

# **PVM SNA Gateway for VSE/ESA Implementation Guidelines**

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**Take Note!**

Before using this information and the product it supports, be sure to read the general information under "Special Notices" on page ix.

**First Edition (September 1994)**

This edition applies to Version 2 Release 1.1 of VM/Pass-Through Facility, Program Number 5684-100 for use with the Virtual Machine/Enterprise System Architecture\* (VM/ESA\*), Program Number 5684-112.

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## Abstract

This document describes how to use the VM/Pass-Through Facility to allow logon to VM from VSE/VTAM\* owned terminals in a VM/VSE environment. It provides information about the implementation of the PVM SNA gateway and how to use it in test or production environments.

This document was written for the system planner and system programmer. Some knowledge of VM/ESA and VSE/ESA\* is assumed.

(75 pages)



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## Special Notices

This publication is intended to help the system planner and system programmer to plan and to implement the PVM SNA gateway, which allows VSE VTAM terminals to log on to VM in a VM/VSE environment. Using the PVM SNA gateway can make VM/VTAM superfluous, when VSE/VTAM is installed. The information in this publication is not intended as the specification of any programming interfaces that are provided by the VM/Pass-Through Facility Version 2, program number 5684-100. See the PUBLICATIONS section of the IBM Programming Announcement for the VM/Pass-Through Facility Version 2, program number 5684-100, for more information about what publications are considered to be product documentation.

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ES/9000	IBM
Virtual Machine/Enterprise System	VM/ESA
VSE/ESA	VM/XA
VTAM	



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## Preface

This document is intended to help the system planner and system programmer to implement the PVM SNA gateway, which allows VSE/VTAM owned terminals to log on to VM.

This document contains a description of the installation and use of PVMG/VSE small programming enhancement (SPE) to VM/Pass-Through Version 1 Release 1 Modification 1, program number 5684-100. It is intended to help technical people responsible for installing and maintaining VM/VSE systems. PVMG/VSE SPE adds PVM SNA Gateway services to VSE.

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## How This Document is Organized

The document is organized as follows:

- Chapter 1, "Introduction"

This chapter explains the new PVM function and describes the hardware and software environment we used in our project.

- Chapter 2, "Functional Characteristics"
- Chapter 3, "Installation"
- Chapter 4, "Customization"
- Chapter 5, "Implementation and Usability"

This chapter describes how to use the PVM SNA gateway for VSE/ESA with supervisor mode=VMESA or supervisor mode=VM.

- Chapter 6, "Access to PVMG/VSE SPE for a MODE=ESA Supervisor"

This chapter describes how to use the PVM SNA gateway for VSE/ESA with supervisor mode=ESA.

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## Related Publications

The publications listed in this section are considered particularly suitable for a more detailed discussion of the topics covered in this document.

- *VM/Pass-Through Facility-Administration and Operation*, SC24-5557-01
- *VM/Pass-Through Facility-Messages*, SC24-5648-01
- *Virtual Machine/Enterprise System Architecture-Service Guide*, SC24-5527-03
- *Virtual Machine/Enterprise System Architecture-Planning and Administration*, SC24-5521-03
- *Virtual Machine/Enterprise System Architecture-VMSES/E Introduction and Reference*, SC24-5444-03
- *IBM/VSE/Enterprise System Architecture-Administration*, SC33-6505-01
- *IBM/VSE/Enterprise System Architecture-Installation and Service*, SC33-6504-02

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## Chapter 1. Introduction

This manual describes a series of investigations executed during the “Single VTAM for the VM/VSE environment” project at the ITSO Center Boeblingen. The main focus of this project is to evaluate the new VM/Pass-Through Facility support, which will permit VM/VSE customers to utilize only one VTAM program (VTAM/VSE program) in their environment.

---

### 1.1 What is PVM?

VM/Pass-Through Facility (PVM) is a communications program used by VM users to access other systems. PVM lets you access, logon, and use another system in defined PVM and System Network Architecture (SNA) networks as though your display station was directly connected to that system. All you need is a user ID (ID is short for identifier) for the system you want to access. The system you access through PVM is called a **target** system. Once you are logged on to a target system, you may communicate with that system as though you were working on that system.

PVM also provides support for application-to-application communications between VM host applications and personal workstations or other VM host applications. Each VM host application that participates in an application session must have access to a PVM Version 2 virtual machine.

PVM runs in its own Conversational Monitor System (CMS) virtual machine. As with other virtual machines, PVM is identified by **user ID**. Because user IDs for PVM can be different from system to system, the term **PVM user ID** refers to a PVM virtual machine.

The PVM major components are:

**PVM** This PVM component is the server that allows users to pass through to other applications and systems.

**PASSTHRU** PASSTHRU provides single session support for CMS users.

**PVMG** The PVMG server runs on its own disconnected virtual machine. PVMG is a Virtual Telecommunications Access Method (VTAM) application, running on VM's Group Control System (GCS) component, that serves as a communications gateway linking the PVM server machine and the VTAM System Network Architecture (SNA) network. You do not need to install this server if your site does not need to support PVM access to SNA users and applications under VM/VTAM.

***Even though we installed PVMG, we didn't connect it to VM/VTAM, because we were using the PVMG/VSE SNA Gateway support. All SNA terminals were under the control of the VSE/VTAM network.***

**PVMG/VSE** The PVMG/VSE SPE(Small Program Enhancement) is a new VTAM application that runs in VSE. It offers *the same services* as PVMG under VM, but it is running on VSE. In that way VSE/VTAM users may access VM/CMS applications or users, and VM users may access VSE/VTAM applications. You do not need to install the VM/VTAM program product to run this

component, only VSE/VTAM is necessary. With PVMG/VSE you have terminal emulation access from the VSE/VTAM owned terminals to the VM/ESA system.

**MPVM**

MPVM provides simultaneous multiple session support for CMS users.

---

## 1.2 PVMG/VSE SPE Description

The PVM SNA Gateway services for VSE, also known as the PVMG/VSE SPE, provide the VM/Pass-Through Facility Gateway (PVMG) for the VM component of PVM 2.1.1 in a VSE operating system which is a second level guest on VM/ESA. All appropriate functions of the current PVMG component are carried over to the VSE support. Most commands and configuration file records currently available on the VM environment are also available on the VSE environment. Only those which are VM specific are disabled. The PVMG/VSE SPE function allows easy access between a first level VM machine and a second level VSE machine running as a guest virtual machine. VM users may access the VSE machine without the need of dialing to VSE. Users whose terminals are controlled by VSE/VTAM now can have easy access to their VM user IDs without the need of a second VTAM running on VM.

PVMG/VSE SPE support satisfies the requirement by customers to reduce the cost and complexity of maintaining their VM accounts with VSE guests while maintaining console or terminal support between the VSE guest and VM. The new function enables VSE guest users direct access to VM terminals. This support is, however, limited to VM terminal access only, and does not provide for LU 6.2 communication between VSE and VM that VTAM on VM provides.

You can see in Figure 1 on page 3 a diagram showing the functional connection of these components. On the VM side the PVM server is used to access other PVM connected systems. To access the SNA world under VM, we need a VM/VTAM server. PVMG is the gateway from PVM to VM/VTAM.

On the other hand, if SNA users are handled by VSE/VTAM, the gateway function between PVM and VSE/VTAM is done by PVMG/VSE. In this way you don't need to have a VM/VTAM installed to allow SNA users to access a CMS virtual machine, it's done via VSE/VTAM and PVM.

**Note: The SPE is available for PVM 2.1.1 only and will run on VSE/ESA 1.3.x**



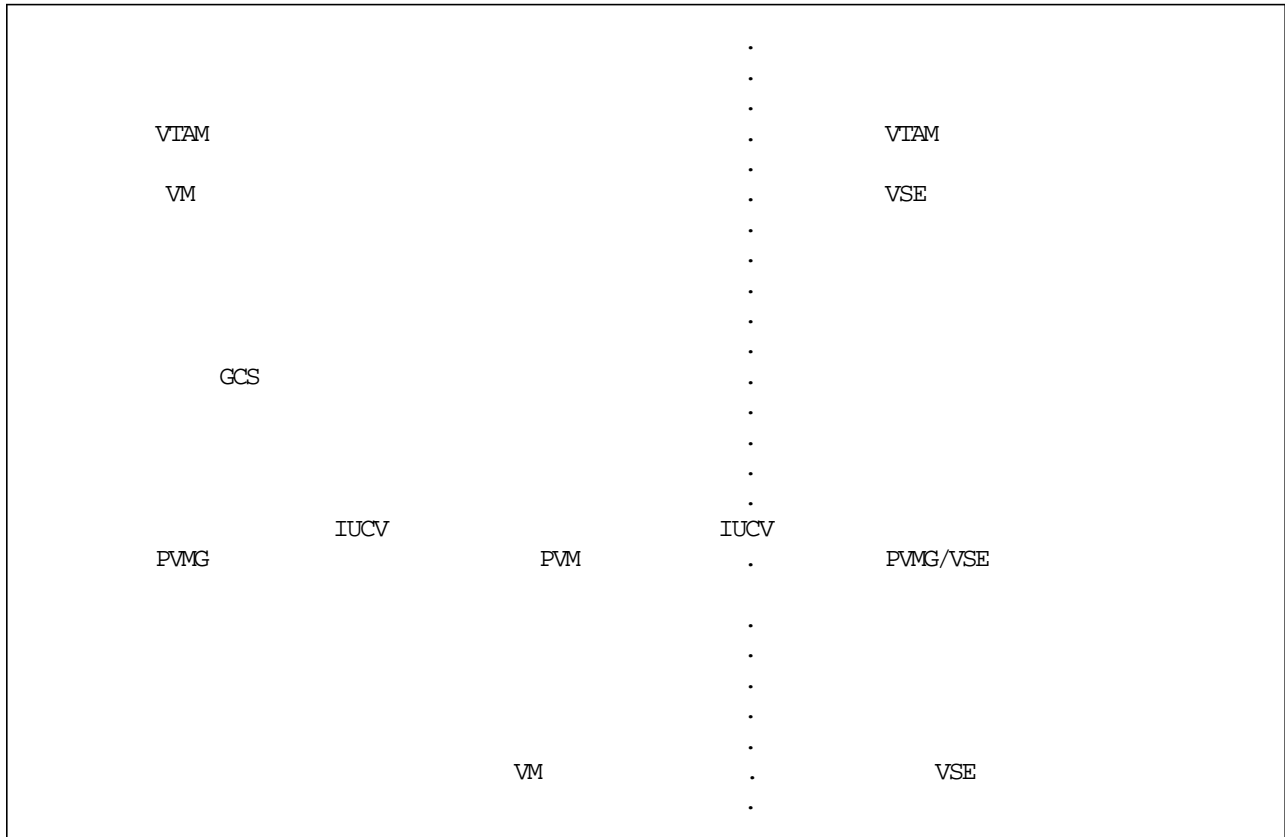


Figure 1. Functional Description. This diagram shows how both PVMG and PVMG/VSE act as Gateway or Interfaces. We used only VSE/VTAM in our project.

### 1.3 Software Requirements

PVM 2.1.1 is supported on VM/ESA 1.0 and higher.

An installation must be running on a supported VM release, have installed the VSE/ESA 1.3 programming products as a VM guest, and be running the 2.1.1 release of PVM to utilize PVMG/VSE SPE.

PVMG/VSE SPE will run on a VSE/ESA 1.3 guest machine of VM/ESA 1.0 and above.

The **only** two VSE supervisor modes in which PVMG/VSE SPE runs are MODE=VM and MODE=VMESA.

### 1.4 Test Environment

For our evaluation of the new PVMG/VSE SPE support we used the following hardware and software.

## 1.4.1 Hardware

All the evaluations were executed on an IBM ES/9000\* model 9121-260. IBM 3390 and 3380 DASD were also used for our evaluation. For terminal control a 3174-11L was used.

## 1.4.2 Software

These are the software products used in this project:

<b>VM/Pass-Through Facility</b>	2.1.1 + RSU 9401 + UV90727/UV90730
<b>VM/ESA</b>	1.2.1 + RSU 9401
<b>VSE/ESA</b>	1.3.4

The VM/ESA 1.2.1 is running as the main operating system on the IBM ES/9000 model 9121-260.

VM/Pass-Through Facility was installed as a VM/ESA program product and VSE/ESA 1.3.4 was installed as a VM/ESA guest operating system.

---

## Chapter 2. Functional Characteristics

The PVM SNA Gateway services for VSE, PVMG/VSE SPE, will run on a VSE/ESA 1.3 guest machine on VM/ESA 1.0 and above. The **only** two VSE supervisor modes in which PVMG/VSE SPE will run are **MODE=VM** and **MODE=VMESA**.

The PVMG/VSE SPE function is very similar, almost identical, to the PVMG component of the VM/Pass-Through Facility. The description for this function can be found in the *VM/Pass-Through Facility Administration and Operation*, *VM/Pass-Through Facility logic* and *VM/Pass Through Facility Messages* manuals.

Since the information and description about PVMG/VSE SPE support is not yet included in the VM/Pass-Through manuals mentioned above, this document will include such information as is missing in the manuals.

---

### 2.1 PVMG vs PVMG/VSE

The following list summarizes the differences between PVMG and PVMG/VSE.

1. Changes in some specific configuration file records for PVMG/VM, please refer to 2.2, "Configuration File Record Changes."
2. Changes in some specific PVMG/VM commands, please refer to 2.3, "Command Changes" on page 7.
3. The addition of new specific VSE error messages, please refer to 2.4, "New Versions of Existing Messages" on page 8.
4. The installation of the PVMG/VSE support for VM/Pass-Through Facility V2.1.1 (files PVMGVSE JCL and PVMGVSE JOB) onto the VSE guest machine, please refer to 3.2.5, "VSE Service Installation" on page 15.

---

### 2.2 Configuration File Record Changes

The PVMG configuration file is used to define the PVMG connections to VTAM and to PVM. This file contains lines called records. These records tell PVMG how VTAM and PVM are connected and they are processed when PVMG is initialized.

This section will describe the changes in the PVMG configuration file records from the VM/ESA environment to the VSE/ESA environment.

#### 2.2.1 Disable Records

The following configuration file records will be disabled in the PVMG/VSE configuration file since they are VM dependent only and also because there is not a corresponding VSE function.

If any of these records are encountered, the standard EFG011E message (Invalid configuration type record) will be displayed at the VSE operator's console.

- **DUMP**

A region can be taken in VSE to dump PVMG/VSE.

- **MSGNOH**

This record tells PVMG to issue messages using the CP MSGNOH command rather than the CPMSG command. Messages are written to the VSE operator's console using WTOs.

- **OPID**

PVMG/VSE will use the NONE option of the OPID record.

- **PVMPROP**

Disabled due to the differences in the VSE operating system and SMSG not available.

## 2.2.2 Configuration File Example

There is a sample PVMG configuration file in the *VM/Pass-Through Facility Administration and Operation* manual, section "Defining Your PVMG Configuration." This sample can be used for planning and creating the PVMG/VSE configuration file. Below, Figure 2 shows a sample of the *link* statement between VM/PVM and PVMG/VSE.

The following is part of the configuration file for the PVM user ID.

```
*****
* Configuration file for the PVM side
*****
LANG AMENG
.
LOCAL BOEVMIS1
.
LINK * VSETEST IUCV USER VSETEST
.
.
```

Figure 2. Sample Configuration File for the PVM Side

The following figure, shows part of the configuration file for the PVMG/VSE on the VSETEST user ID.

```
*****
* Configuration file for the PVMG/VSE Side
*****
LANG AMENG
.
LOCAL VSETEST
.
LINK * BOEVMIS1 IUCV USER PVM
.
.
.
```

Figure 3. Sample Configuration File for the PVMG/VSE Side

---

## 2.3 Command Changes

This section will describe the changes in the PVMG command set from the VM/ESA environment to the VSE/ESA environment.

### 2.3.1 Disable Commands

The following commands will be disabled in PVMG/VSE since they are VM dependent only and also because there is not a corresponding VSE function.

If any of these commands are encountered, the standard EFG045E message (*command* is not a valid command) or EFG056E message (Invalid subcommand *subcommand* on *command* command) will be returned.

- **DISC**

You can disconnect the VSE/ESA guest virtual machine by issuing #CP DISC, but basically an operator doesn't usually disconnect from the VSE/ESA console.

- **INIT**

JCL is created and executed to start the PVMGVSE JCL file.

- **MSG**

An MSG message to a VSE user will be disabled in PVMG/VSE. An MSG message to a VM user within the PVM network will still be allowed.

- **SPOOL**

Spooling is not valid under VSE/ESA.

- **TRACE GTRACE**

GTRACE is a specific facility of GCS, all the PVMG tracing will still be available.

- **SMSG**

SMSG to PVMG/VSE has been disabled. Commands can be issued to PVMG from the VSE/ESA console or by using the CMD command in the PVM network.

### 2.3.2 Issuing Commands to PVMG/VSE

Commands from the PVM network can be issued to PVMG/VSE using the CMD command. The following methods should be used in order to issue commands from the VSE/ESA operator's console:

- **MSG** *partition id*

Where *partition id* is whatever partition the PVMG/VSE code is running in. VSE/ESA issues a message asking for a reply at which time the PVMG command can be issued.

- **MSG** *partition id*, **DATA=***command*

Where *partition id* is whatever partition the PVMG/VSE code is running in, and *command* is the PVMG command without any command prefix as is required on a GCS console.

---

## 2.4 New Versions of Existing Messages

This section will describe the new versions of PVM messages. Existing PVM messages are documented in the *VM/Pass-Trough Facility Messages*, manual SC24-5648.

---

**047E**      **Return code *rc* from GETMAIN, Descriptor code *dc*Return code *rc* from GETVIS, Descriptor code *dc***

**Module:** PVMG

**Explanation:** An error occurred when PVMG/VM issued the GETMAIN macro or PVMG/VSE issued the GETVIS macro to request storage.

**System Action:** PVMG processing continues if the storage was for a non-critical function. If it could not allocate storage for a critical function, such as a line driver, then PVMG terminates.

**Programmer Response:** Check the storage requirements and increase the size of the PVMG or VSE/ESA virtual machine, if necessary. If the problem continues, note the codes indicated in the message and contact your IBM service representative.

---

**535E**      **Return code *rc* from IUCVCOM macro, request function *keyword*Return code *rc* from VSIUCV macro, request function *keyword***

**Module:** PVMG

**Explanation:** The function requested on the IUCVCOM or VSIUCV macro failed with the indicated return code.

**System Action:** None.

**Programmer Response:** None.

---

## Chapter 3. Installation

This chapter describes the major steps we followed during the installation of PVMG/VSE SPE.

1. We installed the VM/Pass-Through Facility 2.1.1 on a VM/ESA 1.2.1 system.
2. Since we had to install PVMG/VSE as a PTF to PVM, we next applied the PTF. (In the meantime RSU 9402 is available which contains PVMG/VSE.)

As a result of this installation two files were obtained, **PVMGVSE JCL** and **PVMGVSE JOBSAMP**.

3. We then installed the files obtained in the previous step on a VSE/ESA 1.3.4 system.

---

### 3.1 PVM VM Installation

This section describes items that have been considered during VM/Pass-Through Facility installation.

Customers planning this, should consider the following:

- VM/Pass-Through Facility 2.1.1 installation has been done following the VMSES/E standard installation procedures, described in the *Program Directory for VM/Pass-Through Facility* document.
- P684100E is the default name for the PVM installation user ID, but this is not a "must". You can choose any user ID for PVM. But if you select MAINT, then PPF (Product Parameter File) overrides are needed, to resolve minidisk conflicts.
- P684100E user ID, needs R/W access to MAINT's 51D disk.

