VAX P.S.I.
(Packetnet System Interface)
Installation Procedures

Order No. AA-L069K-TE

SUPERSESSION/UPDATE INFORMATION:	This is a revised manual
OPERATING SYSTEM AND VERSION:	VMS V5.1 or later
SOFTWARE VERSION:	VAX PSI V4.3

digital™

Revised January 1990

The READER'S COMMENTS form on the last page of this document requests the user's critical evaluation to assist in preparing future documentation.

This manual was produced by the Wide Area Communications Environment group in Reading, England.

Contents

Figures

Tables

How to Use This Manual

Manual Objectives

This manual explains how to install VAX PSI and VAX PSI Access. The manual also explains how to build a Combination system. Information about how to configure and test your VAX PSI system is contained in the *VAX P.S.I. Management Guide*.

Intended Audience

This manual provides information for system managers and DIGITAL software specialists. The manual assumes that readers understand and also have some experience of:

- Installation of software products on VAX/VMS
- Local Area Networks (LANs)
- Wide Area Networks (WANs)
- DECnet-VAX
- Packet switching
- DIGITAL's VAX PSI product

The manual also assumes that readers have read the *P.S.I. Introduction*.

NOTE

This product has been designed for installation by DIGITAL's Software Services Specialists.

Structure of the Manual

This manual consists of six chapters and four appendixes.

Chapter 1 describes the VAX PSI products. **Read this chapter before installing any of the VAX PSI products.**

Chapter 2 gives the information you will need before you install the software. **Read this chapter before installing any of the VAX PSI products.**

Chapter 3 describes the procedures for installing a Native or a Multi-host VAX PSI system.

Chapter 4 describes the procedures for installing VAX PSI Access.

Chapter 5 describes how to build a Combination VAX PSI system.

Chapter 6 describes how to change your VAX PSI system.

Appendix A gives an example of a Native or Multi-host VAX PSI installation.

Appendix B gives an example of a VAX PSI Access installation.

Appendix C gives an example of a Combination system installation.

Appendix D describes the contents of the distribution kits for the VAX PSI products.

The last page of the manual is a Reader's Comments form. If you have any suggestions or criticisms which you think would improve this manual, please fill in the form and return it to Digital.

Associated Manuals

The other manuals in the VAX PSI documentation set are:

VAX P.S.I. Introduction — This manual introduces PSDNs, the X.25 and X.29 interfaces, and the VAX PSI product.

VAX P.S.I. X.25 Programmer's Guide — This manual explains how to use the VAX PSI programming facilities to communicate with remote systems.

VAX P.S.I. X.29 Programmer's Guide — This manual explains how to use X.29 facilities provided by VAX PSI to communicate with a remote host.

VAX P.S.I. Problem Solving Guide — This manual explains how to detect and solve problems that may occur when using VAX PSI.

VAX P.S.I. PAD and MAIL Utilities Manual — This manual explains how to use commands specific to VAX PSI: SET HOST/X29, SET TERMINAL/X29, SHOW TERMINAL/X29 and PSI MAIL.

VAX P.S.I. Management Guide — This manual explains the utilities specific to VAX PSI, that enable the network manager to manage VAX PSI.

Public Network Information — This manual provides details of the individual public networks on which DIGITAL supports the use of VAX PSI.

Further reference information can be found in the VMS manual set:

VMS Network Control Program Manual

VMS Networking Manual — This manual describes the concept of DIGITAL networks and explains how to configure, control, and monitor DECnet-VAX and the VAX PSI product.

For information on the rest of the VMS manual set, see the *Overview of VMS Documentation*.

Manual Conventions

<*xxx*>	This 1- to 3-character symbol indicates that you press a key on the terminal. For example: <RET> indicates the RETURN key and <ESC> indicates the ESCAPE key
<CTRL/*x*>	This symbol indicates that you press the CTRL key at the same time as you press another key; for example, <CTRL/C>, <CTRL/Y>, and so on.
Italics	indicate variable information.
Red print	indicates commands and data that you enter.

1 Introduction

1.1 VAX PSI Modes of Operation

VAX PSI supports three modes of operation:

- Native mode VAX PSI

  Native mode provides a single system with direct access to one or more PSDNs.

- Multi-host mode VAX PSI

  Multi-host mode VAX PSI is an extension of Native mode. Multi-host mode:

  - Provides a single system with direct access to one or more PSDNs (as in Native mode).
  - Allows systems running VAX PSI Access and DECnet to establish indirect connections to a PSDN through the Multi-host node.

- Access mode VAX PSI

  Access mode allows a system to gain access to a PSDN through a Multi-host node, or other connector node.

In addition, a Combination system may be built which combines Access mode with one or both of the other modes.

The following terms are used throughout this manual:

- **Host** - Any VAX/VMS system which has either VAX PSI or VAX PSI Access installed on it.

- **Connector node** - A node that supports DECnet, connects to PSDNs and also provides indirect connections to PSDNs for other systems connected to the node. VAX PSI Multi-host nodes and X25router 2000 nodes are connector nodes.

Figure 1–1 shows the various modes of operation you can use with VAX PSI.

Figure 1–1 VAX PSI Modes of Operation

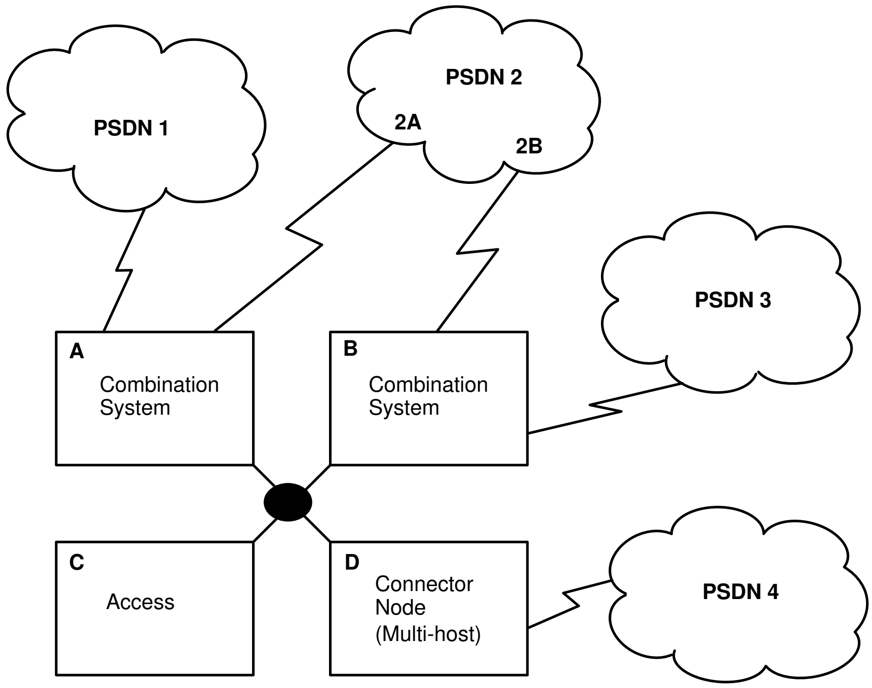


Figure 1–1 shows a VAXcluster connected to four PSDNs. Nodes A and B are combination systems (running VAX PSI Multi-host and VAX PSI Access), Node C is running VAX PSI Access and Node D is running VAX PSI Multi-host. PSDN 2 is known to VAX PSI under two different network names: 2A and 2B.

Node A can use:

- PSDNs 1 and 2 in Native mode.
- PSDN 3 through Node B in Access mode.
- PSDN 4 through Node D in Access mode.
- PSDN 2 through Node B in Access mode, under the network name 2B.

Node B can use:

- PSDNs 2 and 3 in Native mode.
- PSDN 1 through Node A in Access mode.
- PSDN 4 through Node D in Access mode.
- PSDN 2 through Node A in Access mode, under the network name 2A.

Node C can use:

- All the PSDNs through the nodes they are connected to.
- PSDN 2 through Node A and PSDN 2 through Node B at the same time.

Node D can use:

- PSDN 4 only.

1.2 VAX PSI Software Kits

The software is supplied on two kits:

- The VAX PSI V4.3 kit supplies the software for configuring a Native mode or a Multi-host VAX PSI system.
- The VAX PSI Access V4.3 kit supplies the software for configuring Access mode VAX PSI on VAX/VMS systems that have DECnet-VAX installed.

If you want to install a Combination system, you will need both kits.

A full description of the VAX PSI products, PSDNs and the X.25 and X.29 interfaces is given in the *P.S.I. Introduction.* Read this manual before installing any of the VAX PSI products.

Before installing the VAX PSI software, you must be familiar with the information contained in the *VMS Network Control Program Manual*.

1.3 What Happens When You Install and Configure VAX PSI

Sections 1.3.1 to 1.3.4 describe the databases that you create or modify when you install each mode of VAX PSI.

1.3.1 VAX PSI Native

Native mode provides a single system with direct access to one or more PSDNs. When you install Native mode VAX PSI on a node, the installation procedure sets up three databases:

- The X25-PROTOCOL database. This defines the PSDN(s) to which the node is connected and the subscription characteristics that relate to each PSDN: for example, the protocol options, DTE address, windowsize, packetsize.
- The X25-SERVER database. This defines the destinations on the local node that use VAX PSI to communicate. They need to be defined to ensure that incoming calls from the PSDN can be directed to the appropriate destinations. Destinations are user processes or objects such as MAIL.
- The X29-SERVER database. This defines the destinations on the local node for incoming X.29 calls.

1.3.2 VAX PSI Multi-host

Multi-host VAX PSI extends access to the PSDN to other users of DECnet-VAX host systems that have VAX PSI Access installed.

The installation procedure is the same for both Native and Multi-host VAX PSI. When you install Multi-host VAX PSI, the installation procedure:

- Creates the databases described in Section 1.3.1.
- Adds host destinations to the X25-SERVER database.

The host destinations enable incoming calls from the PSDNs to be sent to destinations on the host systems that have VAX PSI Access installed.

1.3.3 VAX PSI Access

When you install VAX PSI Access on a node, the installation procedure sets up the X25-ACCESS database. You specify which connector node is going to be the gateway to the PSDN in the X25-ACCESS database.

VAX PSI Access allows users on host systems to access PSDNs through one or more connector nodes. VAX PSI Access uses a DECnet logical link to transmit X.25/X.29 messages between the connector node and the VAX host running VAX PSI Access.

1.3.4 VAX PSI Combination System

You set up a VAX PSI Combination system by first installing VAX PSI and then installing VAX PSI Access. A Combination system allows you to:

- Access one or more PSDNs directly by running VAX PSI.
- Access other PSDNs by running VAX PSI Access.

1.4 The Installation Procedure

To install VAX PSI or VAX PSI Access:

1. Complete all the installation preparations described in Chapter 2.
2. Execute VMSINSTAL.COM to copy the VAX PSI files from the distribution kit to the installation disk.
3. Execute PSI_SET_UP.COM. This command file:
   - Sets up the devices and creates the LOAD_PSI043.COM command file needed to start VAX PSI.
   - Defines the PSDN.
   - Sets up the X25-PROTOCOL database for Native and Multi-host VAX P.S.I.
   - Sets up the X25-ACCESS database for X25 Access.
   - Sets up Native mode VAX PSI with Multi-host access, and creates the X25-SERVER database, for Multi-host installations.
4. Execute STARTNET.COM to start up DECnet-VAX and VAX PSI.

The installation procedure prompts you with questions that require a simple answer, such as Yes or No. Defaults are indicated in square brackets. To accept the default, press <RET>.

If at any stage during the installation you do not understand a prompt or are uncertain about the information required, enter a question mark (?) in answer to the prompt. You will be provided with help about that prompt.

1.5 VAX PSI and DECnet

All VAX PSI Multi-host and VAX PSI Access nodes must have DECnet-VAX installed to set up DECnet logical links between them. To use DECnet for communications, you will need to install a DECnet license. You should do this before you install VAX PSI.

1.6 Installing VAX PSI on a Cluster

To use VAX PSI on a VAXcluster, you must install VAX PSI on each node you require to use the software. One way of doing this is to install VAX PSI Multi-host on systems that are connected to the PSDN, and install VAX PSI Access on the other VAX systems in the cluster. Figure 1–2 illustrates this type of configuration.

If you install a VAX PSI option, for example X.29 support, on one of the systems in your VAXcluster, you must install the same option on all the systems in the VAXcluster.

Before you install VAX PSI or VAX PSI Access, you **MUST** ensure that VAX PSI or VAX PSI Access are not already running on any of the nodes in a cluster. When you have finished installing the software on all the relevant nodes, you can start VAX PSI.

1.7 Use of Network Names for VAX PSI and VAX PSI Access

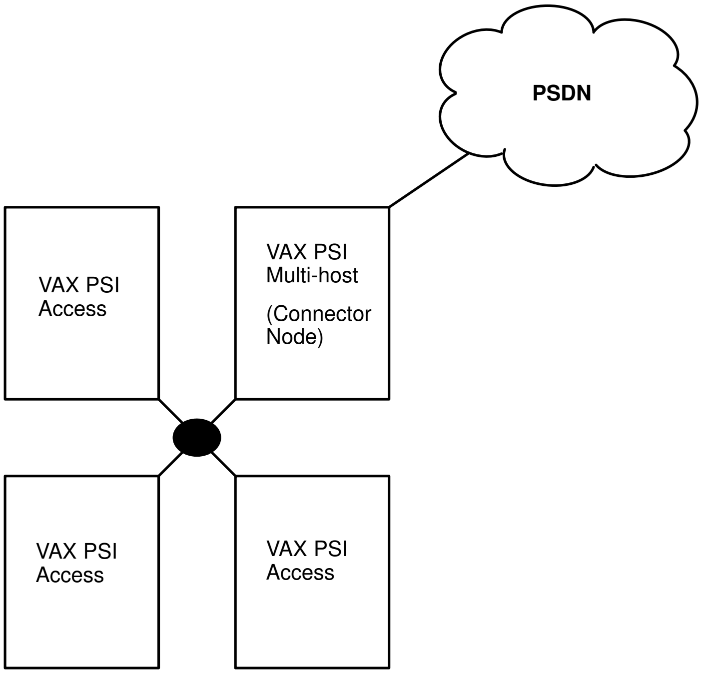
You use network names to distinguish:

- The PSDN you wish to use.
- The route you want to use in order to access the PSDN (which connector node and which line the connector node uses to connect to the PSDN).

Network names have to meet the following requirements:

- You must have a different network name for each PSDN you want to access.

