC

Figure 63. SYSWK1 Layout for an IBM 9332 Disk (Small Layout)

DOSRES -------- IBM 9332 Disk (Standard Layout)

Start Block	Number of Blocks	File ID
2	59128	VSE.SYSRES.LIBRARY
59130	365	DOS.LABEL.FILE.CPUID.AREA1
59495	365	VSE.POWER.QUEUE.FILE
59860	438	UNUSED.SPACE
60298	2336	VSAM.MASTER.CATALOG
62634	62196	VSAM.DATA.SPACE.DOSRES
		%DOS.WORKFILE.SYSLNK
		VSE.CONTROL.FILE
		VSE.TEXT.REPSTORY.FILE
		VSE.MESSAGES.ONLINE
		VSE.ONLINE.PROB.DET.FILE
		VSE.MESSAGE.ROUTING.FILE
		%DOS.WORKFILE.SYS001.RECOVER
		CICS.AUTO.STATS.A
		CICS.AUTO.STATS.B
		CICS.TD.INTRA
		DFHTEMP
		CICS.CSD
		CICS.RSD
124830	73	RECOMMEN.VTOC
124903	16936	PAGING.DATA.SET.ONE
141839	154468	LIBR.DATA.SPACE.DOSRES
		VSE.PRD1.LIBRARY
		VSE.PRD2.LIBRARY
296307	2044	CICS.SYSTEM.LOG.A
298351	2044	CICS.SYSTEM.LOG.B
300395	2044	CICS.USER.JOURNAL.A
302439	2044	CICS.USER.JOURNAL.B
304483	5037	VSE.SYSTEM.HISTORY.FILE
309520	16425	PAGING.DATA.SET.THREE
325945	32777	PAGING.DATA.SET.FOUR
358722	1022	UNUSED.SPACE
359744	73	END.VTOC

Figure 64. DOSRES Layout for an IBM 9332-400 Disk (Standard Layout)

Note: There are several DASD models of this disk device. For all models of this disk device the space requirement and file location for VSE/ESA are the same. The **UNUSED.SPACE** and **END.VTOC**, however, depend on the DASD model you use. Please remember that it is recommended to place the VTOC in the middle of the disk device.

SYSWK1 -------- IBM 9332 Disk (Standard Layout)

Start Block	Number of Blocks	File ID
2	59128	SYS.NEW.RES
59130	5037	WORK.HIST.FILE
64167	37011	VSE.DUMP.LIBRARY
101178	2628	VSESP.USER.CATALOG
103806	45406	VSAM.DATA.SPACE.SYSWK1
		%DOS.WORKFILE.SYS001
		to
		%DOS.WORKFILE.SYS004
		%DOS.WORKFILE.SYS002.RECOVER
		%DOS.WORKFILE.SYS001.SORT
		%WORK.FILE.N11
		to
		%WORK.FILE.N54
		CICS.DUMPA
		CICS.DUMPB
		CICS.AUXTRACE
149212	73	RECOMMEN.VTOC
149285	48034	ICCF.LIBRARY
197319	16936	PAGING.DATA.SET.TWO
214255	72051	VSE.POWER.DATA.FILE
286306	2117	VSE.POWER.ACCOUNT.FILE
288423	146	VSESP.JOB.MANAGER.FILE
288569	5037	VSE.HARDCOPY.FILE
293606	1095	VSE.RECORDER.FILE
294701	5037	VSE.ALT.HISTORY.FILE
299738	219	INFO.ANALYSIS.DUMP.MGNT.FILE
299957	73	INFO.ANALYSIS.EXT.RTNS.FILE
300030	511	VTAM.TRACE.FILE
300541	3066	CU37XX.LOAD.FILE
303607	438	CICS.MSGUSR
304045	55699	UNUSED.SPACE
359744	73	END.VTOC

Figure 65. SYSWK1 Layout for an IBM 9332-400 Disk (Standard Layout)

IBM 9335 Disks

DOSRES -------- IBM 9335 Disk

Start Block	Number of Blocks	File ID
2	59141	VSE.SYSRES.LIBRARY
59143	355	DOS.LABEL.FILE.CPUID.AREA1
59498	426	VSE.POWER.QUEUE.FILE
59924	426	UNUSED.SPACE
60350	2130	VSAM.MASTER.CATALOG
62480	62196	VSAM.DATA.SPACE.DOSRES
		%DOS.WORKFILE.SYSLNK
		VSE.CONTROL.FILE
		VSE.TEXT.REPSTORY.FILE
		VSE.MESSAGES.ONLINE
		VSE.ONLINE.PROB.DET.FILE
		VSE.MESSAGE.ROUTING.FILE
		%DOS.WORKFILE.SYS001.RECOVER
		CICS.AUTO.STATS.A
		CICS.AUTO.STATS.B
		CICS.TD.INTRA
		DFHTEMP
		CICS.CSD
		CICS.RSD
124676	71	RECOMMEN.VTOC
124747	16898	PAGING.DATA.SET.ONE
141645	154212	LIBR.DATA.SPACE.DOSRES
		VSE.PRD1.LIBRARY
		VSE.PRD2.LIBRARY
295857	3053	CICS.SYSTEM.LOG.A
298910	3053	CICS.SYSTEM.LOG.B
301963	3053	CICS.USER.JOURNAL.A
305016	3053	CICS.USER.JOURNAL.B
308069	5041	VSE.SYSTEM.HISTORY.FILE
313110	16401	PAGING.DATA.SET.THREE
329511	32802	PAGING.DATA.SET.FOUR
362313	441975	UNUSED.SPACE
804288	71	END.VTOC

Figure 66. DOSRES Layout for an IBM 9335 Disk

SYSWK1 -------- IBM 9335 Disk

Start Block	Number of Blocks	File ID
2	59141	SYS.NEW.RES
59143	5041	WORK.HIST.FILE
64184	130356	LIBR.DATA.SPACE.SYSWK1
194540	37062	VSE.DUMP.LIBRARY
231602	2982	VSESP.USER.CATALOG
234584	70006	VSAM.DATA.SPACE.SYSWK1
		%DOS.WORKFILE.SYS001
		to
		%DOS.WORKFILE.SYS004
		%DOS.WORKFILE.SYS002.RECOVER
		%DOS.WORKFILE.SYS001.SORT
		%WORK.FILE.N11
		to
		%WORK.FILE.N54
		CICS.DUMPA
		CICS.DUMPB
		CICS.AUXTRACE
304590	71	RECOMMEN.VTOC
304661	70006	ICCF.LIBRARY
374667	16898	PAGING.DATA.SET.TWO
391565	72065	VSE.POWER.DATA.FILE
463630	2059	VSE.POWER.ACCOUNT.FILE
465689	142	VSESP.JOB.MANAGER.FILE
465831	5041	VSE.HARDCOPY.FILE
470872	1065	VSE.RECORDER.FILE
471937	5041	VSE.ALT.HISTORY.FILE
476978	213	INFO.ANALYSIS.DUMP.MGNT.FILE
477191	71	INFO.ANALYSIS.EXT.RTNS.FILE
477262	497	VTAM.TRACE.FILE
477759	3053	CU37XX.LOAD.FILE
480812	426	CICS.MSGUSR
481238	323050	UNUSED.SPACE
804288	71	END.VTOC

Figure 67. SYSWK1 Layout for an IBM 9335 Disk

IBM 9336 Disks

DOSRES -------- IBM 9336 Disk (GFBA)

Start Block	Number of Blocks	File ID
2	59134	VSE.SYSRES.LIBRARY
59136	320	DOS.LABEL.FILE.CPUID.AREA1
59456	384	VSE.POWER.QUEUE.FILE
59840	384	UNUSED.SPACE
60224	2880	VSAM.MASTER.CATALOG
63104	62400	VSAM.DATA.SPACE.DOSRES
		%DOS.WORKFILE.SYSLNK
		VSE.CONTROL.FILE
		VSE.TEXT.REPSTORY.FILE
		VSE.MESSAGES.ONLINE
		VSE.ONLINE.PROB.DET.FILE
		VSE.MESSAGE.ROUTING.FILE
		%DOS.WORKFILE.SYS001.RECOVER
		CICS.AUTO.STATS.A
		CICS.AUTO.STATS.B
		CICS.TD.INTRA
		DFHTEMP
		CICS.CSD
		CICS.RSD
125504	64	RECOMMEN.VTOC
125568	16896	PAGING.DATA.SET.ONE
142464	155520	LIBR.DATA.SPACE.DOSRES
		VSE.PRD1.LIBRARY
		VSE.PRD2.LIBRARY
297984	3008	CICS.SYSTEM.LOG.A
300992	3008	CICS.SYSTEM.LOG.B
304000	3008	CICS.USER.JOURNAL.A
307008	3008	CICS.USER.JOURNAL.B
310016	5056	VSE.SYSTEM.HISTORY.FILE
315072	16384	PAGING.DATA.SET.THREE
331456	32768	PAGING.DATA.SET.FOUR
364224	555827	UNUSED.SPACE
920051	64	END.VTOC

Figure 68. DOSRES Layout for an IBM 9336 Disk (GFBA)

Note: There are several DASD models of this disk device. For all models of this disk device the space requirement and file location for VSE/ESA are the same. The **UNUSED.SPACE** and **END.VTOC**, however, depend on the DASD model you use. Please remember that it is recommended to place the VTOC in the middle of the disk device. For more information on the GFBA Layout also refer to "VTOC for Generalized System Layout for FBA Devices (GFBA)" on page 18 or "Generaiized System Layout for FBA Devices (GFBA)" on page 40.

SYSWK1 --------- IBM 9336 Disk (GFBA)

Start Block	Number of Blocks	File ID
2	59134	SYS.NEW.RES
59136	5056	WORK.HIST.FILE
64192	132480	LIBR.DATA.SPACE.SYSWK1
196672	37056	VSE.DUMP.LIBRARY
233728	2880	VSESP.USER.CATALOG
236608	70016	VSAM.DATA.SPACE.SYSWK1
		%DOS.WORKFILE.SYS001
		%DOS.WORKFILE.SYS002
		%DOS.WORKFILE.SYS003
		%DOS.WORKFILE.SYS004
		%DOS.WORKFILE.SYS002.RECOVER
		%DOS.WORKFILE.SYS001.SORT
		%WORK.FILE.N11
		to
		%WORK.FILE.N54
		CICS.DUMPA
		CICS.DUMPB
		CICS.AUXTRACE
306624	64	RECOMMEN.VTOC
306688	70016	ICCF.LIBRARY
376704	16896	PAGING.DATA.SET.TWO
393600	72000	VSE.POWER.DATA.FILE
465600	2048	VSE.POWER.ACCOUNT.FILE
467648	128	VSESP.JOB.MANAGER.FILE
467776	5056	VSE.HARDCOPY.FILE
472832	1024	VSE.RECORDER.FILE
473856	5056	VSE.ALT.HIST.FILE
478912	192	INFO.ANALYSIS.DUMP.MGNT.FILE
479104	64	INFO.ANALYSIS.EXT.RTNS.FILE
479168	512	VTAM.TRACE.FILE
479680	3008	CU37XX.LOAD.FILE
482688	384	CICS.MSGUSR
483072	436979	UNUSED.SPACE
920051	64	END.VTOC

Figure 69. SYSWK1 Layout for an IBM 9336 Disk (GFBA)

Appendix B. Downloading Softcopy Files

This appendix describes how to download files for softcopy books. Two softcopy features are available with VSE/ESA 1.1.0:

- A prebuilt sublibrary of books useable in a BookManager* READ environment.