**Note:** If you find that there is contention for write accesses to the 51D disk, you can eliminate it by converting the Software Inventory from minidisk to the Share File System (SFS). See the VMSES/E Introduction and Reference manual.

- During the installation process, default parameters have being used unless otherwise specified.

**Note:** Please refer to Appendix A, "VM/ESA Virtual Machine Definitions" on page 43 for samples of PVM and P684100E directory entries.

---

### 3.2 PVM Service

PVMG/VSE support is provided as an SPE therefore, the customer will be required to order the appropriate PTF. The PTF number is UV90730 and it has PTF UV90727 as a prerequisite.

PTF UV90727 adds some interesting line drivers to PVM. The main addition was a PVM peer to peer TCP/IP line driver but it also includes an SNA 3270 line driver. S3270 will drive a 327x control unit using SNA protocols (terminal support only). What this buys an installation is that they can have multiple terminal sessions per control unit port and it can assist in VTAM load balancing.

This SPE is only available for PVM 2.1.1 and runs on VSE/ESA 1.3.x.

### 3.2.1 VM Service Application

In our installation, the current PVM RSU level available was RSU 9401, which didn't contain the PTF mentioned above (included in RSU 9402). It was necessary to install two PTFs in COR format, UV90730 containing the PVMG/VSE SPE, and its prerequisite UV90727. The next RSU level will contain the SPE PTF.

The P684100E installer user ID is accessing two of MAINT's most important minidisks, 5E5 which contains VMSES/E Code, and 51D containing VMSES/E Software Inventory Files. The latter must be accessed in write mode given that it will be updated during the service process.

The installation of both PTFs was done using VMSES/E servicing support of PVM 2.1.1. It now owns a Product Parameter File **5684100E \$PPF**, which is located on MAINT's 51D minidisk.

All VMSES/E commands are issued pointing to that PPF file. For example to access all PVM minidisks you should do the following:

**vmfsetup 5684100E pvm|pvmsfs**

**Note:** Use component name **pvm** if the product is installed on minidisks or **pvmsfs** if the product is installed in SFS. We install PVM using minidisks.

---

```
VMFSET2760I VMFSETUP processing started
VMFUTL2205I Minidisk|Directory Assignments:
      String  Mode  Stat  Vdev  Label/Directory
VMFUTL2205I LOCALSAM  E    R/W  2C2   PVM2C2
VMFUTL2205I APPLY    F    R/W  2A6   PVM2A6
VMFUTL2205I          G    R/W  2A2   PVM2A2
VMFUTL2205I DELTA    H    R/W  2D2   PVM2D2
VMFUTL2205I BUILD0   I    R/W  400   PVM400
VMFUTL2205I BUILD4   J    R/W  404   PVM404
VMFUTL2205I BUILD6   K    R/W  29D   PVM29D
VMFUTL2205I BASE     L    R/W  2B2   PVM2B2
VMFUTL2205I -----  A    R/W  191   PVM191
VMFUTL2205I -----  B    R/O  5E5   MNT5E5
VMFUTL2205I -----  D    R/O  51D   MNT51D
VMFUTL2205I -----  S    R/O  190   MNT190
VMFUTL2205I -----  Y/S  R/O  19E   MNT19E
VMFSET2760I VMFSETUP processing completed successfully
READY;
```

---

Figure 4. Sample VMFSETUP Command Console Output

### 3.2.2 Prepare to Receive Service

The component name used throughout these servicing samples is **pvm**, ppfname is **5684100e** and the installation user ID is **P684100E**.

Once you have logged on P684100E with write access to MAINT's 51D, and read access to MAINT's 5E5, you need to have the CORrective tape mounted and attached to P684100E as 181. Proceed as follows:

**vmfrec info**

The info option loads the documentation and displays a list of all products on the tape.



---

```

VMFREC2195I VMFREC INFO ( MEMOS LOG ENV VLST2739
VMFREC2760I VMFREC processing started
VMFREC1852I Volume 1 of 1 of COR ENVELOPE created on 23 June 94
VMFREC2159I Loading COR 4623 to 191 (A)
VMFREC2159I Loading COR DOCUMENT to 191 (A)
VMFREC2159I Loading 5684100E MEMO to 191 (A)
VMFREC2160I There are 3 tape file(s) for 5684100E PVM on volume 1
VMFREC2760I VMFREC processing completed successfully
READY;

```

---

1. Review the receive message log (\$VMFMRD \$MSGLOG). If necessary correct any problems before going on.

***vmfview receive***

2. Read the product memo 5684100E MEMO before going on. These memos are loaded to the A-disk.

3. Set up the correct minidisk access order.

***vmfsetup 5684100E pvm***

---

```

VMFSET2760I VMFSETUP processing started
VMFUTL2205I Minidisk|Directory Assignments:
      String  Mode  Stat  Vdev  Label/Directory
VMFUTL2205I LOCALSAM  E    R/W  2C2  PVM2C2
VMFUTL2205I APPLY    F    R/W  2A6  PVM2A6
VMFUTL2205I          G    R/W  2A2  PVM2A2
VMFUTL2205I DELTA    H    R/W  2D2  PVM2D2
VMFUTL2205I BUILD0   I    R/W  400  PVM400
VMFUTL2205I BUILD4   J    R/W  404  PVM404
VMFUTL2205I BUILD6   K    R/W  29D  PVM29D
VMFUTL2205I BASE     L    R/W  2B2  PVM2B2
VMFUTL2205I -----  A    R/W  191  PVM191
VMFUTL2205I -----  B    R/O  5E5  MNT5E5
VMFUTL2205I -----  D    R/O  51D  MNT51D
VMFUTL2205I -----  S    R/O  190  MNT190
VMFUTL2205I -----  Y/S  R/O  19E  MNT19E
VMFSET2760I VMFSETUP processing completed successfully
READY;

```

---

4. Clear the alternate APPLY disk for the new service. This command will copy the contents of the alternate apply disk to the production apply disk.

***vmfmrchk 5684100E pvm apply***

---

```

VMFMRD2760I VMFMRCHK processing started
VMFMRD1937I Merge of APPLY started
VMFMRD1938I Merging APPLY 2A6 to 2A2
VMFMRD2065I APPLY 2A2 is now 3 percent full
VMFMRD1939I Merge of APPLY completed
VMFMRD1851I Processing user exit BUILDDDT to clean up
VMFMRD2760I VMFMRCHK processing completed successfully
READY;

```

---

5. Review the merge message log (\$VMFMRD \$MSGLOG). If necessary, correct any problems before going on.

*vmfview mrd*

### 3.2.2.1 Receive the Service

**Note:** If you are receiving service from Service Link (electronic service) see Appendix A, 'Receiving Service for VMSES Envelopes', in the VM/ESA Service Guide.

#### In our installation we received the PTFs from Service Link

1. Receive the Service

*vmfrec ppf 5684100E pvm*

---

```
VMFREC2195I VMFREC PPF 5684100E PVM ( LOG SRV ENV VPTF2739 APPEND
          SETUP NORECVALL
VMFREC2760I VMFREC processing started
.
.
VMFREC1852I Volume 1 of 1 of COR ENVELOPE created on 23 June 94
VMFREC1851I (1 of 3) VMFRCAXL processing AXLIST
VMFRCX2159I Loading 4 part(s) to DELTA 2D2 (H)
VMFRCX2193I Appending new Apply list 5684100E $APPLIST to the existing
          list on DELTA 2D2 (H)
VMFRCX2193I Appending new Exclude list 5684100E $EXCLIST to the
          existing list on DELTA 2D2 (H)
VMFREC1851I (2 of 3) VMFRCPTF processing PARTLST
VMFRCP2159I Loading 1 part(s) to DELTA 2D2 (H)
VMFREC1851I (3 of 3) VMFRCOM processing DELTA
VMFRC2159I Loading 53 part(s) to DELTA 2D2 (H)
VMFREC2189I Updating Requisite table 5684100E SRVREQT, Description
          table 5684100E SRVDESCT and Receive Status table 5684100E
          SRVRECS with 1 new PTFs from COR 4623
VMFREC1851I Processing user exit BUILDDT to clean up
VMFREC2760I VMFREC processing completed successfully
READY;
```

---

*vmfview receive*

**Note:** The steps shown above are those used when receiving PTF UV90727, we repeat the same process in receiving UV90730.

### 3.2.2.2 Apply the Service

1. Apply the new service

*vmfapply ppf 5684100E pvm*

---

```
VMFAPP2760I VMFAPPLY processing started
VMFAPP1851I Processing user exit BUILDDT to set up
.
.
.
VMFAPP2106I Apply list 5684100E contains 2 PTFs that need to be
        applied and 12 PTFs that are already applied
VMFAPP2115I Validating PTF UV90727
VMFAPP2101I PTF UV90727 has been validated successfully
VMFAPP2115I Validating PTF UV90730
VMFAPP2101I PTF UV90730 has been validated successfully
VMFAPP2105I VMFAPPLY processing completed successfully.
READY;
```

---

2. Review the apply message log (\$VMFAPP \$MSGLOG). If necessary correct any problems before going on.

***vmfview apply***

### 3.2.2.3 Update the Build Status Table

1. Update the Build Status Table with serviced parts.

***vmfbld ppf 5684100E pvm ( status***

---

```
VMFBLD2760I VMFBLD processing started
VMFBLD1851I Processing user exit BUILDDT to set up
.
.
.
VMFSIP2453I Table 5684100E SRVAPPS G is a subset of table 5684100E
        SRVAPPS F
VMFBLD2188I Building 5684100E $PPF on 191 (A) from level $PF90730
VMFBLD1851I Processing user exit BUILDDT to clean up
VMFBLD2760I VMFBLD processing completed successfully
READY;
```

---

### 3.2.2.4 Build Serviced Objects

1. Rebuild VM Pass-Through Facility serviced parts.

***vmfbld ppf 5684100E pvm ( serviced***

2. Review the build message log (\$VMFBLD \$MSGLOG). If necessary, correct any problems before going on.

***vmfview build***

## 3.2.3 Test the New PVM Service

**Note:** At this point you can test the service that was applied. Please refer to “Appendix A, Test the Installation/Service for PVM” of the *VM Pass-Through Facility Program Directory* document for the minimum steps necessary for ensuring that the new code is functional. When the testing is complete go to the next step, **Place Serviced VM Pass-Through Facility into Production.**

### 3.2.4 Place Serviced VM Pass-Through Facility into Production

Placing the PVM code into production is a two step process:

- First the test code is moved from the test build disks to the server production minidisks.
- Then the general user code is placed onto the MAINT 19E minidisk making the new PVM code available to all users.

#### 3.2.4.1 Copy the Server Code to the Production Minidisks

1. Access the disk where the IN2PROD EXEC resides.

```
access 400 e
```

```
in2prod pvm
```

```
logoff
```

#### 3.2.4.2 Copy the PVM Production Code to MAINT's Minidisks

This step is needed so that the new PVM code is available to general users.

1. Logon as MAINT
2. Copy the system Y-disk code from P684100E's 400 disk to Maint's 19E disk

```
link P684100E 400 xxx rr
```

```
access xxx e
```

```
access 19E f
```

```
vmfcopy dvmusi * e = = f (prodid 5684100e% pvm oldd repl
```

```
vmfcopy mpvm exec e = = f (prodid 5684100e% pvm oldd repl
```

```
vmfcopy passthru exec e = = f (prodid 5684100e% pvm oldd repl
```

3. Copy IPCS/Dump Viewing Facility TEXT code from P684100E's 400 disk to Maint's 193 and 493 disk.

```
access 193 f
```

```
vmfcopy help pvm e = = f (prodid 5684100e% pvm oldd repl
```

```
vmfcopy * text e = = f (prodid 5684100e% pvm oldd repl
```

```
access 493 f
```

```
vmfcopy help pvm e = = f (prodid 5684100e% pvm oldd repl
```

```
vmfcopy * text e = = f (prodid 5684100e% pvm oldd repl
```

```
sampnss cms                    This step is executed to define CMS shared  
segment
```

```
ipl 190 cl parm savesys cms This step is executed to save the CMS shared  
segment
```

#### 3.2.4.3 Reinitialize the PVM Server Machine

1. Log on to PVM
2. Shutdown the PVM server machine

```
shutdown
```

3. IPL CMS to reset the server machine

```
ipl cms                    After the server initializes you can disconnect from it.
```

4. Disconnect from the server machine.

***disc***

### 3.2.5 VSE Service Installation

A PVMGVSE JCL file and a PVMGVSE JOBSAMP file as well as some additional new files containing the PVMG/VSE function are shipped with the CORrective service tape, or an RSU, and are targeted for the P684100E user ID's 400 minidisk.

The files included in this APAR are:

- PVMGVSE JCL, which defines the Sublib PRD2.PVMGVSE and catalogs in it the code needed to run PVMGVSE. You may change the LIB.SUBLIB to any name you choose. The Power JCL (Job Control Language) Job statement is set up with DISP=H (which means that the job will be in a HOLD state until it is released for execution).
- PVMGVSE MAP, which contains the layout of the TEXT files included in the PVMGVSE JCL.
- PVMGVSE JOBSAMP, which contains a sample Job stream to run PVMGVSE. Please take note that you will need to change the LIBDEF statement if you changed the default name for the LIB.SUBLIB (PRD2.PVMGVSE) where the code is cataloged. The POWER JCL Job statement is set up with DISP=L (which means that the job will be in the LEAVE state and also will need to be released in order to execute; the difference between LEAVE disposition and HOLD disposition is that in the HOLD disposition the job will be erased from the POWER reader queue after execution). The PVMG/VSE configuration portion of this file will need to be updated at installation time before cataloging it to VSE. Before making any changes to this file, you should take the necessary actions in order to keep a copy of the original PVMGVSE JOBSAMP file by copying it to another file to be named PVMGVSE JOB.

The PVMGVSE JCL and the PVMGVSE JOB files need to be sent to the VSE/ESA guest virtual machine. You can choose from one of the following methods in order to accomplish this:

- Use PNET or what ever method you already have in production to submit these two jobs to the VSE/ESA guest virtual machine.
- Use the SUBVSE EXEC that is shipped with VSE/ESA. For more information on using the SUBVSE EXEC, please see SUBVSE.Z in the "Installing the VM/VSE Interface" chapter of the *VSE/ESA Installation and Service* manual, SC33-6054.
- Use the following steps which were the ones we chose to use in the project.

On the VSE/ESA guest virtual machine operator's console:

1. Specify the class of the virtual reader

```
* cp spool rdr cl * cont nohold eof
```

Class of the VSE/ESA virtual reader will be specified when punching the files from VM.



---

## Chapter 4. Customization

This chapter describes the customization steps we followed in order to evaluate the new PVMG/VSE SPE support. First we will describe the PVM/VM customization and then the PVMG/VSE customization.

---

### 4.1 PVM VM

You can see in Figure 5 a diagram showing the connections between VSE, VSE/VTAM, PVMG/VSE and PVM/VM. When the appropriate customization is done, users connected to VSE/VTAM terminals may logon to VM. PVMG/VSE can appear in the VTAM logon panel (USSTAB) to the VSE user the same way the option for logging on to CICS appears. On the other hand, VM users may access VSE by executing the PASSTHRU exec from CMS, or they can type DIAL PVM from the VM logon panel.

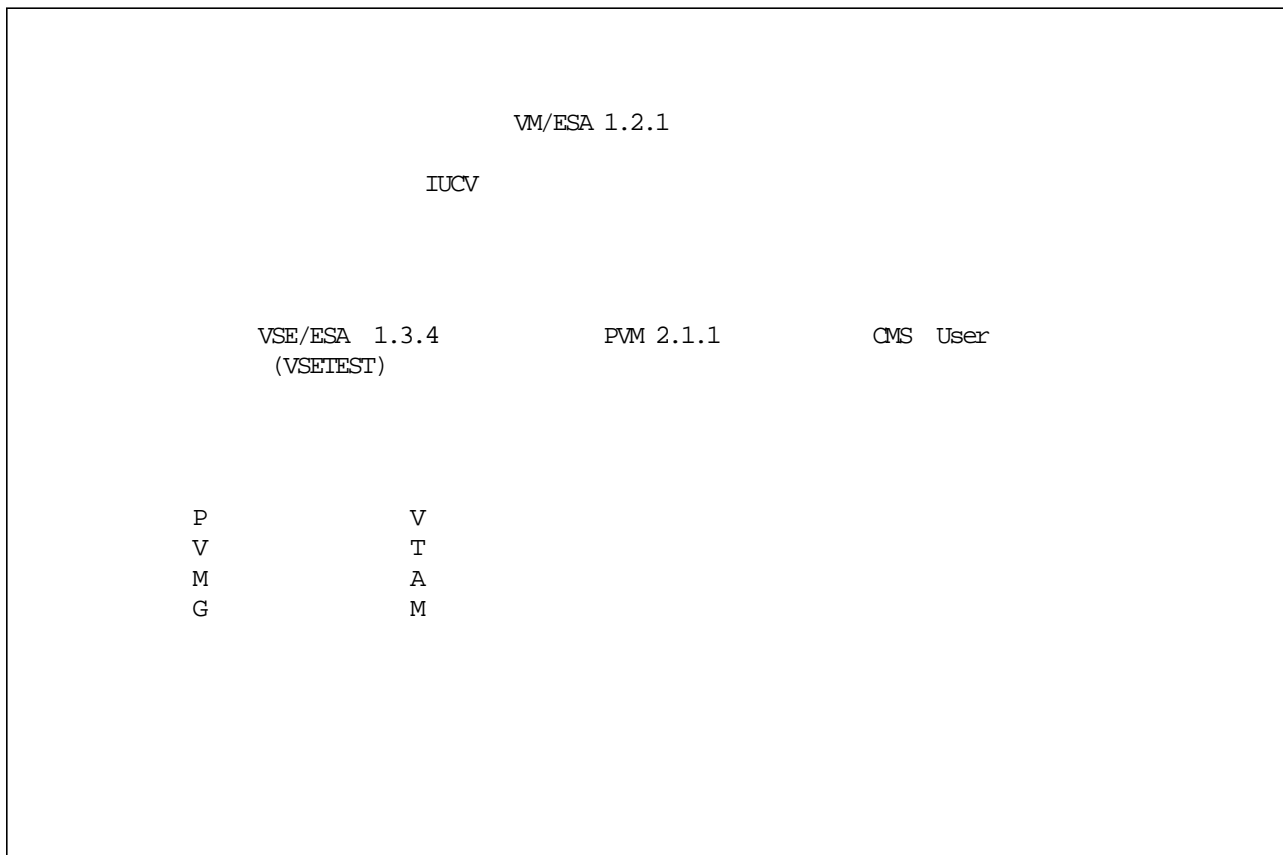


Figure 5. VSE/ESA 1.3.4 under VM/ESA 2.1

#### 4.1.1 BOEVMIS1 CONFIG File

The default name of the main control file of PVM is **PVM CONFIG**. We used **BOEVMIS1 CONFIG** to follow the naming conventions at the ITSO Center Boeblingen. Below is a description of the parameters that need to be customized. You will find a sample of this file in Appendix B, "PVM Definitions for VM/ESA" on page 47.

---

## LANG AMENG

---

The LANG record is used to identify a particular language as the default national language for a node. The IBM provided languages are as follows:

<b>AMENG</b>	American English
<b>KANJI</b>	Japanese
<b>UCENG</b>	Uppercase English
<b>GER</b>	German

---

## XDBC CONS

---

This record is used to exclude certain users on the local system from receiving, in the national language, any PVM messages that, in the national language, contain double-byte characters. The identified users receive those messages in the backup language instead.

The principal reason for the XDBC record is that PVM cannot tell whether the virtual machine consoles of other virtual machines on a VM system are capable of handling double-byte characters.