Figure 1–2 VAX PSI on a VAXcluster

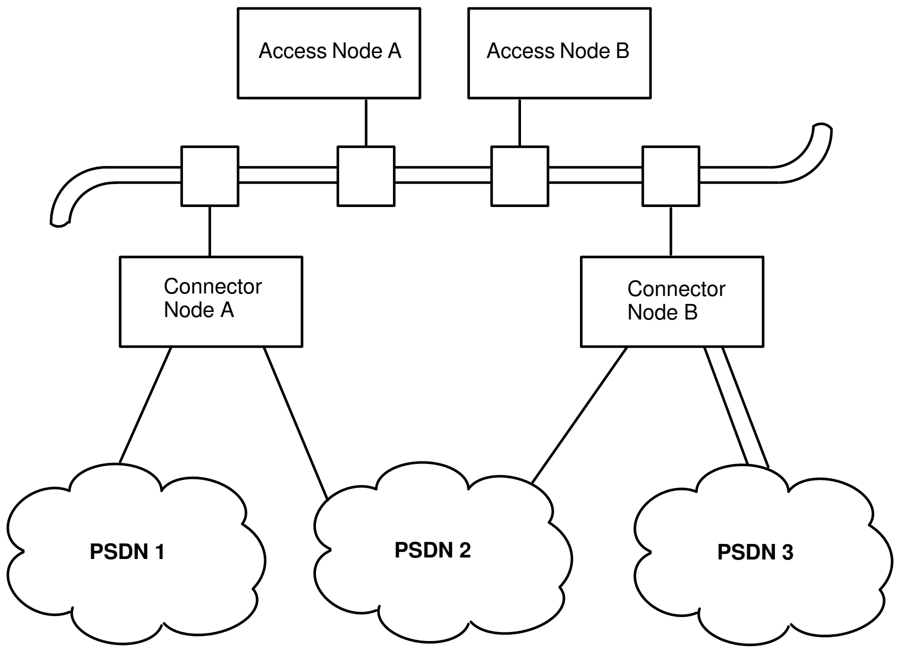


- If you have more than one connector node available to access the same PSDN, you must give each connection to the PSDN a unique network name.
- The network name contained in the Access database must be the same as the network name contained in the connector node permanent database.
- The network name may comprise any combination of up to 16 letters and numbers.

In addition, if you have more than one line between a connector node and a PSDN, you can use different network names to distinguish between lines.

Figure 1–3 shows how network names are defined for an installation.

Figure 1–3 An Example Installation, Showing the Use of Network Names



In Figure 1–3, PSDN 1 can be accessed only through connector node A, and hence requires only a single unique network name (PSDN 1).

PSDN 2 can be accessed through connector node A and connector node B. Therefore, separate (unique) network names are required for Access nodes to differentiate between the two routes. For example, you might choose network names "PSDN2A" and "PSDN2B".

PSDN3 can be accessed only through the two lines connected to connector node B. Therefore, the minimum number of network names PSDN3 requires is one. You may want to distinguish between the two lines provided by connector node B (for example, if the lines have different speeds). To do this, you would give PSDN 3 two network names, for example "PSDN3A" and "PSDN3B".

1.8 Profile Names

The following attributes are associated with each PSDN connected to the VAX PSI Native node or connector node:

- A profile name
- One or more DTE addresses
- One or more devices connected to the PSDN

The profile name is unique for each PSDN and provides VAX PSI with network characteristics. The profile names for public PSDNs appear in the *Public Network Information* manual.

You must use the correct profile for your network. Use of the incorrect profile invalidates DIGITAL's VAX PSI support.

2 Installation Preparations

Before starting the installation:

1. If your system requires a Device Driver from the VAX WAN Device Drivers kit, make sure the VAX WAN Device Drivers kit has been installed on your system.
2. Ensure that your system is licensed to run VAX PSI and/or VAX PSI Access.
3. Check that your VAX PSI kit contains all of the media.
4. Gather the information you will need during the installation by completing the relevant tables in Section 2.5.
5. Check that you have enough free disk space and the correct system resources.

Sections 2.1 to 2.6.1 describe how to do these tasks.

2.1 VAX WAN Device Drivers

If you are installing VAX PSI Native/Multi-host or a combination system, install the VAX WAN Device Drivers kit before you install the VAX PSI software. Follow the instructions in the *VAX WAN Device Drivers Installation Guide*. By installing the VAX WAN Device Drivers, you ensure that the level 2 software and device drivers are installed on your system.

Note that some older device drivers are included in the VAX PSI kit itself. If you will only be using this type of device driver, you do not need to install the VAX WAN Device Drivers kit. Refer to the SPD for further details of device drivers.

2.2 VAX PSI Support of the License Management Facility

Before VAX PSI or VAX PSI Access can be run on a system, you must license the system by running the License Management Facility (LMF) procedure. Once VAX PSI or VAX PSI Access is licensed on a system or on a node within a cluster, any user on that system or cluster can use it.

If you do not license VAX PSI before you install it, the following message will be displayed after the VAX PSI V4.3 files have been installed:

```
%PSI-W-NOLICENSE, P.S.I. has not been licensed to run on this
system
```

If you do not license VAX PSI Access before you install it, the following message will be displayed after the VAX PSI Access V4.3 files have been installed:

```
%PSI-W-NOLICENSE, P.S.I.-Access has not been licensed to run on
this system
```

For both VAX PSI and VAX PSI Access, the procedure then displays a series of instructions telling you what to do to complete the installation. If a license is required for VAX PSI, the procedure displays the following instruction:

```
- Install the P.S.I. Product License.
```

If a license is required for VAX PSI Access, the procedure displays this instruction:

```
- Install the P.S.I.-Access Product License.
```

2.3 Licensing VAX PSI

To license your system, you enter the information given on the Product Authorization Key (PAK). The PAK contains all the information you need to enter during the licensing procedure.

To start the license procedure, enter this command:

```
$ @SYS$UPDATE:VMSLICENSE
```

You will then be prompted for the details contained in the P.S.I. or P.S.I.-Access PAK. Each question corresponds to a heading in the PAK.

If you are installing on a homogeneous cluster, you only need to enter the above command on one node. Then, if you are licensing VAX PSI Native or Multi-host, enter the following command on each of the other nodes in the cluster:

```
$ LICENSE LOAD P.S.I.
```

If you are licensing VAX PSI Access, enter the following command on each of the other nodes in the cluster:

```
$ LICENSE LOAD P.S.I.–ACCESS
```

You can then install VAX PSI or VAX PSI Access on the other nodes in the cluster as required. Refer to the VMS License Management Utility Manual for further details on using VMSLICENSE.

If you have not licensed VAX PSI or VAX PSI Access, and you try to start VAX PSI, the product will fail to start. An LMF error message will be displayed stating that the product is not licensed. You should therefore license the product.

If you have a combination system which has not been fully licensed, you will only see one LMF error message.

You can check that both licenses are in the license database (which is cluster-wide) by issuing the following command:

```
$ LICENSE LIST
```

You can check that the license has been loaded onto the system by issuing the following command:

```
$ SHOW LICENSE
```

2.4 VAX PSI Distribution Kits

VAX PSI and VAX PSI Access can be installed onto a VAX/VMS system from either a TK50 cassette, a magnetic tape or a Compact Disc (CDROM). VAX PSI distribution volumes are labelled (PSI). VAX PSI Access distribution volumes are labelled (PSI_AC).

2.5 Information Required During the Installation

You will need to supply information about your system during the installation. Tables 2–1 to 2–3 list the information you require.

If you are installing VAX PSI Native or VAX PSI Multi-host, complete Tables 2–1 and 2–2:

- Table 2–1 contains the information entered into the X25-PROTOCOL database.
- Table 2–2 contains the information entered into the X25-SERVER database.

You will need a separate copy of each table for each local DTE.

If you are installing VAX PSI Access, complete Table 2–3 which contains the information entered into the X25-ACCESS database.

Obtain the information to complete the tables from your system manager and PTT representative. [1]

---

[1] Your PTT representative may describe your logical channels allocation as a quantity. VAX PSI requires a range of channels, so to determine the correct range, refer to the *Public Network Information* manual.

Table 2–1 X25-PROTOCOL Database Information (Multi-host/Native Installation)

Information you will require for each network you use:

Item	Notes	Your Value
Network name	Choose your own unique name. Example: SWED01	
Network profile name	Recorded in *Public Network Information* manual. Example: DATAPAK_S	

Information you will require for each DTE:

Item	Notes	Your Value
DTE address	Your DTE address. Obtain this from the PTT. Example: 24050198765432	
Channels Range	Your range of Logical Channel Numbers (LCNs). Obtain this from the PTT. Example: 155-100	
Line Name	Name of device and line in the form dev-c-u. Example: DMB-0-0	
Vector address	Vector address for your device type.	
CSR address	CSR address for your device type.	

Table 2–2 X25-SERVER Database Information (Multi-host/Native Installation)

You must specify the following items during the installation:

Item	Notes	Your Value
Destination name	Choose your own unique name. Example: HQ1	
Destination node name	Node name of Access node. Example: BASEAC	
Destination priority	Range = 0 to 255. Default = 200	

Specifying the following items during the installation is optional:

Item	Notes	Your Value
Call mask	Value between 2 and 32 hexadecimal digits. Example: FF00FE	
Call value	Value between 2 and 32 hexadecimal digits. Example: FF5053	
Closed User Group (CUG)	Name of closed user group which has access to this destination. 1 to 16 characters. Example: CUG1	
Sending address	Remote DTE address which has access to this destination. Example: 2405998887776	
Subaddress Range	Accepted range of sub-addresses indicated in incoming call. Example: 33-34	

Table 2–3 X25-ACCESS Database Information (Access Installation)

You must specify the following items during the installation:

Item	Notes	Your Value
Network name	Unique name. Has to be the same as the one given during the Multi-host installation. Example: SWED01	
Connector node name	Name of node routing you to PSDN. Example: ROUT01	

Specifying the following items during the installation is optional:

Item	Notes	Your Value
Username	As required by destination. Not required by a VAX PSI Access node.	
Password	As required by destination. Not required by a VAX PSI Access node.	
Account Name	As required by destination. Not required by a VAX PSI Access node.	
Object Id	As required by destination. VAX PSI Access requires a value of 36.	

2.6 Disk Space and SYSGEN Parameters Required

To check that you have enough disk space and the correct SYSGEN parameters to install and run VAX PSI, follow the instructions in Sections 2.6.1 and 2.6.2.

2.6.1 Disk Space Required to Install VAX PSI

To check you have enough space on your target disk, enter this command:

```
$ SHOW DEVICE SYS$SYSDEVICE
```

Make sure that there is enough space to install your system by consulting Table 2–4. (If you try to install either of the VAX PSI products with too few free blocks, the installation procedure will fail.)

Table 2–4 Disk Space Required to Install VAX PSI and VAX PSI Access

Product Type	Native or Multi-host	Access
Basic Product	3150	2650
Basic Product with X.29 support	3700	3200
Basic Product with Utilities support	3950	3450
Basic Product with X.29 and Utilities support	4500	4000

2.6.2 SYSGEN Parameters Required to Run VAX PSI

Your VAX PSI system requires the SYSGEN parameter values detailed in Table 2–5. Alter the parameters by running SYSGEN or permanently allocate the SYSGEN parameters by editing MODPARAMS.DAT and running AUTOGEN. Both processes are described in the VMS manual, *Guide to Maintaining a System*.

Table 2–5 SYSGEN Parameter Values

Resource	Minimum Amount	Notes
NPAGEDYN	85K bytes	For Multi-host only
	40K bytes	For Access only
	90K bytes	For Combination
	13K bytes	For X.29
	1K bytes	For each local DTE (Multi-host and combination only)
	1.5K bytes	For each virtual circuit [1]
	12K bytes	For each process running Trace
NPAGEVIR	Same as NPAGEDYN	Change this to reflect the maximum value of NPAGEDYN
IRPCOUNT	2	For each concurrently active virtual circuit

[1] 1.5K bytes is the correct value if you use the default packetsize and windowsize. If you do not use the defaults, calculate the amount of resource required by using this formula:

2 * windowsize * (packetsize + 96) + 700 bytes

NPAGEDYN is the size of the variable length nonpaged dynamic pool space following a system reboot. Alter the amount of space to reflect the number of bytes used by the data structures required by VAX PSI. If there is insufficient NPAGEDYN to load VAX PSI, the following error appears:

```
%PSI-F-INSFMEM, insufficient non-paged memory to run VAX PSI
```

NPAGEVIR is the maximum size to which the variable length nonpaged dynamic pool space can be extended.

IRPCOUNT reflects the I/O load the system is required to handle.

3
Installing Native or Multi-host VAX PSI

This chapter explains how to install the VAX PSI software for Native mode and Multi-host mode systems. During the installation, you will need to provide the information you supplied in Tables 2–1 and 2–2 in Chapter 2 of this manual.

Before beginning the installation:

1. Work through the Installation Preparations in Chapter 2.
2. Log in to the system manager's account, or an account with similar privileges.
3. Check that the disk which will receive the VAX PSI software is the default disk. Typically, this is the system disk (with the logical name SYS$SYSDEVICE).
4. Check that you have a backup of your system disk.

3.1 Installing VAX PSI Files from the Distribution Volumes

To start the installation procedure, enter the following command:

```
$ @SYS$UPDATE:VMSINSTAL PSI ddcu: OPTIONS N
```

The format for the device name is *ddcu:* where:

dd is the device code, *c* is the controller letter, and *u* is the unit number. For example, CSA1:

The procedure displays:

```
            VAX/VMS Software Product Installation Procedure V5.1
                    It is date at time.
Enter a question mark (?) at any time for help.


* Are you satisfied with the backup of your system disk [YES]?
```

Make sure you have a good backup copy of the disk, as the installation will write to the system disk. If your system disk has not been backed up or you wish to make a fresh copy, answer NO. The procedure then exits without installing the VAX PSI software. When you have backed up your system disk, you can start the installation procedure again.

If you answer YES, the procedure displays:

```
Please mount the first volume of the set on device
* Are you ready?
```

Load the distribution volume (PSI) in the drive. Answer YES when you are ready to continue. If a console medium is not mounted, the following message appears:

```
%SYSTEM-F-DEVNOTMOUNT, device is not mounted.
```

The procedure displays:

```
%MOUNT-I-MOUNTED, PSI mounted on device
The following products will be processed:
    VAX PSI   4.3
    Beginning installation of VAX PSI V4.3 at time
%VMSINSTAL-I-RESTORE, Restoring product saveset A...
```

You will then be asked about the Release Notes.

3.1.1 Release Notes

The procedure displays the options for printing and displaying the Release Notes. **You are recommended to print and read the Release Notes before continuing the installation.**

```
Release notes included with this kit are always copied to SYS$HELP.

Additional Release Notes Options:

1. Display release notes

2. Print release notes

3. Both 1 and 2

4. None of the above

Select option [2]:
```

Select one of these options. DIGITAL recommends that you choose Option 2. If you select Option 1, the following file is displayed on your terminal:

```
  VMI$ROOT:[SYSUPD.PSI043]PSI043.RELEASE_NOTES;1
```

The Release Notes are displayed on your terminal and will start scrolling on your screen.

If you select Option 2, you are asked on which queue you wish the file to be printed:

```
* Queue name [SYS$PRINT]:
```

Enter <RET> or specify another print queue.

If you select Option 3, you are asked on which queue you wish the file to be printed and then the Release Notes will be displayed on your terminal. If you select Option 4, the release notes are copied to the SYS$HELP directory and not displayed.