  This sublibrary is primarily meant for VSE/ESA customers who do not have access to full BookManager support under VM. READ support for the sublibrary is provided by the OS/2* and PC DOS standalone versions of BookManager.

- Source files (BookMaster* tags plus text) for approximately 40 manuals.

  Under VM, the source files can be used to build (create) readable manuals or to print copies of manuals. In order to build readable manuals, you will need BookMaster, Script, BookManager, and GDDM (if there is artwork). In order to print copies of manuals, you will need both BookMaster and Script.

The distribution tape for the prebuilt sublibrary is in **POFFLOAD** format. The distribution tape for the source feature is in **VMFPLC2** format.

Note: Both tapes contain the document **SOFTCOPY LICENSE**. This document describes your rights in using softcopy material. *Please be sure to read the contents of SOFTCOPY LICENSE.*

Organization of Softcopy Distribution Tapes

The POFFLOAD feature tape for the sublibrary of prebuilt books is organized as follows:

- Queue Entry 1 — *GETBOOK*, an OS/2 procedure that you use to download the books to your PS/2* or PC. This procedure also can be used under PC DOS when you change its filetype from **CMD** to **BAT**.
- Queue Entry 2 — *Softcopy License.*
- Queue Entry 3 — *Memo to Users*, which includes a description of the hardware and software requirements for the standalone versions of BookManager READ.
- Queue Entries 4 to nn — The separate manuals.

The VMFPCL2 feature tape for the source feature is organized as follows:

- Tape File 1 — *Softcopy License.*
- Tape file 2 — *Memo to Users.*
- Tape files 3 to nn — Source for separate manuals. *Each tape file contains all the source files for a particular manual.*

Downloading Prebuilt Manuals

The following file names are used for the manuals of the prebuilt sublibrary. As shown in "Receiving Books" on page 217, these file names are used when receiving the manuals at a workstation. You can, of course, later rename the files at the workstation.

FA1SCMM0.BOO *VSE/ESA System Control Statements*

FA1MRMM0.BOO *VSE/ESA System Macros Reference*

DFHA1MST.BOO *CICS/VSE System Definition and Operations Guide*

DFHA3MST.BOO *CICS/VSE Customization Guide*

DFHA4MST.BOO *CICS/VSE Resource Definition (Online)*

DFHA5MST.BOO *CICS/VSE Resource Definition (Macro)*

DFHA7MST.BOO *CICS/VSE CICS-Supplied Transactions*

DFHA8MST.BOO *CICS/VSE System Programming Reference*

DFHP4MST.BOO *CICS/VSE Application Programmer's Reference*

FD5AOMM0.BOO *VSE/POWER Administration and Operation*

FE2CMMM0.BOO *VSE/VSAM Commands and Macros*

FC3UGMM0.BOO *VSE/ICCF User's Guide*

DTOBMST.BOO *DITTO User's Guide and Reference*

You download the prebuilt books from the sublibrary tape using:

1. A POFFLOAD command to transfer one or more books to the VSE/POWER **PUN** queue.
2. RECEIVE commands to transfer the books from the PUN queue to a PC or PS/2.

Preparing for an OFFLOAD

Before offloading the queue entries from the sublibrary tape to the PUN queue, ensure that PUN does not contain any entries with class=**U** or class=**V**. Also ensure that PUN is not started for these two classes. *Softcopy License*, and *GETBOOK* are class=U entries. *Memo to Users* and the softcopy books are class=V entries.

If this is a problem, you can specify **newclass** during OFFLOAD. You then need to change the defaults for class in GETBOOK (shown in "Receiving Books").

Note: The 13 prebuilt books take approximately 9.5 MB of hard disk space at the workstation. To check if your VSE/POWER data file has enough space to offload all of the books at once, enter the command:

```
D Q
```

The system displays the percentage of space already used in the data queue.

To determine how much free space is available in the data file, multiply the displayed values for free DBLK groups, DBLK group size, and DBLK size (free DBLK groups x DBLK group size x DBLK size).

Performing an OFFLOAD

The IBM manual *VSE/POWER Administration and Operation* describes the POFFLOAD command. As described there, you can offload all or selected files from a tape in POFFLOAD format. Command examples are:

```
POFFLOAD LOAD,PUN,cuu,,NOREW
```

or

```
POFFLOAD SELECT,PUN,cuu,,NOREW
```

cuu is the address of the device where the POFFLOAD tape is mounted.

Note: The queue entries on the softcopy distribution tape are associated with user **SYSA**. If you want, you can load them into PUN and then change the ID using a PALTER command.

Preparing to Receive Books at Your Workstation

Before receiving any books, you should decide where exactly you want to store them at the workstation (subdirectory and/or partition). The default is **C:\VSEDOC**.

After you have decided where you want to store the manuals and made any necessary definitions:

1. Set up the VSE host for a normal file transfer to a workstation. How to do this is described in the IBM manual *Using IBM Workstations*.
2. Switch to the workstation in order to receive entries from the PUN queue.

The format for the RECEIVE command that you should use is described in the section "RECEIVE Command - File = PUN" in the IBM manual *Using IBM Workstations*.

Receiving Books

To receive books at your workstation, use the GETBOOK procedure. To do this:

1. Receive GETBOOK using the command:

   ```
   RECEIVE C:\VSEDOC\GETBOOK.CMD (FILE=PUN CLASS=U
   ```

   Note: If you are going to use GETBOOK under PC DOS, change the filetype from CMD to **BAT**.

   GETBOOK contains the following RECEIVE commands:

   ```
   RECEIVE C:\VSEDOC\SOFTCOPY.LIC (FILE=PUN CLASS=U
   RECEIVE C:\VSEDOC\MEMOTOUS.TXT (FILE=PUN BINARY CLASS=U
   RECEIVE C:\VSEDOC\FA1SCMM0.BOO (FILE=PUN BINARY CLASS=V
   RECEIVE C:\VSEDOC\FA1MRMM0.BOO (FILE=PUN BINARY CLASS=V
   RECEIVE C:\VSEDOC\DFHA1MST.BOO (FILE=PUN BINARY CLASS=V
   RECEIVE C:\VSEDOC\DFHA3MST.BOO (FILE=PUN BINARY CLASS=V
   RECEIVE C:\VSEDOC\DFHA4MST.BOO (FILE=PUN BINARY CLASS=V
   RECEIVE C:\VSEDOC\DFHA5MST.BOO (FILE=PUN BINARY CLASS=V
   RECEIVE C:\VSEDOC\DFHA7MST.BOO (FILE=PUN BINARY CLASS=V
   RECEIVE C:\VSEDOC\DFHA8MST.BOO (FILE=PUN BINARY CLASS=V
   RECEIVE C:\VSEDOC\DFHP4MST.BOO (FILE=PUN BINARY CLASS=V
   RECEIVE C:\VSEDOC\FD5AOMM0.BOO (FILE=PUN BINARY CLASS=V
   RECEIVE C:\VSEDOC\FE2CMMM0.BOO (FILE=PUN BINARY CLASS=V
   RECEIVE C:\VSEDOC\FC3UGMM0.BOO (FILE=PUN BINARY CLASS=V
   RECEIVE C:\VSEDOC\DTOBMST.BOO (FILE=PUN BINARY CLASS=V
   ```

2. Switch to the subdirectory where you stored GETBOOK (C:\VSEDOC).
3. To receive all of the books, simply enter the command: **GETBOOK**.

   To receive only some of the books, delete the commands from GETBOOK for the books that you do not want. Then submit the command: **GETBOOK**.

When you use GETBOOK, the:

- Number of RECEIVE commands in GETBOOK must match the number of entries for softcopy books in the PUN queue.
- RECEIVE commands must be in the same sequence as the entries in the queue.

Note: A RECEIVE from PUN gets the first entry associated with the matching user ID. Such entries must have a DISP of D or K.

Once you have received one or more books, you can view them online under the BookManager READ environment. How to open books and use them is described in the BookManager documentation.

Downloading Source Files

The source feature is meant to be used by customers who have full BookManager support under VM. The support offered in this environment enables customers to build books themselves and to print copies of IBM manuals.

Using the VMFPCL2 Load Command

If you have the source feature, you can remove files from the distribution tape using the standard VMFPLC2 **LOAD** command.

To load a specific book, position the tape at the correct tape file and enter:

```
VMFPLC2 LOAD * * n
```

where **n** is the filemode of the disk where the files are to be loaded.

Note: Tape files for individual manuals are separated by a tape mark. Each tape file can contain:

1. Script files (text with BookMaster tags).
2. ADMGDF files (the displayable versions of DrawMaster* Graffiles).
3. PSEG3820 and PSEG38PP files (the printable versions of Graffiles).

   The source for CICS/VSE manuals uses PSEG38PP files. Other manuals of the source feature use PSEG3820 files.

Glossary

If you do not find the term you are looking for, refer to the index of this book or to *IBM Dictionary of Computing, SC20-1699-07*.

The glossary includes definitions with:

- Symbol * where there is a one-to-one copy from the IBM Dictionary of Computing.
- Symbol (A) from the *American National Dictionary for Information Processing Systems,* , copyright 1982 by the Computer and Business Equipment Manufacturers Association (CBEMA). Copies may be purchased from the American National Standards Institute, 1430 Broadway, New York, New York 10018. Definitions are identified by symbol (A) after definition.
- Symbols (I) or (T) from the *ISO Vocabulary - Information Processing* and the *ISO Vocabulary - Office Machines,* developed by the International Organization for Standardization, Technical Committee 97, Subcommittee 1. Definitions of published sections of the vocabularies are identified by symbol (I) after definition; definitions from draft international standards, draft proposals, and working papers in development by the ISO/TC97/SC1 vocabulary subcommittee are identified by symbol (T) after definition, indicating final agreement has not yet been reached among participating members.

The following cross references are used:

- Contrast with. This refers to a term that has an opposed or substantively different meaning.
- Synonym for. This indicates that the term has the same meaning as a preferred term, which is defined in its proper place in the dictionary.
- Synonymous with. This is a backward reference from a defined term to all other terms that have the same meaning.
- See. This refers the reader to multiple-word terms that have the same last word.
- See also. This refers the reader to related terms that have a related, but not synonymous, meaning.
- Deprecated term for. This indicates that the term should not be used. It refers to a preferred term, which is defined in its proper place in the dictionary.

*** abend**. 1. Abnormal end of task. 2. Synonym for abnormal termination.

access control. A function of VSE that ensures that the system and the data and programs stored in it can be accessed only by authorized users in authorized ways.

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 used by the system to verify a user's right to access a certain resource.

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 VSAM or VTAM.

account file. A disk file maintained by VSE/POWER containing accounting information generated by VSE/POWER and the programs running under VSE/POWER.

ACF (Advanced Communication Function). A group of IBM licensed programs (principally VTAM, TCAM, NCP, and SSP) that use the concepts of Systems Network Architecture (SNA), including distribution of function and resource sharing.

ACF/VTAM. See VTAM.

ACF/NCP. See NCP.