<b>OP</b>	Identifies the CP Operator
<b>CONS</b>	Identifies the PVM user ID console (display station) and the AUDIT file.
<b>ORIG</b>	Identifies all virtual machine users on the local VM system who are not PVM users, other than the CP operator and the PVM operator, that is, the originators of actions or commands to which PVM messages are sent in response.

---

## LOCAL BOEVMIS1

---

This record defines the name given to the local PVM/VM system.

---

## RESID PVMC

---

Defines a unique resource identifier. If the RESID record is not specified, the resource identifier defaults to the local node identifier specified in the LOCAL record. **PVMC** is the APPC/VM resource identifier for this node. The resource ID must be unique within the system(s) accessing PVM using this name.



---

\* Link to VSETEST virtual machine  
LINK \* VSETEST IUCV USER VSETEST

---

The LINK record is used to define the resource to which PVM/VM should connect. The parameters are as follows:

- The first parameter is an asterisk, and indicates that no line address is provided, since an IUCV connection will be established.
- The second is the name of the NodeID, **VSETEST**.
- The third indicates the type of link, **IUCV**.
- The fourth **USER VSETEST**, points to the user ID of the connecting VSE virtual machine running PVMG/VSE.

---

ROUTE VSEPROD VSETEST

---

The ROUTE record is used to define the next nodal path to a specified target node from the local PVM node. In our system we have a second VSE guest under the same VM/ESA running an ESA supervisor and VSE/VTAM. We named it VSEPROD. The ROUTE record is telling us that to reach VSEPROD we should go through VSETEST.

---

AUTHORIZ OPERATOR BOEVMIS1  
AUTHORIZ MAINT BOEVMIS1

---

The AUTHORIZ record is used to identify users that are authorized to issue the restricted subset of PVM commands.

---

SUBSET LISTFILE

---

This record is used to identify the command names that will be executed as CMS Subset Mode commands. Commands entered using this option do not produce the return code response and other responses, and they are not invoked with the CMS prefix.

---

AUDIT fn ft fm nnn  
AUDIT DATA RECORD A 100

---

Use the AUDIT record to indicate that console data is to be stored in a specified CMS file. This file is created the first time when data is written to it. If the Message Service Facility is enabled, messages resulting from CMS commands or commands submitted directly to CP are stored. Data is stored chronologically,

along with the current date and time. When the audit file is full, it wraps to the beginning, overlaying the existing records.

### Operands

<i>fn</i>	File name. Default <b>CONSOLE</b>
<i>ft</i>	File type. Default <b>LOG</b>
<i>fm</i>	File mode. Default <b>A6</b>
<i>nnn</i>	Maximum size of the audit file in 1K records. Default <b>999,999 records</b>

---

LNODE nodeid AUTO

---

Use the LNODE record to define the node name that is selected by the ENTER key from the initial menu.

The AUTO option on this record allows you to bypass the initial menu and the PVM Selection Screen. If you want to go a different system than the one specified by the AUTO option on the LNODE record, you must log on to a CMS virtual machine and specify the target system on the CMS PASSTHRU command.

---

\* Set the PF keys on the Selection Screen.  
SELECT VSEPROD  
SELECT BOEVMIS1  
SELECT  
SELECT VSETEST  
SELECT  
SELECT

---

The SELECT record is used to assign a node name to a PF key. In the previous sample PF1 has VSEPROD assigned, PF2 has BOEVMIS1 and PF4 VSETEST.

---

STATTIME xxxx

---

STATTIME record specifies the time interval between calls to the Link Statistics Exit (DVMNMEI) for connected links. This is also the interval that timing records are sent down the network links for determining link delay time. xxxx is the number of seconds between calls and ranges from 10 to 1800.

---

MAXIDLE xxxx

---

MAXIDLE record specifies the maximum time an MPVM user may remain idle before PVM will terminate all of the user's sessions. The user is considered idle when there is no communication from the MPVM user to PVM for any session.

xxxx ranges from 60 to 9998. A setting of 9999 will mean no maximum idle time limit.

---

MAXSESS 10

---

MAXSESS record specifies the maximum number of sessions an MPVM user may have. It ranges from 1 to 99.

---

MAXSUSP nnnn

---

MAXSUSP record specifies the maximum time an MPVM user may have a session suspended before that user's session will be terminated by PVM.

nnnn ranges from 60 to 9998. A setting of 9999 will mean no maximum suspend time limit.

---

MAXUSERS yyy

---

MAXUSERS record specifies the maximum number of MPVM users who may connect to PVM. yyy ranges from 1 to 999.

---

MAXTDISC xxxx

---

MAXTDISC record specifies the maximum time an MPVM user may remain temporarily disconnected before all of the user's sessions will be terminated by PVM.

xxxx ranges from 60 to 9998. A setting of 9999 will mean no maximum temporary disconnect time limit. A setting of 0 will indicate that temporary disconnect for MPVM users is not allowed.

---

TDISC xxxx

---

TDISC record specifies the maximum time a PVM user may remain temporarily disconnected before the user's session will be terminated by PVM. xxxx ranges from 30 to 9999, default 1200.

---

MSGNOH

---

MSGNOH record indicates that responses to all commands entered by the CP SMSG command must be returned using the CP MSGNOH command rather than the CP MSG command.

---

```
DUMP CP    OPERATNS
DUMP VMDUMP OPERATNS
```

---

The DUMP record is used to indicate whether the dump taken during abnormal termination of PVM is a CP dump or a VM IPCS/DVF dump. In the above example OPERATNS is the VM user ID to which the dump is sent.

---

```
MSGOPTNS v1 v2 v3 v4 v5 v6 v7 v8
MSGOPTNS Y Y Y Y Y Y Y Y
```

---

The MSGOPTNS record is used to indicate what options PVM will use, according to the description below:

- |           |  |
|-----------|--|
| <b>v1</b> | Specifies the time stamps on the messages to the PVM user ID. The default is N.  |
| <b>v2</b> | Specifies the message numbers on the messages to the PVM user ID. The default is N.  |
| <b>v3</b> | Specifies the time stamps on the messages to the PVM audit file. The default is Y.   |
| <b>v4</b> | Specifies the message numbers on the messages to the PVM audit file. The default is N.   |
| <b>v5</b> | Specifies the time stamps on the messages to users. The default is N.  |
| <b>v6</b> | Specifies the message numbers on the messages to users. The default is N.  |
| <b>v7</b> | Specifies all messages written to the operator. These messages are written by a CP MSG command, overriding the MSGNOH record. The default is N, meaning that the MSGNOH option will take effect. |
| <b>v8</b> | Specifies the message numbers on the messages to the operator. The default is N.   |

#### 4.1.2 PROFILE PVM File

The PVM profile exec has PVM commands in it. It provides a way to automate many of the daily operations of starting lines or devices. A PVM profile exec must have a file type of PVM.

Following are some sample commands used.

---

```
START GRAF 200
START GRAF 201
START GRAF 202
START GRAF 203
START GRAF 204
START GRAF 205
START GRAF 206
START GRAF 207
START GRAF 208
START GRAF 209
START GRAF 20A
START GRAF 20B
START VSETEST
```

---

The START command is issued by the PVM virtual machine to enable users to dial in to it.

---

```
* stop console spooling since AUDIT file is now working
CP SPOOL CONSOLE STOP CLOSE
```

---

---

## 4.2 PVMG/VSE

After describing the VM/Pass-Through Facility customization, we will now describe the PVMG/VSE customization.

### 4.2.1 PVMG/VSE Configuration

Before executing PVMG/VSE, the system administrator should plan where PVMG/VSE fits into the PVM network, and then create the PVMG/VSE configuration file that defines the PVMG/VSE configuration. This set of configuration file records is included in the PVMGVSE JOBSAMP file which contains the job stream to run PVMG/VSE.

The PVMG/VSE configuration file is used to define the PVMG/VSE connections to VTAM/VSE and to PVM. The PVMG/VSE configuration file contains lines called records. These records tell PVMG/VSE how PVM and VTAM/VSE (SNA network) are connected and how they are processed during PVMG/VSE initialization.

Please refer to Appendix C, "PVMG Definitions for VSE/ESA" on page 49 for a sample definition of the PVMG/VSE configuration file.

### 4.2.2 PVMG/VSE VTAM Definition

PVMG/VSE is defined to VTAM/VSE as a group of applications. This group of applications contains the name of the application to which the PVMG/VSE is to log the PVM terminals. In our case this name is N2ECAPV2.

Please see Appendix C, "PVMG Definitions for VSE/ESA" on page 49 for a sample definition of the PVMG/VSE applications for VTAM/VSE.

All the other applications defined to VTAM by this file are needed when SNA users issue the VTAM LOGON command to access a PVM network. They will be matched with the LU record of the PVMG/VSE configuration file, becoming the LU names that are to be used by PVMG/VSE when obtaining interactive sessions with restricted and secure VTAM APPLIDs. When a PVM user selects an application for a session, PVMG/VSE assigns an LU name from the list of LU names in the LU record of the PVMG/VSE configuration file.

The default definition for this application makes reference to a VTAM logon mode table named SNAMODET. Please refer to Appendix C, "PVMG Definitions for VSE/ESA" on page 49 for a sample definition of the SNAMODET logon mode table.

### 4.2.3 VSE/ESA MODE=VM Supervisor

A MODE=VM Supervisor will only run on a 370 mode virtual machine and have no more than **16 MBytes** of virtual storage defined in the VM directory definition for the virtual machine.

The **MACHINE 370** VM Directory macro should be specified in the VSE/ESA guest virtual machine definition. The specification of this macro will make sure that the virtual machine is running in 370 mode.

Please see Appendix A, "VM/ESA Virtual Machine Definitions" on page 43 for the directory definition sample of the VSE/ESA guest virtual machine, MODE=VM Supervisor.

#### 4.2.3.1 Storage Considerations for MODE=VM

For estimating the size of the partition in which PVMG/VSE will execute, please see the section "How much Storage is needed for your PVMG Server" in the "Administrating, Installing, and Operating PVM" chapter of the *VM/Pass-Through Administration and Operation* manual, SC24-5557.

The PVMG/VSE application occupies **650 KBytes** of the partition. So your partition allocation should be at least 650 KBytes. The default allocation for a MODE=VM Supervisor environment is as follows:

```
ALLOC BG=1536K
SIZE BG=1280K
ALLOC F1=768K
SIZE F1=580K
ALLOC F3=3072K
SIZE F3=300K
ALLOC F4=256K
SIZE F4=128K
ALLOC F5=256K
SIZE F5=128K
ALLOC F2=5888K
SIZE F2=2048K
NPGR BG=100,F2=255,F3=100,F4=100,F5=50
```

Figure 6. Sample SKALLOCV Default File for MODE=VM Supervisor

With this default allocation for the six default partitions it can be seen that there are only three partitions available to run PVMG/VSE and they are: BG, F4 and F5.

That is because POWER is running in F1, VTAM in F3 and CICS in F2. Of the three partitions available, BG will be the only one of the them that could hold the PVMG/VSE program since it has a 1536K allocation.

Since BG is a very strategic partition which is used to run batch programs for system maintenance and other purposes, we decided not to used BG for running the PVMG/VSE. Therefore it was decided to merge the batch partitions F4 and F5 (256K + 256K = 512K) and 316K of storage was also added that was overall available for allocation. The result can be seen in Figure 7.

```
ALLOC BG=1536K
SIZE BG=1280K
ALLOC F1=768K
SIZE F1=580K
ALLOC F3=3072K
SIZE F3=300K
ALLOC F4=828K
SIZE F4=650K
ALLOC F2=5888K
SIZE F2=2048K
NPGR BG=100,F2=255,F3=100,F4=100,F5=50
```

Figure 7. Sample SKALLOCV F4 will run PVMG/VSE, MODE=VM Supervisor

#### 4.2.4 VSE/ESA MODE=VMESA Supervisor

A MODE=VMESA Supervisor will only run on an ESA mode virtual machine and has only one address space, as the MODE=VM Supervisor. The size of this address space can be up to **2 Gigabytes** or 2048 Megabytes.

The **MACHINE ESA** VM Directory macro should be specified in the VSE/ESA guest virtual machine definition. The specification of this macro will make sure that the virtual machine is running in ESA mode.

Please see Appendix A, “VM/ESA Virtual Machine Definitions” on page 43 for the directory definition sample of the VSE/ESA guest virtual machine, MODE=VMESA Supervisor.

##### 4.2.4.1 Storage Considerations for MODE=VMESA

For estimating the size of the partition in which PVMG/VSE will execute, please see the section “How much Storage is needed for your PVMG Server” in the “Administrating, Installing, and Operating PVM” chapter of the *VM/Pass-Through Administration and Operation* manual, SC24-5557.

The PVMG/VSE application occupies **650 KBytes** of the partition. So your partition allocation should be at least 650 KB. The default allocation for a MODE=VMESA Supervisor environment is as follows:

```
ALLOC BG=1536K
SIZE BG=1280K
ALLOC F1=768K
SIZE F1=580K
ALLOC F3=3072K
SIZE F3=300K
ALLOC F4=256K
SIZE F4=128K
ALLOC F5=256K
SIZE F5=128K
ALLOC F2=5888K
SIZE F2=2048K
NPGR BG=100,F2=255,F3=100,F4=100,F5=50
```

Figure 8. Sample SKALLOCV Default File for MODE=VMESA Supervisor

This default allocation is the same default allocation as the one provided for the MODE=VM Supervisor.

With this default allocation for the six default partitions it can be seen that there are only three partitions available to run PVMG/VSE: BG, F4 and F5. This is because POWER is running in F1, VTAM in F3 and CICS in F2. Of the three partitions available, BG will be the only one of them that could hold the PVMG/VSE program since it has a 1536K allocation.

Since BG is a very strategic partition which is used to run batch programs for system maintenance and other purposes, it was decided not to use BG for running the PVMG/VSE. Therefore it was decided to use batch partition F4 to run the PVMG/VSE program. The default allocation for F4 is only 256K which is not enough to run PVMG/VSE. Because of this, the allocation was increased to at least 650K which is the minimum size that a partition should have defined in order to run PVMG/VSE. The result of the new customized allocations is shown below:

```
ALLOC BG=1536K
SIZE BG=1280K
ALLOC F1=768K
SIZE F1=580K
ALLOC F3=3072K
SIZE F3=300K
ALLOC F4=828K
SIZE F4=650K
ALLOC F5=256K
SIZE F5=128K
ALLOC F2=20480K
SIZE F2=2048K
NPGR BG=100,F2=255,F3=100,F4=100,F5=50
```

Figure 9. Sample SKALLOCV F4 will run PVMG/VSE, MODE=VMESA Supervisor

Notice the size defined for the F2 partition. This will be the only partition that will run over the 16 MByte line, since with MODE=VMESA Supervisor only one address space is supported. VSE/ESA 1.3 supports only one partition per



address space that can cross the 16 MByte line. Most installations will prefer that such a partition, if there should only be one address space, will be the CICS partition, in most cases that will be partition F2.

## 4.2.5 Performance Considerations

For performance reasons, the `$$BPRSUP,MOVE` phase should be included in the SET SDL procedure. For more information on the SET SDL procedure, please see the *VSE/ESA System Control Statements* manual, SC33-6513. The following shows how to include this phase in the SET SDL procedure:

```
* $$ JOB JNM=PVMGSDL,DISP=D,CLASS=0,PRI=3
// JOB PVMGSDL INCLUDE PVMGVSE IN SDL
* THE FOLLOWING LIBDEF IS FOR ACCESS TO THE PVMGVSE CODE
// LIBDEF PHASE,SEARCH=PRD2.PVMGVSE
SET SDL
$$BPRSUP,MOVE
/*
/&
* $$ EOJ
```

Figure 10. Sample SET SDL Procedure

The SDL operand indicates that a phase name is to be added to the System Directory List (SDL) and, optionally, that the phase is to be loaded to the system's Shared Virtual Area (SVA). Phases that are effectively used in a reentrant way by several tasks and partitions are the ones that should be placed in the SVA.

The predefined VSE ASI (Automated System Initialization) procedure `$0JCL` includes all the SET SDL statements required to start your system. One can use the VSE skeleton `SKJCL0` (ICCF library 59) to modify this procedure. For details please refer to *VSE/ESA Administration*, SC33-6505. SET SDL can be issued any time after IPL, but it must always be issued from the BG partition.

## 4.2.6 Wrap Trace Activation

A PVMG wrap table is located in storage and used to place information into it. PVMG does a GETMAIN/GETVIS to contain the wrap table. It is activated by issuing the PVMG TRACE command. When entries have filled up the table, the information will wrap to the beginning and start from the top of the table again.

In order to activate the PVMG/VSE system wrap trace when initializing PVMG/VSE, update the EXEC statement of the PVMGVSE JOBSAMP file to pass the TRACE command using the PARM operand. For more information on the PARM operand or the EXEC statement, please see *VSE/ESA System Control Statements*, SC33-6513.

Adding the TRACE command to the EXEC statement as defined in the PVMGVSE JOBSAMP would result in:

```
* THE FOLLOWING SHOULD BE MODIFIED IN THE PVMGVSE JOBSAMP  
// EXEC PVMGVSE,SIZE=650K,PARM='TRACE'
```

*Figure 11. Sample Wrap Trace Activation*

The partition where PVMG/VSE is running has to be dumped in order to obtain the trace information.

---

## Chapter 5. Implementation and Usability

This chapter contains a description of the results of our evaluation of PVMG/VSE SPE. We show here an explanation of the different connections and alternatives, as well as screens obtained from PVM usage.

---

### 5.1 Setup for PVMG/VSE SPE Access

Let us explain the systems and components involved in our environment.

**VM/ESA 1.2.1** Base system that contains several guest virtual machines, that is, one for PVM and one VSE/ESA 1.3.4 (VSETEST).

**VSETEST** VSE/ESA 1.3.4 system with the PVMG/VSE SPE component running in a partition as a VTAM application. This system runs with a VMESA supervisor, and is a development environment that could be used for CICS programming for example.

**PVM** Virtual machine in VM/ESA running the VM/Pass-Through Facility code.

**ITSOCICS** CICS development subsystem running on VSETEST.

**N2ECAPV2** PVMG/VSE Application ID (APPLID) for VSE/VTAM.

In Figure 12 you can see the connection setup diagram of the system we used during our residency. One virtual machine (PVM) running PVM/VM code, several CMS virtual machines, and one virtual machine running VSE/ESA 1.3.4 code (VSETEST). In the VSE virtual machine, in a partition, we run PVMG/VSE SPE code. The connection of VSE and PVM/VM virtual machines is done using CP IUCV services.

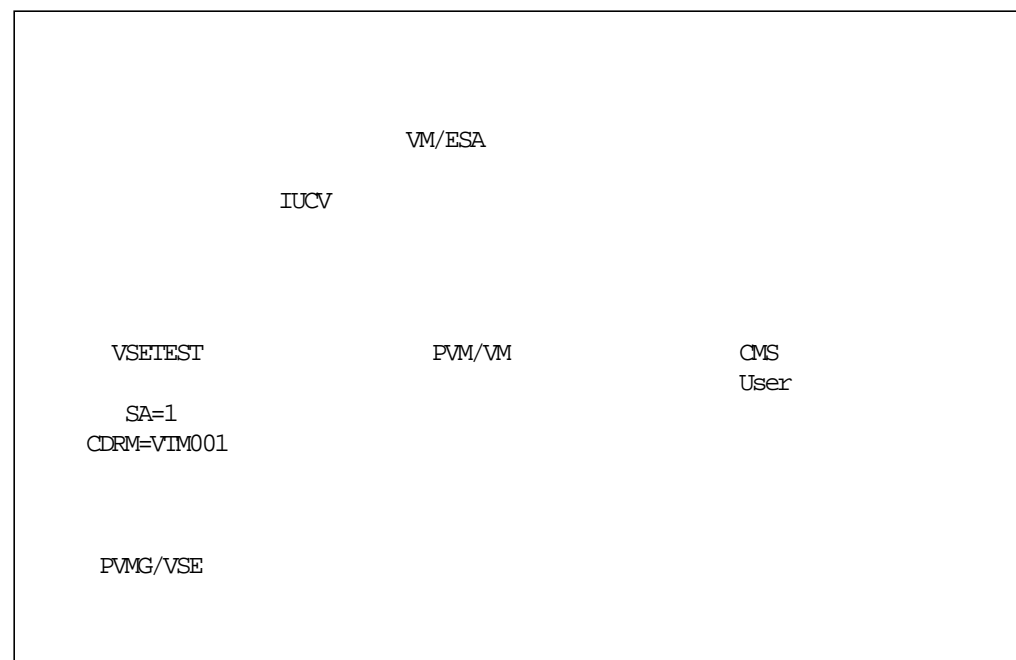


Figure 12. Virtual Machine Connections. This figure shows the connections used in our environment.