When the Release Notes have been queued to a printer and/or displayed on your terminal or moved to SYS$HELP, the procedure asks:

```
* Do you want to continue the installation [N]?
```

If you enter <RET>, you can stop the procedure and read the Release Notes. If you do this, the following message is displayed:

```
VMSINSTAL procedure done at hh:mm
```

While reading the Release Notes, check for any issues that are likely to affect the installation of the VAX PSI software. The VMSINSTAL procedure creates a file for the Release Notes called PSI043.RELEASE_NOTES in the SYS$HELP: directory and the following message is displayed:

```
%VMSINSTAL-I-RELMOVED, The products release notes have been
successfully moved to SYS$HELP.
```

If you stop VMSINSTAL to read the Release Notes, restart the procedure by entering the following command:

```
$ @SYS$UPDATE:VMSINSTAL PSI device-name
```

3.1.2 Tailoring the Installation

If you do not stop VMSINSTAL, or if you have restarted the procedure, VMSINSTAL will continue to install the VAX PSI software. The procedure then displays:

```
        VAX PSI V4.3 installation procedures.
```

During the installation, the procedure checks the following:

1. That the operating system is VMS V5.1 or later. If the operating system is an earlier version of VMS, the procedure exits after displaying the following message:

   ```
   This product requires VMS version V5.1 or later to install

   %VMSINSTAL-E-INSFAIL, The installation of VAX PSI V4.3 has
   failed
   ```

2. That there is sufficient space on your disk for the VAX PSI files. Refer to Section 2.6.1 in Chapter 2 for details of how many free blocks you need on your system to install VAX PSI. If there is not enough space, the procedure exits after displaying the following messages:

   ```
   %PSI-E-NOSPACE, this installation requires nnnn blocks of
   disk space.
   %VMSINSTAL-E-INSFAIL, The installation of VAX PSI V4.3 has
   failed.
   ```

   Make sure your system has sufficient free blocks before trying to install VAX PSI again.

The procedure then asks if you want to install the VAX PSI options. If you do, you must answer YES (the default answer) to the question about the option you want.

NOTE

You cannot install the options at a later stage without reinstalling the complete VAX PSI product.

If you are installing VAX PSI on a VAXcluster with a common system root, every system in the cluster must be set up to support the same VAX PSI options. You must therefore provide identical answers to the questions about options for each system. The procedure displays the following question:

```
* Do you want X.29 support [YES]?
```

Answer NO if you do not want support for X.29.

The procedure then asks:

```
* Do you want all the utilities [YES]?
```

Answer YES if you want all the utilities. DIGITAL recommends that you install all of the VAX PSI utilities. If you answer NO, you will be asked which utilities you want. If you do not want a particular utility, answer NO to the appropriate question.

If you do not have PSI_SECURITY.COM installed in SYS$MANAGER on your system, then the new PSIAUTHORIZE keypad is supplied in SYS$LIBRARY:PSIAUTHORIZE.INIT.

If you already have PSI_SECURITY.COM installed in SYS$MANAGER on your system, then the new PSIAUTHORIZE keypad is supplied in SYS$LIBRARY:PSIAUTHORIZE.TEMPLATE, and the following message is displayed:

```
Attention.
==========

You have an existing PSI_SECURITY.COM file in SYS$MANAGER. If you
choose not to have the VAX PSI security utility, by answering "NO"
to the following question, the file will be deleted.

* Do you want the Security utility [YES]?

* Do you want the Accounting utility [YES]?

* Do you want the Trace utility [YES]?

* Do you want the KDA utility [YES]?
```

The procedure continues and displays the following messages:

```
There are no more questions to answer during this installation.

%VMSINSTAL-I-RESTORE, Restoring product saveset B...
%VMSINSTAL-I-RESTORE, Restoring product saveset C...
%VMSINSTAL-I-RESTORE, Restoring product saveset D...
%VMSINSTAL-I-RESTORE, Restoring product saveset E...
```

Saveset D is copied only if you have requested X.29 support. Saveset E is copied only if you have requested some or all of the utilities.

There may be a time delay of several minutes at this stage in the procedure. As you have now answered all the questions for this stage of the installation, there is no need to watch the output. You will be required to answer more questions after the "VMSINSTAL procedure done at *time*" message is displayed.

When the last saveset has been copied, the procedure copies the distribution files from the subdirectory of SYS$UPDATE to their respective directories. (See Appendix D for details of which files are installed into which directories.) You may, if you wish, remove the distribution media from the device at this stage.

If there are files from a previous VAX PSI or VAX PSI Access installation present on your disk, the procedure deletes the obsolete files and displays the following message:

```
Removing obsolete files from any previous VAX PSI installation.
```

If you decide to cancel the installation of VAX PSI at any time by entering <CTRL/Y>, after a short time delay, the following is displayed:

```
%VMSINSTAL-F-CTRLY, Installation canceled via CTRL/Y.
%VMSINSTAL-F-UNEXPECTED, Installation terminated due to unexpected
event.

               VMSINSTAL procedure done at time
```

If you enter <CTRL/Y> after the information message that the files are being moved to the target directories (see below), your system will have some new and (if previously installed) some old VAX PSI files. Therefore, you should reinstall the product.

The procedure then displays the following:

```
Installing VAX PSI V4.3 files.
```

If you have a previous installation of VAX PSI on your system, a series of messages may be displayed. These messages tell you which of the existing files will not be updated. If you do not have a previous installation of VAX PSI, these messages are not displayed.

The procedure then displays the following:

```
VAX PSI V4.3 files installed.
```

After displaying the above messages, the procedure checks that:

1. The VAX PSI product license has been installed on the system. If the license has not been installed, then the procedure warns you with the following message:

   ```
   %PSI-W-NOLICENSE, P.S.I. has not been licensed to run on
   this system
   ```

2. The MAXBUF SYSGEN parameter is the correct size. If the MAXBUF parameter value is too small, the procedure warns you with the following message:

   ```
   %PSI-W-SYSGEN, MAXBUF is too small, change from nnn to 1536.
   ```

   where *nnn* is the current value of the MAXBUF parameter.

   Change the value of the MAXBUF SYSGEN parameter after you have installed VAX PSI.

3. No previous version of VAX PSI has been run on your system since the last system boot. If VAX PSI has been run, the procedure displays the following:

   ```
   %PSI-W-PSIRUN, previous version of VAX PSI has been run since
   the last system boot
   ```

The procedure then displays:

```
To complete the installation, follow the instructions below:

- Execute the command procedure SYS$MANAGER:PSI_SET_UP.COM to
  produce a LOAD_PSI043.COM and set up the permanent database.
```

If a license is required, the procedure displays:

```
- Install the P.S.I. Product License.
```

Refer to Section 2.2 in Chapter 2 for details on how to install the Product License.

If the SYSGEN parameters need updating, the procedure displays:

```
- Update the specified SYSGEN parameters.
```

If the system needs rebooting, the procedure displays:

```
- Reboot the system.
```

If the system does not require rebooting, the procedure displays:

```
- On a system which is running DECnet, execute the command
  procedure SYS$MANAGER:STARTPSI.COM to bring up VAX PSI.
  On a system which is not running DECnet, execute the
  command procedure SYS$MANAGER:STARTNET.COM to bring up
  DECnet and VAX PSI.


%VMSINSTAL-I-MOVEFILES, files will now be moved to their target
directories...


          Installation of VAX PSI V4.3 completed at time
```

The procedure then displays:

```
Enter the products to be processed from the next distribution
volume set.
* Products :
```

Press <CTRL/Z> to stop entering products and move on to the next prompt.

If you mounted the distribution kit on the console device, the procedure displays:

```
* Do you want to mount the console volume [NO]?
```

Answer YES and the procedure displays:

```
Please mount it on CSA1:.
```

Replace the console volume in the drive.

The procedure asks:

```
* Are you ready?
```

Answer YES to this question. The procedure continues with:

```
%MOUNT-I-MOUNTED, CONSOLE mounted on CSA1:
              VMSINSTAL procedure done at time
```

After installing the software, execute the PSI_SET_UP.COM procedure. Continue the installation procedure by entering the following commands:

```
$ SET DEFAULT SYS$MANAGER
$ @PSI_SET_UP
```

After running PSI_SET_UP.COM, update the SYSGEN parameters (see Section 2.6.2 in Chapter 2) and reboot if necessary. To check the installation, refer to the *VAX P.S.I Management Guide*.

3.2 Tailoring VAX PSI

When you have reached this stage of the installation, you will have built a Native mode VAX PSI system. The next steps are:

1. Set up devices - see Section 3.2.1.
2. Define the connection to the PSDN(s) - see Section 3.2.2.
3. If you want a Multi-host VAX PSI system, modify the Native mode VAX PSI system - see Section 3.2.3.

Before tailoring the VAX PSI system, make sure you have the following information for each device that you will use with VAX PSI:

- CSR address
- Vector address

You also need to know the subscription options that have been taken out with each PSDN you are connecting to. These include:

- DTE address(es)
- Logical Channel Number range(s)

Refer to the completed Table 2–1 in Chapter 2 for the information you need to supply for your system. While running PSI_SET_UP.COM, you may enter a question mark (?) as a response to any question for help.

The documentation of the next part of the installation has been divided into three sections (3.2.1 Setting Up Devices, 3.2.2 Configuring the Permanent Database, 3.2.3 Setting Up VAX PSI for Multi-host Working). You will be asked to refer to each section in turn and then return to the point where you left this section.

The procedure displays the following message:

```
This command procedure assists in configuring VAX PSI.

LOAD_PSI043.COM must be built before attempting to start VAX PSI.
The load file from an earlier version of VAX PSI cannot be used.

Do you wish to build LOAD_PSI043.COM now [YES]?
```

Answer YES if you want to build LOAD_PSI043.COM now. Refer to Section 3.2.1 for details of building LOAD_PSI043.COM and setting up devices.

The procedure asks:

```
Do you wish to add network, line or DTE entries to the database
now [YES]?
```

Answer YES if you want to add new information to the database - see Section 3.2.2 for details.

The procedure then asks:

```
Do you wish to add VAX PSI Multi-host entries [YES]?
```

Answer YES if you require a Multi-host system - see Section 3.2.3 for details.

Answer NO if you require a Native mode VAX PSI system, in which case you are now ready to load and start VAX PSI and should refer to the procedures in Section 3.3. The procedure asks:

```
Do you wish to load VAX PSI now [NO]?
```

Answer YES if you want to load VAX PSI. If you answer NO, VAX PSI will not be loaded. Refer to Section 3.3 for details of how to start up VAX PSI.

If VAX PSI is already running on your system, the following is displayed.

```
A version of VAX PSI is already running on this system. In order to
load the new configuration and device drivers, you need to reboot
your system.

To check your installation after restarting VAX PSI, refer to
the Configuration Testing chapter in the  VAX P.S.I. Management
Guide.
```

If you do not need to reboot your system, and DECnet is already running, then you should answer YES if you want to load VAX PSI.

NOTE

If you need to change the SYSGEN parameters (see Section 2.6.2 in Chapter 2), do so before attempting to load VAX PSI or check the installation. After making the changes, reboot the system. You will also have to reboot if you have a previous version of VAX PSI installed and wish to reload VAX PSI or check the installation.

If VAX PSI fails to load, the following message is displayed:

```
Failed to load VAX PSI
```

If VAX PSI fails to start, the following message is displayed:

```
Failed to set up VAX PSI
```

For information on problem diagnosis and solving, refer to the *VAX P.S.I. Problem Solving Guide*.

To check your installation refer to the *VAX P.S.I. Management Guide*.

Your Native or Multi-host VAX PSI system is now ready to be started. Follow the procedures described in Section 3.3.

3.2.1 Setting Up Devices

This section describes how to set up the devices used to communicate with the PSDN(s).

You can exit from this procedure at any time by typing <CTRL/Z> in response to a request for input. If you exit by typing <CTRL/Z>, LOAD_PSI043.COM is not created.

The procedure displays the following message:

```
This command file assists in creating LOAD_PSI043.COM.
```

LOAD_PSI043.COM is a command file used to set up the VAX PSI supported devices using SYSGEN and start up the ACP.

The procedure then asks:

```
Do you want to set up a default network [YES]?
```

If you answer YES, the procedure asks you to supply a network name to serve as a system-wide default:

```
Default network name                   (network-id):
```

Enter the name of the network you want to set up as the default network for your system.

If you answer NO, you will be given a further opportunity to specify a default network at a later stage. See the *VAX P.S.I. Management Guide* for details.

NOTE

If there is only one network in the database it is not automatically used as the default. You must either specify that network in all outgoing calls, or define that network as the default.

If you have a previous version of VAX PSI installed on your system, the procedure now displays:

```
Checking old configuration data.
```

Your previous installation detailed the following device(s). You will be given the option to keep, alter or delete each entry in turn, and then optionally add new devices.

Details of existing devices are displayed as in the following example:

```
Configuration data for line DUP-0-0
Device CSR is             %O760050
Device VECTOR is          %O000300
Device unibus adapter is  UB0
Do you want to Keep, Alter or Delete this entry (K, A, D) [K]?
```

Answer K if you want to keep the entry, D if you want to delete it, or A if you want to alter it. If you answer K, the following message is displayed:

```
Device device-name added to new configuration.
```

If you answer D, the following message is displayed:

```
Configuration data for device device-name has been deleted.
```

If you answer A, the procedure asks for the CSR, vector and adapter in the same way as for defining new lines (see below). The defaults will be the same as those for the previous installation, and each may be altered as necessary.

The procedure will ask you about each entry in your database from the previous installation. When each entry has been checked, the procedure asks:

```
Do you want to configure more lines [NO]?
```

Answer YES if you want to add more lines to your configuration and then answer the questions below.

If you have no devices defined from previous installations, or this is the first time VAX PSI is being installed on your system, answer the questions below in order to configure the devices for your system.

The procedure asks:

```
Device type (dev-c-u):
```

Enter the type of the first device to be configured. The permitted device types for Unibus systems are DMF, DUP, KMX, and KMY. If you enter any other device types, the procedure displays:

```
Error, unknown device type.

Supported devices are DMF, DUP, KMX, and KMY.

Examples:

       DMF-0
       DUP-0
       KMX-0-1
       KMY-1
```

The permitted device types for BI systems are DMB and DSB. If you enter any other device types, the procedure displays:

```
Error, unknown device type.

Supported devices are DMB and DSB.

Example:

       DMB-0
       DSB-0
```

The permitted device types for Qbus systems are DPV, KMV, DIV and DSV. If you enter any other device types, the procedure displays:

```
Error, unknown device type.

Supported devices are DPV, KMV, DIV and DSV.

Examples:
```

```
     DPV-0
     KMV-0
     DIV-0-0
     DSV-0-0
```

The permitted device types for busless systems are DST and DSH. If you enter any other device types, the procedure displays:

```
Error, unknown device type.

Supported devices are DST and DSH.

Examples:

     DST-0
     DSH-0
```

If you have entered a wrong device type, the procedure will ask again for a device.

If the device type is DMF, DMB, DSB, DSV, DIV, DSH or DST, the procedure displays:

```
SYSGEN autoconfigures the device-name,
no further information required.

Do you want to configure more lines [NO]?
```

If you have more lines to configure, answer YES, and the procedure asks again for the device type. Otherwise, answer NO, and the procedure completes by asking about PSI MAIL (see below).

If the device type is DUP, KMX, KMY, DPV or KMV, the procedure asks for the CSR address and vector address of the device.