ACF/SSP. See SSP.

address. 1. The location in the storage of a computer where data are stored. 2. In data communication, the unique code assigned to every device or work station connected to a network.

address space. A subdivision of the total of virtual storage if the computer system operates in 370 or ESA supervisor mode.

alternate block. On an FBA disk, a block 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 organized by an alternate key, that is, a key other than the prime key of the base cluster. For example, a personnel file primarily ordered by names can be indexed also by department number.

alternate library. A library which becomes accessible from a terminal when the user of that terminal issues a connect or switch (library) request.

alternate screen size. An option that permits the size of a display screen to be defined differently from the standard size.

*** alternate tape**. A tape drive to which the operating system switches automatically for tape read or write operations if the end of the volume has been reached on the originally used tape drive.

alternate track. On a CKD disk, a track designated to contain data in place of a defective track.

***APA (all points addressable)**. In computer graphics, pertaining to the ability to address and display or not display every point on a display surface (paper).

APAR (Authorized Program Analysis Report). A report of a problem caused by a suspected defect in a current release of a program.

appendage routine. A piece of code physically located in a program or subsystem, but logically an 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 written for or by a user that applies directly to the user's work.

See also batch program and online application program.

application program major node. A group of application program minor nodes. In ACF/VTAM, a member or book of the definition library that contains one or more APPL statements, which represent application programs.

*** ASCII (American National Standard Code for Information Interchange)**. The standard code, using a coded character set consisting of 7 bit coded characters (8 bits including parity check), used for information interchange among data processing systems, data communication systems, and associated equipment. The ASCII set consists of control characters and graphic characters.(A)

ASI (automated system initialization) procedure. A set of control statements which specifies values for an automatic system initialization.

assemble. To translate a program from assembler language into object code.

assembler. A computer program used to assemble. Synonymous with assembly program.

assembler language. A programming language whose instructions are usually in one-to-one correspondence with machine instructions and allows to write macros.

attention routine. 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 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 up 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.

*** background partition**. A space of virtual storage in which programs are executed under control of the system. By default, the partition has a processing priority lower than any of the existing foreground partitions.

*** backup copy**. A copy, usually of a file or a library member, that is kept in case the original file or library member is unintentionally changed or destroyed.

*** base cluster**. In systems with VSAM, a key-sequenced or entry-sequenced file over which one or more alternate indexes are built.

batch processing. 1. Serial processing of computer programs. 2. Pertaining to the technique of processing a set of computer programs in such a way that each is completed before the next program of the set is started. (A)

batch program. A program that is processed in series with other programs and therefore normally processes data without user interaction.

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. See also control block.

*** bring-up**. The process of starting a computer system or a subsystem that is to operate under control of the system.

BSC (Binary Synchronous Communication). Method of telecommunication using binary synchronous line discipline. Contrast with SDLC.

*** BTAM-ES (Basic Telecommunication Access Method Extended Storage)**. An IBM-supplied telecommunication access method. It permits read and write communication with remote devices.

buffer. An area of storage temporarily reserved for input or output operations; an area into which data is

read or from which data is written. Synonymous with I/O area.

CA (control area). In VSE/VSAM, a group of control-intervals used as a unit for formatting a data set before adding records to it. Also, in a key-sequenced data set, the set of control intervals pointed to by a sequence-set index record, used by VSAM for distributing free space, for example.

*** cache**. A high-speed buffer storage that contains frequently accessed instructions and data; it is used to reduce access time.

cache storage. A random access electronic storage in selected storage controls used to retain frequently used data for faster access by the channel. For example, the IBM 3990 Model 3 contains cache.

CA splitting. In VSE/VSAM, to double a control area dynamically and distribute its CIs evenly when the specified minimum of free space gets used up by more data.

card punch. A device that punches holes into a card to represent data.

card reader. A device that reads or senses holes in a punched card, transforming the data from hole patterns to electrical signals.(I) (A)

catalog. 1. 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.(I) (A) 2. To store a library member such as a phase, module, or book in a sublibrary.

See also VSAM master catalog, VSAM user catalog.

*** cataloged procedure**. A set of control statements placed in a library and retrievable by name.

*** catalog recovery area (CRA)**. In systems with VSAM, an entry-sequenced data set that exists on each volume owned by a recoverable catalog, including the catalog volume itself. The CRA contains copies of the catalog records and can be used to recover a damaged or invalid catalog.

*** CDRM (cross-domain resource manager)**. In ACF/VTAM, the functions of the system services control point (SSCP) that control initiation and termination of cross-domain sessions.

*** CDRSC (cross-domain resource)**. Deprecated term for other-domain resource.

Central Processing Complex. A segment of the physical resources of a system configuration. In this segment, a 370-mode supervisor operates as it would operate on a dedicated system.

channel. 1. A hardware component, controlled by the processor, that handles the transfer of data between processor storage and local peripheral equipment. 2. In data communication, a means of one-way transmission. Contrast with circuit.

*** channel adapter**. A communication controller hardware unit used to attach the controller to a System/370 data channel.

channel-to-channel attachment (CTCA). An extension of VSE/POWER's networking function that allows data to be exchanged between two virtual VSE machines under control of VM.

channel subsystem.. A feature of Enterprise Systems Architecture and 370-XA that provides extensive additional channel (I/O) capabilities over the System/370.

CI (control interval). A fixed length area of disk storage where VSAM stores records and distributes free space. It is the unit of information that 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.

CI splitting. In VSE/VSAM, to double control interval dynamically and distribute its records evenly when the specified minimum of free space gets used up by new or lengthened records.

CICS/VSE (Customer Information Control System). An IBM licensed program that controls online communication between terminal users and a database. Transactions entered at remote terminals are processed concurrently by user-written application programs. The program includes facilities for building, using, and servicing data bases.

*** CKD (Count-Key-Data) disk device**. A disk device that stores data in the format: count field, usually followed by a key field, followed by the actual data of a record. The count field contains, 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.

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 connected to it. A cluster controller may be run by a program stored and executed in the unit; for example, the IBM 3601 Finance Communication Controller. Or it

may be controlled entirely by hardware; for example, the IBM 3272 Control Unit.

CMS (Conversational Monitor System). A virtual machine operating system that provides general, interactive, time sharing, problem solving, and program development capabilities and operates under VM/SP.

COBOL (Common business-oriented language). A high-level programming language based on English used primarily for business application programs.

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 controller. A device that directs transmission of data over the links of a network. Its operation is controlled by a program that runs either in the host processor or in the controller itself.(T) Communication control units can be transmission control units such as the IBM 2702 Transmission Control Unit or communication control units such as the IBM 3705 Communications Controller.

* **communication line**. Deprecated term for telecommunication line.

compile. To translate a source program into an executable program (object program). See also assembler.

compiler. A program used to compile.

* **component**. 1. Hardware or software that is part of a computer system. 2. A functional part of an operating system, for example: job control program, VSE/POWER. 3. 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.

conditional job control. The capability of the job control program to process or to skip one or more statements based on a condition that is tested by the program.

configuration. The devices and programs that make up a system, subsystem, or network.

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.

control block. An area within a program or a routine defined for the purpose of storing and maintaining control information.

control program. A program to schedule and supervise the running of programs in a system.

control unit. See communications controller and cluster controller. Synonymous with controller.

* **corrective service**. The installation of a PTF or an APAR fix that corrects a specific problem.

CPU (Central Processing Unit). The hardware component that interprets and executes instructions. Synonym for processor.

* **CRA**. See catalog recovery area.

* **cross-domain**. In SNA, pertaining to control or resources involving more than one domain.

* **cross-domain resource (CDRSC)**. Deprecated term for other-domain resource.

* **cross-domain resource manager (CDRM)**. The functions of the SSCP that control initiation and termination of cross-domain sessions.

CSD (CICS system definition) file. A component of CICS resource definition online (RDO). It keeps a permanent record of resource information, independently of the active CICS system.

CTCA (channel-to-channel attachment). An extension of VSE/POWER's networking function that allows data to be exchanged between two virtual VSE machines under control of VM/SP.

CUT (Control Unit Terminal) mode. IBM PCs operating in CUT mode are defined to VSE/ESA like a 3278-2 or 3279-2A display station. No special features are required for the CICS/VSE Terminal Control Table (DFHTCT).

DASD sharing. An option that lets independent computer systems use common data on shared disk devices.

database. A set of data available online that is organized by a common system and used for a common purpose.

* **data block (DBLK)**. In VSE/POWER, the unit of transfer for spooling job input and job output.

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 entry panel. A panel in which the user communicates with the system by filling in one or more fields. See also panel and selection panel.

data file. See file.

data import. The process of reformatting data that was used under one operating system (for example, IBM System/3) such that it can subsequently be used under a different operating system (for example, the VSE system).

data management. A major function of the operating system. It involves organizing, storing, locating, and retrieving data.

data processing system. Synonym for computer system.

data security. See access control.

data set. See file.

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.

DBCS (Double Byte Character Set). A character set which allows Korean, Japanese, and Chinese languages to be internally represented by two bytes per character.

*** DBLK (data block)**. In VSE/POWER, the unit of transfer for spooling job input and job output.

DCDF (Data Conversion Descriptor File). 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.

deblocking. The process of making each record of a block available for processing. Contrast with blocking.

debug. To detect, diagnose, and eliminate errors in programs.(T)

default value. A value assumed by the program when no value has been specified by the user.

device. A hardware component of a computer system with a specific purpose.

device address. 1. The identification of an input/output device by its channel and unit number. 2. In data communication, the identification of any device to which data can be sent or from which data can be received.

*** device class**. The generic name for a group of device types, for example, all display stations belong to the same device class. Contrast with device type.

*** Device Support Facilities**. An IBM-supplied SCP 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 alternate track.

*** device type code**. The four-or five-digit code to be used for defining an I/O device to a computer system.

dialog. 1. In an interactive system, a series of related inquiries and responses similar to a conversation between two people. 2. For VSE/ESA, a set of panels that can be used to complete a specific task, defining a file, for example.

dialog manager. The program component of VSE/ESA that provides for ease of communication between user and system.

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.

directory. 1. A table of identifiers and references to the corresponding items of data.(I) (A) 2. In VSE, specifically, the index for the program libraries. See also library directory and sublibrary directory.

disk. Loosely, a magnetic disk unit.

diskette. A flexible magnetic disk enclosed in a protective container. (I) (A) Synonymous with floppy disk.

Disk Operating System/Virtual Storage (DOS/VS). A predecessor system of DOS/VSE, VSE, VSE/SP and VSE/ESA.

disk sharing. An option that lets independent computer systems use common data on shared disk devices.

display station. A display screen with attached keyboard for communication with the system or a network. See also terminal.

disposition. A means of indicating to VSE/POWER how job input and output is to be handled. A job may, for example, be deleted or kept after processing.

distributed function. The use of programmable terminals, controllers, and other devices to perform minor data processing operations.

*** distribution tape**. A magnetic tape that contains, for example, a preconfigured operating system like VSE/ESA. This tape is shipped to the customer for program installation.

*** DITTO (Data Interfile Transfer, Testing and Operations) utility**. An IBM licensed program that provides file to file services for card I/O, tape, and disk devices.

DL/I (Data Language/I). A database access language used under VSE and CICS/VSE.

domain. The network resources under the control of a particular SSCP.