---

## 5.2 Accessing VM from VSETEST (VTAM Screen)

When you are working on a terminal owned by VTAM on the VSETEST virtual machine you will obtain a screen similar to the one in Figure 13.

```
VIMUSSIB                VTAM APPLICATION SELECTION MENU

Enter the character of your selection and press the ENTER key:

A  -----
B  PVM
C  ITSOCICS
D  -----
E  -----
F  -----

==>
```

Figure 13. VSETEST Selection Screen. This is a sample VSE initial screen handled by VSE/VTAM on the VSETEST virtual machine.

In our environment we customized the VTAM USS table with the following equivalences:

**PVM**                    VM connection through PVMG/VSE.

**ITSOCICS**            CICS development subsystem running on VSETEST.

By selecting B and pressing the ENTER key you can reach the PVMG/VSE initial selection panel as shown in Figure 14 on page 31.

```

VM/Pass-Through Facility

You can select a node with the cursor and press ENTER

N BOEVMIS1

Destination ----->          Port ----->
Route ----->          Language -----> AMENG
End Session -----> #####    Verify -----> OFF
Your Identification -----> D92101

PF8= Scroll          CLEAR key = Top Screen          PA1= Exit
PF1=BOEVMIS1

****>
****>

```

Figure 14. PVMG/VSE Initial Screen. This is a sample PVMG/VSE initial screen displayed when you are getting to VM from the VSE side, as you can see in the field **Your Identification ---//--> D92101**.

Once you are in the panel in Figure 14, by pressing PF1 you can access the VM logo screen and you may log on to a CMS user ID.

This panel may be bypassed by making a change in the PVMG/VSE Config file definitions. Add an LNODE record to go directly from the VSE/VTAM screen to the VM logon screen.

The record should be coded in the following way: **LNODE BOEVMIS1 FORCE** where BOEVMIS1 is the name of the PVM/VM node and FORCE allows us to bypass the Initial PVM Selection Menu. In a production environment with only one VM node, the only valid option is VM, so, you may put that LNODE record on the config file only changing BOEVMIS1 to the name you give to your PVM/VM node.

If you have more than one VM node connected via PVM/VM, you may allow users to select the node which they want to access. In that case you can consider the following two options:

1. Keep the LNODE record without the FORCE parameter, you will get the initial PVM screen and you can select the node of your choice. If you don't make any selection and press the ENTER key you are connected to the node specified in the LNODE record.
2. Delete the LNODE record from the PVMG/VSE config file. Doing this will always get you to the PVM initial screen and you **MUST** select a node with the cursor and then press the ENTER key, or make the selection with the appropriate PF key.

## 5.2.1 Going Back to VSETEST (VTAM Screen) from VM

Once you log off the CMS user ID you will be returned to the PVGM/VSE selection screen.

After you have finished work in CMS you may now want to go back to the VSE environment without logging off. You can do this by entering the following string of characters, #####, and pressing the ENTER key. You may change this string of characters by changing the SESSTERM record in the PVM config file. This record defines the session termination string, PF number or PA key used at the local node. The default for this record is the string of characters #####.

---

## 5.3 Accessing VSETEST from VM Logo

If you are on the VM logo screen, by entering **D PVM** you should obtain a panel similar to Figure 15.

Working in a CMS virtual machine you get to the same panel by typing **PASSTHRU** and pressing the ENTER key. The only difference will be shown in the **Your Identification ---/-->** field. Instead of having a **GRAFxxx**, you will have a user ID in its place, that is:

```
Your Identification -----> PETER
```

```
VM/Pass-Through Facility

You can select a node with the cursor and press ENTER

L BOEVMIS1  N VSETEST

Destination ----->          Port ----->
Route ----->                Language -----> AMENG
End Session -----> #####    Verify -----> OFF
Your Identification -----> MAINT

PF8= Scroll          CLEAR key = Top Screen          PA1= Exit
                   PF2=BOEVMIS1                PF4=VSETEST

****>
****>
```

Figure 15. PVM Initial Screen. This is a sample PVM initial screen.

From this panel, you may select a node to connect to, positioning the cursor and pressing the ENTER key, or making a selection with a PF key. For example by pressing PF4 we can access our VSE development system known in our

definitions as VSETEST, and the panel shown in Figure 16 on page 33 will be displayed.

```

IESADMS01                                VSE/ESA ONLINE
5686-032 and Other Materials (C) Copyright IBM Corp. 1990 and other dates

      WV  WV  SSSSS  EEEEEEE      ++
      WV  WV  SSSSSS  EEEEEEE      ++
      WV  WV  SS      EE          ++  EEEEEEE  SSSSS  AA
      WV  WV  SSSSSS  EEEEEEE      ++  EEEEEEE  SSSSSS  AAAA
      WV  WV  SSSSSS  EEEEEEE      ++  EE      SS      AA  AA
      WV  WV          SS  EE          ++  EEEEEEE  SSSSSS  AA  AA
      WVW  SSSSSS  EEEEEEE  ++      EEEEEEE  SSSSSS  AAAAAAA
      W   SSSSS  EEEEEEE  ++      EE          SS  AAAAAAA
                                ++      EEEEEEE  SSSSSS  AA  AA
                                ++      EEEEEEE  SSSSS  AA  AA

      Your terminal is AP12 and its name in the network is N2ECAP12
      Today is 07/06/94   To sign on to ITSOCICS -- enter your:

      USER-ID..... _____  The name by which the system knows you.
      PASSWORD.....            Your personal access code.

      PF1=HELP      2=TUTORIAL      4=REMOTE APPLICATIONS
                                10=NEW PASSWORD

```

Figure 16. VSETEST. This is a sample ITSOCICS initial screen.

### 5.3.1 Going Back to VM from VSETEST (CICS Screen)

When you **SIGN OFF** from you CICS application, by pressing PF4 (4=REMOTE APPLICATIONS), you go back to the PVM selection screen. Once you are there by pressing PA1 key you go back to your CMS session.

### 5.3.2 PVMG/VSE SPE Limitations

Most VM/VSE customers will have their system setup such that they will have a VSE virtual machine running their production applications and another VSE virtual machine running their development and maintenance of the production environment.

In most cases the production virtual machine will run a MODE=ESA supervisor and the development and maintenance virtual machine will run a MODE=VMESA supervisor.

Since PVMG/VSE SPE can run only in supervisor MODE=VM or MODE=VMESA, only the terminals controlled by the development and maintenance virtual machine could have access to VM through PVMG/VSE SPE. We believe that this limits the amount of customers that can benefit from PVMG/VSE SPE.





---

## Chapter 6. Access to PVMG/VSE SPE for a MODE=ESA Supervisor

Since PVMG/VSE SPE is a VTAM application, we decided to evaluate a setup that will permit VM access not only to the terminals controlled by a development and maintenance virtual machine (MODE=VMESA) but, also to the terminals controlled by a production virtual machine (MODE=ESA).

This chapter contains a description of the results of our evaluation on a system set up with two VSE virtual machines, one of them with PVMG/VSE SPE installed and the other one accessing PVMG/VSE SPE via a VTAM CDRM definition.

---

### 6.1 Setup for PVMG/VSE SPE Access Through CDRM

Our environment setup was as follows: two VSE guest machines, one running a MODE=VMESA supervisor (VSETEST) as mentioned in Chapter 5, "Implementation and Usability" on page 29, the other one running a MODE=ESA supervisor (VSEPROD). This will be the typical VM/VSE customer environment.

We defined a Virtual Channel to Channel Adapter (VCTCA) between the two VSE virtual machines and made the following changes:

**BOEVMISC CONFIG** On the PVM/VM configuration file we added a ROUTE record to tell PVM/VM that the VSEPROD application is **ROUTED** through VSETEST.

We also added a SELECT record to set PF1 as a PF key to hit to go to the VSEPROD system.

Please refer to Appendix B, "PVM Definitions for VM/ESA" on page 47.

**PVMG/VSE Config** On the PVMG/VSE config file, we added an **APPLN** record, to indicate that **VSEPROD** is the nickname for the VTAM application ID **DBDCCICS**.

This is done in the same way as the LOCAL record indicates that **VSETEST** is the nickname for the VTAM application **N2ECAPV2**, that is our PVMG/VSE.

Please refer to Appendix C, "PVMG Definitions for VSE/ESA" on page 49.

**Cross Domains** As both VSE systems are connected via Virtual CTCA, we added some definitions to VSE/VTAM as stated in Appendix D, "VTAM Cross-Domain Definitions" on page 69, and now both VSE/VTAM know each other's applications.

Please refer to Appendix D, "VTAM Cross-Domain Definitions" on page 69.

From VM you now have access to not only the VSETEST system running PVMG/VSE SPE but you can also access the VSEPROD system.

A diagram showing the connection of all the systems is shown in Figure 17 on page 36.

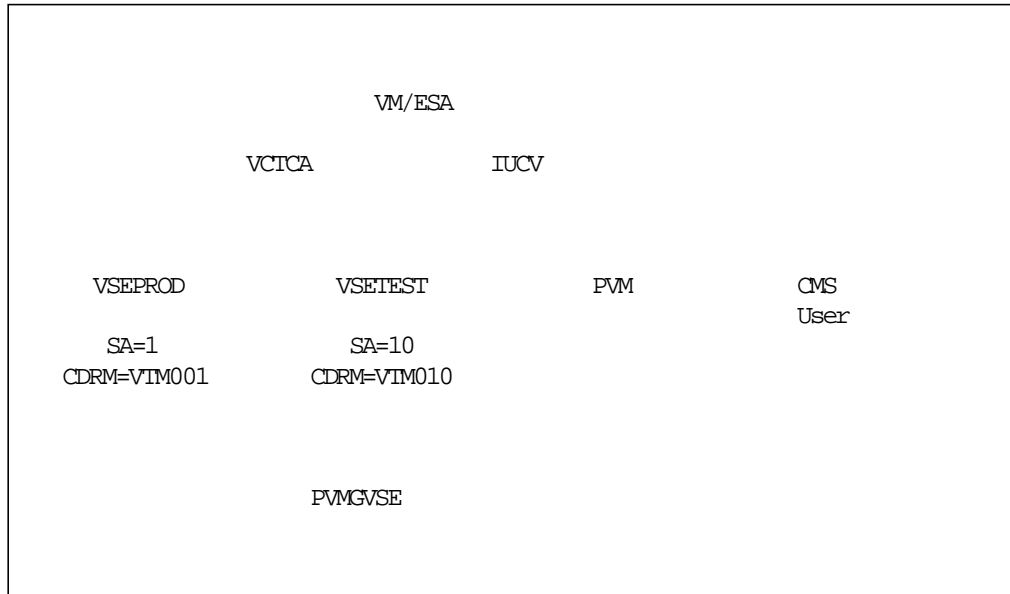


Figure 17. Virtual Machine Connections. This figure shows a typical customer implementation.

## 6.2 Accessing VM from VSEPROD (VTAM Screen)

When you are working on a terminal owned by VTAM on the VSEPROD virtual machine you will obtain a panel similar to the one in Figure 18.

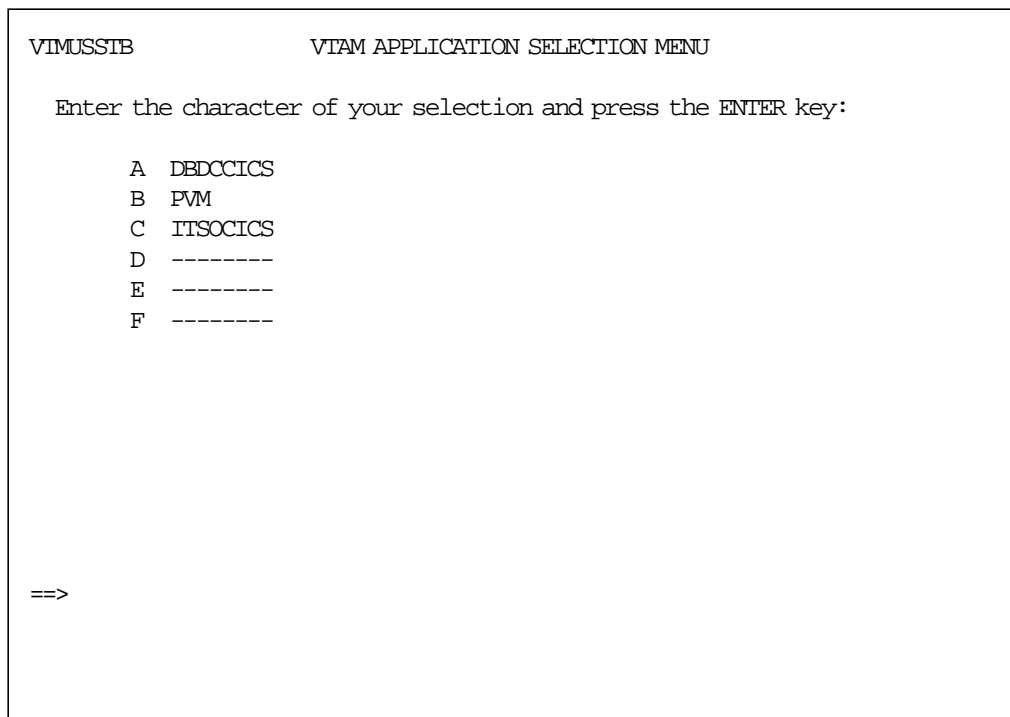


Figure 18. VSEPROD Selection Screen. This is a sample VSE initial screen handled by VSE/VTAM on the VSEPROD virtual machine.

In our environment we customized the VTAM USS table with the following equivalences:

**DBDCCICS** CICS\* production subsystem running on VSEPROD.  
**PVM** VM connection through PVMG/VSE.  
**ITSOCICS** CICS development subsystem running on VSETEST.

By selecting B and pressing the ENTER key you can reach the PVMG/VSE initial selection panel as shown in Figure 19.

```
VM/Pass-Through Facility

You can select a node with the cursor and press ENTER

N BOEVMIS1

Destination ----->          Port ----->
Route ----->          Language -----> AMENG

End Session -----> #####    Verify -----> OFF

Your Identification -----> D92101

PF8= Scroll          CLEAR key = Top Screen          PA1=Exit

PF1=BOEVMIS1

****>

****>
```

Figure 19. PVMG/VSE Initial Screen, VSEPROD Virtual Machine. This is a sample PVMG/VSE initial screen displayed when you are getting to VM from the VSE side, as you can see in the field **Your Identification ---//--> D92101**.

Once you are in the panel in Figure 19, by pressing PF1 you get access to the VM logon screen and you may log on to your CMS user ID.

This panel may be bypassed by making a change in the PVMG/VSE Config file definitions. Add an LNODE record to go directly from the VSE/VTAM screen to the VM logon screen.

The record should be coded in the following way: **LNODE BOEVMIS1 FORCE** where BOEVMIS1 is the name of the PVM/VM node and FORCE allows us to bypass the Initial PVM Selection Menu. In a production environment with only one VM node, the only valid option is VM, so, you may put that LNODE record on

the config file only changing BOEVMIS1 to the name you give to your PVM/VM node.

If you have more than one VM node connected via PVM/VM, you may allow users to select the node which they want to access. In that case you may consider the following two options:

1. Keep the LNODE record without the FORCE parameter, you will get the initial PVM panel and you can select the node of your choice. If you don't make any selection and press the ENTER key you are connected to the node specified in the LNODE record.
2. Delete the LNODE record from the PVMG/VSE config file. Doing this will always get you to the PVM initial panel and you **MUST** select a node with the cursor and then press the ENTER key, or make the selection with the appropriate PF key.

### 6.2.1 Going Back to VSEPROD (VTAM Screen) from VM

Once you log off the CMS user ID you will be returned to the PVGM/VSE selection screen.

After you have finished working in CMS, you may now want to go back to the VSE environment without logging off. You can do this by entering the following string of characters, ####, and pressing the ENTER key. You may change this string of characters by changing the SESSTERM record in the PVM config file. This record defines the session termination string, PF number or PA key used at the local node. The default for this record is the string of characters ####.

---

### 6.3 Accessing VSEPROD from VM Logo

If you are on the VM logo screen, by entering **D PVM** you should obtain a panel similar to Figure 20 on page 39.

Working in a CMS virtual machine you get to the same panel by typing **PASSTHRU** and pressing the ENTER key. The only difference will be shown in the **Your Identification ---/-->** field. Instead of having a **GRAFxxx**, you will have a user ID in its place, that is:

Your Identification -----> HANS
---------------------------------

```

VM/Pass-Through Facility

You can select a node with the cursor and press ENTER

L BOEVMIS1   N VSETEST   VSEPROD

Destination ----->          Port ----->
Route ----->          Language -----> AMENG
End Session -----> #####   Verify -----> OFF
Your Identification -----> MAINT

PF8= Scroll          CLEAR key = Top Screen          PA1= Exit
PF1=VSEPROD  PF2=BOEVMIS1          PF4=VSETEST

****>
****>

```

Figure 20. PVM Screen. This is a sample PVM Screen.

From this panel, you may select a node to connect to, positioning the cursor and pressing the ENTER key, or making a selection with a PF key. For example by pressing PF4 we get access to our VSE development system known in our definitions as VSETEST, and get the panel shown on Figure 21.

```

IESADMS01          VSE/ESA ONLINE
5686-032 and Other Materials (C) Copyright IBM Corp. 1990 and other dates

W  W  SSSS  EEEEEEE  ++
W  W  SSSSSS  EEEEEEE  ++
W  W  SS  EE  ++  EEEEEEE  SSSS  AA
W  W  SSSSSS  EEEEEEE  ++  EEEEEEE  SSSSSS  AAAA
W  W  SSSSSS  EEEEEEE  ++  EE  SS  AA  AA
W  W  SS  EE  ++  EEEEEEE  SSSSSS  AA  AA
W  W  SSSSSS  EEEEEEE  ++  EEEEEEE  SSSSSS  AAAAAAA
W  SSSS  EEEEEEE  ++  EE  SS  AAAAAAA
++  EEEEEEE  SSSSSS  AA  AA
++  EEEEEEE  SSSS  AA  AA

Your terminal is AP12 and its name in the network is N2ECAP12
Today is 07/06/94 To sign on to ITSOCICS -- enter your:

USER-ID..... _____ The name by which the system knows you.
PASSWORD..... Your personal access code.

PF1=HELP          2=TUTORIAL          4=REMOTE APPLICATIONS
10=NEW PASSWORD

```

Figure 21. VSETEST. This is a sample ITSOCICS initial panel.

PVM provides interactive access to remote systems and resources that are part of a Distributed Data Processing (DDP) environment. A DDP environment consists of multiple processors that can be physically remote from each other.

In the environment set during our residency, we used one real processor with several virtual machines running VSE guests and PVM, each one seemed as a different **node**.