NOTE

> If you are installing VAX PSI on a machine other than the MicroVAX, the procedure also asks for the adapter type of the device.

The default values for these parameters are also displayed. Enter the required addresses and adapter type, or choose the defaults by pressing <RET>. For example, for a KMX-0-0 device:

```
Default CSR address is %0764100
CSR address (octal): 764120


Default VECTOR is %0000700
Vector (octal): 720)
```

```
Default ADAPTER is UB0
Adapter (adapter-type): <RET>
```

The procedure now checks that the device has been set up correctly by displaying the values that you have selected, and also asks for confirmation that these are correct.

```
Configuration data for line KMX-0-0

Device CSR is            %0764120

Device VECTOR is         %0000720

Device UNIBUS adapter is UB0

Are these line parameters correct [YES]?
```

If the line parameters are wrong, answer NO, and the procedure asks again for the device type. Otherwise, answer YES and the procedure displays:

```
Device KMX-0-0 added to configuration.

Do you want to configure more lines [NO]?
```

If you answer YES, the procedure asks again for a device type. If you specify the same device again, the procedure warns you with:

```
Error, duplicate device name.
```

Otherwise, the procedure continues with:

```
The following NCP command may be used to configure the permanent
database to support incoming X.29 terminals:

NCP define module X29-server state on

Do you want the database defined now [YES]?
```

If you answer YES, X.29 support is enabled. Answer NO, and support is unmodified from the previous state.

The procedure next asks:

```
Do you want to use PSI MAIL [YES]?
```

The PSI MAIL utility allows VAX/VMS MAIL to send mail over a PSDN to other VAX PSI V3.0 or later systems. If you want to be able to use this utility, answer YES.

If you answer NO to this question, the procedure continues and creates LOAD_PSI043.COM.

Otherwise it asks:

```
Do you want support for incoming PSI MAIL [YES]?
```

If you answer NO, you can still send PSI MAIL, but you cannot receive it.

The procedure displays:

```
The PSI_MAIL object needs to run in an account with the right to
accept incoming X.25 calls.
```

If you answer YES, you must also define the username and password for PSI MAIL. The procedure displays:

```
Username [DECNET] ?

Password ?

Verification:
```

The username and password can be any that can accept incoming X.25 calls. Refer to the *VAX P.S.I. Management Guide* for details of setting up the system to accept X.25 calls. The default username is DECNET. (You will be asked to verify your password before being allowed to continue.)

The procedure continues with the following:

```
The following NCP commands may be used to configure the permanent
database to support incoming PSI MAIL:

NCP define object psi_mail number 0 file -
    sys$system:psi$mail user USERNAME password -
    PASSWORD

NCP define module x25-server destination psi_mail -
    object PSI_MAIL -
    CALL MASK ffffffffffffffffffffffffffffffff -
    CALL VALUE ff00000056332E30204D41494C2D3131
```

The call mask is applied to the user-data field, and determines whether the incoming call is accepted. The call value specifies the string used to test incoming call data.

The procedure then asks:

```
Do you want the database defined now [YES]?
```

Answer YES if the NCP commands listed that will be used to configure the database are correct. Answer NO if any of the commands are incorrect, and then run PSI_SET_UP.COM again, or enter the NCP commands as a separate operation to configure the database.

The following message is displayed:

```
Purging any previous PSI_MAIL definitions. Please ignore any
error messages.
```

There is a short delay while LOAD_PSI043.COM is created. Then the procedure displays:

```
Created SYS$SYSROOT:[SYSMGR]LOAD_PSI043.COM
```

After this message is displayed, return to where you left Section 3.2.

If your default directory is not SYS$MANAGER, the procedure displays:

```
The VAX PSI startup file should be moved into SYS$MANAGER to be
used automatically by STARTNET.COM

Do you want LOAD_PSI043.COM moved to SYS$MANAGER [YES]?
```

If you answer YES, the procedure moves LOAD_PSI043.COM into the SYS$MANAGER directory and displays the following message before ending:

```
Created SYS$SYSROOT:[SYSMGR]LOAD_PSI043.COM
```

If you answer NO, the procedure creates LOAD_PSI043.COM in your current directory, displays a message saying where the file is, and ends.

Return to where you left Section 3.2 to continue your installation.

3.2.2 Configuring the Permanent Database

You can exit from this PSI_DEFINE.COM procedure at any time by typing <CTRL/Z> in response to a request for input. If you exit by typing <CTRL/Z>, some PSDN or DTE definitions may have been created. You can remove unwanted PSDN and DTE definitions by using the following commands:

```
NCP purge module x25-protocol known dtes known networks all
NCP purge module x25-protocol known networks all
```

After the initial running of PSI_SET_UP.COM to define the DTE(s), you may run this procedure again. Alternatively, you may use NCP DEFINE commands to define each entity in the database and thus configure the VAX PSI system. See the *VMS Network Control Program Manual* for details.

The procedure displays:

```
This command procedure allows you to define one or more PSDN(s) and
one or more DTE(s) associated with each network.
```

The SPD for VAX PSI lists the public networks supported at the time of printing.

Check with your Customer Support Representative for up-to-date information on new networks. You see the message:

```
Do you want to define the X25-PROTOCOL database now [YES]?
```

Answer YES if you want to define the X25-PROTOCOL database to define the PSDN and DTE(s) associated with each network.

The procedure continues:

```
You can use this procedure to purge the database to remove
all DTEs and all X.25 protocol information before updating
the permanent database. You can also use this procedure to
remove the line information from the database. Note that if
the line permanent database is purged then all DECnet lines
along with VAX PSI lines will be removed.

The following NCP commands will be used to purge the DTE and
X.25 permanent database:

NCP purge module x25-protocol known networks all
NCP purge module x25-protocol known dtes known networks all

The following NCP commands will be used to purge the line
permanent database:

NCP purge known lines all

Do you want the information in the X.25 and DTE
permanent database purged [NO]?
```

If you wish to keep previous definitions for DTEs, answer NO. If you answer YES, the following is displayed:

```
Purging the X.25 and DTE database.
```

The procedure then asks:

```
Do you want the line information in the permanent database
purged [NO]?
```

If you wish to keep previous definitions for lines, including DECnet lines, answer NO. Note that if you answer YES, all DECnet lines will be deleted along with VAX PSI lines. If you answer YES, the following is displayed:

```
Purging the line database.
```

The procedure displays:

```
PSDN and profile names are defined here. You can define one or
more PSDNs. For each PSDN you will be asked to provide the
network name and the profile name for that network.
```

The procedure asks:

```
Network name  (string):
```

Enter the network name that connects to the PSDN. Refer to Section 1.7 in Chapter 1 for details of network and profile names.

```
Profile name (string)                [NETWORK NAME]:
```

Enter the profile name of the PSDN to which the DTE will connect. The default name is the same as the network name.

The procedure then displays the command it will use to update the permanent database.

```
The following NCP command will be used to update the permanent
database:

NCP define module x25-protocol network network-id  -
    profile profile-name

Do you want the information in the permanent database
updated [YES]?
```

If you answer NO to this question, the NCP commands will not be executed. You may enter the commands yourself later if you wish. The procedure then continues and displays additional messages here, if it deletes any database entries.

Answer YES if you want to update the database. The procedure displays the following message:

```
DTEs are defined here. You can define one or more DTEs connected
to this network. For each DTE you will be asked to provide the
following information:

  .  DTE address

  .  Range of channels to be used by the DTE

  .  Line associated with the DTE
```

Refer to the completed Table 2–1 in Chapter 2 for the information you need to supply for your system.

The procedure asks:

```
DTE address  (number):
```

Enter your DTE address. For details on the format of this address, refer to the *Public Network Information* manual.

```
Channels range  (list):
```

Enter the channels that the DTE will use for outgoing calls. Specify high-numbered channels before low-numbered channels. Each entry in the channels list can be either a single channel number or a channel range (with a hyphen separating the high and low numbers).

The entries in the list must be separated by commas. For example:

```
Channels range (list):1555,1544-1540,1536
```

The PSDN authorities allocate channel ranges at subscription time. For details on the channel range allocated for your PSDN, refer to the *Public Network Information* manual.

The procedure now asks:

```
Line name (dev-c-u):
```

Enter the name of the line that the DTE will use. Specify a line-id in the form dev-c[-u]. For all device types except KMX, you need only specify line-id and the controller number, for example:

```
KMV-0
```

For the KMX, you must specify the line-id, controller number and the unit number, for example:

```
KMX-0-1
```

The procedure displays:

```
The following NCP commands will be used to update the permanent
database:

NCP define line line-id  network network-id protocol lapb -
   state on

NCP define module x25-protocol dte dte-address  -
    network network-id  -
    channels  channel-list -
    line line-id  state on
```

The procedure then asks:

```
Do you want to update the permanent database now [YES]?
```

If you answer NO to this question, the NCP commands will not be executed. You may enter the commands yourself later if you wish. The procedure then continues and displays additional messages here if it deletes any database entries.

If you answer YES, the procedure displays:

```
Updating database.
Do you want to define any more DTEs connected to this network [NO]?
```

Answer YES if more DTEs are required for this network. The procedure then repeats the questions to define a DTE. When you have finished defining all DTEs, answer NO.

The procedure then displays:

```
Do you want to define any more networks [NO]?
```

Answer YES if you want to define more networks. The procedure then repeats the questions to define DTE(s) for the next network.

When you have finished defining all networks, answer NO.

Return to where you left Section 3.2 to continue your installation.

3.2.3 Setting Up VAX PSI for Multi-host Working

If you intend using VAX PSI as a Multi-host system, you need to set up X25-SERVER destinations for those incoming calls destined for Access hosts. You can exit from this procedure at any time by typing <CTRL/Z> in response to a request for input.

Destinations will have been set up if you exit by typing <CTRL/Z> after the following message is displayed:

```
Updating the permanent database
```

You can delete the destinations by using the following command:

```
NCP purge module x25-server known destinations all
```

The procedure displays the following message:

```
X25-Server destinations are set up here. These permit incoming
calls received by this node to be redirected to the appropriate
host. This procedure asks for a list of hosts with VAX PSI
Access installed. This list of nodes will not include the node
you are currently working on.
```

Refer to the completed Table 2–2 in Chapter 2 for the destination names for your system.

The procedure then displays:

```
Destination name  (string):
```

Destinations are used by the Multi-host VAX PSI system to identify the destination of the incoming call so that it can be redirected to the correct host node. Enter a destination name as a string of up to 16 alphanumeric characters.

```
Destination node name  (string):
```

Destination node is the node where the object, required by the incoming call, resides. Enter a node name of up to six alphanumeric characters.

```
Destination priority   [200]:
```

Destination priority is the processing priority for the redirection of the incoming call to that destination. Priority is an integer in the range 0 to 255.

The rest of the parameters are optional. If you do not specify them, they will not be checked when an incoming call arrives.

```
Call mask (2-32 hex)  [None]:
```

The call mask is generally used with a call value, and when applied to the user-data field determines whether the incoming call is accepted. Enter a hexadecimal value between 2 and 32 digits long. If you do not specify a mask, the destination accepts all calls with any user data.

```
Call value (2-32 hex)  [None]:
```

Call value specifies the string used to test incoming call data. If the call mask accompanying the user-data fields matches the call value, the incoming call is accepted. The call value for incoming calls should be set to 01.

```
Closed User Group (1-16 characters)  [None]:
```

Closed user group specifies which user group (CUG or BCUG) has access to the destination.

```
Sending address(1-15 decimal)  [None]:
```

This specifies which remote DTE address(es) has access to the destination. If none is specified, all call requests from remote DTEs are accepted. Wildcards (* and %) may be used in this address.

```
Subaddress range (decimal range)  [None]:
```

Subaddress is used to determine whether an incoming call is to be accepted. If the subaddress of the incoming call is within the range specified, the call request is accepted. If no range is specified, call requests with any subaddress are accepted. Enter only one range, for example, 50-99 or 122 or 1010-1234.

```
Object identification (string)    [36]:
```

Set this parameter as required by the destination node. VAX PSI requires a value of 36 for this parameter (the default value), so enter <RET>.

The procedure displays:

```
The destination will be set up as follows:

NCP> define module x25-server -
     destination dest-name -
     node dest-node -
     [call mask call-mask] -
     [call value call-value] -
     [group cug-name] -
     [sending address dte-address] -
     [subaddress sub-address-range] -
     [priority dest-prio] -
     [object object-id]
```

Only the fields that you have specified will be displayed.

The procedure displays:

```
Do you want to define this destination now [YES]?
```

If you answer NO, the procedure will not execute the NCP command as displayed above. If you answer YES, the procedure displays:

```
Updating the permanent database.

Do you want to define any more destinations [NO]?
```

If you answer YES, the procedure will repeat the above questions to allow further destinations to be set up.

When you have completed defining all destinations, answer NO.

Return to where you left Section 3.2 to continue your installation.

3.3 Starting Up VAX PSI

If DECnet is running on your system, issue the following command to start VAX PSI:

```
$  @SYS$MANAGER:STARTPSI.COM
```

If STARTPSI.COM fails, after it has loaded VAX PSI successfully, the following message is displayed:

```
Failed to set up VAX PSI
```

This means that the Security or Trace utilities, and/or lines and DTEs may have been set up incorrectly. Reinstall VAX PSI, ensuring that the lines, DTEs and utilities are set up correctly.

If DECnet is not running on your system, issue the following command, which starts both DECnet and VAX PSI:

```
$  @SYS$MANAGER:STARTNET.COM
```

If you try to start VAX PSI before DECnet is running with the STARTPSI command procedure, the following error message is displayed and the procedure ends:

```
DECnet must be running before attempting to start VAX PSI
```

NOTE

> To restart DECnet and VAX PSI automatically when you reboot the system, edit the STARTNET command given above into SYS$MANAGER:SYSTARTUP_V5.COM.

If you wish to configure or modify your VAX PSI system, refer to the *VAX P.S.I. Management Guide*.

DIGITAL recommends that you check the installation and configuration of your VAX PSI system. Follow the procedures described in the *VAX P.S.I. Management Guide*.

Finally, when you have installed and configured VAX PSI, and checked that the system is installed properly, back up the updated system disk and save the distribution kit for future use.

4 Installing VAX PSI Access

This chapter explains how to install VAX PSI Access software. During the installation you will need to provide the information you supplied in Table 2–3 in Chapter 2 of this manual.

Before beginning the installation:

1. Work through the Installation Preparations in Chapter 2.
2. Log in to the system manager's account, or an account with similar privileges.
3. Check that the disk which will receive the VAX PSI Access software is the default disk. Typically, this is the system disk (with the logical name SYS$SYSDEVICE).

4.1 Installing VAX PSI Access Files from the Distribution Volumes

To start the installation procedure, enter the following command:

```
$ @SYS$UPDATE:VMSINSTAL PSI_AC ddcu: OPTIONS N
```

The format for the device name is *ddcu*, where:

dd is the device code, *c* is the controller letter, and *u* is the unit number. For example, CSA1:.