DOS/VS (Disk Operating System/Virtual Storage). A predecessor system of DOS/VSE, VSE, VSE/SP and VSE/ESA

double byte character set (DBCS). A character set which allows Korean, Japanese, and Chinese languages to be internally represented by two bytes per character.

dump. 1. Data that has been dumped.(I) (A) 2. To write at a particular moment some contents of storage to another data medium for the purpose of safeguarding or debugging the data.(T)

* **duplex**. Pertaining to communication in which data can be sent and received at the same time.

dynamic partition. A partition created and activated on an 'as need' basis. After processing, the occupied space is released. Contrast with static partition.

* **dynamic partition balancing**. A 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.

EBCDIC (Extended binary-coded decimal interchange code). A coded character set consisting of 8-bit coded characters.

ECKD (Extended count-key-data) device. A disk storage device that has a data transfer rate faster than some processors can utilize. A specialized channel program is needed to convert ordinary CKD channel programs for use with an ECKD device.

emulation. The use of programming techniques and special machine features that permit a computer system to execute programs 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, an IBM 2702 Transmission Control, or an IBM 2703 Transmission Control.

Enterprise Systems Architecture (ESA). See ESA/370 and ESA/390.

* **entry-sequenced file**. A 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.

EREP (Environmental Recording, Editing and Printing) program. The program that makes the data contained in the system recorder file available for further analysis.

error recovery procedures (ERP). Procedures to help isolate and, where possible, to recover from errors in equipment.

* **error statistics by tape volume (ESTV)**. One of the two options of VSE volume statistics. With this option, the system collects data on tape errors by volume for any volumes used by the system. Contrast with EVA.

error volume analysis (EVA). One of the two options of VSE volume statistics. With this option, the system issues a message to the operator when a certain number of temporary read or write errors has been exceeded on a currently accessed tape volume. Contrast with ESTV.

ESA mode. An operation mode of the supervisor (generated with MODE=ESA) of a VSE system. Such a supervisor will run on an Enterprise Systems Architecture or on a 370-XA processor and provide support for the channel subsystem and more than 16 Mb of real storage.

ESA/370. IBM Enterprise Systems Architecture/370. The extension to the IBM System/370 architecture which includes the advanced addressability feature that provides access registers.

ESA/390. IBM Enterprise Systems Architecture/390. The latest extension to the IBM System/370 architecture which includes advanced addressability feature and advanced channel architecture.

* **escape**. To return to the original level of a user interface.

ESDS (entry sequenced data set). An entry-sequenced file under VSE/VSAM. Its 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. See also SAM ESDS.

extent. Continuous space on a disk or diskette occupied by or reserved for a particular file or VSAM data space.

* **external page address**. An address that identifies the location of a page in a page data set. This address is computed from the page number each time a page is to be transferred between real storage and auxiliary storage.

external storage. Storage that is not part of the processor.

Fast Copy Data Set program (VSE/FCOPY). 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.

fast service upgrade. A service function of VSE/ESA for the installation of a refresh release without regenerating control information such as library control tables.

FBA (Fixed Block Architecture) disk device. A disk device that stores data in blocks of fixed size. These blocks are addressed by block number relative to the beginning of the file.

FCB (forms control buffer). *In the 3800 Printing Subsystem, a buffer for controlling the vertical format of printed output.

FCOPY. 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.

*** feature code**. A code used by IBM to process hardware and software orders.

file. A named set of records stored or processed as a unit.(T) Synonymous with data set.

*** foreground partition**. A space of virtual storage in which programs are executed under control of the system. By default, a foreground partition has a higher processing priority than the background partition.

forms control buffer (FCB). *In the 3800 Printing Subsystem, a buffer for controlling the vertical format of printed output.

FORTRAN (formula translation). A programming language primarily used for applications involving numeric computations.(T)

*** fragmentation (of storage)**. Inability to allocate unused sections (fragments) of storage in the real or virtual address range of virtual storage.

FULIST (FUnction LIST). A type of selection panel that displays a set of files and/or functions for the choice of the user.

generate. To produce a computer program by selecting subsets of standardized code under the control of parameters.(A)

generation feature. An IBM licensed program order option used to tailor the object code of a program to user requirements.

GB. Gigabyte.

*** GETVIS space**. Storage space within a partition or the shared virtual area, available for dynamic allocation to programs.

gigabyte (GB). 1024 Mb of storage (see Mb). One gigabyte equals 1,073,741,824 bytes, which is 2 to the thirtieth power.

*** half-duplex**. In data communication, pertaining to transmission of data in only one direction at a time. Contrast with duplex.

hard copy. A copy of machine output printed on paper in a visually readable form.

hard-copy file. A system file on disk, used to log all lines of communication between the system and the operator at the system console, to be printed on request.

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 start-up.

hardware. Physical equipment used in data processing, as opposed to programs, procedures, rules, and associated documentation.(I) (A) Contrast with software.

help panel. A display of information provided by the system in response to a *user's help request.

host mode. In this operating mode, a PC can access a VSE host. For PWS functions, the Move Utilities of VSE/ESA can be used.

host processor. 1. In a network, the processor in which the access method for the network resides. 2. In an SNA network, the processor that contains an SSCP.

host transfer file (HTF). Used by the PWS support of VSE/ESA as an intermediate storage area for files that are sent to and from IBM Personal Computers.

ICA (integrated communication adapter). The part of a processor where multiple lines can be connected.

ICCF (Interactive Computing and Control Facility). An IBM licensed program that serves as interface, on a time-slice basis, to authorized users of terminals linked to the system's processor.

include function. Retrieves a library member for inclusion in program input.

index. In data management, a table used to locate the records of a file.

initial program load (IPL). The process of loading system programs and preparing the system to run jobs.

input. 1. Information or data to be processed by a program. 2. Pertaining to a resource that serves to process input data, for example, input buffer. Contrast with output.

integrated communication adapter (ICA). The part of a processor where multiple lines can be connected.

intelligent work station. A terminal that can be programmed to perform user-determined functions. Contrast with fixed-function work station. Synonym for programmable work station.

interactive. Pertaining to a program or system that alternately accepts input and then responds. An interactive system is conversational, that is, a continuous dialog exists between user and system. Contrast with batch.

Interactive Interface. That part of the system program which provides sets of selection- and data-entry panels. Through these panels, users communicate with the system and supply it with information needed to perform the desired action.

interactive partition. An area of virtual storage dynamically allocated by CICS/VSE for the purpose of processing a job that was submitted interactively from a terminal.

Interactive User Communication Vehicle (IUCV). Programming support available in a VSE supervisor for operation under VM/SP. The support allows a user to communicate with other users or with CP in the same way he would with a non-preferred guest.

interface. A shared boundary between two hardware or software units defined by common functional or physical characteristics. It might be a hardware component or a portion of storage or registers accessed by several computer programs.

interrupt. To stop a process in such a way that it can be resumed.

I/O (input/output). See input and output.

IPL (Initial Program Load). The process of loading system programs and preparing the system to run jobs.

*** irrecoverable error**. An error for which recovery is impossible without the use of recovery techniques external to the computer program or run.(T)

IUCV (Interactive User Communication Vehicle). Programming support available in a VSE supervisor for operation under VM/SP. The support allows a user to communicate with other users or with CP in the same way he would with a non-preferred guest.

JCL (Job Control Language). A language that serves to prepare a job or each job step of a job to be run. Some of its functions are: to determine the I/O devices to be used, set switches for program use, log (or print) its own statements, fetch the first phase of each job step.

JECL (Job Entry Control Language). A control language that allows the programmer to specify how VSE/POWER should handle a job.

job. One program or a group of related programs called job steps complete with the JCI statements necessary for a particular run. A job is identified in the job stream by a JOB statement followed by one EXEC statement for each of the programs or job steps.

job accounting. A system function that lists how much every job step uses of the different system resources.

job catalog. A catalog made available for a job by means of the file name IJSYSUC in the respective DLBL statement.

job control statement. A particular statement of JCL.

job step. One 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 stream. The sequence of jobs as submitted to an operating system.

Kanji. A set of symbols used in Japanese ideographic printing. Every symbol is represented by two bytes.

*** Kb (kilobyte)**. 1024 bytes of storage.

key. In VSAM, one or several characters 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 file, also known as KSDS, 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.

*** kilobyte (Kb)**. 1024 bytes of storage.

KSDS (Key Sequenced Data Set). A key-sequenced file under VSE/VSAM.

label. 1. An identification record for a tape, disk, or diskette volume or for a file on such a volume. 2. In assembler programming, a named instruction generally used for branching.

label information area. An area on a disk to store label information read from job control statements or commands. Synonymous with label area.

*** LAN (local area network)**. A data network located on the user's premises in which serial transmission is used for direct data communication among data stations. (T)

LEN (low-entry networking). In SNA, a capability in type 2.1 nodes allowing them to be directly attached to one another using peer-to-peer protocols and allowing them to support multiple and parallel sessions between logical units (LUs).

*** librarian**. The set of programs that maintains, services, and organizes the system and private libraries.

library. Disk storage space in the system where programs in various forms and storage dumps are stored. The form of a program is indicated by its type ID such as object module, phase, or procedure. Source code is identified by a one-character type ID of which some are reserved. A library consists of at least one sublibrary which can contain any type of member. Storage dumps from a library can be viewed interactively.

*** library block**. A block of data stored in a sublibrary

*** library member**. The smallest unit of data to be stored in and retrieved from a sublibrary.

*** licensed program**. A separately priced program and its associated materials that bear an IBM copyright and are offered to customers under the terms and conditions of either the Agreement for IBM Licensed Programs (ALP) or the IBM Program License Agreement (PLA).

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.

line printer. A device that prints a line of characters as a unit.(I) (A) Contrast with character printer or page printer.

link. 1. To connect items of data or portions of programs, for example linking of object programs by the linkage editor or linking of data items by pointers. 2. In SNA, the combination of the link connection and the link stations joining network nodes, for example, a System/370 channel and its associated protocols. A link is both logical and physical. Synonymous with data link.

linkage editor. A program to build a phase (executable code) from one or several independently translated object modules or existing phases or both. In creating the phase, the program resolves cross references among the modules and phases available as input. The program can catalog the newly built phases.

link-edit. To create a loadable computer program by having the linkage editor process compiled (assembled) source programs.

load. * To bring a program phase from a library into virtual storage to run it.

*** local address**. In SNA, an address used in a peripheral node in place of an SNA network address and transformed to or from an SNA network address by the boundary function in a subarea node.

*** lock file**. In a shared disk environment under VSE, a system file on disk used by the sharing systems to control their access to shared data.

*** logging**. The recording of data about specific events.

logical partition. (ES/3090 processor) In LPAR mode, a subset of the processor unit hardware that is defined to support the operation of an SCP.

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 used in programming to represent an I/O device address. 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 may be capable of supporting many sessions with other LUs. See also *network addressable unit (NAU)*, *peripheral LU*, *physical unit (PU)*, *system services control point (SSCP)*, *primary logical unit (PLU)*, and *secondary logical unit (SLU)*.

logical unit name. In programming, a name used to represent the address of an input/ output unit.

LPAR mode. (Enterprise Systems Architecture processors) 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.

*** LU-LU session**. In SNA, a session between two LU's in an SNA network. It provides communication between two users, or between a user and an LU services component.

*** main task**. The main program within a partition in a multiprogramming environment.

major node. In ACF/VTAM, a set of minor nodes that can be activated as a group. See node and minor node.