The selection displayed before, going from VM to VSE and back again is the initial design objective of PVMG/VSE SPE. But, having a second VSE system with VSE/VTAM too, we may access this second system just as another VTAM application.

In the PVM initial screen, if you select VSEPROD with the cursor and press the ENTER key, or by pressing PF1, you get the screen shown in Figure 22. Here you can access the DBDCCICS VTAM application, running on the production VSE system (VSEPROD).

```

IESADMS01                                VSE/ESA ONLINE
5686-032 and Other Materials (C) Copyright IBM Corp. 1990 and other dates

W  W  SSSSS  EEEEEEE  ++
W  W  SSSSSS  EEEEEEE  ++
W  W  SS      EE      ++  EEEEEEE  SSSSS  AA
W  W  SSSSSS  EEEEEEE  ++  EEEEEEE  SSSSSS  AAAA
W  W  SSSSSS  EEEEEEE  ++  EE      SS      AA  AA
W  W      SS  EE      ++  EEEEEEE  SSSSSS  AA  AA
W  W  SSSSSS  EEEEEEE  ++  EEEEEEE  SSSSSS  AAAAAAA
W      SSSSS  EEEEEEE  ++  EE      SS  AAAAAAA
                                ++  EEEEEEE  SSSSSS  AA  AA
                                ++  EEEEEEE  SSSSS  AA  AA

Your terminal is AP01 and its name in the network is N2ECAP01
Today is 07/06/94 To sign on to DBDCCICS -- enter your:

USER-ID..... _____ The name by which the system knows you.
PASSWORD..... Your personal access code.

PF1=HELP      2=TUTORIAL      4=REMOTE APPLICATIONS
                                10=NEW PASSWORD

```

Figure 22. VSEPROD. This is a sample DBDCCICS initial screen.

### 6.3.1 Going Back to VM from VSEPROD (CICS Screen)

When you **SIGN OFF** from you CICS application, by pressing PF4 (4=REMOTE APPLICATIONS), you go back to the PVM selection screen. Once you are there by pressing PA1 key you go back to your CMS session.

## 6.4 Access to Multiple Systems from VM (MPVM)

If you are working in a CMS user you may want to have access to several systems at the same time. This can be done using **MPVM**. MPVM is a component of PVM/VM that allows us to access different applications at the same time from one terminal, and change from one to the other using a PF key.

If you are in CMS, by typing MPVM and pressing the ENTER key, after first setting up proper MPVM names, you should get a screen similar to the one shown in Figure 23.

```
VM/Pass-Through Facility

You can select a session with the cursor and press ENTER
-----

*ALL      BOEVMIS1   VSEPROD   VSETEST

-----

PF3=Return      PF6=Disconnect
PF7=Backward    PF8=Forward    PF9=Retrieve
PF10=Top        PF11=Bottom    PF12=EXIT
====>
```

Figure 23. MPVM Sample Screen. This is a sample **MPVM** initial screen.

Once you are on this screen, you may select the node to which you want to be connected, by positioning the cursor and pressing the ENTER key.

If you want to have access to all nodes at the same time, you should position the cursor under the **\*ALL** tag on the screen and press the ENTER key. Automatically you will be connected to the three nodes shown on the screen, BOEVMIS1, VSETEST and VSEPROD.

To change the screen from one node to the other, press PF9, since we customized this PF key to do that. To end a session you should press PF12, also customized in our MPVM control files.

The control file name is **MPVMSYS NAMES**. It contains entries that lets MPVM know which nodes may be accessed, nicknames, how to handle the session initiation and termination, which PF key should be used for changing node screen, and so on. A sample MPVMSYS NAMES file may be found in Appendix B, "PVM Definitions for VM/ESA" on page 47.



---

## Appendix A. VM/ESA Virtual Machine Definitions

---

### A.1 PVM Directory Entry (PVM)

```
USER PVM xxxxxxxx 5M 8M BG 50
IPL CMS
MACHINE 370
IUCV ANY M 255
IUCV ALLOW
IUCV *IDENT RESANY GLOBAL
OPTION MAXCONN 4096
CONSOLE 009 3215
SPOOL 00C 2540 READER A
SPOOL 00D 2540 PUNCH A
SPOOL 00E 1403 A
LINK P684100E 401 0191 MR
LINK P684100E 403 0199 RR
LINK MAINT 0190 0190 RR * CMS system disk
LINK MAINT 0193 0193 RR * CMS system tools
LINK MAINT 019D 019D RR * help disk
LINK MAINT 019E 019E RR * Product code disk
```

---

### A.2 PVM Installer Machine Directory Entry (P684100E)

```
USER P684100E xxxxxxxx 24M 32M BEG
ACCOUNT 1 PVM
IPL CMS
MACHINE XA
CONSOLE 009 3215
SPOOL 00C 2540 READER *
SPOOL 00D 2540 PUNCH A
SPOOL 00E 1403 A
LINK MAINT 0190 0190 RR * CMS SYSTEM DISK
LINK MAINT 0193 0193 RR * CMS SYSTEM TOOLS
LINK MAINT 019D 019D RR * HELP DISK
LINK MAINT 019E 019E RR * PRODUCT CODE DISK
LINK MAINT 051D 051D MR * VMSES/E SOFTWARE INVENTORY DISK
LINK MAINT 05E5 05E5 RR * VMSES/E CODE
MDISK 0191 3380 0141 025 IS1LS4 MR READ WRITE MULTIPLE
MDISK 02B2 3380 0166 015 IS1LS4 MR READ WRITE MULTIPLE
MDISK 02C2 3380 0181 004 IS1LS4 MR READ WRITE MULTIPLE
MDISK 02D2 3380 0185 022 IS1LS4 MR READ WRITE MULTIPLE
MDISK 02A6 3380 0207 010 IS1LS4 MR READ WRITE MULTIPLE
MDISK 02A2 3380 0217 010 IS1LS4 MR READ WRITE MULTIPLE
MDISK 029D 3380 0227 010 IS1LS4 MR READ WRITE MULTIPLE
MDISK 0402 3380 0237 010 IS1LS4 MR READ WRITE MULTIPLE
MDISK 0401 3380 0247 004 IS1LS4 MR READ WRITE MULTIPLE
MDISK 0404 3380 0251 005 IS1LS4 MR READ WRITE MULTIPLE
MDISK 02B1 3380 0256 025 IS1LS4 MR READ WRITE MULTIPLE
MDISK 0403 3380 0283 004 IS1LS4 MR READ WRITE MULTIPLE
MDISK 0405 3380 0287 005 IS1LS4 MR READ WRITE MULTIPLE
MDISK 0400 3380 0292 020 IS1LS4 MR READ WRITE MULTIPLE
```

---

### A.3 VSETEST Directory Entry (VMESA Supervisor)

```
USER VSETEST  xxxxxxxx 64M 64M G
ACCOUNT 234 7030-75
MACHINE ESA
SHARE RELATIVE 8000
OPTION CPUID 055111 QUICKDSP
* IPL address for DOSRES
IPL 460
CONSOLE 920 3270 T
* =====
* =====> 3390 DASD <=====
* =====
DEDICATE 460 460
DASDOPT SYSCIL
DEDICATE 463 463
DASDOPT SYSCIL
DEDICATE 465 465
DASDOPT SYSCIL
DEDICATE 466 466
DASDOPT SYSCIL
* =====
* =====> 3380 DASD <=====
* =====
DEDICATE 647 647
* =====
* =====> Printer <=====
* =====
DEDICATE 00E 00E
* =====
* =====> 3725 <=====
* =====
DEDICATE 260 260
* =====
* =====> 3480 <=====
* =====
DEDICATE 870 870
* =====
SPECIAL 921 3270
SPECIAL 922 3270
SPECIAL 923 3270
SPECIAL 924 3270
SPECIAL 925 3270
SPECIAL 926 3270
SPECIAL 927 3270
SPECIAL 928 3270
* ***** VCTCA definition *****
SPECIAL 200 CTCA V131A90
*
SPOOL 00C 2540 R A
SPOOL 00D 3525 A
SPOOL 02C 2540 R A
SPOOL 02D 3525 A
SPOOL 02E 3211 A
LINK MAINT 190 190 RR
```

---

## A.4 VSETEST Directory Entry (VM Supervisor)

```
USER VSETEST  xxxxxxxx 16M 16M G
ACCOUNT 234 7030-75
MACHINE 370
SHARE RELATIVE 8000
OPTION CPUID 055111 QUICKDSP
* IPL address for DOSRES
IPL 460
CONSOLE 920 3270 T
* =====
* =====> 3390 DASD <=====
* =====
DEDICATE 460 460
DASDOPT SYSCIL
DEDICATE 463 463
DASDOPT SYSCIL
DEDICATE 465 465
DASDOPT SYSCIL
DEDICATE 466 466
DASDOPT SYSCIL
* =====
* =====> 3380 DASD <=====
* =====
DEDICATE 647 647
* =====
* =====> Printer <=====
* =====
DEDICATE 00E 00E
* =====
* =====> 3725 <=====
* =====
DEDICATE 260 260
* =====
* =====> 3480 <=====
* =====
DEDICATE 870 870
* =====
SPECIAL 921 3270
SPECIAL 922 3270
SPECIAL 923 3270
SPECIAL 924 3270
SPECIAL 925 3270
SPECIAL 926 3270
SPECIAL 927 3270
SPECIAL 928 3270
* ***** VCTCA definition *****
SPECIAL 200 CTCA VSEPROD
*
SPOOL 00C 2540 R A
SPOOL 00D 3525 A
SPOOL 02C 2540 R A
SPOOL 02D 3525 A
SPOOL 02E 3211 A
LINK MAINT 190 190 RR
```

---

## A.5 VSEPROD Directory Entry (ESA Supervisor)

```
USER VSEPROD xxxxxxxxx 16M 64M BFG
ACCOUNT VSEPROD VSEPROD
OPTION MAXCONN 150 MAINTCCW
MACHINE ESA
I CMS
DEDICATE 440 440
DEDICATE 441 441
DEDICATE 442 442
CONSOLE 0009 3270
SPOOL 000C 2540 READER *
SPOOL 000D 2540 PUNCH A
SPOOL 000E 1403 A
SPECIAL 080 3270
SPECIAL 081 3270
SPECIAL 082 3270
SPECIAL 083 3270
SPECIAL 084 3270
SPECIAL 085 3270
SPECIAL 086 3270
SPECIAL 087 3270
SPECIAL 088 3270
SPECIAL 089 3270
* ***** VCTCA definition *****
SPECIAL 200 CTCA VSETEST
*
LINK MAINT 190 0190 RR
LINK MAINT 19D 019D RR
LINK MAINT 19E 019E RR
```

---

## Appendix B. PVM Definitions for VM/ESA

---

### B.1 PVM Config File for VM/ESA

```
*****
* Configuration file for node BOEVMIS1- BOEVMIS1 CONFIG *
*****
LANG AMENG
XDBC CONS
LOCAL BOEVMIS1
RESID PVMC
* Link to VSETEST virtual machine
LINK * VSETEST IUCV USER VSETEST
ROUTE VSEPROD VSETEST
AUTHORIZ OPERATOR BOEVMIS1
AUTHORIZ MAINT BOEVMIS1
SUBSET LISTFILE
*AUDIT DATA RECORD
*INODE * AUTO
* Set the PF keys on the Selection Screen.
SELECT VSEPROD
SELECT BOEVMIS1
SELECT
SELECT VSETEST
SELECT
SELECT
* Set time restrictions.
STATTIME 1200
MAXIDLE 9999
MAXSESS 10
MAXSUSP 9999
MAXUSERS 600
MAXTDISC 9999
TDISC 600
TIMEOUT 9999
MSGNOH
* Specify that a VMDUMP is to be taken if abnormal termination of
* PVM occurs. The VMDUMP option should be specified if either the
* PVM/IPCS or the VM/XA* dump viewing facility is to be used.
DUMP VMDUMP OPERAINS
* The BUFFERS, EXT, and I/O entries are not illustrated in this
* sample configuration
MSGOPTNS Y Y Y Y Y Y Y
```

---

### B.2 PVM Profile File for VM/ESA

```
*****
* PROFILE PVM for VM/Pass-Through 2.1.1
*****
* start the line drivers
*
* Enable users to DIAL into PVM
START GRAF 200
START GRAF 201
START GRAF 202
```

```
START GRAF 203
START GRAF 204
START GRAF 205
START GRAF 206
START GRAF 207
START GRAF 208
START GRAF 209
START GRAF 20A
START GRAF 20B
START VSETEST
*   stop console spooling since AUDIT file is now working
CP SPOOL CONSOLE STOP CLOSE
```

---

### B.3 MPVMSYS NAMES Sample File for VM/ESA

```
/* Name -          MPVMSYS NAMES

:nick.?CONFIG
      :PVMID.PVM
:nick.?INITIAL
      :sysreq.MACRO MPVMMENU
      :pa3.MACRO MPVMMENU
:nick.?DEFAULT
      :PF9.SELECT
      :PF12.SESSEND
:nick.?FINAL
      :?.MSG You are leaving MPVM
:nick.BOEVMIS1
      :target.BOEVMIS1
:nick.VSETEST
      :target.VSETEST
:nick.VSEPROD
      :target.VSEPROD
:nick.*ALL
      :*.BOEVMIS1 VSETEST VSEPROD
```

---

## Appendix C. PVMG Definitions for VSE/ESA

This chapter shows the definitions for the PVMG configuration file, the PVMG application definitions, the PVMG Logon Mode Table definitions and the PVMG USSTAB table we used for our tests.

---

### C.1 PVMG Configuration File Definitions for VSE/ESA

The PVMG configuration file contains two LU records. Rather than define two LU records we could have taken the LU DEFAULT record. That record defines a pool of LU names PVMG will use when there is no LU definition for a requested applid. By using this method, we did not have to define specific LUs for DBDCCICS and ITSOCICS.

```
* $$ JOB JNM=PVMG,DISP=D,PRI=3,CLASS=4
// JOB PVMG
// SETPREFIX LIMIT=32K
// OPTION NOSYSDDUMP
// LIBDEF *,SEARCH=(PRD2.PVMGVSE,PRD2.CONFIG)
// EXEC PVMGVSE,SIZE=650K,PARM=¢TRACE¢
* *****
LANG AMENG
* *****
LOCAL VSETEST N2ECAPV2
* *****
* LINK TO VM-PVM NODE
LINK * BOEVMIS1 IUCV USER PVM
* *****
LOGONID ITSOCICS
* *****
* *****
APPLN VSEPROD DBDCCICS
* *****
SELECT BOEVMIS1
* *****
* Route Table:
* ROUTE DEFAULT RMTPVM1
ROUTE DEFAULT BOEVMIS1
ROUTE BOEVMISC BOEVMIS1
* *****
* AUTHORIZ OPERATOR *
AUTHORIZ OPERATOR BOEVMIS1
AUTHORIZ MAINT BOEVMIS1
* *****
* SESSDISC N2ECAVSC
SESSDISC N2ECAP01
* *****
SESSTERM #####
* *****
XDBC CONS
* *****
* N2N6AVSC
* *****
* LU N2N6AVSC N2ECAP01-20 RESTRICT
LU DBDCCICS N2ECAP01-10 RESTRICT
LU ITSOCICS N2ECAP12-5 RESTRICT
```

```

* *****
*   APPLID TABLE
* *****
* APPLN RMTSYS6 N2N6AVSC
APPLN BOEVMIS1 N2ECAP01
* *****
*   Logon Mode Table Entry Name Keywords and Values:
LOGMODE 3277      S3270
LOGMODE 3278-2B D4B32782
LOGMODE 3278-2E D4E32782
LOGMODE 3278-3B D4B32783
LOGMODE 3278-3E D4E32783
LOGMODE 3278-4B D4B32784
LOGMODE 3278-4E D4E32784
LOGMODE 3278-5B D4B32785
LOGMODE 3278-5E D4E32785
LOGMODE 3279-3B D4B32793
LOGMODE 3279-3E D4E32793
LOGMODE 3290      D329001
* *****
MSGOPTNS Y Y Y Y Y Y Y
* *****
/*
/&
* $$ EOJ

```

---

## C.2 PVMG Application Definitions for VSE/VTAM

```

* $$ JOB PVMAPPL,DISP=L,PRI=9
// JOB PVMAPPL  DEFINING THE PVM APPLICATIONS TO VTAM/VSE
*****
**> Pass-Through 2.1 VTAMLST for PVMG component          <**
*****
PVMG      VBUILD TYPE=APPL
*
N2ECAPV2 APPL  ACBNAME=N2ECAPV2,AUTH=(PASS,NVPACE),AUTHEXIT=YES,      X
              MODETAB=SNAMODET,PARSESS=YES,SONSCIP=YES,VPACING=0
*
N2ECAP01 APPL  ACBNAME=N2ECAP01,AUTH=(PASS,NVPACE),EAS=1,          X
              MODETAB=SNAMODET,VPACING=0,AUTHEXIT=YES
N2ECAP02 APPL  ACBNAME=N2ECAP02,AUTH=(PASS,NVPACE),EAS=1,          X
              MODETAB=SNAMODET,VPACING=0,AUTHEXIT=YES
N2ECAP03 APPL  ACBNAME=N2ECAP03,AUTH=(PASS,NVPACE),EAS=1,          X
              MODETAB=SNAMODET,VPACING=0,AUTHEXIT=YES
N2ECAP04 APPL  ACBNAME=N2ECAP04,AUTH=(PASS,NVPACE),EAS=1,          X
              MODETAB=SNAMODET,VPACING=0,AUTHEXIT=YES
N2ECAP05 APPL  ACBNAME=N2ECAP05,AUTH=(PASS,NVPACE),EAS=1,          X
              MODETAB=SNAMODET,VPACING=0,AUTHEXIT=YES
N2ECAP06 APPL  ACBNAME=N2ECAP06,AUTH=(PASS,NVPACE),EAS=1,          X
              MODETAB=SNAMODET,VPACING=0,AUTHEXIT=YES
N2ECAP07 APPL  ACBNAME=N2ECAP07,AUTH=(PASS,NVPACE),EAS=1,          X
              MODETAB=SNAMODET,VPACING=0,AUTHEXIT=YES
N2ECAP08 APPL  ACBNAME=N2ECAP08,AUTH=(PASS,NVPACE),EAS=1,          X
              MODETAB=SNAMODET,VPACING=0,AUTHEXIT=YES
N2ECAP09 APPL  ACBNAME=N2ECAP09,AUTH=(PASS,NVPACE),EAS=1,          X
              MODETAB=SNAMODET,VPACING=0,AUTHEXIT=YES
N2ECAP10 APPL  ACBNAME=N2ECAP10,AUTH=(PASS,NVPACE),EAS=1,          X