The procedure displays:

```
          VAX/VMS Software Product Installation Procedure V5.1
                  It is date at time.

Enter a question mark (?) at any time for help.
```

```
* Are you satisfied with the backup of your system disk [YES]?
```

Make sure you have a good backup copy of the disk, as the installation will write to the system disk. If your system disk has not been backed up, answer NO to this question. If you answer NO, the procedure exits, and the VAX PSI Access software will not be installed. When you have backed up your system disk, you can start the installation procedure again.

```
Please mount the first volume of the set on device.

* Are you ready?
```

Load the distribution volume (PSI_AC) in the drive. Answer YES when you are ready to continue. If a console medium is not mounted, the following message appears:

```
%SYSTEM-F-DEVNOTMOUNT, device is not mounted.
```

The procedure displays:

```
%MOUNT-I-MOUNTED, PSI_AC mounted on device.

The following products will be processed:

PSI_AC   V4.3

              Beginning installation of PSI_AC V4.3 at time


%VMSINSTAL-I-RESTORE, Restoring product saveset A...
```

You will then be asked about the release notes.

4.1.1 Release Notes

The procedure displays the options for printing and displaying the Release Notes. **You are recommended to print and read the Release Notes before continuing the installation.**

```
Release notes included with this kit are always copied to SYS$HELP.

Additional Release Notes Options:

1. Display release notes

2. Print release notes

3. Both 1 and 2

4. None of the above

Select option [2]:
```

Select one of these options. DIGITAL recommends that you choose Option 2. If you select Option 1, the following file is displayed on your terminal:

```
  VMI$ROOT:[SYSUPD.PSI_AC043]PSI_AC043.RELEASE_NOTES;1
```

The Release Notes are displayed on your terminal and will start scrolling on your screen.

If you select Option 2, you are asked on which queue you wish the file to be printed:

```
* Queue name [SYS$PRINT]:
```

Enter <RET> or specify another print queue.

If you select Option 3, you are asked on which queue you wish the file to be printed and then the Release Notes will be displayed on your terminal. If you select Option 4, the release notes will be moved to the SYS$HELP directory and not displayed.

When the Release Notes have been queued to a printer and/or displayed on your terminal or copied to SYS$HELP, the procedure asks:

```
* Do you want to continue the installation [N]?
```

If you enter <RET>, you can stop the procedure and read the Release Notes. If you do this, the following message is displayed:

```
             VMSINSTAL procedure done at hh:mm
```

While reading the Release Notes, check for any issues that are likely to affect the installation of the VAX PSI software. The VMSINSTAL procedure creates a file for the Release Notes called PSI_AC043.RELEASE_NOTES in the SYS$HELP: directory and the following message is displayed:

```
%VMSINSTAL-I-RELMOVED, The products release notes have been
successfully moved to SYS$HELP.
```

If you stop VMSINSTAL to read the Release Notes, restart the procedure by entering the following command:

```
$ @SYS$UPDATE:VMSINSTAL PSI_AC device-identifier
```

4.1.2 Tailoring the Installation

If you do not stop VMSINSTAL, or if you have restarted the procedure, VMSINSTAL will continue to install the VAX PSI software. The procedure then displays:

```
        VAX PSI Access V4.3 installation procedures.
```

During the installation, the procedure checks the following:

1. That the operating system is VMS V5.1 or later. If the operating system is an earlier version of VMS, the procedure exits after displaying the following messages:

   ```
   This product requires VMS version V5.1 or later to install
   %VMSINSTAL-E-INSFAIL, the installation of VAX PSI Access V4.3
   has failed.
   ```

2. If there are any files from a previous VAX PSI or VAX PSI Access installation. If there is a set of VAX PSI V4.3 files present on the disk, the procedure asks:

   ```
   Do you wish to install a combination system [NO]?
   ```

   Answer NO if you wish to install only VAX PSI Access and the files will be deleted.

   Answer YES if you want to set up a Combination system, and then follow the instructions given in Chapter 5.

3. That there is sufficient space on the disk for the VAX PSI Access files. Refer to Section 2.6.1 in Chapter 2 for details of how many free blocks you need on your system to install VAX PSI Access. If there is not enough space, the procedure exits after displaying the following messages:

```
%PSI-E-NOSPACE, this installation requires nnnn blocks of
disk space
%VMSINSTAL-E-INSFAIL, the installation of VAX PSI Access V4.3
has failed.
```

Make sure your system has sufficient free blocks before trying to install VAX PSI Access again.

The procedure then asks if you want to install the VAX PSI Access options. If you do, you must answer YES (the default answer) to the question about the option you want.

NOTE

You cannot install the options at a later stage without reinstalling the complete VAX PSI product.

If you are installing VAX PSI on a VAXcluster with a common system root, every system in the cluster must be set up to support the same VAX PSI options. You must therefore provide identical answers to the questions about options for each system. The procedure displays the following question:

```
* Do you want X.29 support [YES]?
```

Answer NO if you do not want support for X.29.

```
* Do you want all the utilities [YES]?
```

Answer YES if you want all the utilities. DIGITAL recommends that you install all of the VAX PSI utilities. If you answer NO, you will be asked which utilities you want. If you do not want a particular utility, answer NO to the appropriate question.

If you do not have PSI_SECURITY.COM installed in SYS$MANAGER on your system then the new PSIAUTHORIZE keypad is supplied in SYS$LIBRARY:PSIAUTHORIZE.INIT.

If you already have PSI_SECURITY.COM installed in SYS$MANAGER on your system then the new PSIAUTHORIZE keypad is supplied in SYS$LIBRARY:PSIAUTHORIZE.TEMPLATE, and the following message is displayed:

```
Attention.
==========

You have an existing PSI_SECURITY.COM file in SYS$MANAGER. If you
choose not to have the VAX PSI security utility, by answering "NO"
to the following question, the file will be deleted.

* Do you want the Security utility [YES]?
```

```
* Do you want the Accounting utility [YES]?

* Do you want the Trace utility [YES]?

* Do you want the KDA utility [YES]?
```

The procedure continues and displays the following messages.

```
There are no more questions to answer during this installation.

%VMSINSTAL-I-RESTORE, Restoring product saveset B...
%VMSINSTAL-I-RESTORE, Restoring product saveset C...
%VMSINSTAL-I-RESTORE, Restoring product saveset D...
%VMSINSTAL-I-RESTORE, Restoring product saveset E...
```

Saveset D is copied only if you have requested X.29 support. Saveset E is copied only if you have requested some or all of the utilities.

There may be a time delay of several minutes at this stage in the procedure. As you have now answered all the questions for this stage of the installation, there is no need to watch the output. You will be required to answer more questions after the "VMSINSTAL procedure done at *time*" message is displayed.

When the last saveset has been copied, the procedure copies the distribution files from SYS$UPDATE to their respective directories. See Appendix D for details of which files are installed into which directories. If you wish, you may remove the distribution media from the device at this stage.

If there are files from a previous VAX PSI or VAX PSI Access installation present on your disk, the procedure deletes the obsolete files and displays the following message:

```
Removing obsolete files from a previous VAX PSI installation.
```

If you decide to cancel the installation of VAX PSI at any time by entering <CTRL/Y>, after a short time delay, the following is displayed:

```
%VMSINSTAL-F-CTRLY, Installation canceled via CTRL/Y.
%VMSINSTAL-F-UNEXPECTED, Installation terminated due to unexpected
event.
          VMSINSTAL procedure done at time
```

If you enter <CTRL/Y> after the information message that the files are being moved to the target directories (see below), your system will have some new and (if previously installed) some old VAX PSI files. Therefore, you should reinstall the product.

The procedure then displays the following:

```
Installing VAX PSI Access V4.3 files.
```

If you have a previous installation of VAX PSI on your system, a series of messages may be displayed. These messages tell you which of the existing files will not be updated. If you do not have a previous installation of VAX PSI, these messages are not displayed.

The procedure then displays the following:

```
VAX PSI Access V4.3 files installed.
```

After displaying the above message, the procedure checks that:

1. The VAX PSI Access product license has been installed on the system. If the license has not been installed, the procedure warns you with the following message:

   ```
   %PSI-W-NOLICENSE, P.S.I.-ACCESS has not been licensed to
   run on this system
   ```

2. The MAXBUF parameter is the correct size. If the MAXBUF parameter value is too small, the procedure warns you with the following message:

   ```
   %PSI-I-SYSGEN, MAXBUF is too small, change from nnn to 1536.
   ```

   where *nnn* is the current value of the MAXBUF parameter.

   Change the value of the MAXBUF parameter after you have installed VAX PSI Access.

3. No previous version of VAX PSI or VAX PSI Access has been run on your system since the last system boot. If VAX PSI or VAX PSI Access has been run, the procedure displays the following:

   ```
   %PSI-W-PSIRUN, previous version of VAX PSI has been run since
   the last system boot
   ```

The procedure then displays:

```
To complete the installation, follow the instructions below:

- Execute the command procedure SYS$MANAGER:PSI_SET_UP.COM to
  produce a LOAD_PSI043.COM and set up the permanent database.
```

If a license is required, the procedure displays:

```
- Install the P.S.I.-ACCESS Product License
```

Refer to Section 2.2 in Chapter 2 for details of how to install the Product License.

If the SYSGEN parameters need updating, the procedure displays:

```
- Update the specified SYSGEN parameters
```

If the system needs rebooting, the procedure displays:

```
- Reboot the system
```

If the system does not require rebooting, the procedure displays:

```
- On a system which is running DECnet, execute the command
  procedure SYS$MANAGER:STARTPSI.COM to bring up VAX PSI.
  On a system which is not running DECnet, execute the
  command procedure SYS$MANAGER:STARTNET.COM to bring up
  DECnet and VAX PSI.

%VMSINSTAL-I-MOVEFILES, files will now be moved to their target
directories...
```

```
     Installation of PSI_AC V4.3 completed at time
```

The procedure then displays:

```
Enter the products to be processed from the next distribution
volume set.
* Products :
```

Press <CTRL/Z> to stop entering products and move on to the next prompt.

If you mounted the distribution kit on the console device, the procedure displays:

```
* Do you want to mount the console volume [NO]?
```

Answer YES and the procedure displays:

```
Please mount it on CSA1:
```

Replace the console volume in the drive.

The procedure asks:

```
*Are you ready?
```

Answer YES to this question. The procedure continues with:

```
%MOUNT-I-MOUNTED, CONSOLE mounted on CSA1:
                VMSINSTAL procedure done at time
```

After installing the software, execute the PSI_SET_UP.COM procedure. Continue the installation procedure by entering the following commands:

```
$ SET DEF SYS$MANAGER
$ @PSI_SET_UP
```

After running PSI_SET_UP.COM, update the SYSGEN parameters and reboot if necessary (see Section 2.6.2 in Chapter 2), and then refer to the *VAX P.S.I. Management Guide* to check the installation.

4.2 Tailoring VAX PSI Access

When you have reached this stage of the installation, you will have built a VAX PSI Access system. The next steps are:

1. Create LOAD_PSI043.COM which is used to start VAX PSI - see Section 4.2.1.
2. Define the VAX PSI Access system - see Section 4.2.2.

Before tailoring the VAX PSI Access system, make sure you have the following information for each network you want to add to the X25-ACCESS database:

- The network used by the connector node.
- The node-id of the connector node serving that network.

You will also need to know:

- Whether you want to set up a default network.
- Whether you want X.29 support.

Refer to the completed Table 2–3 in Chapter 2 for information about your system. While running PSI_SET_UP.COM, you may enter a question mark (?) as a response to any question for help.

The documentation of the next part of the installation has been divided into two sections (4.2.1 Creating LOADPSI043.COM, 4.2.2 Configuring the X25-ACCESS Database). You will be asked to refer to each section in turn and then return to the point where you left this section.

The procedure displays the following message:

```
This command procedure assists in configuring VAX PSI.

LOAD_PSI043.COM must be built before attempting to start VAX PSI.
The load file from an earlier version of VAX PSI cannot be used

Do you wish to build LOAD_PSI043.COM now [YES]?
```

Answer YES if you want to build LOAD_PSI043.COM now. Refer to Section 4.2.1 for details of building LOAD_PSI043.COM.

The procedure asks:

```
Do you wish to add network entries to the database now [YES]?
```

Answer YES if you want add new information to the database. Refer to Section 4.2.2 for details.

The procedure then asks:

```
Do you wish to load VAX PSI now [NO]?
```

Answer YES if you want to load VAX PSI.

If VAX PSI is already running on your system, the following is displayed.

```
A version of VAX PSI is already running on this system. In order
to load the new configuration and device drivers you need to
reboot your system.

To check your installation after restarting VAX PSI, refer to
the Configuration Testing chapter in the VAX P.S.I. Management
Guide.
```

If you do not need to reboot your system, and DECnet is running on your system, then you should answer YES if you want to load VAX PSI.

NOTE

> If you need to change the SYSGEN parameters, you must do so before attempting to load VAX PSI or test the installation. After making the changes, reboot the system (see Section 2.6.2 in Chapter 2). You will also have to reboot if you have a previous version of VAX PSI installed and wish to reload VAX PSI or test the installation.

If VAX PSI fails to load, the following message is displayed:

```
Failed to load VAX PSI
```

If VAX PSI fails to start, the following message is displayed:

```
Failed to set up VAX PSI
```

This means that the Security or Trace utilities may have been set up incorrectly. Reinstall VAX PSI Access, ensuring that the utilities are set up correctly. If VAX PSI loads successfully and if PSI_SET_UP.COM is running, the following message is displayed:

```
To check out your installation after starting VAX PSI refer to
the VAX P.S.I. Management Guide
```

Your VAX PSI Access system is now ready to be started. Follow the procedures described in Section 4.3.

4.2.1 Creating LOAD_PSI043.COM

You can exit from this procedure at any time by typing <CTRL/Z> in response to a request for input. If you exit by typing <CTRL/Z>, no LOAD_PSI043.COM file is created. The procedure displays the following message:

```
This command file assists in creating LOAD_PSI043.COM.

LOAD_PSI043.COM is a command file used to SYSGEN the VAX PSI
supported devices and startup the ACP.
```

The procedure then asks:

```
Do you want to set up a default network [YES]?
```

If your Local Area Network or DECnet network is connected to several PSDNs, or to one PSDN but via a choice of several Multi-host VAX PSI nodes, you may specify one network for use as the default PSDN.

If you answer YES, the procedure asks you to supply a network name to serve as a system-wide default:

```
Default network name  (network-id):
```

Enter the name of the network you want to set up as the default network for your system.

If you answer NO, you will be given a further opportunity to specify a default network at a later stage. See the *VAX P.S.I. Management Guide* for details.

NOTE

If there is only one network in the database it is not automatically used as the default. You must either specify that network in all outgoing calls, or define that network as the default.

If you have requested X.29 support, the procedure continues:

```
The following NCP command may be used to configure the permanent
database to support incoming X.29 terminals:

NCP define module X29-server state on

Do you want the database defined now [YES]?
```

If you answer YES, X.29 support is enabled. Answer NO, and support is unmodified from the previous state.

The procedure next asks:

```
Do you want to use PSI MAIL [YES]?
```

The PSI MAIL utility allows VAX/VMS MAIL to send mail over a PSDN to other VAX PSI V3.0 or later systems. If you want to be able to use this utility, answer YES.

If you answer NO to this question, the procedure continues and creates LOAD_PSI043.COM.