* **Mb**. (megabyte)

* **megabyte (Mb)**. 1024 Kb of storage (see Kb). One megabyte equals 1,048,576 bytes, which is 2 to the twentieth power.

* **member**. The smallest unit of data that can be stored in and retrieved from a sublibrary.

message. 1. In VSE, a communication sent from a program to the operator or user. It can appear on a console, a display terminal or on a printout. 2. In telecommunication, a logical set of data being transmitted from one node to another.

* **microcode**. 1. A code written using the instructions of a specific instruction set and implemented in a part of storage that is not program-addressable. 2. To design write, and test one or more micro instructions.

* **migrate**. To move to a changed operating environment, usually to a new release or version of a system.

minor node. In ACF/VTAM, a uniquely-defined resource within a major node. See node and major node.

mode. A method of operation. See also ESA mode, 370 mode, VM mode, VMESA mode.

370 mode. An operation mode of the supervisor (generated with MODE=370) of a VSE system. Such a supervisor can support up to 9 virtual address spaces with a maximum of 128 Mb of virtual storage. A single virtual address space is limited to 16 Mb. This mode requires a processor that supports the System/370 architecture and is operated in System/370 mode.

VM Mode. See under 'VM'.

modem. A device to convert digital data from a computer to analog signals to be transmitted on a telecommunication line and vice versa. The term is a contraction for modulator-demodulator.

* **module**. A program unit that is discrete and identifiable with respect to compiling, combining with other units, and loading; for example, the input to, or output from, an assembler, a compiler, linkage editor, or executive routine.(A)

MSHP (Maintain System History Program). A program used for automating and controlling various installation, tailoring, and service activities for a VSE system.

* **multiprogramming**. 1. A mode of operation that provides for interleaved execution of several programs by a single processor.(I) (A)
2. Pertaining to concurrent execution of several programs by a computer.(A)

multitasking. Concurrent running of one main task and one or several subtasks in the same partition.

MVS/XA (Multiple Virtual Storage/Extended Architecture). A licensed IBM program providing operating system support. It is a follow-on development of MVS/SP.

NCP (Network Control Program). An IBM licensed program that provides communication controller support for single-domain, multiple-domain, and interconnected network capability. Its full name is ACF/NCP.

NCP major node. In ACF/VTAM, a set of minor nodes representing resources, such as lines and peripheral nodes, controlled by a network control program. See major node.

NDH. See data set header record.

NDT (network definition table). In VSE/POWER networking, the table where every node in the network is listed.

NetView. An IBM licensed program to monitor a network, manage it, and diagnose its problems.

network. 1. An arrangement of nodes (data stations) and connecting branches. 2. The assembly of equipment through which connections are made between data stations.

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 local address. See also network name.

Network Communications Control Facility (NCCF). An IBM licensed program; the base for command processors that can monitor, control, and improve the operations of a network. Its function is included and enhanced in NetView's command facility. A traditional, alternative name for the command facility of NetView.

network definition table (NDT). In VSE/POWER networking, the table where every node in the network is listed.

networking. Making use of the services of a network program.

network job-interface (NJI). A set of protocols for communication between various programs via telecommunication lines. The protocols describe what actions a system must take in defined situations while communicating with another node in the network.

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.

NJE (network job entry). 1. A facility for transmitting jobs (JCL and in-stream data sets), sysout data sets, (job-oriented) operator commands and operator messages, and job accounting information from one computing system to another. 2. A facility that provides access to batch computing facilities from other host systems. It enables users to transfer work and data throughout a distributed network of batch computing facilities. ("NJE" is not a part of "Systems Network Architecture (SNA)", but is an application layer which uses SNA, BSC and CTC transmission facilities.) 3. The JES2 program product implementation of the NJE Protocol.

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 ACF/VTAM, a point in a network defined by a symbolic name. Synonymous with network node. See major node and minor node.

*** node name**. In ACF/VTAM, the symbolic name assigned to a specific major or minor node during network definition.

node type. In SNA, a designation of a node according to the protocols it supports and the network addressable units (NAUs) that it can contain. See also physical unit type.

non-switched line. A telecommunication line on which connections do not have to be established by dialing.

NPSI (X.25 NCP Packet Switching Interface). An IBM licensed program that allows SNA programs to communicate with SNA equipment or non-SNA equipment over packet-switched data networks. In addition, the product may be used to attach native X.25 equipment to SNA host systems without a packet network.

*** object code**. Output from a compiler or assembler which is itself executable machine code or is suitable for processing to produce executable machine code.(A)

object module (program). A program unit that is the output of an assembler or compiler and is input to a linkage editor.

*** OBR (outboard recorder)**. A VSE/ESA feature that records error data on the system recorder file when an irrecoverable I/O error occurs.

OCCF (Operator Communication Control Facility). An IBM licensed program that helps reduce operator interaction in the operation of a VSE controlled installation and helps centralize data processing skills.

OLTEP (Online test executive program). A program that controls the activities on the online-test system and provides communication with the operator. This test system (called VSE/OLTEP) can be used to test I/O devices, control units, and channels while programs are running.

online. Controlled by or communicating with a computer.

online application program. An interactive program used at display stations. When active, it waits for data. Once input arrives, it processes it and sends a response to the display station or to another device.

online processing. Processing by which the input data enters the computer directly from a display station and the output data is transmitted directly to the display station.

online test executive program (OLTEP). A program that controls the activities on the online-test system and provides communication with the operator. This test system (called VSE/OLTEP) can be used to test I/O devices, control units, and channels while programs are running.

open. To connect a file or a library to a program for processing.

*** operating system**. Software that controls the running of programs; an operating system may provide services such as resource allocation, scheduling, input/output control, and data management.(I) (A)

*** 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.

*** operator console**. A display console used for communication between the operator and the system.

OPTB (output parameter text block). In VSE/POWER's spool-access support, information that is contained in an output queue record if an * $$ LST or * $$ PUN statement includes any user-defined keywords that have been defined for autostart.

optical reader/sorter. A device that reads hand written or machine printed symbols on a voucher and, after having read the voucher, can sort it into one of the available stacker-select pockets.

optional licensed program. An IBM licensed program that a user can install on VSE/ESA by way of available installation-assist support.

OS/2 (Operating System/2). An IBM operating system that runs on IBM personal computers with appropriate micro processors.

* **other-domain resource**. In SNA products, a resource owned by a domain other than the one you are in at present where it is known only by its network name and its associated SSCP.

* **outboard recorder (OBR)**. A VSE/ESA feature that records error data on the system recorder file when an irrecoverable I/O error occurs.

output. Data that has been processed and is transported from storage to an output device.

* **packet**. In data communication, a sequence of binary digits, including data and call control signals, that is transmitted and switched as a composite whole. (I) The data, call control signals, and possibly error control information, are arranged in a specific format.

* **packet switching**. The processing of routing and transferring data by means of addressed packets so that a channel is occupied only during transmission of a packet. On completion of the transmission, the channel is made available for transfer of other packets. (I)

page. 1. In a virtual storage system, the unit of code or data or both which is transferred between processor storage and the PDS as needed for processing. 2. To transfer (1) between processor storage and the page data set.

page fault. A program interruption that occurs when a program page marked "not in processor storage" is referred to by an active page.

page frame. An area of processor storage that can contain a page.

page-in. The process of transferring a page from the PDS to processor storage.

page I/O. Page-in and page-out operations.

page-out. The process of transferring a page from processor storage to the PDS.

* **page pool**. The set of page frames available for paging virtual-mode programs.

panel. The complete set of information shown in a single display on a terminal screen. Scrolling back and forth through panels is like turning manual pages. See also selection panel and data entry panel.

* **partition**. A division of the virtual address area available for running programs.See also dynamic partition, static partition.

* **partition balancing, dynamic**. A 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.

* **password**. In computer security, a string of characters known to the computer system and a user. He must specify it to gain full or limited access to the system and to the data stored in it.

* **path**. 1. In ACF/VTAM, the intervening nodes and data links connecting a terminal and an application program in the host processor.
2. In VSAM, a named logical entity providing access to the records of a base cluster either directly or through an alternate index.

PC (personal computer). A microcomputer for individuals or small businesses.

PC-DOS. An IBM disk operating system that operates with IBM personal computers.

PDS (page data set). One or more extents of auxiliary storage in which pages are stored when they are not needed in processor storage.

* **peer**. In network architecture, any functional unit that is in the same layer as another entity.

* **peripheral node**. In SNA, a node that uses local addresses for routing and therefore is not affected by changes in network addresses. A peripheral node requires boundary function assistance from an adjacent subarea node.

* **phase**. The smallest unit of executable code that can be loaded into virtual storage.

* **physical record**. The amount of data transferred to or from auxiliary storage. Synonymous with block.

PL/I. A programming language designed for use in a wide range of commercial and scientific computer applications.

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.

polling. In telecommunication, the process of inviting linked stations to transmit, one after the other.

port. 1. An access point for data entry or exit. 2. A connector on a device to which cables for other devices (display stations, printers) are attached. Synonymous with socket.

POWER. See VSE/POWER.

preferred machine assist. The hardware feature of a processor that allows a V=R guest machine to operate in supervisor state with direct control of its own I/O operations under VM/SP High Performance Option.

* **pregenerated operating system**. An operating system such as VSE/ESA 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 library**. A VSE library owned and directly accessible by a certain terminal user.

priority. A rank assigned to a partition or a task that determines its precedence in receiving system resources.

* **private library**. A user-owned library that is separate and distinct from the system library.

* **private partition**. Any of the system's partitions that are not defined as shared. See also shared partition.

procedure. See cataloged procedure.

* **processing**. The performance of logical operations and calculations on data, including the temporary retention of data in processor storage while this data is being operated upon.

processor. The hardware component that interprets and executes instructions. (I) (A)

processor storage. The storage contained in one or more processors and available for running machine instructions. Synonymous with real storage.

* **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 needed for normal processing. Contrast with test library.

profile. A description of the characteristics of a user or a computer resource.

program. 1. To design, write, and test computer programs. (I) (A) 2. A sequence of instructions suitable for processing by a computer.

programmable workstation (PWS). A workstation that has some degree of processing capability and that allows the user to change its functions. Contrast with nonprogrammable workstation.

program product. See licensed program.

program service. The customer- or program-related IBM service of correcting design or implementation errors via APARs and PTFs.

prompt. To issue messages to a terminal or console user, requesting information necessary to continue processing.

protocol. In SNA, the set of rules for requests and responses between communicating nodes that want to exchange data.

PR/SM. Processor Resource/Systems Manager. A feature of Enterprise Systems Architecture processors that allows the processor storage and resources to be divided into multiple logical processors.

* **PSF (Print Services Facility)**. The access method that supports the 3800 Printing Subsystem Models 3 and 8. PSF can interface either directly to a user's application program or indirectly through JES, the spooling component of MVS.

PTF (Program Temporary Fix). A solution or by-pass of one or more problems documented in APARs. PTFs are distributed to IBM customers for preventive service to a current release of a program.

punch. 1. To make holes in some data medium according to a signal code and thus save data on that medium. 2. A machine (output device) to punch 80-column punch cards.

* **punch card**. A card into which hole patterns can be punched; normally, it is characterized by 80 columns and 12 rows of punch positions.

PWS. See programmable workstation.

* **queue**. 1. A line or list formed by items in a system waiting for service; for example, tasks to be performed or messages to be transmitted in a network. 2. To arrange in, or form, a queue.

queue file. A disk file maintained by VSE/POWER that holds control information for the spooling of job input and job output.

queue record. A record in the queue file containing descriptive information about a job or job output.