```



```

MODETAB=SNAMODET,VPACING=0,AUTHEXIT=YES
N2ECAP11 APPL ACBNAME=N2ECAP11,AUTH=(PASS,NVPACE),EAS=1, X
MODETAB=SNAMODET,VPACING=0,AUTHEXIT=YES
N2ECAP12 APPL ACBNAME=N2ECAP12,AUTH=(PASS,NVPACE),EAS=1, X
MODETAB=SNAMODET,VPACING=0,AUTHEXIT=YES
N2ECAP13 APPL ACBNAME=N2ECAP13,AUTH=(PASS,NVPACE),EAS=1, X
MODETAB=SNAMODET,VPACING=0,AUTHEXIT=YES
N2ECAP14 APPL ACBNAME=N2ECAP14,AUTH=(PASS,NVPACE),EAS=1, X
MODETAB=SNAMODET,VPACING=0,AUTHEXIT=YES
N2ECAP15 APPL ACBNAME=N2ECAP15,AUTH=(PASS,NVPACE),EAS=1, X
MODETAB=SNAMODET,VPACING=0,AUTHEXIT=YES
N2ECAP16 APPL ACBNAME=N2ECAP16,AUTH=(PASS,NVPACE),EAS=1, X
MODETAB=SNAMODET,VPACING=0,AUTHEXIT=YES
N2ECAP17 APPL ACBNAME=N2ECAP17,AUTH=(PASS,NVPACE),EAS=1, X
MODETAB=SNAMODET,VPACING=0,AUTHEXIT=YES
N2ECAP18 APPL ACBNAME=N2ECAP18,AUTH=(PASS,NVPACE),EAS=1, X
MODETAB=SNAMODET,VPACING=0,AUTHEXIT=YES
N2ECAP19 APPL ACBNAME=N2ECAP19,AUTH=(PASS,NVPACE),EAS=1, X
MODETAB=SNAMODET,VPACING=0,AUTHEXIT=YES
N2ECAP20 APPL ACBNAME=N2ECAP20,AUTH=(PASS,NVPACE),EAS=1, X
MODETAB=SNAMODET,VPACING=0,AUTHEXIT=YES
*
***** E N D *****
/&
* $$ EOJ

```

---

### C.3 PVMG Logon Mode Table Definition for VSE/VTAM

```

* $$ JOB JNM=SNAMODET,CLASS=0,DISP=D,NIFY=YES
* $$ LST CLASS=Q,DISP=H
// JOB SNAMODET ASSEMBLE MODETAB DE PVMG
// LIBDEF *,CATALOG=PRD2.CONFIG
// OPTION CATAL,LIST
// EXEC ASSEMBLY
        PUNCH  ¢ CATALOG  SNAMODET.OBJ  REPLACE=YES¢
        PUNCH  ¢ PHASE    SNAMODET,*¢
        PRINT  NOGEN
SNAMODET MODETAB
*****
*
*          SNAMODET:  PVMG LOGON MODE TABLE
*
*          THIS LOGON MODE TABLE CONTAINS A LOGON MODE ENTRY NAMES
*          FOR TERMINALS THAT PVMG WILL USE.
*
*          NOTE:  THIS TABLE IS BASICALLY A COPY OF THE IBM-SUPPLIED
*                LOGON MODE TABLE ¢ISTINCLM¢ (SEE ACF VTAM PLANNING
*                AND INSTALLATION REFERENCE).  NEW ENTRIES WERE
*                ADDED TO SUPPORT 3279 AND EDS DEVICES.
*
*****
        TITLE ¢INTERACT¢
*****
*
*          3767 INTERACTIVE LOGICAL UNIT
*
*
*          PRIPROT=X¢B1¢,SECPROT=X¢A0¢,COMPROT=X¢3040¢
        TITLE ¢INTERACT¢

```

```

*****
*
*          3770 BATCH LOGICAL UNIT
*
*****
IBM3770  MODEENT LOGMODE=BATCH,FMPROF=Xç03ç,TSPROF=Xç03ç,
          PRIPROT=XçA3ç,SECPRROT=XçA3ç,COMPROT=Xç7080ç
          TITLE çS3270ç
*****
*
*          3270 BSC / 3270 SDLC / 3270 LOCAL NON-SNA
*
*****
IBMS3270 MODEENT LOGMODE=S3270,FMPROF=Xç02ç,TSPROF=Xç02ç,
          PRIPROT=Xç71ç,SECPRROT=Xç40ç,COMPROT=Xç2000ç,
          PSEVIC=Xç000000000000185000007E00ç
          TITLE çIBM3600ç
*****
*
*          3600 LOGICAL UNIT
*
*****
IBM3600  MODEENT LOGMODE=IBM3600,FMPROF=Xç04ç,TSPROF=Xç04ç,
          PRIPROT=XçF1ç,SECPRROT=XçF0ç,COMPROT=Xç7000ç
          TITLE çININACTç
*****
*
*          3650 LOGICAL UNIT
*
*****
IBM3650I MODEENT LOGMODE=ININACT,FMPROF=Xç04ç,TSPROF=Xç04ç,
          PRIPROT=XçB1ç,SECPRROT=Xç90ç,COMPROT=Xç6000ç
          TITLE çINIRUSERç
*****
*
*          3650 LOGICAL UNIT
*
*****
IBM3650U MODEENT LOGMODE=INIRUSER,FMPROF=Xç04ç,TSPROF=Xç04ç,
          PRIPROT=Xç31ç,SECPRROT=Xç30ç,COMPROT=Xç6000ç
          TITLE çIBM3650ç
*****
*
*          3650 LOGICAL UNIT
*
*****
IBM3650  MODEENT LOGMODE=IBM3650,FMPROF=Xç04ç,TSPROF=Xç04ç,
          PRIPROT=XçB0ç,SECPRROT=XçB0ç,COMPROT=Xç4000ç
          TITLE çPIPELINEç
*****
*
*          3650 LOGICAL UNIT
*
*****
IBM3650P MODEENT LOGMODE=PIPELINE,FMPROF=Xç04ç,TSPROF=Xç04ç,
          PRIPROT=Xç30ç,SECPRROT=Xç10ç,COMPROT=Xç0000ç
*
*          3660 LOGICAL UNIT
*
*****
IBM3660  MODEENT LOGMODE=SMAPPL,FMPROF=Xç03ç,TSPROF=Xç03ç,

```

```

PRIPROT=XçA0ç,SECPROT=XçA0ç,COMPROT=Xç0081ç
TITLE çSMSNA100ç
*****
*
*          3660 LOGICAL UNIT
*
*****
IBM3660A MODEENT LOGMODE=SMSNA100,FMPROF=Xç00ç,TSPROF=Xç00ç,
PRIPROT=Xç00ç,SECPROT=Xç00ç,COMPROT=Xç0000ç
TITLE çD6327801ç
*****
*
*          3276 SNA WITH 3278 MODEL 1 SCREEN
*          PRIMARY   SCREEN 12X40 (480)
*          ALTERNATE SCREEN 12X80 (960)
*
*****
D6327801 MODEENT LOGMODE=D6327801,FMPROF=Xç03ç,TSPROF=Xç03ç,
PRIPROT=XçB1ç,SECPROT=Xç90ç,COMPROT=Xç3080ç,
RUSIZES=Xç88F8ç,PSEVIC=Xç020000000000C280C507F00ç
TITLE çD6327802ç
*****
*
*          NO ALTERNATE SCREEN DEFINED
*
*****
D6327802 MODEENT LOGMODE=D6327802,FMPROF=Xç03ç,TSPROF=Xç03ç,
PRIPROT=XçB1ç,SECPROT=Xç90ç,COMPROT=Xç3080ç,
RUSIZES=Xç88F8ç,PSEVIC=Xç0200000000018500007E00ç
TITLE çD6327803ç
*****
*
*          3276 SNA WITH 3278 MODEL 3 SCREEN
*          PRIMARY   SCREEN 24X80 (1920)
*          ALTERNATE SCREEN 32X80 (2560)
*
*****
D6327803 MODEENT LOGMODE=D6327803,FMPROF=Xç03ç,TSPROF=Xç03ç,
PRIPROT=XçB1ç,SECPROT=Xç90ç,COMPROT=Xç3080ç,
RUSIZES=Xç88F8ç,PSEVIC=Xç02000000000185020507F00ç
TITLE çD6327804ç
*****
*
*          3276 SNA WITH 3278 MODEL 4 SCREEN
*          PRIMARY   SCREEN 24X80 (1920)
*          ALTERNATE SCREEN 43X80 (3440)
*
*****
D6327804 MODEENT LOGMODE=D6327804,FMPROF=Xç03ç,TSPROF=Xç03ç,
PRIPROT=XçB1ç,SECPROT=Xç90ç,COMPROT=Xç3080ç,
RUSIZES=Xç88F8ç,PSEVIC=Xç0200000000018502B507F00ç
*
*          3276 SNA WITH 3278 MODEL 5 SCREEN
*          PRIMARY   SCREEN 24X80 (1920)
*          ALTERNATE SCREEN 27X132 (3564)
*
*****
D6327805 MODEENT LOGMODE=D6327805,FMPROF=Xç03ç,TSPROF=Xç03ç,
PRIPROT=XçB1ç,SECPROT=Xç90ç,COMPROT=Xç3080ç,

```

```

                RUSIZES=Xç88F8ç,PSEVIC=Xç0200000000018501B847F00ç
        TITLE çD6328902ç
*****
*
*           3276 SNA WITH 3289 MODEL 2 PRINTER
*
*****
D6328902 MODEENT LOGMODE=D6328902,FMPROF=Xç03ç,TSPROF=Xç03ç,
                PRIPROT=XçB1ç,SECPROT=Xç90ç,COMPROT=Xç3080ç,
                RUSIZES=Xç8787ç,PSEVIC=Xç03000000000185018507F00ç
        TITLE çD6328904ç
*****
*
*           3276 SNA WITH 3289 MODEL 4 PRINTER
*
*****
D6328904 MODEENT LOGMODE=D6328904,FMPROF=Xç03ç,TSPROF=Xç03ç,
                PRIPROT=XçB1ç,SECPROT=Xç90ç,COMPROT=Xç3080ç,
                RUSIZES=Xç8787ç,PSEVIC=Xç0300000000018502B507F00ç
        TITLE çD4A32781ç
*           3274 MODEL 1A WITH MODEL 1 SCREEN (LOCAL SNA)
*           PRIMARY   SCREEN 12X40   (480)
*           ALTERNATE SCREEN 12X80   (960)
*
*****
D4A32781 MODEENT LOGMODE=D4A32781,FMPROF=Xç03ç,TSPROF=Xç03ç,
                PRIPROT=XçB1ç,SECPROT=Xç90ç,COMPROT=Xç3080ç,
                RUSIZES=Xç87C7ç,PSEVIC=Xç020000000000C280C507F00ç
        TITLE çD4A32782ç
*****
*
*           3274 MODEL 1A WITH MODEL 2 SCREEN (LOCAL SNA)
*           PRIMARY   SCREEN 24X80   (1920)
*           NO ALTERNATE SCREEN DEFINED
*
*****
D4A32782 MODEENT LOGMODE=D4A32782,FMPROF=Xç03ç,TSPROF=Xç03ç,
                PRIPROT=XçB1ç,SECPROT=Xç90ç,COMPROT=Xç3080ç,
                RUSIZES=Xç87C7ç,PSEVIC=Xç0200000000018500007E00ç
        TITLE çD4A32783ç
*****
*
*           3274 MODEL 1A WITH MODEL 3 SCREEN (LOCAL SNA)
*           PRIMARY   SCREEN 24X80   (1920)
*           ALTERNATE SCREEN 32X80   (2560)
*
*****
D4A32783 MODEENT LOGMODE=D4A32783,FMPROF=Xç03ç,TSPROF=Xç03ç,
        TITLE çD4A32784ç
*****
*
*           3274 MODEL 1A WITH MODEL 4 SCREEN (LOCAL SNA)
*           PRIMARY   SCREEN 24X80   (1920)
*           ALTERNATE SCREEN 43X80   (3440)
*
*****
D4A32784 MODEENT LOGMODE=D4A32784,FMPROF=Xç03ç,TSPROF=Xç03ç,
                PRIPROT=XçB1ç,SECPROT=Xç90ç,COMPROT=Xç3080ç,
                RUSIZES=Xç87C7ç,PSEVIC=Xç0200000000018502B507F00ç

```

```

          TITLE 4D4A327854
*****
*
*          3274 MODEL 1A WITH MODEL 5 SCREEN (LOCAL SNA)
*          PRIMARY   SCREEN 24X80   (1920)
*          ALTERNATE SCREEN 27X132  (3564)
*
*****
D4A32785 MODEENT LOGMODE=D4A32785,FMPROF=X4034,TSPOF=X4034,
          PRIPROT=X4B14,SECPROT=X4904,COMPROT=X430804,
          RUSIZES=X487C74,PSERVIC=X40200000000018501B847F004
          TITLE 4D4A327714
*****
*
*          3274 MODEL 1A WITH 3277 MODEL 1 SCREEN
*
*****
          RUSIZES=X487C74,PSERVIC=X40200000000000000001004
          TITLE 4D4A327724
*****
*
*          3274 MODEL 1A WITH 3277 MODEL 2 SCREEN
*
*****
D4A32772 MODEENT LOGMODE=D4A32772,FMPROF=X4034,TSPOF=X4034,
          PRIPROT=X4B14,SECPROT=X4904,COMPROT=X430804,
          RUSIZES=X487C74,PSERVIC=X40200000000000000002004
          TITLE 4D4C327814
*****
*
*          3274 MODEL 1C WITH MODEL 1 SCREEN (REMOTE SNA)
*          PRIMARY   SCREEN 12X40   (480)
*          ALTERNATE SCREEN 12X80   (960)
*
*****
D4C32781 MODEENT LOGMODE=D4C32781,FMPROF=X4034,TSPOF=X4034,
          PRIPROT=X4B14,SECPROT=X4904,COMPROT=X430804,
          RUSIZES=X487F84,PSERVIC=X4020000000000C280C507F004
          TITLE 4D4C327824
*****
*
*          3274 MODEL 1C WITH MODEL 2 SCREEN (REMOTE SNA)
*          PRIMARY   SCREEN 24X80   (1920)
*          NO ALTERNATE SCREEN DEFINED
*
          PRIPROT=X4B14,SECPROT=X4904,COMPROT=X430804,
          RUSIZES=X487F84,PSERVIC=X40200000000018500007E004
          TITLE 4D4C327834
*****
*
*          3274 MODEL 1C WITH MODEL 3 SCREEN (REMOTE SNA)
*          PRIMARY   SCREEN 24X80   (1920)
*          ALTERNATE SCREEN 32X80   (2560)
*
*****
D4C32783 MODEENT LOGMODE=D4C32783,FMPROF=X4034,TSPOF=X4034,
          PRIPROT=X4B14,SECPROT=X4904,COMPROT=X430804,
          RUSIZES=X487F84,PSERVIC=X402000000000185020507F004
          TITLE 4D4C327844

```

```

*****
*
*          3274 MODEL 1C WITH MODEL 4 SCREEN (REMOTE SNA)          *
*          PRIMARY   SCREEN 24X80   (1920)                          *
*          ALTERNATE SCREEN 43X80   (3440)                          *
*
*****
D4C32784 MODEENT LOGMODE=D4C32784,FMPROF=Xç03ç,TSPROF=Xç03ç,      X
          PRIPROT=XçB1ç,SECPROT=Xç90ç,COMPROT=Xç3080ç,          X
          RUSIZES=Xç87F8ç,PSERVIC=Xç0200000000018502B507F00ç
          TITLE çD4C32785ç
*****
*
*          3274 MODEL 1C WITH MODEL 5 SCREEN (REMOTE SNA)          *
*
*****
D4C32785 MODEENT LOGMODE=D4C32785,FMPROF=Xç03ç,TSPROF=Xç03ç,      X
          PRIPROT=XçB1ç,SECPROT=Xç90ç,COMPROT=Xç3080ç,          X
          RUSIZES=Xç87F8ç,PSERVIC=Xç0200000000018501B847F00ç
          TITLE çD4C32771ç
*****
*
*          3274 MODEL 1C WITH 3277 MODEL 1 SCREEN                  *
*
*****
D4C32771 MODEENT LOGMODE=D4C32771,FMPROF=Xç03ç,TSPROF=Xç03ç,      X
          PRIPROT=XçB1ç,SECPROT=Xç90ç,COMPROT=Xç3080ç,          X
          RUSIZES=Xç87F8ç,PSERVIC=Xç02000000000000000000100ç
          TITLE çD4C32772ç
*****
*
*          3274 MODEL 1C WITH 3277 MODEL 2 SCREEN                  *
*
*****
D4C32772 MODEENT LOGMODE=D4C32772,FMPROF=Xç03ç,TSPROF=Xç03ç,      X
          PRIPROT=XçB1ç,SECPROT=Xç90ç,COMPROT=Xç3080ç,          X
          RUSIZES=Xç87F8ç,PSERVIC=Xç02000000000000000000200ç
          TITLE çD4B32781ç
*****
*
*          3274 MODEL 1B/1D WITH MODEL 1 SCREEN (LOCAL NON-SNA)    *
*          3274 MODEL 1C BSC WITH MODEL 1 SCREEN                  *
*          ALTERNATE SCREEN 12X80   (960)                          *
*
*****
D4B32781 MODEENT LOGMODE=D4B32781,FMPROF=Xç02ç,TSPROF=Xç02ç,      X
          PRIPROT=Xç71ç,SECPROT=Xç40ç,COMPROT=Xç2000ç,          X
          RUSIZES=Xç0000ç,PSERVIC=Xç00000000000000C280C507F00ç
          TITLE çD4B32782ç
*****
*
*          3274 MODEL 1B/1D WITH MODEL 2 SCREEN (LOCAL NON-SNA)    *
*          3274 MODEL 1C BSC WITH MODEL 2 SCREEN                  *
*          3276 BSC WITH MODEL 2 SCREEN                            *
*          PRIMARY   SCREEN 24X80   (1920)                          *
*          NO ALTERNATE SCREEN DEFINED                              *
*
*****
D4B32782 MODEENT LOGMODE=D4B32782,FMPROF=Xç02ç,TSPROF=Xç02ç,      X

```

```

PRIPROT=Xç71ç,SECPROT=Xç40ç,COMPROT=Xç2000ç, X
RUSIZES=Xç0000ç,PSERVIC=Xç00000000000018500007E00ç
TITLE çD4E32782ç
*****
*
* 3274 MODEL 1B/1D WITH MODEL 2 SCREEN (LOCAL NON-SNA) *
* 3274 MODEL 1C BSC WITH MODEL 2 SCREEN - WITH EDS *
* 3276 BSC WITH MODEL 2 SCREEN *
* PRIMARY SCREEN 24X80 (1920) *
* NO ALTERNATE SCREEN DEFINED *
*
PRIPROT=Xç71ç,SECPROT=Xç40ç,COMPROT=Xç2000ç, X
RUSIZES=Xç0000ç,PSERVIC=Xç00800000000018500007E00ç
TITLE çD4B32783ç
*****
*
* 3274 MODEL 1B/1D WITH MODEL 3 SCREEN (LOCAL NON-SNA) *
* 3274 MODEL 1C BSC WITH MODEL 3 SCREEN *
* 3276 BSC WITH MODEL 3 SCREEN *
* PRIMARY SCREEN 24X80 (1920) *
* ALTERNATE SCREEN 32X80 (2560) *
*
*****
D4B32783 MODEENT LOGMODE=D4B32783,FMPROF=Xç02ç,TSPROF=Xç02ç, X
PRIPROT=Xç71ç,SECPROT=Xç40ç,COMPROT=Xç2000ç, X
RUSIZES=Xç0000ç,PSERVIC=Xç000000000000185020507F00ç
TITLE çD4E32783ç
*****
*
* 3274 MODEL 1B/1D WITH MODEL 3 SCREEN (LOCAL NON-SNA) *
* 3274 MODEL 1C BSC WITH MODEL 3 SCREEN - WITH EDS *
* 3276 BSC WITH MODEL 3 SCREEN *
* PRIMARY SCREEN 24X80 (1920) *
* ALTERNATE SCREEN 32X80 (2560) *
*
*****
D4E32783 MODEENT LOGMODE=D4E32783,FMPROF=Xç02ç,TSPROF=Xç02ç, X
PRIPROT=Xç71ç,SECPROT=Xç40ç,COMPROT=Xç2000ç, X
RUSIZES=Xç0000ç,PSERVIC=Xç008000000000185020507F00ç
*
* 3274 MODEL 1B/1D WITH MODEL 4 SCREEN (LOCAL NON-SNA) *
* 3274 MODEL 1C BSC WITH MODEL 4 SCREEN *
* 3276 BSC WITH MODEL 4 SCREEN *
* PRIMARY SCREEN 24X80 (1920) *
* ALTERNATE SCREEN 43X80 (3440) *
*
*****
D4B32784 MODEENT LOGMODE=D4B32784,FMPROF=Xç02ç,TSPROF=Xç02ç, X
PRIPROT=Xç71ç,SECPROT=Xç40ç,COMPROT=Xç2000ç, X
RUSIZES=Xç0000ç,PSERVIC=Xç00000000000018502B507F00ç
TITLE çD4E32784ç
*****
*
* 3274 MODEL 1B/1D WITH MODEL 4 SCREEN (LOCAL NON-SNA) *
* 3274 MODEL 1C BSC WITH MODEL 4 SCREEN - WITH EDS *
* 3276 BSC WITH MODEL 4 SCREEN *
* PRIMARY SCREEN 24X80 (1920) *
* ALTERNATE SCREEN 43X80 (3440) *
*