Otherwise it asks:

```
Do you want support for incoming PSI MAIL [YES]?
```

If you answer NO, you can still send PSI MAIL, but you cannot receive it.

The procedure displays:

```
The PSI_MAIL object needs to run in an account with the right to
accept incoming X.25 calls.
```

If you answer YES, you must also define the username and password for PSI MAIL. The procedure displays:

```
Username [DECNET] ?

Password ?

Verification:
```

The username and password can be any that may accept incoming X.25 calls. Refer to the *VAX P.S.I. Management Guide* for details of setting up the system to accept X.25 calls. The default username is DECNET. (You will be asked to verify your password before being allowed to continue.) The procedure continues with the following:

```
The following NCP commands may be used to configure the permanent
database to support incoming PSI MAIL:

NCP define object psi_mail number 0 file -
    sys$system:psi$mail.com user USERNAME password -
    PASSWORD

NCP define module x25-server destination psi_mail -
    object PSI_MAIL -
    CALL MASK ffffffffffffffffffffffffffffffff -
    CALL VALUE ff00000056332E30204D41494C2D3131
```

The call mask is applied to the user-data field, and determines whether the incoming call is accepted. The call value specifies the string used to test incoming call data. The procedure then asks:

```
Do you want the database defined now [YES]?
```

Answer YES if the NCP commands listed that will be used to configure the database are correct. Answer NO if any of the commands are incorrect, and then run PSI_SET_UP.COM again, or enter the NCP commands as a separate operation to configure the database.

The following message is displayed:

```
Purging any previous PSI_MAIL definitions. Please ignore any
error messages.
```

There is a short delay while LOAD_PSI043.COM is created. Then the procedure displays:

```
Created SYS$SYSROOT:[SYSMGR]LOAD_PSI043.COM
```

After this message is displayed, return to where you left Section 4.2.

If your default directory is not SYS$MANAGER, the procedure displays:

```
The VAX PSI startup file should be moved into SYS$MANAGER to be
used automatically by STARTNET.COM

Do you want LOAD_PSI043.COM moved to SYS$MANAGER [YES]?
```

If you answer YES, the procedure moves LOAD_PSI043.COM into the SYS$MANAGER directory and displays the following message before ending:

```
Created SYS$SYSROOT:[SYSMGR]LOAD_PSI043.COM
```

If you answer NO, the procedure creates LOAD_PSI043.COM in your current directory, displays a message saying where the file is, and ends.

Return to where you left Section 4.2 to continue your installation.

4.2.2 Configuring the X25-ACCESS Database

You can exit from this PSI_DEFINE.COM procedure at any time by typing <CTRL/Z> in response to a request for input. If you exit by typing <CTRL/Z>, some X25-ACCESS definitions may have been created. You can remove unwanted definitions by using the following command:

```
NCP purge module x25-access known networks all
```

After running PSI_SET_UP.COM initially to define your database, you may either run this procedure again, or use NCP DEFINE commands to define each entity in the database and thus configure the VAX PSI system. See the *VMS Network Control Program Manual* for details.

The procedure displays the following messages:

```
You are assisted here in defining the X25-ACCESS database.

Do you want to define the X25-ACCESS database now [YES]?
```

Answer YES if you want to define (or update) the X25-ACCESS database.

The procedure displays:

```
This procedure can purge the database to remove all known
connector nodes information, before it updates the permanent
database.

The following NCP command will be used to purge the database

NCP purge module x25-access known networks all

Do you want the information in the permanent database purged
now [NO]?
```

If you answer NO, the information you supply will be added to the permanent database. If you answer YES, the information you supply will replace that already present in the permanent database and the following message is displayed:

```
Purging the database
```

You are then asked for the name of a PSDN to which your connector node will be connected. Next, the node identification of that connector node is requested. You can define more than one network and you can enter the networks in any order. During the PSI_SET_UP.COM procedure, you can set up one of these networks to be the default (see Section 4.2.1). The procedure displays:

```
Your VAX PSI Access system uses a connector node to communicate
with one or more PSDNs. You will be asked for a network name for
the connection to the connector system and the DECnet node name
of that system. The network name you supply MUST be the same as
the name of the network on the connector node that you wish to
use.
```

The procedure asks:

```
Network name  (network-id):
```

Enter the name of the network to which you want to connect.

If you define this network twice, the procedure will display:

```
Network, network-id  has already been defined.
```

If you need to use different network names to connect to the same PSDN, use the convention: *name1*,*name2*,.....*namen* for the subsequent network name definition(s). For example, if the original connection to the PSDN was identified by the network name NETWORK, subsequent definitions should take the form NETWORK1, NETWORK2,.....NETWORK*n*. See the *VAX P.S.I. Management Guide* for further explanation of this convention.

The procedure then asks:

```
Connector node   (node-id):
```

Enter the name or address number of the connector node which connects to the network you have specified. When you have entered this information, the procedure displays:

```
Network  = network-id
Connector node  = node-id

Is the above information correct [YES]?
```

Answer YES to this question if the information is correct. If you answer NO, you must enter the information again. The procedure then displays:

```
The following NCP command will be used to update the permanent
database

NCP define module x25-access network network name node -
nodename

Adding entry to the X25-ACCESS database for network network
```

The procedure then asks:

```
Are there any more NETWORKS to be defined [NO]?
```

Answer NO to this question if you have no more networks to add to the X25-ACCESS database. If you answer YES, the procedure asks you for the network name and node-id, so you can add another network to the X25-ACCESS database. You can define the same network twice provided two different network names and two different node-ids are defined. Refer to Chapter 1 for details of network and profile names.

When you have entered all the network information, return to where you left Section 4.2 to continue the installation.

4.3 Starting Up VAX PSI Access

If DECnet is running on your system, issue the following command to start VAX PSI Access:

```
$ @SYS$MANAGER:STARTPSI.COM
```

If STARTPSI.COM fails after it has loaded VAX PSI Access successfully, the following message is displayed:

```
Failed to set up VAX PSI Access
```

This means that the Security or Trace utilities may have been set up incorrectly. Reinstall VAX PSI Access, ensuring that the utilities are set up correctly.

If DECnet is not running on your system, issue the following command, which starts both DECnet and VAX PSI:

```
$ @SYS$MANAGER:STARTNET.COM
```

If you try to start VAX PSI with the STARTPSI command procedure before DECnet is running, the following error message is displayed and the procedure ends:

```
DECnet must be running before attempting to start VAX PSI
```

NOTE

To restart DECnet and VAX PSI Access automatically when you reboot the system, edit the above command into SYS$MANAGER:SYSTARTUP_V5.COM.

If you wish to configure or modify your VAX PSI system, refer to the *VAX P.S.I. Management Guide*. DIGITAL recommends that you check the installation and configuration of your VAX PSI system. Follow the procedures described in the *VAX P.S.I. Management Guide*.

Finally, when you have installed and configured VAX PSI Access, and checked that the system is installed properly, back up the updated system disk and save the distribution kit for future use.

5

Installing a VAX PSI Combination System

This chapter explains how to build a VAX PSI Combination system. A Combination system is built by:

1. Installing the VAX PSI distribution kit on your VAX/VMS system.
2. Installing the VAX PSI Access distribution kit on the same VAX/VMS system.
3. Running PSI_SET_UP.COM to configure and define your Combination system.
4. Checking that the installation and configuration has been successful.

5.1 Installing the Distribution Kits

Run VMSINSTAL to install the VAX PSI distribution kit. Follow the instructions given in Chapter 3, Section 3.1.

DO NOT RUN PSI_SET_UP.COM AT THIS STAGE.

Then run VMSINSTAL again to install the VAX PSI Access distribution kit. Follow the instructions given in Chapter 4, Section 4.1, answering YES in response to the question:

```
Do you wish to install a combination system [NO]?
```

After installing the software, execute the PSI_SET_UP.COM procedure. Continue the installation procedure by entering the following commands:

```
$ SET DEFAULT SYS$MANAGER
$ @PSI_SET_UP
```

After running PSI_SET_UP.COM, update the SYSGEN parameters (see Section 2.6.2 in Chapter 2), reboot if necessary, and then check the installation. Details of how to check the installation are documented in the *VAX P.S.I. Management Guide*.

5.2 Tailoring Your Combination System

When you have reached this stage of the installation, you will have built a Combination system. The next steps are:

1. Set up devices - see Section 5.2.1.
2. Define the connection to the PSDN(s) - see Section 5.2.2.
3. Add support for Multi-host access - see Section 5.2.3.

Before tailoring the VAX PSI system, make sure you have the following information for each device in your configuration:

- CSR address
- VECTOR address

You also need to know the subscription options that have been taken out with each PSDN you are connecting to. These include:

- DTE address(es)
- Logical Channel Number range(s)

You will need to know the following information for each network you want to add to the X25-ACCESS database:

- The network name
- The node-id of the Multi-host VAX PSI system(s) serving that network

You will also need to know:

- Whether you want to set up a default network
- Whether you want X.29 support

Refer to Tables 2–1, 2–2 and 2–3 in Chapter 2 for the above information about your system. While running PSI_SET_UP.COM, you may enter a question mark (?) as a response to any question for help.

The documentation of the next part of the installation has been divided into three sections (5.2.1 Setting Up Devices, 5.2.2 Configuring the Permanent Database, 5.2.3 Setting Up VAX PSI for Multi-host Working). You will be asked to refer to each section in turn and then return to the point where you left this section.

The procedure displays the following message:

```
This command procedure assists in configuring VAX PSI.

LOAD_PSI043.COM must be built before attempting to start VAX PSI.
The load file from an earlier version of VAX PSI cannot be used.

Do you wish to build LOAD_PSI043.COM now [YES]?
```

Answer YES if you want to build LOAD_PSI043.COM now. Refer to Section 5.2.1 for details of building LOAD_PSI043.COM and setting up devices.

The procedure asks:

```
Do you wish to add network, line or DTE entries to the database
now [YES]?
```

Answer YES if you want to add new information to the database - see Section 5.2.2 for details.

The procedure then asks:

```
Do you wish to add VAX PSI Multi-host entries [YES]?
```

Answer YES if you require a Multi-host system - see Section 5.2.3 for details.

Answer NO if you require a Native mode VAX PSI system, in which case you are now ready to load and start VAX PSI. The procedure asks:

```
Do you wish to load VAX PSI now [NO]?
```

Answer YES if you want to load VAX PSI.

If VAX PSI is already running on your system, the following message is displayed:

```
A version of VAX PSI is already running on this system. In order
to load the new configuration and device drivers you need to
reboot your system.

To check out your installation after restarting VAX PSI, refer to
the Configuration Testing chapter in the  VAX P.S.I. Management
Guide.
```

If you do not need to reboot your system, and DECnet is running on your system, then you should answer YES if you want to load VAX PSI.

NOTE

> If you need to change the SYSGEN parameters, you must do so before attempting to load VAX PSI or test the installation. After making the changes, reboot the system (see Section 2.6.2 in Chapter 2). You will also have to reboot if you have a previous version of VAX PSI installed and wish to reload VAX PSI or test the installation.

If VAX PSI fails to load, the following message is displayed:

```
Failed to load VAX PSI
```

If VAX PSI fails to start, the following message is displayed:

```
Failed to set up VAX PSI
```

This means that the Security or Trace utilities, and/or lines and DTEs may have been set up incorrectly. Reinstall VAX PSI, ensuring that the lines, DTEs and utilities are set up correctly.

The procedure displays the following message:

```
To check out your installation after starting VAX PSI refer to
the VAX P.S.I. Management Guide.
```

Your Combination VAX PSI system is now ready to be started. Follow the procedures described in Section 5.3.

5.2.1 Setting Up Devices

This section describes how to set up the devices used to communicate with the PSDN(s). You can exit from this procedure at any time by typing <CTRL/Z> in response to a request for input. If you exit by typing <CTRL/Z>, no LOAD_PSI043.COM file is created.

The procedure displays the following message:

```
This command file assists in creating LOAD_PSI043.COM.

LOAD_PSI043.COM is a command file used to SYSGEN the VAX PSI
supported devices and startup the ACP.
```

The procedure then asks:

```
Do you want to set up a default network [YES]?
```

If your Local Area Network or DECnet network is connected to several PSDNs or to one PSDN but via a choice of several connector nodes, you may specify one network to be used as the default. (A default network may also be used if your system is connected to more than one network.)

Answer YES if you want to set up a network name as a system-wide default for your system. (If you answer NO, you will be given a further opportunity to specify a default network at a later stage. See the *VAX P.S.I. Management Guide* for details.)

The procedure then asks you to supply the default network name:

```
Default network name  (network-id):
```

Enter the name of the network you want to set up as the default network for your system.

Answer NO if you do not want to use the default network.

If you have a previous version of VAX PSI on your system, the procedure displays:

```
Checking old configuration data.
```

Your previous installation detailed the following device(s). You will be given the option to keep, alter or delete each entry in turn, and then optionally add new devices.

Details of existing devices are displayed as in the following example:

```
Configuration data for line DUP-0-0

Device CSR is           %O760050
Device VECTOR is        %O000300
Device unibus adapter is UB0

Do you want to Keep, Alter or Delete this entry (K, A, D) [K]?
```

Answer K if you want to keep the entry, D if you want to delete it, or A if you want to alter it. If you answer K, the following message is displayed:

Device *device-name* added to new configuration.

If you answer D, the following message is displayed:

Configuration data for device *device-name* has been deleted.

If you answer A, the procedure asks for the CSR, vector and adapter in the same way as for defining new lines (see below). The defaults will be the same as those for the previous installation, and each may be changed as necessary.

The procedure will ask you about each entry in your database from the previous installation. When each entry has been checked, the procedure asks:

```
Do you want to configure more lines [NO]?
```

Answer YES if you want to add more lines to your configuration and then answer the questions below.

If you have no devices defined from previous installations, or if this is the first time VAX PSI is being installed on your system, answer the questions below in order to configure the devices for your system.

The procedure asks:

```
Device type (dev-c-u):
```

Enter the type of the first device to be configured. The permitted device types for Unibus systems are DMF, DUP, KMX, and KMY. If you enter any other device types, the procedure displays:

```
Error, unknown device type.

Supported devices are DMF, DUP, KMX, and KMY.

Examples:
```

```
DMF-0
DUP-0
KMX-0-1
KMY-1
```

The permitted device types for BI systems are DMB and DSB. If you enter any other device types, the procedure displays:

```
Error, unknown device type.

Supported devices are DMB and DSB.

Example:

       DMB-0
       DSB-0
```

The permitted device types for Q-Bus systems are DPV, KMV, DIV and DSV. If you enter any other device types, the procedure displays:

```
Error, unknown device type.

Supported devices are DPV, KMV, DIV and DSV.

Examples:

     DPV-0
     KMV-0
     DIV-0-0
     DSV-0-0
```

The permitted device types for busless systems are DST and DSH. If you enter any other device types, the procedure displays:

```
Error, unknown device type.

Supported devices are DST and DSH.

Example:

     DST-0
     DSH-0
```

If you have entered a wrong device type, the procedure will ask again for a device.