*** read**. To acquire or interpret data from a storage device, from a data medium, or from another source. (I) (A)

reader. An input device that reads data that is punched into cards or is written or printed on paper.

real address. The address of a location in processor storage.

*** real address area**. In VSE, the area of virtual storage where virtual addresses are equal to real addresses.

*** real address space**. In a VSE system operating in 370 mode, 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 may not be paged. Contrast with virtual mode.

real storage. See processor storage.

*** record**. A collection of related data or words, treated as a unit. See logical record, physical record.

record formatted maintenance statistics (RECFMS). In NetView, a statistical record built by an SNA controller and usually solicited by the host.

*** reentrant**. The attribute of a program or routine that allows the same copy of the program or routine to be used concurrently by several tasks.

*** reference bit**. In System/370, a bit that is turned on by hardware whenever the associated page in processor storage is referred to (read or stored into).

refresh release. An upgraded VSE/ESA system with the latest level of maintenance for a release.

relative record file (RRDS). A VSAM file whose records are loaded into fixed-length slots and accessed by the relative-record numbers of these slots.

relocatable module. In VSE, a library member of type object. It consists of one or 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 selected by the user.

remote. Pertaining to a system, program, or device that is accessed through a telecommunication line. Contrast with local. Synonym for link-attached.

*** remote job entry (RJE)**. Submission of jobs through an input unit that has access to a computer through a data link.

restore. To write back on disk data that was previously written from disk to an intermediate storage medium such as tape.

RJE (remote job entry). Submission of jobs through an input unit that has access to a computer through a data link.

RJE work station. Any work station that is used for remote job submission and for the remote retrieval of output. See also work station.

RMS (recovery management support). 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.

*** routine**. Part of a program, or a sequence of instructions called by a program, that may have some general or frequent use. (I) (A)

*** routing**. The assignment of the path by which a message will reach its destination.

RRDS (Relative Record Data Set). A VSAM file whose records are loaded into fixed-length slots and represented by the relative-record numbers of the slots they occupy.

RSCS (remote spooling communications subsystem). The licensed program that transmits spool files between VM users, remote stations, and remote and local batch systems via its telecommunication facilities.

*** run**. 1. A performance of one or more jobs. 2. A performance of one or more programs. 3. To cause a program or job to be performed.

SAM (sequential access method). 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 a certain number of tape marks on a tape drive.

SAM ESDS file. A SAM file managed in VSE/VSAM space, so it can be accessed by both SAM and VSE/VSAM macros.

schedule. To select a program or task for getting control over the processor.

SCP (system control program). IBM-supplied, nonlicensed program fundamental to the operation of a system or to its service or both. Same meaning as operating system.

SDL (system directory list). A list containing directory entries of frequently-used phases and of all phases resident in the SVA. The list resides in the SVA.

SDLC (synchronous data link control). A discipline for managing synchronous, code-transparent, serial-by-bit information transfer over a link connection. Transmission exchanges may be duplex or half-duplex over switched or non-switched links. The configuration of the link connection may be point-to-point, multipoint, or loop.

* **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 found on the directory tracks of the system sublibrary.

security. See access control.

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.

sequential access. The serial retrieval of records in their entry sequence or serial storage of records with or without a premeditated order. Contrast with direct access.

sequential access method (SAM). see SAM.

sequential file. A file in which records are processed in the order in which they are entered and stored.

service node. Within the VSE/ESA unattended node support, a processor used to install and test a master VSE/ESA 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 program in general support of computer processes, for example, a diagnostic program, a trace program, or a sort program. (T) Synonymous with utility program (1).

shared disk option. An option that lets independent computer systems use common data on shared disk devices.

* **shared partition**. In VSE, a partition allocated for a program (VSE/POWER, for example) that provides services for 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 VSE, a high address area that contains a list (SDL) of frequently used phases, resident programs shared between partitions, and an area for system support.

* **shutdown**. The process of ending operation of a system or a subsystem, following a defined procedure.

* **sign on**. 1. The procedure to be followed at a terminal or a work station to establish a link to a computer. 2. To begin a session at a work station.

skeleton job. A set of control statements and/or instructions that requires user-specific information to be inserted before it can be submitted for processing.

SNA (systems network architecture). The description of the logical structure, formats, protocols, and operational sequences for transmitting information units through and controlling the configuration and operation of networks.

SNA network. The part of a user-application network that conforms to the formats and protocols of SNA.

* **software**. Programs, procedures, rules, and any associated documentation pertaining to the operation of a computer system.

source member. A library member containing source statements in any of the programming languages supported by VSE.

* **source program**. A computer program expressed in a source language.(I) (A) Contrast with object module.

source statement. A statement written in symbols of a programming language.

spanned record. A record that extends over several blocks.

split. See CA splitting, CI splitting.

* **spool access support**. A function of VSE/POWER that allows user programs or subsystems running on VSE to access the spool files of VSE/POWER.

* **spool file**. 1. A file that contains output data saved for later processing. 2. One of three VSE/POWER files on disk: queue file, data file, and account file.

* **spooling**. Reading and writing input and output streams on an intermediate device in a format convenient for later processing or output.

SQL/Data System (Structured Query Language/Data System). An IBM licensed program for using a database in an online, interactive, or batch environment.

SSP (System Support Programs). An IBM licensed program, made up of a collection of utilities and small programs, that supports the operation of the NCP. The full name is ACF/SSP.

*** stacked tape**. An IBM-supplied product-shipment tape containing the code of several licensed programs.

stand-alone program. A program that runs independently of (not controlled by) the VSE system.

*** 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.

*** start option**. In ACF/VTAM, a user-specified or IBM-specified option that determines conditions for the time an ACF/VTAM system is operating. Start options can be predefined or specified when ACF/VTAM is started.

start-stop system. A data transmission system in which each character id preceded by a start signal and is followed by a stop signal.(T)

startup. The process of performing IPL of the operating system and of getting all subsystems and application programs ready for operation.

static partition. A partition, defined at IPL time and occupying a defined amount of virtual storage that remains constant. Contrast with dynamic partitions.

station. 1. One of the input or output points of a network that uses communication facilities; for example, the telephone set in the telephone system or the point where the business machine interfaces with the channel on a leased private line. 2. One or more computers, terminals, or devices at a particular location.

statistical data recorder (SDR). A feature that records the cumulative error status of an I/O device on the system recorder file.

storage. A device, or part of a device, that can retain data. See also auxiliary storage, processor storage, virtual storage.

storage dump. See dump.

storage fragmentation. Inability to allocate unused sections (fragments) of storage in the real or virtual address range of virtual storage

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.

*** subsystem**. A secondary or subordinate system or program, usually capable of operating independently of, or asynchronously with, the operating system.

subtask. A task that is initiated by the main task or by another subtask.

*** supervisor**. The part of a control program that coordinates the use of resources and maintains the flow of processor operations.

SVA (shared virtual area). In VSE, a high address area that contains a list (SDL) of frequently used phases, resident programs shared between partitions, and an area for system support.

switched line. A telecommunication line in which the connection is established by dialing.

Synchronous Data Link Control (SDLC). A discipline for managing synchronous, code-transparent, serial-by-bit information transfer over a link connection. Transmission exchanges may be duplex or half-duplex over switched or non-switched links. The configuration of the link connection may be point-to-point, multipoint, or loop.

SYSRES (system residence volume). 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. An assembly of components, hardware or software or both, united by some form of regulated interaction to form an organized whole.

*** system console**. A console, usually equipped with a keyboard and display screen for control and communication with the system.

system control program (SCP). IBM-supplied, nonlicensed 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 VSE, a file used by the operating system, for example, the hard-copy file, the recorder file, the page data set.

system logical unit. A logical unit available primarily for operating system use. See also logical unit name.

Systems Network Architecture (SNA). see SNA.

system recorder file. The file that is used to record hardware reliability data. Synonymous with recorder file.

system refresh release. See refresh release.

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 start-up.

system sublibrary. The sublibrary that contains the operating system. It is stored on the system residence volume (SYSRES).

System Support Programs (SSP). An IBM licensed program, made up of a collection of utilities and small programs, that supports the operation of the NCP.

* **tailor**. A process that defines or modifies the characteristics of the system.

* **task**. The basic unit of synchronous program execution. A task competes with other tasks for system resources such as processing time and I/O channels.

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).

TCT (terminal control table). A control block in which the system stores information about the characteristics and modes of operation of the terminals defined to the system.

* **telecommunication**. Transmission of data between computer systems and between such a system and remote devices.

telecommunication line. Any physical medium such as a wire or microwave beam, that is used to transmit data. Contrast with data link.

Telecommunications Subsystem Controller. A Communications Processor in the IBM ES/9370 processor which allows the IBM ES/9370 to communicate with remote systems, controllers and terminals over public networks, and to attach local communication lines.

terminal. A point in a system or network at which data can either enter or leave. (A) Usually a display screen with a keyboard.

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 or repetitively. The time event scheduling operands of the * $$ JOB statement are used to specify the desired scheduling time.

* **time slicing**. A mode of operation in which several processes are assigned quanta of time on the same processor. (I) (A)

* **token**. In a local area network, the symbol of authority passed among data stations to show the station temporarily in control of the transmission medium. (T)

* **token-ring network**. 1. A ring network that allows unidirectional data transmission between data stations by a token passing procedure over one transmission medium so that the transmitted data returns to the transmitting station. (T) 2. A network that uses a ring topology, in which tokens are passed in a circuit from node to node. A node that is ready to send can capture the token and insert data for transmission.

trace. 1. To record a series of events as they occur. 2. A record of specified events during the run of a program. 3. A program to produce such a record.

* **track**. A circular path on the surface of a disk or diskette. Smallest unit of physical disk space.

transaction. 1. In a batch or remote batch entry, a job or job step. 2. In CICS/VSE, an application program (or 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. A given task can relate only to one operator.

* **transient area**. An area within the control program used to provide high-priority system services on demand.

transmission group (TG). In SNA, a group of links between adjacent subarea nodes, appearing as a single logical link for routing of messages. A transmission group may consist of one or more SDLC links (parallel links) or of a single System/370 channel.

transmission line. Synonym for telecommunication line.

* **transmit**. To send data from one place for reception elsewhere.

TSC. See Telecommunications Subsystem Controller.

UCB (universal character set buffer). A buffer to hold UCS information.

* **UCS (universal character set)**. A printer feature that permits the use of a variety of character arrays.

* **unattended mode**. A mode in which no operator is present or in which no operator station is included at system generation.

unattended node support. In VSE/ESA, a set of functions allowing VSE/ESA systems to run without an operator being present. The VSE/ESA systems are connected to a single central host.

* **unique file**. A VSAM file that occupies a data space of its own. The data space is defined at the same time as the file and cannot contain any other file. Contrast with suballocated file.

unit record. A card containing one complete record; a punched card.

* **utility program**. 1. A program in general support of computer processes, for example, a diagnostic program, a trace program, or a sort program. (T) Synonymous with service program. 2. A program that performs an everyday task such as copying data from one storage device to another.

V1 (version 1) format. If VSE licensed programs are shipped in V1 format, they are distributed in the librarian format of pre-Version 2 of VSE. One licensed program resides on a single tape.