```

```

*****
D4E32784 MODEENT LOGMODE=D4E32784,FMPROF=Xç02ç,TSPROF=Xç02ç,          X
                PRIPROT=Xç71ç,SECPROT=Xç40ç,COMPROT=Xç2000ç,          X
                RUSIZES=Xç0000ç,PSERVIC=Xç00800000000018502B507F00ç
                TITLE çD4B32785ç
*****
*
*          3274 MODEL 1B/1D WITH MODEL 5 SCREEN (LOCAL NON-SNA)      *
*          PRIMARY   SCREEN 24X80   (1920)                            *
*          ALTERNATE SCREEN 27X132  (3564)                            *
*
*****
D4B32785 MODEENT LOGMODE=D4B32785,FMPROF=Xç02ç,TSPROF=Xç02ç,          X
                PRIPROT=Xç71ç,SECPROT=Xç40ç,COMPROT=Xç2000ç,          X
                RUSIZES=Xç0000ç,PSERVIC=Xç00000000000018501B847F00ç
                TITLE çD4E32785ç
*****
*
*          3274 MODEL 1B/1D WITH MODEL 5 SCREEN (LOCAL NON-SNA)      *
*          3274 MODEL 1C BSC WITH MODEL 5 SCREEN - WITH EDS          *
*          3276 BSC WITH MODEL 5 SCREEN                              *
*          PRIMARY   SCREEN 24X80   (1920)                            *
*          ALTERNATE SCREEN 27X132  (3564)                            *
*
*****
D4E32785 MODEENT LOGMODE=D4E32785,FMPROF=Xç02ç,TSPROF=Xç02ç,          X
                PRIPROT=Xç71ç,SECPROT=Xç40ç,COMPROT=Xç2000ç,          X
                RUSIZES=Xç0000ç,PSERVIC=Xç00800000000018501B847F00ç
                TITLE çD4B32792ç
*****
*
*          3279 MODEL 2B - NO EDS                                       *
*          PRIMARY   SCREEN 24X80   (1920)                            *
*          ALTERNATE SCREEN 24X80   (1920)                            *
*
*****
                RUSIZES=Xç0000ç,PSERVIC=Xç000000000000185018507F00ç
                TITLE çD4E32792ç
*****
*
*          3279 MODEL 2B - WITH EDS                                       *
*          PRIMARY   SCREEN 24X80   (1920)                            *
*          ALTERNATE SCREEN 24X80   (1920)                            *
*
*****
D4E32792 MODEENT LOGMODE=D4E32792,FMPROF=Xç02ç,TSPROF=Xç02ç,          X
                PRIPROT=Xç71ç,SECPROT=Xç40ç,COMPROT=Xç2000ç,          X
                RUSIZES=Xç0000ç,PSERVIC=Xç008000000000185018507F00ç
                TITLE çD4B32793ç
*****
*
*          3279 MODEL 3 - NO EDS                                       *
*          PRIMARY   SCREEN 24X80   (1920)                            *
*          ALTERNATE SCREEN 32X80   (2560)                            *
*
*****
D4B32793 MODEENT LOGMODE=D4B32793,FMPROF=Xç02ç,TSPROF=Xç02ç,          X
                PRIPROT=Xç71ç,SECPROT=Xç40ç,COMPROT=Xç2000ç,          X
                RUSIZES=Xç0000ç,PSERVIC=Xç000000000000185020507F00ç

```



```

          TITLE 4D4E327934
*****
*
*          3279 MODEL 3 - WITH EDS
*          PRIMARY   SCREEN 24X80   (1920)
*****
D4E32793 MODEENT LOGMODE=D4E32793,FMPROF=X4024,TS PROF=X4024,
          PRIPROT=X4714,SECPROT=X4404,COMPROT=X420004,
          RUSIZES=X400004,PSEVIC=X400800000000185020507F004
          TITLE 4D3290014
*****
*
*          LOGMODE TABLE ENTRY FOR 3290 TERMINAL
*          PRIMARY SCREEN SIZE   24X80
*          ALTERNATE SCREEN SIZE 62X160
*****
D329001  MODEENT LOGMODE=D329001,FMPROF=X4034,TS PROF=X4034,
          PRIPROT=X4B14,SECPROT=X4904,COMPROT=X430804,
          RUSIZES=X487874,PSEVIC=X40280000000018503EA07F004
          TITLE 4SCS4
*****
*
*          3274 MODEL 1B/1D (LOCAL NON-SNA)
*          WITH 3290 SCREEN
*          PRIMARY SCREEN SIZE 24 X 80
*          ALTERNATE SCREEN SIZE 62 X 160
*****
D4B3290  MODEENT LOGMODE=D4B3290,FMPROF=X4024,TS PROF=X4024,
          PRIPROT=X4714,SECPROT=X4404,COMPROT=X420004,
          RUSIZES=X400004,PSEVIC=X400800000000185000003004
          TITLE 4DSC2K4
*          PRINTER WITH SNA CHARACTER SET
*****
SCS      MODEENT LOGMODE=SCS,FMPROF=X4034,TS PROF=X4034,
          PRIPROT=X4B14,SECPROT=X4904,COMPROT=X430804,
          RUSIZES=X487C64,PSEVIC=X401000000E100000000000004,
          PSNDPAC=X4014,SRCPAC=X4014
          TITLE 4DSC2K4
*****
*
*          PRINTER WITH 2K BUFFER
*****
DSC2K    MODEENT LOGMODE=DSC2K,FMPROF=X4034,TS PROF=X4034,
          PRIPROT=X4B14,SECPROT=X4904,COMPROT=X430804,
          RUSIZES=X487874,PSEVIC=X403000000000185018507F004
          TITLE 4DSC4K4
*****
*
*          PRINTER WITH 4K BUFFER
*****
DSC4K    MODEENT LOGMODE=DSC4K,FMPROF=X4034,TS PROF=X4034,
          PRIPROT=X4B14,SECPROT=X4904,COMPROT=X430804,
          RUSIZES=X487874,PSEVIC=X40300000000018502B507F004
          TITLE 4PRT32874

```

```

*****
*
*****
PRT3287  MODEENT LOGMODE=PRT3287,FMPROF=X020,TSPROF=X020,      X
          PRIPROT=X0710,SECPROT=X040,COMPROT=X020000,      X
          PSERVIC=X0380000000018502B507F000
          TITLE 0PRT877520
*****
*
*          8775 11/12 MODEL 2 (REMOTE SNA)      *
*          PRIMARY SCREEN = 24X80 (1920)      *
*          NO ALTERNATE SCREEN DEFINED      *
*
*****
PRT87752  MODEENT LOGMODE=PRT87752,FMPROF=X030,TSPROF=X030,      X
          PRIPROT=X0B10,SECPROT=X090,COMPROT=X030800,      X
          RUSIZES=X087C70,PSERVIC=X028000800000185000007E000
          TITLE 0PRT877530
*****
*
*          8775 11/12 MODEL 3 (REMOTE SNA)      *
*          PRIMARY SCREEN = 24X80 (1920)      *
*          ALTERNATE SCREEN = 32X80 (2560)      *
*
*****
PRT87753  MODEENT LOGMODE=PRT87753,FMPROF=X030,TSPROF=X030,      X
          PRIPROT=X0B10,SECPROT=X090,COMPROT=X030800,      X
          RUSIZES=X087C70,PSERVIC=X028000800000185020507F000
          TITLE 0PRT877540
*****
*          PRIMARY SCREEN = 24 X 80 (1920)      *
*          ALTERNATE SCREEN = 43 X 80 (3440)      *
*
*****
PRT87754  MODEENT LOGMODE=PRT87754,FMPROF=X030,TSPROF=X030,      X
          PRIPROT=X0B10,SECPROT=X090,COMPROT=X030800,      X
          RUSIZES=X087C70,PSERVIC=X02800080000018502B507F000
          TITLE 0BAT137900
*****
*          3790 BATCH      *
*
*****
BAT13790  MODEENT LOGMODE=BAT13790,FMPROF=X030,TSPROF=X030,      X
          PRIPROT=X000,SECPROT=X000,COMPROT=X00000,      X
          RUSIZES=X00000
          TITLE 0EMU37900
*****
*          3790 IN DATA STREAM COMPATIBILITY MODE      *
*
*****
EMU3790  MODEENT LOGMODE=EMU3790,FMPROF=X030,TSPROF=X030,      X
          PRIPROT=X0B10,SECPROT=X0B00,COMPROT=X030800,      X
          RUSIZES=X085C70,PSERVIC=X020000000000000000002000
          TITLE 0RJE3790A0
*****
*
*****

```

```

RJE3790A MODEENT LOGMODE=RJE3790A,FMPROF=Xç03ç,TSPROF=Xç03ç,      X
                PRIPROT=XçA3ç,SECPROT=XçA1ç,COMPROT=Xç7080ç,      X
                RUSIZES=Xç8585ç,PSERVIC=Xç01106000F100800000010040ç
                TITLE çRJE3790Aç
*****
*
*           3790 RJE
*
*****
RJE3790B MODEENT LOGMODE=RJE3790B,FMPROF=Xç03ç,TSPROF=Xç03ç,      X
                PRIPROT=XçA3ç,SECPROT=XçA1ç,COMPROT=Xç7080ç,      X
                RUSIZES=Xç8585ç,PSERVIC=Xç01102000F100800000010040ç
                TITLE çJES2MODEç
*****
*
*           JES2 SNA LINE
*
*****
JES2MODE MODEENT LOGMODE=JES2MODE,FMPROF=Xç03ç,TSPROF=Xç03ç,      X
                PRIPROT=XçB1ç,SECPROT=XçA0ç,COMPROT=Xç3040ç,      X
                SSNDPAC=Xç04ç
                TITLE çBAT23790ç
*****
*
*           3790 BATCH
*
*****
                RUSIZES=Xç8585ç,PSERVIC=Xç013100000000000000000000ç
                TITLE çBLK3790ç
*****
*
*           3790 BULK PRINT
*
*****
BLK3790 MODEENT LOGMODE=BLK3790,FMPROF=Xç03ç,TSPROF=Xç03ç,      X
                PRIPROT=XçB1ç,SECPROT=XçB0ç,COMPROT=Xç3080ç,      X
                RUSIZES=Xç8585ç,PSERVIC=Xç030000000000000000000000ç
                TITLE çSCS3790ç
*****
*
*           3790 WITH SNA CHARACTER SET
*
*****
SCS3790 MODEENT LOGMODE=SCS3790,FMPROF=Xç03ç,TSPROF=Xç03ç,      X
                PRIPROT=XçB1ç,SECPROT=XçB0ç,COMPROT=Xç3080ç,      X
                RUSIZES=Xç8585ç,PSERVIC=Xç010000000000000000000000ç
                TITLE çEMUDPCXç
*****
*
*           3790 IN DPCX EMULATION MODE
*
*****
EMUDPCX MODEENT LOGMODE=EMUDPCX,FMPROF=Xç03ç,TSPROF=Xç03ç,      X
                PRIPROT=XçB1ç,SECPROT=XçB0ç,COMPROT=Xç3080ç,      X
                RUSIZES=Xç85C7ç,PSERVIC=Xç020000000000000000000200ç
*
*           NLDM LOGMODE FOR LU-LU SESSION WITH NCCF
*
*****

```

```

ISTINLDM  MODEENT  LOGMODE=ISTINLDM,FMPROF=Xç02ç,TSPROF=Xç03ç,
          PRIPROT=Xç30ç,SECPROT=Xç40ç,COMPROT=Xç0000ç,
          RUSIZES=Xç0000ç,SSNDPAC=Xç02ç,
          PSEVIC=Xç00000000000000000000000000000000ç
          MODEEND
          END
/*
// EXEC LNKEEDT
/*
/&
* $$ EOJ

```

---

## C.4 PVMG USSTAB Table for VSE/VTAM

```

* $$ JOB JNM=VIMUSS,CLASS=Y,DISP=D
// JOB VIMUSS          CREATE ACF/VTAM USS TABLE
* *****
* *
* * - - - - - CREATE ACF/VTAM USS TABLE - - - - - *
* *
* * THIS JOB IS FOR CREATING ACF/VTAM USS DEFINITION TABLES. *
* * ACF/VTAM USES THESE TABLES FOR SENDING MESSAGES TO, AND *
* * RECEIVING COMMANDS FROM, SNA AND NON-SNA DISPLAY TERMINALS. *
* *
* * THIS JOB HAS 7 STEPS *
* *
* * 1. CATALOG LIBRARY MEMBER CONTAINING USS COMMAND *
* *    DEFINITIONS *
* * 2. CATALOG LIBRARY MEMBER CONTAINING MESSAGES SENT TO SNA *
* *    DISPLAY TERMINALS *
* * 3. CATALOG LIBRARY MEMBER CONTAINING MESSAGES SENT TO *
* *    NON-SNA DISPLAY TERMINALS *
* * 4. ASSEMBLE USS TABLE FOR SNA (VIMUSSTR) *
* * 5. LINKEDIT VIMUSSTR *
* * 6. ASSEMBLE USS TABLE FOR NON-SNA (VIMUSSTB) *
* * 7. LINKEDIT VIMUSSTB *
* *
* *
* * THE FOLLOWING VARIABLES ARE USED IN THE FIRST THREE *
* * JOBSTEPS AND HAVE TO BE CHANGED. (EACH VARIABLE IS *
* * THE NAME OF AN APPLICATION PROGRAM AND MUST BE NO MORE *
* * THAN 8 CHARACTERS. EACH VARIABLE IS ASSOCIATED WITH A *
* * CORRESPONDING, ABBREVIATED ACF/VTAM LOGON COMMAND. *
* *
* * VARIABLE          CORRESPONDS TO NAME *
* *                   ASSOCIATED WITH COMMAND *
* *
* * DBDCCICS          A *
* * PVM                B *
* * ITSOCICS          C *
* * _____        D *
* * _____        E *
* * _____        F *
* *
* *****
*
* *****

```

```

* *
* * JOBSTEP 1
* *
* * IF THERE IS NO APPLICATION NAME CORRESPONDING TO A
* * PARTICULAR VARIABLE, DELETE THE USSPARM STATEMENT
* * CONTAINING THE VARIABLE; ALSO, DELETE THE USSCMD STATEMENT
* * PRECEEDING IT AND THE USSPARM STATEMENT FOLLOWING IT.
* *
* *****
// EXEC LIBR, PARM=çMSHPç
ACCESS SUBLIB=PRD2.CONFIG
CATALOG VIMUSSCD.A REPLACE=YES
*
A USSCMD CMD=A,REP=LOGON,FORMAT=BAL
USSPARM PARM=P1,REP=APPLID,DEFAULT=DBDCCICS
USSPARM PARM=P2,REP=DATA
*
B USSCMD CMD=B,REP=LOGON,FORMAT=BAL
USSPARM PARM=P1,REP=APPLID,DEFAULT=N2ECAPV2
USSPARM PARM=P2,REP=DATA
*
C USSCMD CMD=C,REP=LOGON,FORMAT=BAL
USSPARM PARM=P1,REP=APPLID,DEFAULT=ITSOCICS
USSPARM PARM=P2,REP=DATA
*
D USSCMD CMD=D,REP=LOGON,FORMAT=BAL
USSPARM PARM=P1,REP=APPLID,DEFAULT=_____
USSPARM PARM=P2,REP=DATA
*
E USSCMD CMD=E,REP=LOGON,FORMAT=BAL
USSPARM PARM=P1,REP=APPLID,DEFAULT=_____
USSPARM PARM=P2,REP=DATA
*
F USSCMD CMD=F,REP=LOGON,FORMAT=BAL
USSPARM PARM=P1,REP=APPLID,DEFAULT=_____
USSPARM PARM=P2,REP=DATA
*
/+
/*
* *****
* *
* * JOBSTEP 2
* *
* * IF THERE IS NO APPLICATION NAME CORRESPONDING TO A
* * PARTICULAR VARIABLE, REPLACE IT WITH _____ TO INDICATE
* * THAT THERE IS NO NAME.
* *
* *****
// EXEC LIBR, PARM=çMSHPç
ACCESS SUBLIB=PRD2.CONFIG
CATALOG VIMUSSTZ.A REPLACE=YES
*
* THE FOLLOWING MENU WILL BE DISPLAYED ON SNA TERMINALS ONLY
*
*
DC Xç15ç NEW LINE (ROW 5)
DC CL9ç ç
DC CL2çA ç

```

```

          DC      CL8ϕDBDCCICSϕ
*
          DC      Xϕ15ϕ                NEW LINE (ROW 6)
          DC      CL9ϕ ϕ
          DC      CL2ϕB ϕ
          DC      CL8ϕPVM      ϕ
*
          DC      Xϕ15ϕ                NEW LINE (ROW 7)
          DC      CL9ϕ ϕ
          DC      CL2ϕC ϕ
          DC      CL8ϕITSOCICSϕ
*
          DC      Xϕ15ϕ                NEW LINE (ROW 8)
          DC      CL9ϕ ϕ
          DC      CL2ϕD ϕ
          DC      CL8ϕ_____ϕ
*
          DC      Xϕ15ϕ                NEW LINE (ROW 9)
          DC      CL9ϕ ϕ
          DC      CL2ϕE ϕ
          DC      CL8ϕ_____ϕ
*
          DC      Xϕ15ϕ                NEW LINE (ROW 10)
          DC      CL9ϕ ϕ
          DC      CL2ϕF ϕ
          DC      CL8ϕ_____ϕ
*
/+
/*
* *****
* *
* *  JOBSTEP 3
* *
* *  IF THERE IS NO APPLICATION NAME CORRESPONDING TO A
* *  PARTICULAR VARIABLE, REPLACE IT WITH _____ TO INDICATE
* *  THAT THERE IS NO NAME.
* *
* *****
// EXEC LIBR,PARM=ϕMSHPϕ
ACCESS SUBLIB=PRD2.CONFIG
CATALOG VIMUSSTX.A REPLACE=YES
*
* THE FOLLOWING MENU WILL BE DISPLAYED ON NON-SNA TERMINALS ONLY
*
*
          DC      Xϕ11ϕ                SET BUFFER ADDRESS ORDER
          DC      XϕC5C9ϕ                ROW 5 COLUMN 10
          DC      Xϕ1Dϕ                START FIELD ORDER
          DC      XϕF8ϕ                PROTECT SKIP INTENSIFIED ATTRIBUTE
          DC      CL2ϕA ϕ
          DC      Xϕ1Dϕ                START FIELD
          DC      XϕF0ϕ                PROTECT SKIP NORMAL
          DC      CL8ϕDBDCCICSϕ
*
          DC      Xϕ11ϕ                SET BUFFER ADDRESS ORDER
          DC      XϕC6D9ϕ                ROW 6 COLUMN 10
          DC      Xϕ1Dϕ                START FIELD ORDER
          DC      XϕF8ϕ                PROTECT SKIP INTENSIFIED ATTRIBUTE
          DC      CL2ϕB ϕ