If the device type is DMF, DMB, DSV, DSB, DSH, DIV or DST, the procedure displays:

```
SYSGEN autoconfigures the device-name, no further information
required.

Are there more lines to configure [NO]?
```

If you have more lines to configure, answer YES, and the procedure asks again for the device type. Otherwise, answer NO, and the procedure completes by asking about PSI MAIL (see below).

If the device type is DUP, KMX, KMY, DPV or KMV, the procedure asks for the CSR address and vector address of the device.

NOTE

> If you are installing VAX PSI on a machine other than a MicroVAX, the procedure also asks for the adapter-type of the device.

The default values for these parameters are also displayed.

Enter the required addresses and adapter-type, or choose the defaults by pressing <RET>.

For example, for a KMX-0-0 device:

```
Default CSR address is %O764100
       CSR address (octal): 764120

Default VECTOR is %O000700
       Vector (octal): 720

Default ADAPTER is UB0
       Adapter (adapter-type): <RET>
```

The procedure now checks that the device has been set up correctly by displaying the values that you have selected, and also asks for confirmation that these are correct.

```
Configuration data for line KMX-0-0

Device CSR is            %O764120
Device VECTOR is         %O000720
Device UNIBUS adapter is UB0

Are these line parameters correct [YES]?
```

If the line parameters are wrong, answer NO, and the procedure asks again for the device type. Otherwise, answer YES and the procedure displays:

```
Device KMX-0-0 added to configuration.

Do you want to configure more lines [NO]?
```

If you answer YES, the procedure asks again for a device type. If you specify the same device again, the procedure warns you with:

```
Error, duplicate device name.
```

Otherwise, the procedure continues with the question:

```
The following NCP command may be used to configure the permanent
database to support incoming X.29 terminals:

NCP define module X29-server state on

Do you want the database defined now [YES]?
```

If you answer YES, X.29 support is enabled. Answer NO, and support is unmodified from the previous state.

The procedure next asks:

```
Do you want to use PSI MAIL [YES]?
```

The PSI MAIL utility allows VMS MAIL to send mail over a PSDN to other VAX PSI V3.0 or later systems. If you want to be able to use this utility, answer YES.

If you answer NO to this question, the procedure continues and creates LOAD_PSI043.COM.

Otherwise it asks:

```
Do you want support for incoming PSI MAIL [YES]?
```

If you answer NO, you can still send PSI MAIL, but you cannot receive it.

The procedure displays:

```
The PSI_MAIL object needs to run in an account with the right to
accept incoming X.25 calls.
```

If you answer YES, you must also define the username and password for PSI MAIL. The procedure displays:

```
Username [DECNET] ?

Password ?

Verification:
```

The username and password can be any that may accept incoming X.25 calls. Refer to the *VAX P.S.I. Management Guide* for details of setting up the system to accept X.25 calls. The default username is DECNET. (You will be asked to verify your password before being allowed to continue.)

The procedure continues with the following:

```
The following NCP commands may be used to configure the permanent
database to support incoming PSI MAIL:

NCP define object psi_mail number 0 file -
    sys$system:psi$mail user USERNAME password -
    PASSWORD

NCP define module x25-server destination psi_mail -
    object PSI_MAIL -
    CALL MASK ffffffffffffffffffffffffffffff -
    CALL VALUE ff00000056332e30204d41494c2d3131
```

The call mask is applied to the user-data field, and determines whether the incoming call is accepted. The call value specifies the string used to test incoming call data.

The procedure then asks:

```
Do you want the database defined now [YES]?
```

Answer YES if the NCP commands listed that will be used to configure the database are correct. Answer NO if any of the commands are incorrect, and then run PSI_SET_UP.COM again, or enter the NCP commands as a separate operation to configure the database.

The following message is displayed:

```
Purging any previous PSI_MAIL definitions. Please ignore any
error messages.
```

There is a short delay while LOAD_PSI043.COM is created. Then the procedure displays:

```
Created SYS$SYSROOT:[SYSMGR]LOAD_PSI043.COM
```

After this message is displayed, return to where you left Section 5.2 to continue your installation.

If your default directory is not SYS$MANAGER, the procedure displays:

```
The VAX PSI startup file should be moved into SYS$MANAGER to be
used automatically by STARTNET.COM

Do you want LOAD_PSI043.COM moved to SYS$MANAGER [YES]?
```

If you answer YES, the procedure moves LOAD_PSI043.COM into the SYS$MANAGER directory and displays the following message before ending:

```
Created SYS$SYSROOT:[SYSMGR]LOAD_PSI043.COM
```

If you answer NO, the procedure creates LOAD_PSI043.COM in your current directory, displays a message saying where the file is, and ends.

Return to where you left Section 5.2 to continue your installation.

5.2.2 Configuring the Permanent Database

This PSI_DEFINE.COM procedure allows you to set up the X.25 Access and Native/Multi-host information in the permanent database. You can exit from this procedure at any time by typing <CTRL/Z> in response to a request for input. If you exit by typing <CTRL/Z>, some PSDN or DTE definitions may have been created.

You can remove unwanted PSDN and DTE definitions by using the following commands:

```
NCP purge module x25-protocol known dtes known networks all

NCP purge module x25-protocol known networks all

NCP purge module x25-access known networks all
```

After running PSI_SET_UP.COM initially to define your DTE(s), you may run this procedure again. Alternatively, you may use NCP DEFINE commands to define each entity in the database and thus configure the VAX PSI system. See the *VMS Network Control Program Manual* for details.

The procedure displays the following message:

```
You are assisted here in defining the X25-ACCESS database.

Do you want to define the X25-ACCESS database now [YES]?
```

Answer YES if you want to define (or update) the X25-ACCESS database, and refer to Section 4.2.2 for details.

The procedure displays:

```
This procedure can purge the database to remove all known
connector node information, before it updates the permanent
database.

The following NCP command will be used to purge the database

NCP purge module x25-access known networks all

Do you want the information in the permanent database purged
now [NO]?
```

If you answer NO, the information you supply will be added to the permanent database. If you answer YES, the information you supply will replace that already present in the permanent database and the following message is displayed:

```
Purging the database
```

You are then asked for the name of a PSDN to which your connector node will be connected. Next, the node identification of that connector node is requested. You can define more than one network and you can enter the networks in any order. During the PSI_SET_UP.COM procedure, you can set up one of these networks to be the default (see Section 5.2.1). The procedure displays:

```
Your VAX PSI Access system uses a connector node to communicate
with one or more PSDNs. You will be asked for a network name for
the connection to the connector system and the DECnet node name
of that system. The network name you supply MUST be the same as
the name of the network on the connector node that you wish to
use.
```

The procedure asks:

```
Network name  (network-id):
```

Enter the name of the network to which you want to connect.

If you define this network twice, the procedure will display:

```
Network, network-id  has already been defined.
```

If you need to use different network names to connect to the same PSDN, use the convention: *name1*,*name2*,.....*namen* for the subsequent network name definition(s). For example, if the original connection to the PSDN was identified by the network name NETWORK, subsequent definitions should take the form NETWORK1, NETWORK2,.....NETWORK*n*. See the *VAX P.S.I. Management Guide* for further explanation of this convention.

The procedure then asks:

```
Connector node    (node-id):
```

Enter the name or address number of the connector node which connects to the network you have specified. When you have entered this information, the procedure displays:

```
Network  = network-id
Connector node  = node-id

Is the above information correct [YES]?
```

Answer YES to this question if the information is correct. If you answer NO, you must enter the information again. The procedure then displays:

```
The following NCP command will be used to update the permanent
database

NCP define module x25-access network network name node
    nodename

Adding entry to the X25-ACCESS database for network network
```

The procedure then asks:

```
Are there any more NETWORKS to be defined [NO]?
```

Answer NO to this question if you have no more networks to add to the X25-ACCESS database. If you answer YES, the procedure asks you for the network name and node-id, so you can add another network to the X25-ACCESS database. You can define the same network twice provided two different network names and two different node-ids are defined. Refer to Chapter 1 for details of network and profile names.

The next step is to set up the Native database.

The procedure displays:

```
This command procedure allows you to define one or more PSDN(s)
and one or more DTEs associated with each network.
```

The SPD for VAX PSI lists the public networks supported at the time of printing. Check with your Customer Support Representative for up-to-date information on new networks.

```
Do you want to define the X25-PROTOCOL database now [YES]?
```

Answer YES if you want to define the X25-PROTOCOL database to define the PSDN(s) and DTE(s) associated with each network. The procedure continues:

```
You can use this procedure to purge the database to remove
all DTEs and all X.25 protocol information before updating
the permanent database. You can also use the procedure to
remove the line information from the database. Note that if
the line permanent database is purged then all DECnet lines
along with VAX PSI lines will be removed.

The following NCP commands will be used to purge the DTE
and X.25 permanent database:

NCP purge module x25-protocol known networks all
NCP purge module x25-protocol known dtes known networks all
```

```
The following NCP commands will be used to purge the line
permanent database:
```

```
NCP purge known lines all
```

```
Do you want the information in the X.25 and DTE permanent database
purged [NO]?
```

If you wish to keep previous definitions for DTEs, answer NO. If you answer YES, the following is displayed:

```
Purging the X.25 and DTE database.
```

The procedure then asks:

```
Do you want the line information in the permanent database
purged [NO]?
```

If you wish to keep previous definitions for lines, including DECnet lines, answer NO. Note that if you answer YES, all DECnet lines will be deleted along with VAX PSI lines. If you answer YES, the following is displayed:

```
Purging the line database.
```

The procedure displays:

```
PSDN and profile names are defined here. You can define one or
more PSDNs. For each PSDN you will be asked to provide the
network name and the profile name for that network.
```

The procedure asks:

```
Network name  (string):
```

Enter the network name that connects to the PSDN. Refer to Section 1.7 in Chapter 1 for details of network and profile names.

```
Profile name          (string)     [NETWORK NAME]:
```

Enter the profile name of the PSDN to which the DTE will connect. The default name is the same as the network name.

The procedure then displays the command it will use to update the permanent database.

```
The following NCP command will be used to update the permanent
database:

NCP define module x25-protocol network network-id  -
    profile profile-name

Do you want the information in the permanent database
updated [YES]?
```

If you answer NO, the NCP commands will not be executed. You may enter the commands yourself later if you wish. The procedure then continues and displays additional messages here, if it deletes any database entries.

Answer YES if you want to update the database.

The procedure displays the following message:

```
DTEs are defined here. You can define one or more DTEs connected
to this network. For each DTE you will be asked to provide the
following information:

. DTE address

. Range of channels to be used by the DTE

. Line associated with the DTE
```

Refer to the completed Table 2–1 in Chapter 2 for the information you need to supply for your system. The procedure asks:

```
DTE address  (number):
```

Enter your DTE address. For details on the format of this address, refer to the *Public Network Information* manual.

```
Channels range  (list):
```

Enter the channels that the DTE will use for outgoing calls. Specify high-numbered channels before low-numbered channels. Each entry in the channels list can be either a single channel number or a channel range (with a hyphen separating the high and low numbers). The entries in the list must be separated by commas. For example:

```
Channels range (list):1555,1544-1540,1536
```

The PSDN authorities allocate channel ranges at subscription time. For details on the channel range allocated for your PSDN, refer to the *Public Network Information* manual.

```
Line name  (dev-c-u):
```

Enter the name of the line that the DTE will use. Specify a line-id in the form dev-c[-u]. For all device types except KMX, you need only specify line-id and the controller number, for example:

```
KMV-0
```

For KMX, you must specify the line-id, controller number and the unit number, for example:

```
KMX-0-1
```

The procedure displays:

```
The following NCP commands will be used to update the permanent
database:

NCP define line line-id  network network-id protocol lapb
    state on

NCP define module x25-protocol dte dte-address  -
    network network-id -
    channels  channel-list -
    line line-id -
    state on
```

The procedure then asks:

```
Do you want to update the permanent database now [YES]?
```

If you answer NO, the NCP commands will not be executed. You may enter the commands yourself later if you wish. The procedure then continues and displays additional messages here, if it deletes any database entries.

If you answer YES, the procedure displays:

```
Updating database.

Do you want to define any more DTEs connected to this
network [NO]?
```

Answer YES if more DTE definitions are required for this network. The procedure then repeats the questions to define a DTE. When you have finished defining all DTEs, answer NO.

The procedure then displays:

```
Do you want to define any more networks [NO]?
```

Answer YES if you want to define more networks. The procedure then repeats the questions to define DTE(s) for the next network.

When you have finished defining all networks, answer NO.

Return to where you left Section 5.2 to continue your installation.

5.2.3 Setting Up VAX PSI for Multi-Host Operation

The X25-SERVER destinations need to be set up for the incoming calls which are destined for Access hosts. You can exit from this procedure at any time by typing <CTRL/Z> in response to a request for input. For example, you can type <CTRL/Z> after the following message:

```
Updating the permanent database
```

This will cause you to exit and the destinations to be set up. You can delete the destinations by using the following command:

```
NCP  purge module x25-server known destinations all
```

The procedure displays the following message:

```
X25-Server destinations are set up here. These permit
incoming calls received by this node to be redirected to the
appropriate host. This procedure asks for a list of hosts with
VAX PSI Access installed. This list of nodes will not include
the node you are currently working on.
```

Refer to the completed Table 2–2 in Chapter 2 for the destination names for your system.

The procedure then displays:

```
Destination name  (string):
```

Destinations are used by the Multi-host VAX PSI system to identify the destination of the incoming call so that it can be redirected to the correct host node. Enter a destination name as a string of up to 16 alphanumeric characters.

```
Destination node name  (string):
```

Destination node is the node where the object, required by the incoming call, resides. Enter a node name of up to six alphanumeric characters.

```
Destination priority     [200]:
```

Destination priority is the processing priority for the redirection of the incoming call to that destination. Priority is an integer number in the range 0 to 255.

The rest of the parameters are optional. If you do not specify them, they will not be checked when an incoming call arrives.

```
Call mask (2-32 hex)  [None]:
```

The call mask is generally used in conjunction with a call value and, when applied to the user-data field, determines whether the incoming call is accepted. Enter a hexadecimal value between 2 and 32 digits. If you do not specify a mask, the destination accepts all calls with any user data.

```
Call value (2-32 hex)  [None]:
```

The call value specifies the string used to test incoming call data. If the call mask with the call data fields matches the call value, the incoming call is accepted. The call value for incoming X.29 calls should be set to 01.

```
Closed User Group (1-16 characters)  [None]:
```

Closed user group specifies which user group (CUG or BCUG) has access to the destination.

```
Sending address (1-15 decimal)  [None]:
```

This specifies which remote DTE address(es) has access to the destination. If none is specified, all call requests from remote DTEs are accepted. Wildcards (* and %) may be used in this address.

```
Subaddress range (decimal range)  [None]:
```

Subaddress is used to determine whether an incoming call is to be accepted. If the subaddress of the incoming call is within the range specified, the call request is accepted. If no range is specified, call requests with any subaddress are accepted. Enter only one range, for example, 50-99 or 122 or 1010-1234.

```
Object identification (string)    [36]:
```

Set this parameter as required by the destination node. VAX PSI requires a value of 36 for this parameter (the default value), so enter <RET>.