V2 (version 2) format. If VSE licensed programs are shipped in V2 format, they are distributed in the librarian format of VSE Version 2 or later. Optional VSE/ESA licensed programs are stacked on tape; other VSE licensed programs are not.

VAE (virtual addressability extension). A storage management support that gives the user of VSE/ESA multiple address spaces of virtual storage.

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 gives the user of VSE/ESA multiple address spaces of virtual storage.

virtual address area. The virtual range of available program addresses.

virtual address space. In VSE, a subdivision of the virtual address area available to the user for the allocation of private (non-shared) partitions.

* **virtual I/O area (VIO)**. An extension of the page data set; used by the system as intermediate storage, primarily for control data.

* **virtual machine**. A functional simulation of a computer system and its associated devices. system support.

* **virtual mode**. The operating mode of a program which may be paged.

* **virtual partition**. In VSE, a division of the dynamic area of virtual storage.

* **virtual route (VR)**. In SNA, a logical connection, a) between two subarea nodes that is physically realized as a particular explicit route, or b) that is contained wholly within a subarea node for intra-node sessions. A virtual route between distinct subarea nodes imposes a transmission priority on the underlying explicit route, provides flow control through virtual-route pacing, and provides data integrity through sequence numbering of path information units (PIUs).

virtual storage. Addressable space image for the user from which instructions and data are mapped into processor storage locations.

VM Mode. An operation mode of the supervisor (generated with MODE=VM) of a VSE system running as a virtual machine under a VM operating system. Such a supervisor avoids duplication of services provided by VM and supports a single virtual address space with up to 16 Mb of virtual storage.

VMESA mode. An operation mode of the supervisor (generated with MODE=VMESA) of a VSE system running as a virtual machine under a VM operating system that supports Enterprise Systems Architecture or 370-XA processors. Such a supervisor uses the 370-XA I/O instructions, avoids duplication of services provided by VM, and supports a single virtual address space of up to 16 Mb of virtual storage.

VM/SP (Virtual Machine/ System Product). An IBM operating system which, among other services, manages the resources of a single computer so that multiple computing systems seem to exist. Each of those virtual machine is the functional equivalent of an IBM System/370 computer system.

VM/XA (Virtual Machine/Extended Architecture System Product. An IBM licensed program providing extended VM/SP operating

VM/ESA (Virtual Machine/Extended Systems Architecture). The most advanced VM system currently available.

volume. A data carrier that is mounted and demounted as a unit, for example, a reel of tape or a disk pack. Some disk units have no demountable packs. In that case, a volume is the portion available to one read/write mechanism.

volume ID. The volume serial number, which is a number in a volume label assigned when a volume is prepared for use by the system.

VR (virtual route). In SNA, a logical connection, a) between two subarea nodes that is physically realized as a particular explicit route, or b) that is contained wholly within a subarea node for intra-node sessions.

A virtual route between distinct subarea nodes imposes a transmission priority on the underlying explicit route, provides flow control through virtual-route pacing, and provides data integrity through sequence numbering of path information units (PIUs).

VSAM (virtual storage access method). An access method (an IBM licensed program known as VSE/VSAM) for direct or sequential processing of fixed and variable length records on disk devices.

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.

*** VSAM managed space**. A user-defined space on disk placed under the control of VSAM.

*** VSE (Virtual Storage Extended)**. An operating system that is an extension of DOS/VS.

A VSE system consists of a) a licensed VSE/Advanced Functions support and b) any IBM-supplied and user-written programs required to meet the data processing needs of a user. VSE and the hardware it controls form a complete computing system.

VSE/Advanced Functions. The basic operating system support needed for a VSE-controlled installation.

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 (VSE/Enterprise Systems Architecture). The most advanced VSE system currently available.

*** 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.

VSE/ICCF (VSE/Interactive Computing and Control Facility). An IBM licensed program that makes the services of a VSE-controlled computing system available to authorized display station users. Availability of services is on a time-shared basis; the display stations must be linked to the central processor of the system.

VSE/ICCF library. A file or set of related files under control of VSE/ICCF.

*** VSE/OCCF (Operator Communication Control Facility)**. An IBM licensed program that helps reduce operator interaction in the operation of a VSE controlled installation and helps centralize data processing skills.

*** VSE/OLTEP (VSE/Online Test Executive Program)**. An IBM program for managing the online tests that are available for preventive service for I/O devices. Normally, only IBM service representatives use this program.

*** VSE/POWER**. An IBM licensed program 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/System Package (VSE/SP). A VSE system configured and pregenerated by IBM.

VSE/SP Unique Code. A component of VSE/ESA

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.

VTAM (virtual telecommunication access method). An IBM licensed program called ACF/VTAM. It controls communication and the flow of data in an SNA network. It provides single-domain, multiple-domain, and interconnected network capability; it supports application programs and subsystems (VSE/POWER, for example).

VTAM application program. A program that has opened an ACB to identify itself to ACF/VTAM and can now issue ACF/VTAM macro instructions.

*** VTAM definition library**. The VSE files that contain the VTAM definition statements and start options filed during VTAM definition.

VTOC (volume table of contents). A table on a disk volume that describes every file on it.

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 start-up. Synonym for hard wait.

*** work file**. A file used to for temporary storage of data being processed.

work station. A terminal or microcomputer, usually one that is connected to a host processor or to a network, where a user can run interactive application programs.

XA channel subsystem. See channel subsystem

*** X.21**. In data communication, a recommendation of the CCITT that defines the interface between data

terminal equipment and public data networks for digital leased and circuit switched synchronous services.

*** X.21 feature**. A feature that allows a system to be connected to an X.21 network.

X.25. In data communication, a recommendation of the CCITT that defines the interface between data terminal equipment and packet switching networks.

*** X.25 feature**. A feature that allows a system to be connected to an X.25 network.

X.25 NCP Packet Switching Interface (NPSI). An IBM licensed program that allows SNA programs to communicate with SNA equipment or non-SNA equipment over packet-switched data networks. In addition, the product may be used to attach native X.25 equipment to SNA host systems without a packet network.

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Reader's Comments

IBM VSE/Enterprise Systems Architecture
Installation
Version 1 Release 1

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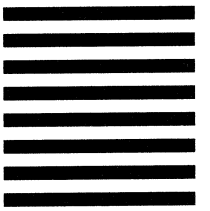

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D-7030 Boeblingen
Federal Republic of Germany

Name

Address

Company or Organization

Phone No.

Reader's Comments
SC33-6504-00

Cut or Fold
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Fold and Tape | **Please do not staple** | Fold and Tape

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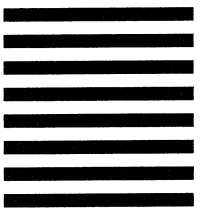

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SC33-6504-00

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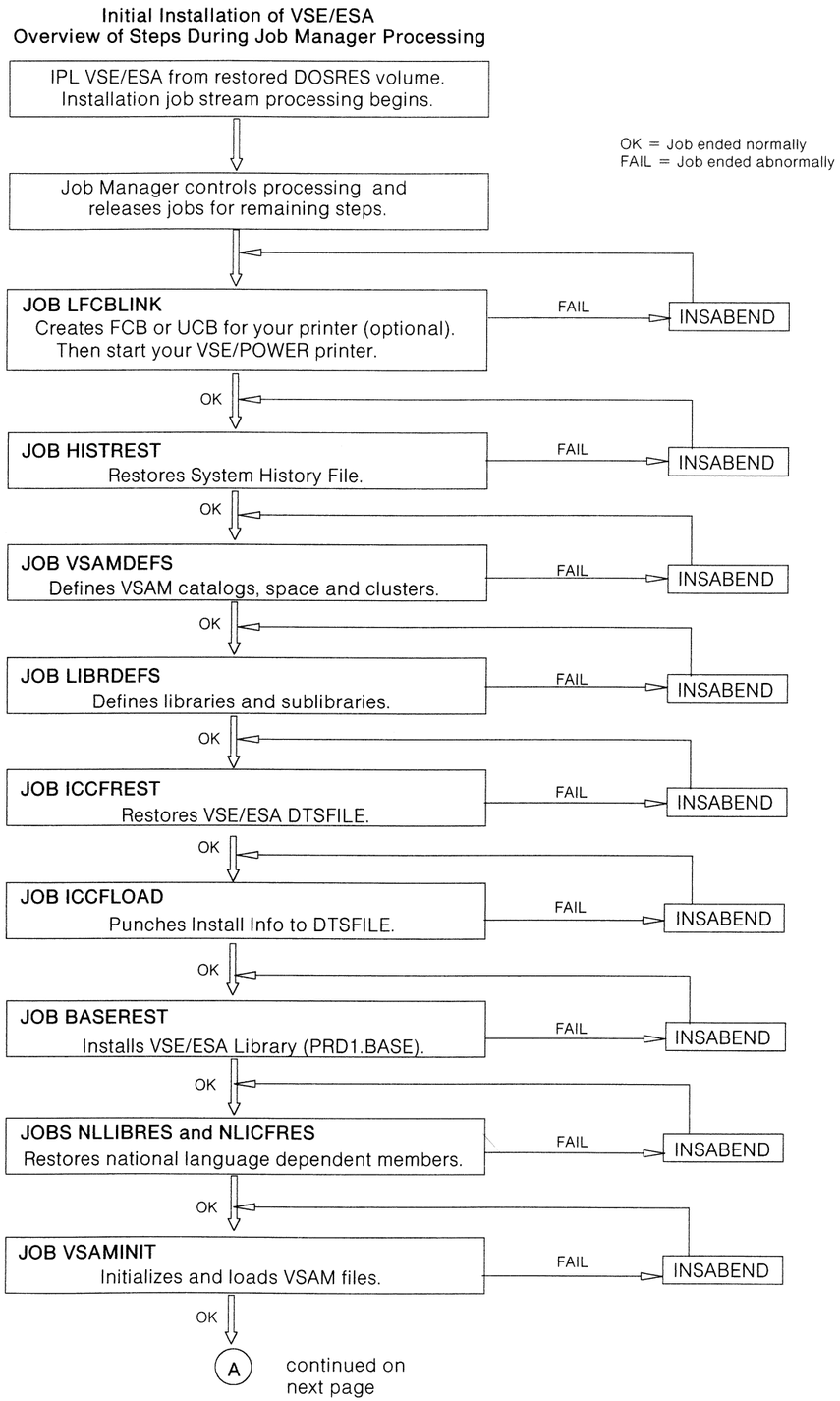
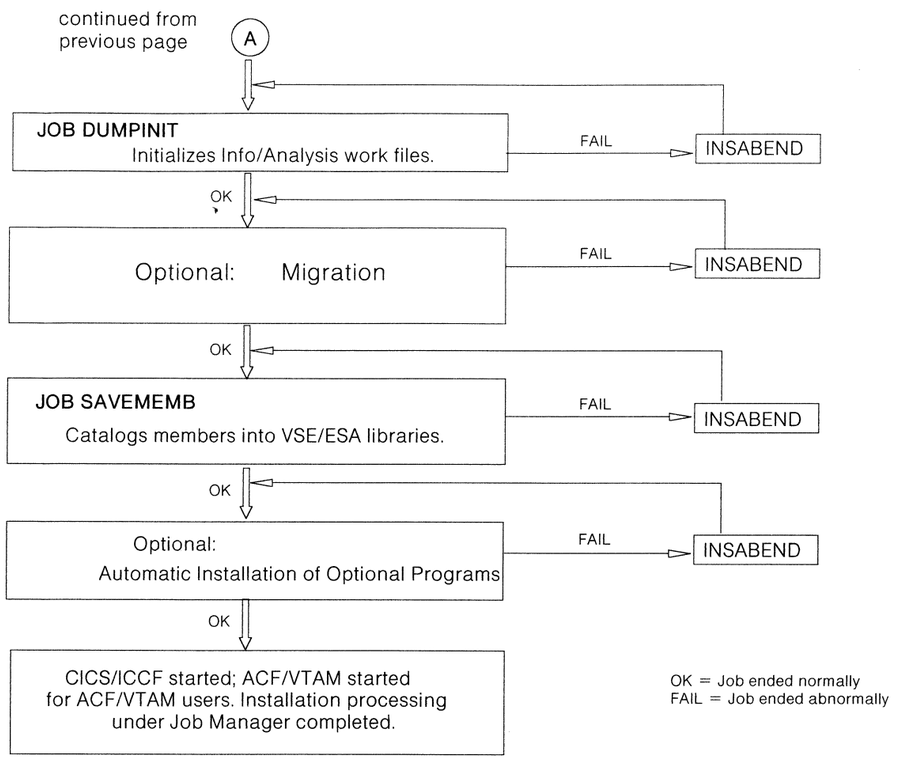