```

```

DC Xc1Dc START FIELD
DC XcF0c PROTECT SKIP NORMAL
DC CL8cPVM c
*
DC Xc11c SET BUFFER ADDRESS ORDER
DC XcC7E9c ROW 7 COLUMN 10
DC Xc1Dc START FIELD ORDER
DC XcF8c PROTECT SKIP INTENSIFIED ATTRIBUTE
DC CL2cC c
DC Xc1Dc START FIELD
DC XcF0c PROTECT SKIP NORMAL
DC CL8cITSOCICSc
*
DC Xc11c SET BUFFER ADDRESS ORDER
DC XcC8F9c ROW 8 COLUMN 10
DC Xc1Dc START FIELD ORDER
DC XcF8c PROTECT SKIP INTENSIFIED ATTRIBUTE
DC CL2cD c
DC Xc1Dc START FIELD
DC XcF0c PROTECT SKIP NORMAL
DC CL8c--V004--c
*
DC Xc11c SET BUFFER ADDRESS ORDER
DC Xc4AC9c ROW 9 COLUMN 10
DC Xc1Dc START FIELD ORDER
DC XcF8c PROTECT SKIP INTENSIFIED ATTRIBUTE
DC CL2cE c
DC Xc1Dc START FIELD
DC XcF0c PROTECT SKIP NORMAL
DC CL8c--V005--c
*
DC Xc11c SET BUFFER ADDRESS ORDER
DC Xc4BD9c ROW 10 COLUMN 10
DC Xc1Dc START FIELD ORDER
DC XcF8c PROTECT SKIP INTENSIFIED ATTRIBUTE
DC CL2cF c
DC Xc1Dc START FIELD
DC XcF0c PROTECT SKIP NORMAL
DC CL8c--V006--c
*
/+
/*
// LIBDEF *,SEARCH=(PRD1.BASE,PRD2.CONFIG),TEMP
// LIBDEF PHASE,CATALOG=PRD2.CONFIG
// OPTION CATAL
PHASE VIMUSSTR,*
// EXEC ASSEMBLY
PRINT NOGEN
VIMUSSTR USSTAB TABLE=SIDTRANS,FORMAT=DYNAMIC
*
COPY VIMUSSCD
*
TEST USSCMD CMD=TEST,REP=IBMTTEST,FORMAT=BAL
USSPARM PARM=P1,DEFAULT=10
USSPARM PARM=P2,DEFAULT=OK
*
MESSAGES USSMSG MSG=0,TEXT=cCOMMAND ACCEPTEDc
USSMSG MSG=1,BUFFER=M1
USSMSG MSG=2,BUFFER=M1

```

```

USSMSG MSG=3,TEXT=ϕERROR IN VIMUSSTR. PRESS ENTERϕ
USSMSG MSG=4,TEXT=ϕAPPLICATION NOT ACTIVATED. PRESS ENTERϕ
USSMSG MSG=5,BUFFER=M1
USSMSG MSG=6,TEXT=ϕLOGON ALREADY PENDINGϕ
USSMSG MSG=7,TEXT=ϕ%(1) UNABLE TO ESTABLISH SESSION - %(2) F*
        ALLED WITH SENSE %(3)ϕ
USSMSG MSG=8,TEXT=ϕINSUFFICIENT STORAGEϕ
USSMSG MSG=9,TEXT=ϕMAGNETIC CARD DATA ERRORϕ
USSMSG MSG=10,BUFFER=M1
USSMSG MSG=12,TEXT=ϕREQUIRED PARAMETER OMITTEDϕ
USSMSG MSG=13,TEXT=ϕIBMECHO%ϕ
*
SIDTRANS DC      128AL1 (*-SIDTRANS)
          DC      Xϕ80C1C2C3C4C5C6C7C8C98A8B8C8D8E8Fϕ
          DC      Xϕ90D1D2D3D4D5D6D7D8D99A9B9C9D9E9Fϕ
          DC      XϕA0A1E2E3E4E5E6E7E8E9AAABACADAEAFϕ
          DC      XϕB0B1B2B3B4B5B6B7B8B9BABBBCBDBEBFϕ
          DC      XϕC0C1C2C3C4C5C6C7C8C9CACBCCCDCECFϕ
          DC      XϕD0D1D2D3D4D5D6D7D8D9DADBDCDDDEDFϕ
          DC      XϕE0E1E2E3E4E5E6E7E8E9EAEBECEDEEEFϕ
          DC      XϕF0F1F2F3F4F5F6F7F8F9FAFBFCFDFEFFϕ
END       USSEND
*
M1        DC      AL2(M1E-MLS)
MLS       DC      Xϕ15ϕ                NEW LINE (ROW 1)
*
* VIMUSSTR      VTAM APPLICATION SELECTION MENU
*
          DC      CL1ϕ ϕ
          DC      CL8ϕVIMUSSTRϕ
          DC      CL12ϕ ϕ
          DC      CϕVTAM APPLICATION SELECTION MENUϕ
*
* ENTER THE CHARACTER OF YOUR SELECTION AND PRESS THE ENTER KEY:
* (MIXED-CASE)
*
          DC      Xϕ15ϕ                NEW LINE (ROW 2)
          DC      Xϕ15ϕ                NEW LINE (ROW 3)
          DC      CL3ϕ ϕ
          DC      XϕC595A3859940A3888540838881998183A3859940968640ϕ
          DC      XϕA896A49940A285938583A38996954081958440979985A2A240ϕ
          DC      XϕA3888540C5D5E3C5D9409285A87Aϕ
*
          DC      Xϕ15ϕ                NEW LINE (ROW 4)
*
          COPY    VIMUSSTZ
*
          DC      9Xϕ15ϕ                SKIP 9 LINES (ROW 19)
          DC      Cϕ ==> ϕ
M1E       EQU     *
          END
/*
// EXEC LINKEDT
// OPTION CATAL
        PHASE VIMUSSTB,*
// EXEC ASSEMBLY
        PRINT   NOGEN
VIMUSSTB USSTAB TABLE=SIDTRANS,FORMAT=DYNAMIC
*

```



```

COPY      VIMUSSCD
*
TEST      USSCMD  CMD=TEST,REP=IBMTTEST,FORMAT=BAL
          USSPARM PARM=P1,DEFAULT=10
          USSPARM PARM=P2,DEFAULT=OK
*
MESSAGES  USSMSG  MSG=0,TEXT=ϕCOMMAND ACCEPTEDϕ
          USSMSG  MSG=1,BUFFER=M1
          USSMSG  MSG=2,BUFFER=M1
          USSMSG  MSG=3,TEXT=ϕERROR IN VIMUSSTB. PRESS ENTERϕ
          USSMSG  MSG=4,TEXT=ϕAPPLICATION NOT ACTIVATED. PRESS ENTERϕ
          USSMSG  MSG=5,BUFFER=M1
          USSMSG  MSG=6,TEXT=ϕLOGON ALREADY PENDINGϕ
          USSMSG  MSG=7,TEXT=ϕ%(1) UNABLE TO ESTABLISH SESSION - %(2) F*
          AILED WITH SENSE %(3)ϕ
          USSMSG  MSG=8,TEXT=ϕINSUFFICIENT STORAGEϕ
          USSMSG  MSG=9,TEXT=ϕMAGNETIC CARD DATA ERRORϕ
          USSMSG  MSG=10,BUFFER=M1
          USSMSG  MSG=12,TEXT=ϕREQUIRED PARAMETER OMITTEDϕ
          USSMSG  MSG=13,TEXT=ϕIBMECHO%ϕ
*
SIDTRANS  DC      128AL1 (*-SIDTRANS)
          DC      Xϕ80C1C2C3C4C5C6C7C8C98A8B8C8D8E8Fϕ
          DC      Xϕ90D1D2D3D4D5D6D7D8D99A9B9C9D9E9Fϕ
          DC      XϕA0A1E2E3E4E5E6E7E8E9AAABACADAEAFϕ
          DC      XϕB0B1B2B3B4B5B6B7B8B9BABBBCBDBEEBFϕ
          DC      XϕC0C1C2C3C4C5C6C7C8C9CACBCCDCECFϕ
          DC      XϕD0D1D2D3D4D5D6D7D8D9DADBDCDDDEDFϕ
          DC      XϕE0E1E2E3E4E5E6E7E8E9EAEBECEDEEEFϕ
          DC      XϕF0F1F2F3F4F5F6F7F8F9FAFBFCFDFEFFFϕ
END        USSEND
*
M1        DC      AL2 (M1E-MLS)
MLS       DC      XϕF5ϕ          ERASE WRITE COMMAND
          DC      XϕC7ϕ          WCC ALARM
*
* VIMUSSTB      VTAM APPLICATION SELECTION MENU
*
          DC      Xϕ11ϕ          SET BUFFER ADDRESS ORDER
          DC      Xϕ40C1ϕ        ROW 1 COLUMN 2
          DC      Xϕ1Dϕ          START FIELD
          DC      XϕF0ϕ          PROTECT SKIP NORMAL
          DC      CL8ϕVIMUSSTBϕ
          DC      Xϕ11ϕ          SET BUFFER ADDRESS ORDER
          DC      Xϕ40D7ϕ        ROW 1 COLUMN 24
          DC      Xϕ1Dϕ          START FIELD ORDER
          DC      XϕF8ϕ          PROTECT SKIP INTENSIFIED ATTRIBUTE
          DC      CϕVTAM APPLICATION SELECTION MENUϕ
*
* ENTER THE CHARACTER OF YOUR SELECTION AND PRESS THE ENTER KEY:
* (MIXED-CASE)
*
          DC      Xϕ11ϕ          SET BUFFER ADDRESS ORDER
          DC      XϕC2E3ϕ        ROW 3 COLUMN 4
          DC      Xϕ1Dϕ          START FIELD
          DC      XϕF0ϕ          PROTECT SKIP NORMAL
          DC      XϕC595A3859940A3888540838881998183A3859940968640ϕ
          DC      XϕA896A49940A285938583A38996954081958440979985A2A240ϕ

```

```

DC XcA3888540C5D5E3C5D9409285A87Ac
*
COPY VIMUSSTX
*
DC Xc11c SET BUFFER ADDRESS ORDER
DC XcD661c ROW 19 COLUMN 2
DC Xc1Dc START FIELD
DC XcF8c PROTECT SKIP INTENSIFIED ATTRIBUTE
DC Cc==> c
DC Xc1Dc START FIELD ORDER
DC Xc40c UNPROTECTED NORMAL ATTRIBUTE
DC Xc13c INSERT CURSOR ORDER
DC Xc3Cc REPEAT TO ADDRESS ORDER
DC XcD7F0c ROW 20 COLUMN 1
DC Cc c
DC Xc1Dc START FIELD ORDER
DC XcF0c PROTECT SKIP NORMAL ATTRIBUTE
MLE EQU *
END
/*
// EXEC LINKEDT
/&
* $$ EOJ

```

---

## Appendix D. VTAM Cross-Domain Definitions

---

### D.1 Definitions for the VSETEST Virtual Machine

```
*****
**  CTCA DEFINITION FOR THE VSETEST VIRTUAL MACHINE
*****
*
VIMCTCA  VBUILD TYPE=CA
VIMCTCG  GROUP  LNCTL=CTCA, ISTATUS=ACTIVE, MAXBFRTU=20, REPLYTO=25.5
VIMCTCL  LINE   ADDRESS=200, ISTATUS=ACTIVE
VIMCTCP  PU     ISTATUS=ACTIVE, PUTYPE=4

*****
**  CDRM DEFINITION FOR THE VSETEST VIRTUAL MACHINE
*****
*
VIMCDRM  VBUILD TYPE=CDRM
VIM001   CDRM  SUBAREA=01, CDRDYN=YES, CDRSC=OPT, ISTATUS=ACTIVE, VPACING=2
VIM010   CDRM  SUBAREA=10, CDRDYN=YES, CDRSC=OPT, ISTATUS=ACTIVE, VPACING=2

*****
**  CDRS DEFINITION FOR THE VSETEST VIRTUAL MACHINE
*****
*
VIMCDRS  VBUILD TYPE=CDRSC
D08001   CDRSC CDRM=VIM001, ISTATUS=ACTIVE
DBDCCICS CDRSC CDRM=VIM001, ISTATUS=ACTIVE

*****
**  PATH DEFINITION FOR THE VSETEST VIRTUAL MACHINE
*****
*
*  SA=3 NCP ON A 3745
*  SA=1 VIAM ON THE VSEPROD VIRTUAL MACHINE
*
      PATH  DESTSA=3,
          ER0=(3,1), ER1=(3,1), ER2=(3,1), ER3=(3,1),
          ER4=(3,1), ER5=(3,1), ER6=(3,1), ER7=(3,1),
          VR0=0, VR1=1, VR2=2, VR3=3, VR4=4, VR5=5, VR6=6, VR7=7
      PATH  DESTSA=1,
          ER0=(1,1), ER1=(1,1), ER2=(1,1), ER3=(1,1),
          ER4=(1,1), ER5=(1,1), ER6=(1,1), ER7=(1,1),
          VR0=0, VR1=1, VR2=2, VR3=3, VR4=4, VR5=5, VR6=6, VR7=7

*****
**  ATCSIR00 VIAM INITIALIZATION PARAMETERS - VSETEST VIRTUAL MACHINE
```

```

*****
*
SSCPID=10, *
SSCPNAME=VIM010, *
NETID=VIAM1, *
HOSTSA=10, *
HOSTPU=NODE01, *
MAXSUBA=255, *
CONFIG=00, *
NOPROMPT, *
IOINT=0, *
SGALIMIT=0, *
BSBUF=(28,,1), *
CRPLBUF=(60,,1), *
LFBUF=(70,288,,11), *
LPBUF=(12,,6), *
SFBUF=(20,,20), *
SPBUF=(210,,32), *
VFBUF=204800, *
VPBUF=446464, *
XDBUF=(6,,1)

```

```

*****
** ATCCON00 VIAM startup majnodes - VSETEST VIRTUAL MACHINE
*****

```

```

*
    VIMAPPL, *
    PVMG, *
    VIMPATH, *
    VIMCTCA, *
    VIMCDRM, *
    VIMCDRS, *
    VIMSNA, *
    VIMNSNA, *
    VIMIRSW

```

---

## D.2 Definitions for the VSEPROD Virtual Machine

```
*****
**  CTCA DEFINITION FOR THE VSEPROD VIRTUAL MACHINE
*****
*
VIMCTCA  VBUILD TYPE=CA
VIMCTCG  GROUP  LNCTL=CTCA, ISTATUS=ACTIVE, MAXBFRTU=20, REPLYTO=25.5
VIMCTCL  LINE   ADDRESS=200, ISTATUS=ACTIVE
VIMCTCP  PU     ISTATUS=ACTIVE, PUTYPE=4

*****
**  CDRM DEFINITION FOR THE VSEPROD VIRTUAL MACHINE
*****
*
VIMCDRM  VBUILD TYPE=CDRM
VIM001   CDRM  SUBAREA=01, CDRDYN=YES, CDRSC=OPT, ISTATUS=ACTIVE, VPACING=2
VIM010   CDRM  SUBAREA=10, CDRDYN=YES, CDRSC=OPT, ISTATUS=ACTIVE, VPACING=2

*****
**  CDRS DEFINITION FOR THE VSEPROD VIRTUAL MACHINE
*****
*
VIMCDRS  VBUILD TYPE=CDRSC
N2ECAPV2 CDRSC  CDRM=VIM010, ISTATUS=ACTIVE
ITSOCICS CDRSC  CDRM=VIM010, ISTATUS=ACTIVE

*****
**  PATH DEFINITION FOR THE VSEPROD VIRTUAL MACHINE
*****
*
*  SA=10 VIAM ON THE VSETEST VIRTUAL MACHINE
*
      PATH  DESTSA=10,
          ER0=(10,1), ER1=(10,1), ER2=(10,1), ER3=(10,1),
          ER4=(10,1), ER5=(10,1), ER6=(10,1), ER7=(10,1),
          VR0=0, VR1=1, VR2=2, VR3=3, VR4=4, VR5=5, VR6=6, VR7=7
*
*
*****
**  ATCSTRO0 VIAM INITIALIZATION PARAMETERS - VSEPROD VIRTUAL MACHINE
*****
*
SSCPID=1,
SSCPNAME=VIM001,
NETID=VIAM1,
HOSTSA=1,
HOSTPU=NODE01,
MAXSUBA=255,
CONFIG=00,
```

```
NO PROMPT,
IOINT=0,
SGALIMIT=0,
BSBUF=(28,,1),
CRPLBUF=(60,,1),
LFBUF=(70,288,,11),
LPBUF=(12,,6),
SFBUF=(20,,20),
SPBUF=(210,,32),
VFBUF=204800,
VPBUF=446464,
XDBUF=(6,,1)
```

```
*****
** ATCCON00 VIAM startup majnodes - VSEPROD VIRTUAL MACHINE
*****
*
```

```

VIMAPPL,
VIMSNA,
VIMNSNA,
VIMCTCA,
VIMPATH,
VIMCDRM,
VIMCDRS
```

---

## List of Abbreviations

<b><i>CICS</i></b>	Customer Information Control System	<b><i>PVMG</i></b>	VM/Pass-Through Facility Gateway
<b><i>IBM</i></b>	International Business Machines Corporation	<b><i>SNA</i></b>	System Network Architecture
<b><i>ITSO</i></b>	International Technical Support Organization	<b><i>SPE</i></b>	Small Program Enhancement
<b><i>POWER</i></b>	Priority Output Writers, Execution processor, and Input Readers	<b><i>VM/ESA</i></b>	Virtual Machine/Enterprise System Architecture
<b><i>PVM</i></b>	VM/Pass-Through Facility	<b><i>VSE/ESA</i></b>	Virtual Storage Extended/Enterprise System Architecture VTAM
			Virtual Telecommunications Access Method





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Runtime values:

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Document fileid ..... GG244273 SCRIPT
Document type ..... USERDOC
Document style ..... IBMXAGD
Profile ..... EDFPRF30
Service Level ..... 0029
SCRIPT/VS Release ..... 4.0.0
Date ..... 94.09.19
Time ..... 05:12:17
Device ..... 3820A
Number of Passes ..... 3
Index ..... YES
SYSVAR D ..... YES
SYSVAR G ..... INLINE
SYSVAR V ..... ITSCEVAL

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Formatting values used:

```

Annotation ..... NO
Cross reference listing ..... YES
Cross reference head prefix only ..... NO
Dialog ..... LABEL

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Duplex .....	YES
DVCF conditions file .....	(none)
DVCF value 1 .....	(none)
DVCF value 2 .....	(none)
DVCF value 3 .....	(none)
DVCF value 4 .....	(none)
DVCF value 5 .....	(none)
DVCF value 6 .....	(none)
DVCF value 7 .....	(none)
DVCF value 8 .....	(none)
DVCF value 9 .....	(none)
Explode .....	NO
Figure list on new page .....	YES
Figure/table number separation .....	YES
Folio-by-chapter .....	NO
Head 0 body text .....	Part
Head 1 body text .....	Chapter
Head 1 appendix text .....	Appendix
Hyphenation .....	NO
Justification .....	NO
Language .....	ENGL
Layout .....	OFF
Leader dots .....	YES
Master index .....	(none)
Partial TOC (maximum level) .....	4
Partial TOC (new page after) .....	INLINE
Print example id's .....	NO
Print cross reference page numbers .....	YES
Process value .....	(none)
Punctuation move characters .....	,
Read cross-reference file .....	(none)
Running heading/footering rule .....	NONE
Show index entries .....	NO
Table of Contents (maximum level) .....	3
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Title page (draft) alignment .....	RIGHT
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