Error Handling

If one of the above job steps fails, a message will ask whether you want to resume, reset or exit.
To overcome a suspected software problem, perform the following steps:

1. Enter 0 exit. Job Manager Processing stops. The abended job is flagged as incomplete. Analyze and fix the problem.
2. Restart the Job Manager by entering r rdr, insabend.
3. 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:

1. Enter 0 exit. Job Manager Processing stops. The abended job is flagged as incomplete. Analyze and fix the problem.
2. Restart the Job Manager by entering r rdr, insabend.
3. 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.
4. Enter 0 xxxxxxx, where xxxxxxxx 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.

Default Selection Panel Hierarchy for System Administrator

* Selection Panel

Selection Path Example: 372 B/R Library Objects

Normal Path:
Select 3 in VSE/ESA Function Selection
Select 7 in Operations
Select 2 in Backup/Restore

Fast Path:
Select 372 in VSE/ESA Function Selection

VSE/ESA Function Selection

* 1 Installation
* 2 Resource Definition
* 3 Operations
* 4 Problem Handling
* 5 Program Development
6 Command Mode
* 7 CICS Supplied Transactions

1 Installation

* 1 Install Programs - Stacked V2 Format
2 Install Programs - Non-stacked V2 Format or V1 Format
3 Install Generation Feature
* 4 IBM Service
5 Install Network Tape
6 Print Soft Copy Information

11 Install Programs (V2 Format)

1 Prepare for Installation (Stacked Tapes Only)
2 Install Product(s) from Tape

14 IBM Service

1 Verify Location of Involved Serviced Files
* 2 PTF Handling
3 Apply APAR/Local Fix
4 Undo APAR/Local Fix
* 5 Fast Service Upgrade
* 6 Retrace History File
7 Personalize History File
8 Change Nicknames

142 PTF Handling

1 Print Service Document
2 Analyse and Apply PTFs from Service Tape
3 Apply PTFs from Service Tape
4 Remove PTF Records from History File

145 Fast Service Upgrade

1 Down-Level Check
2 FSU Preparation
3 FSU Installation

146 Retrace History File

1 Retrace
2 Retrace Products
3 Retrace Components
4 Retrace PTFs
5 Retrace APARs
6 Retrace Members
7 Retrace Component ID
8 Lookup PTF/APAR

2 Resource Definition

* 1 User Interface Tailoring
2 File and Catalog Management
3 Display VTOC
* 4 Hardware Configuration and IPL
5 Maintain VTAM Application Names
6 Maintain VTAM Startup Options
7 Maintain Dynamic Partitions

21 User Interface Tailoring

1 Maintain User Profiles
2 Maintain Selection Panels
3 Maintain Application Profiles
4 Maintain Synonyms
5 Unlock Rejected Terminals

24 Hardware Configuration and IPL

1 Configure Hardware
2 Create Network Tape
3 Tailor IPL Procedure
4 Maintain Printer FCB
5 Catalog Printer UCB

3 Operations

1 System Console
2 Manage Batch Queues
3 Display Active Users/ Send Message
4 Enter News
5 Retrieve Message
* 6 System Status
* 7 Backup/Restore
* 8 Personal Computer Move Utilities
* 9 Transfer Files and Jobs to Another System

36 System Status

1 Display System Activity
2 Display Channel and Device Activity
3 Display Storage Layout

37 Backup/Restore

* 1 B/R VSAM Objects
* 2 B/R Library Objects
3 Backup History File
4 Restore History File
* 5 Backup from Disk to Tape
* 6 Restore from Tape to Disk
7 Copy from One Disk to Another

38 Personal Computer Move Utilities

1 List and Process User Files in Host Transfer File
2 Move VSAM Files to Host Transfer File
3 Move Files from Host Transfer File to VSAM
4 Move ICCF Members to Host Transfer File
5 Move Files from Host Transfer File to ICCF
6 List all Defined User IDs
7 PC File Transfer

39 Transfer Files/Jobs to Another System

1 Transfer Files to Another System
2 Retrieve Files from Another System
3 Submit a Job to Another System

4 Problem Handling

1 Online Problem Determination
2 Inspect Message Log
3 Storage Dump Mgmt.
4 Inspect Dump Mgmt. Output
5 Retrace History File
* 6 Dump Program Utilities

45 Retrace History File

1 Retrace
2 Retrace Products
3 Retrace Components
4 Retrace PTFs
5 Retrace APARs
6 Retrace Members
7 Retrace Component ID
8 Lookup PTF/APAR

5 Program Development

1 Program Development Library
2 Create Application Jobstream

7 CICS Supplied Transactions

1 Invoke CEMT
2 Invoke CEDA
3 Invoke CEMS

371 Backup/Restore VSAM Objects

1 Export VSAM File
2 Import VSAM File
3 Backup VSAM File
4 Restore VSAM File
5 Export-Disconnect a User Catalog
6 Import-Connect a User Catalog
* 7 Copy In Catalog
* 8 Copy Out Catalog

3717 Copy In Catalog

1 Restore the Master Catalog from Tape
2 Restore the Master Catalog from Disk
3 Restore a User Catalog from Tape
4 Restore a User Catalog from Disk

3718 Copy Out Catalog

1 Backup the Master Catalog to Tape
2 Backup the Master Catalog to Disk
3 Backup a User Catalog to Tape
4 Backup a User Catalog to Disk

372 Backup/Restore Library Objects

1 Backup VSE Library on Tape
2 Restore VSE Library from Tape
3 Scan VSE Library Backup Tape
4 Backup ICCF Library on Tape
5 Restore ICCF Library from Tape

3724 Backup ICCF Library on Tape

1 Backup the DTSFILE (all ICCF Libraries)
2 Archive all ICCF Libraries on Tape
3 Export ICCF Library Members to Tape

3725 Restore ICCF Library from Tape

1 Restore the DTSFILE (all ICCF Libraries)
2 Restore one ICCF Library
3 Restore a Member of an ICCF Library
4 Import ICCF Library Member

375 Backup from Disk to Tape

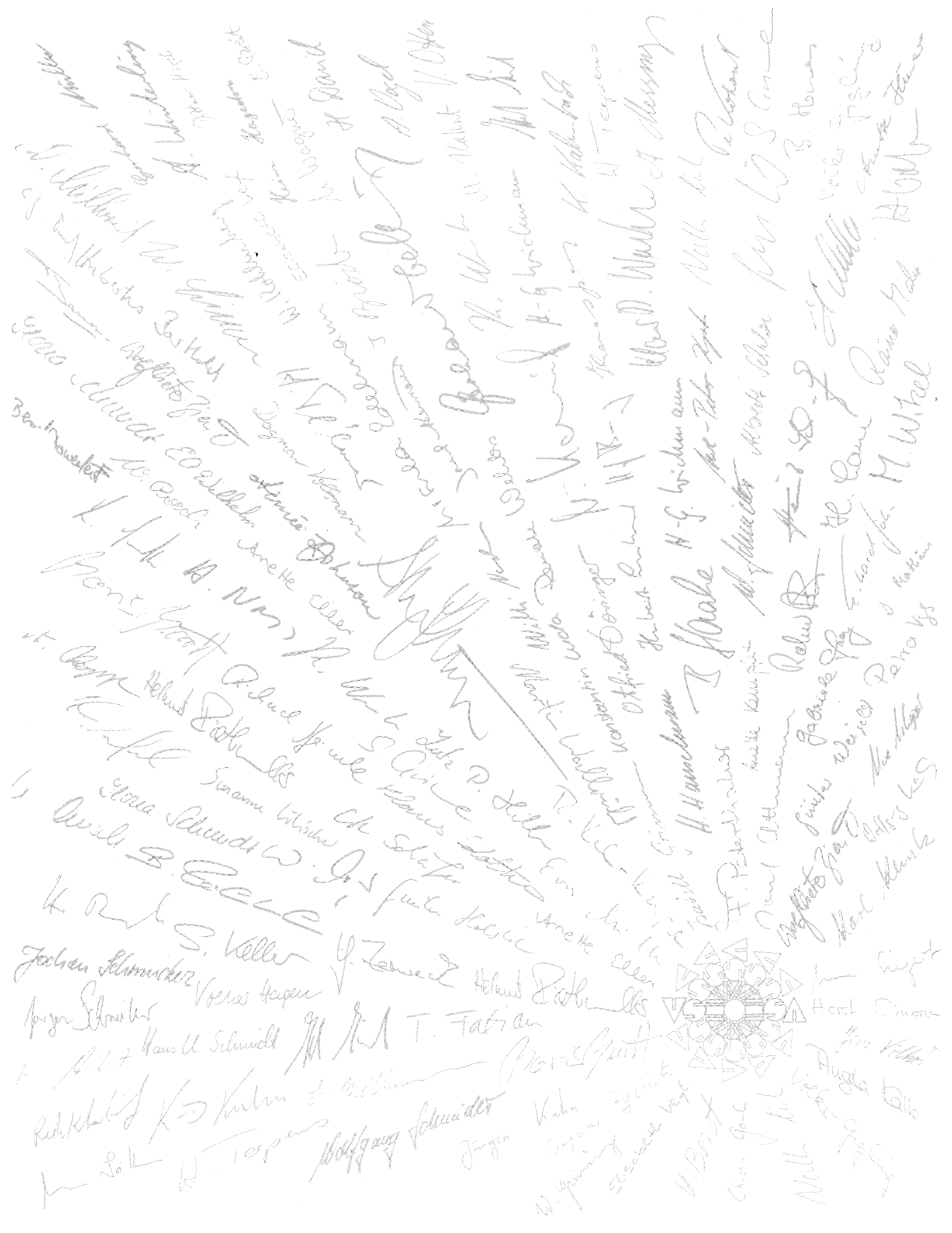
1 Backup a Volume
2 Backup a File

376 Restore from Tape to Disk

1 Restore a Volume
2 Restore a File

377 Copy from One Disk to Another

1 Copy a Volume
2 Copy a File



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Program Number: 5750-ACD

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