The procedure displays:

```
The destination will be set up as follows:
```

```
NCP> define module x25-server -
     destination dest-name -
     node dest-node -
     [call mask call-mask] -
     [call value call-value] -
     [group cug-name] -
     [sending address dte-address] -
     [subaddress sub-address-range] -
     [priority dest-prio] -
     [object object-id]
```

Only the fields that you have specified will be displayed.

The procedure displays:

```
Do you want to define this destination now [YES]?
```

If you answer NO, the procedure will not execute the NCP command as displayed above. If you answer YES, the procedure displays:

```
Updating the permanent database.

Do you want to define any more destinations [NO]?
```

If you answer YES, the procedure will repeat the above questions to allow further destinations to be set up.

When you have completed defining all destinations, answer NO.

Return to where you left Section 5.2 to continue your installation.

5.3 Starting Up VAX PSI

If DECnet is running on your system, issue the following command to start the VAX PSI combination system:

```
$ @SYS$MANAGER:STARTPSI.COM
```

If STARTPSI.COM fails, after it has loaded VAX PSI successfully, the following message is displayed:

```
Failed to set up VAX PSI
```

This means that the Security or Trace utilities, and/or lines and DTEs may have been set up incorrectly. Reinstall VAX PSI, ensuring that the lines, DTEs and utilities are set up correctly.

If DECnet is not running on your system, issue the following command to start both DECnet and VAX PSI:

```
$ @SYS$MANAGER:STARTNET.COM
```

If you try to start VAX PSI with the STARTPSI command procedure before DECnet is running, the following error message is displayed and the procedure ends.

```
DECnet must be running before attempting to start VAX PSI
```

NOTE

To restart DECnet and VAX PSI automatically when you reboot the system, edit the STARTNET command given above into SYS$MANAGER:SYSTARTUP_V5.COM.

If you wish to configure or modify your VAX PSI system, refer to the *VAX P.S.I. Management Guide*.

DIGITAL recommends that you check the installation and configuration of your VAX PSI system. Follow the procedures described in the *VAX P.S.I. Management Guide*.

Finally, when you have installed and configured VAX PSI, and checked that the system is installed properly, backup the updated system disk and save the distribution kit for future use.

6
Changing Your VAX PSI System

The changes you might want to make to your VAX PSI system are:

- Migrate from one type of VAX PSI system to another (see Section 6.1).
- Add further VAX PSI systems to your network (see Section 6.2).
- Add extra network connections to your VAX PSI system (see Section 6.3).
- Change the default network (see Section 6.4).
- Install PSI MAIL or the VAX PSI Utilities for the first time (see Section 6.5).

When you make changes to your VAX PSI system, you may need to change the security on your system. Alter the authorization commands in your DTE Access Control Database by editing the PSI_SECURITY.COM command file. Refer to the *VAX P.S.I. Management Guide* for details of this database and the VAX PSI Security utility.

6.1 Migrating Between VAX PSI Systems

To migrate between systems, follow the rules in Table 6–1.

Table 6–1 Migrating Between VAX PSI Systems

Migration Path	What to Do
Native -> Multi-host	Do one of the following: ▪ Execute PSI_SET_UP.COM to specify destinations for incoming calls directed to Access systems, then restart VAX PSI (see Section 3.3). ▪ Add destinations to the X25-SERVER database using NCP (see the *VAX P.S.I. Management Guide*).
Multi-host -> Native	Use NCP to remove destinations from the X25-SERVER database (see *VAX P.S.I. Management Guide*). Remove the destinations to limit users of VAX PSI to those on the local system and to prevent traffic to nodes other than the local node.
Access -> Multi-host/Native	Install and configure VAX PSI Multi-host/Native. You must also subscribe to the PSDN.
Multi-host/Native -> Access	Install and configure VAX PSI Access.
Multi-host/Native -> Combination	Install and configure VAX PSI Access, choosing the Combination option during the installation.
Access -> Combination	Install and configure VAX PSI Multi-host/Native and reinstall VAX PSI Access, choosing the Combination option during the installation.

6.2 Adding Further VAX PSI Systems

To add further VAX PSI systems to your network, follow the rules given in Table 6–2.

Table 6–2 Adding Further VAX PSI Systems

Type of System Added	What to Do
VAX PSI Access	For each VAX PSI Access system you want to add: 1. Install VAX PSI Access on the system by following the procedure described in this manual. 2. Update the X25-SERVER database on each of the Multi-host nodes with details of the new VAX PSI Access system. See the *VAX P.S.I. Management Guide* for details.
VAX PSI Multi-host	To provide an alternative route to your PSDN through another VAX PSI Multi-host system: 1. Install VAX PSI Multi-host on the system designated as the new or alternative Multi-host node by following the procedure described in this manual. 2. Update the X25-ACCESS database on each of the VAX PSI Access systems. See the *VAX P.S.I. Management Guide* for details.

6.3 Adding Extra Network Connections

A new network connection is one of the following:

- A new line
- A new DTE
- A connection to a new network

To add one of these to your VAX PSI Native or VAX PSI Multi-host system, run PSI_SET_UP.COM. You must re-enter the information for all existing connections and then include details of the new connection. PSI_SET_UP.COM will add the information about the new connection to the database.

6.4 How to Change the Default Network

If you have more than one PSDN connected to your VAX PSI Native or Multi-host node, you may want to change the default network. To do this you must modify the logical name, PSI$NETWORK, to point to the new default network. To make this change permanent you should change the definition of PSI$NETWORK in the SYS$MANAGER:LOAD_PSI043.COM file.

Note: This is the only time you should edit the SYS$MANAGER:LOAD_PSI043.COM file.

6.5 Installing the VAX PSI Utilities or PSI MAIL for the First Time

To install any of the VAX PSI Utilities or PSI MAIL for the first time, re-install your VAX PSI system and request support for the utilities and/or PSI MAIL. Follow the procedures described in this manual.

A

Example of a Native or Multi-host VAX PSI Installation

The following is an example of a Native or Multi-host installation.

```
$ @sys$update:vmsinstal psi msa0: options n

 VAX/VMS Software Product Installation Procedure V5.1

It is 14-FEB-1989 at 14:45.
Enter a question mark (?) at any time for help.

* Are you satisfied with the backup of your system disk [YES]? <RET>

The following products will be processed:
  VAX PSI V4.3
 Beginning installation of VAX PSI V4.3 at 14:45

%VMSINSTAL-I-RESTORE, Restoring product saveset A ...

Release notes included with this kit are always copied to SYS$HELP

Additional Release Notes Options:

 1.  Display release notes
 2.  Print release notes
 3.  Both 1 and 2
 4.  None of the above

* Select option [2]: <RET>
* Queue name [SYS$PRINT]: <RET>
Job PSI043 (queue SYS$PRINT_CRC, entry 964) started on LXY22_CRC
* Do you want to continue the installation? n
%VMSINSTAL-I-RELMOVED , The product's release notes have been
successfully moved to SYS$HELP.
 Installation of VAX PSI V4.3 completed at 14:48

 VMSINSTAL procedure done at 14:48


$ @sys$update:vmsinstal psi msa0:
```

```
 VAX/VMS Software Product Installation Procedure V5.1

It is 20-FEB-1989 at 14:55.
Enter a question mark (?) at any time for help.

* Are you satisfied with the backup of your system disk [YES]? <RET>

The following products will be processed:
  VAX PSI V4.3

 Beginning installation of VAX PSI V4.3 at 14:55

%VMSINSTAL-I-RESTORE, Restoring product saveset A ...
%VMSINSTAL-I-RELMOVED , The product's release notes have been
successfully moved to SYS$HELP.

 VAX PSI V4.3 installation procedures.


* Do you want X.29 support [YES]? <RET>

* Do you want all the utilities [YES]? <RET>


There are no more questions to answer during this installation.

%VMSINSTAL-I-RESTORE, Restoring product saveset B ...
%VMSINSTAL-I-RESTORE, Restoring product saveset C ...
%VMSINSTAL-I-RESTORE, Restoring product saveset D ...
%VMSINSTAL-I-RESTORE, Restoring product saveset E ...

    Removing obsolete files from any previous VAX PSI installation.

    Installing VAX PSI V4.3 files.

    VAX PSI V4.3 files installed.


To  complete the installation, follow the instructions below:

-  Execute  the  command  procedure  SYS$MANAGER:PSI_SET_UP.COM to
   produce a LOAD_PSI043.COM and set up the permanent database.

-  On a system which is running DECnet execute the command procedure
   SYS$MANAGER:STARTPSI.COM, to bring up VAX PSI.
   On a system which is not running DECnet, execute the command
   procedure SYS$MANAGER:STARTNET.COM to bring up DECnet and VAX PSI.

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their
target directories...

  Installation of VAX PSI V4.3 completed at 15:31

 VMSINSTAL procedure done at 15:32


$ @sys$manager:psi_set_up.com

This command procedure assists in configuring VAX PSI.

LOAD_PSI043.COM must be built before attempting to start  VAX PSI.
The load file from an earlier version of VAX PSI cannot be used.

Do you wish to build load_psi043.com now  [YES]? <RET>
```

```
This  command  file  assists  in  creating  LOAD_PSI043.COM.

LOAD_PSI043.COM is a command file  used  to  SYSGEN  the  VAX  PSI
supported devices and startup the ACP.

Do you want to set up a default network  [YES]? <RET>

Default network name                (network-id): net1

Device type         (dev-c-u): kmv-0

Default CSR address is %O760420
CSR address           (octal):<RET>

Default VECTOR is %O000310
Vector                (octal): %O300

Configuration data for line KMV-0-0

Device CSR is            %O760420
Device VECTOR is         %O000300

Do you want to Keep, Alter or Delete this entry (K, A, D) [K]? <RET>

Device KMV-0-0 added to new configuration

Do you want to configure more lines [NO]? <RET>

The following NCP command may be used to configure the  permanent
database to support incoming X.29 terminals:

NCP define module X29-server state on

Do you want the database defined now [YES]? <RET>

Do you want to use PSI MAIL [YES]? <RET>
Do you want support for incoming PSI MAIL [YES]? <RET>

The PSI_MAIL object needs to run in an account with the right to
accept incoming X.25 calls.

Username    [DECNET]     (string): <RET>
Password                 (string): decnet
Verification             (string): decnet

The following NCP commands may be used to configure the  permanent
database to support incoming  PSI MAIL:

NCP define object psi_mail number 0 file sys$system:psi$mail -
user DECNET password PASSWORD
NCP define module x25-server destination psi_mail object psi_mail -
call mask ffffffffffffffffffffffffffffffff -
call value ff00000056332e30204d41494c2d3131

Do you want the database defined now [YES]? <RET>

Purging any  previous PSI_MAIL  definitions.   Please  ignore  any
error messages.

%NCP-I-SUCCESS,  Success
Object = PSI_MAIL
%NML-I-RECDELET, Database entry deleted
%NCP-I-SUCCESS,  Success
```

```
%NML-I-RECDELET, Database entry deleted

Created SYS$SYSROOT:[SYSMGR]LOAD_PSI043.COM

Do you wish to add network, line or DTE entries to the
database now  [YES]? <RET>

This command procedure allows you to define one  or  more  PSDN(s)
and one or more DTEs associated with each network.

Do you want to define the X25-PROTOCOL database now [YES]? <RET>

You can use this procedure to  purge the  database  to  remove all
DTEs  and  all  X.25  protocol  information  before  updating  the
permanent database.  You can also use this procedure to remove the
line  information  from  the  database.  Note  that  if  the  line
permanent  database is purged then all DECnet lines along with VAX
PSI lines will be removed.


The following NCP commands will be used to purge the DTE and  X.25
permanent database:

NCP purge module x25-protocol known networks all
NCP purge module x25-protocol known dtes known networks all

The following  NCP  commands  will  be  used  to  purge  the  line
permanent database:

NCP purge known lines all

Do you want the information in the X.25 and DTE permanent database
purged [NO]? <RET>

Do you want the line information in the permanent database
purged  [NO]? <RET>

PSDN and profile names are defined here.  You can  define  one  or
more  PSDNs.   For  each  PSDN  you  will  be asked to provide the
network name and the profile name for that network.


Network name   (string): net1
Profile name   (string) [net1]: sonnet

The following command will be used to update the permanent
database:

NCP define module x25-protocol network net1 -
    profile sonnet
Do you want the information in the permanent database
updated  [YES]?  <RET>

DTEs are defined here.  You can define one or more DTEs
connected to this network.  For each DTE you will be asked
to provide the following information:

o DTE address
o Range of channels to be used by the DTE
o Line associated with the DTE
```

```
DTE address    (number): 2342123456789
Channels range   (list): 1250-1150
Line name     (dev-c-u): kmv-0

The following NCP commands will be used to update
the permanent database.

NCP define line kmv-0 network net1 protocol lapb state on
NCP define module x25-protocol dte 2342123456789 -
    network net1 -
    channels 1250-1150 -
    line kmv-0 -
    state on

Do you want to update the permanent database now  [YES]? <RET>

Updating database

Do you want to define any more DTEs connected to this
network [NO]? <RET>

Do you want to define any more networks [NO]? <RET>


Do you wish to add VAX PSI Multi-host entries [YES]? <RET>

X25-Server destinations are set up  here.  These  permit  incoming
calls received by this node to be redirected  to  the  appropriate
host. This procedure asks for a list of hosts with  VAX PSI Access
installed. This list of nodes will not include the  node  you  are
currently working on.

Destination name       (string)                 : zaqua
Destination node name  (string)                 : zaqua
Destination priority                    [200]   : <RET>
Call mask              (2-32 hex)       [None]  : <RET>
Call value             (2-32 hex)       [None]  : <RET>
Closed user group name (1-16 characters) [None] : <RET>
Sending address        (1-15 decimal)   [None]  : <RET>
Subaddress range       (decimal range)  [None]  : <RET>
Object identification  (string)         [36]    : <RET>

The destination will be set up as follows:

NCP>define module x25-server -
 destination zaqua -
 node zaqua -
 priority 200 -
 object 36

Do you want to define this destination now  [YES]? <RET>

Updating the permanent database

Do you want to define any more destinations  [NO]? <RET>

Do you wish to load VAX PSI now [NO]? <RET>

To check out your installation after starting VAX PSI refer to the
Configuration Testing Chapter in the VAX PSI Management Guide.
```

B

Example of a VAX PSI Access Installation

The following is an example of a VAX PSI Access Installation.

```
$ @sys$update:vmsinstal psi_ac msa0: options n

       VAX/VMS Software Product Installation Procedure V5.1

It is 21-FEB-1989 at 10:35.
Enter a question mark (?) at any time for help.

* Are you satisfied with the backup of your system disk
[YES]? <RET>

The following products will be processed:
  PSI_AC V4.3
 Beginning installation of PSI_AC V4.3 at 10:35

%VMSINSTAL-I-RESTORE, Restoring product saveset A ...

Release notes with this kit are always copied to SYS$HELP.

Additional Release Notes Options:

  1.  Display release notes
  2.  Print release notes
  3.  Both 1 and 2
  4.  None of the above

* Select option [2]: <RET>
* Queue name [SYS$PRINT]: <RET>
Job PSI_AC043 (queue SYS$PRINT_CRC, entry 965) started on LXY22_CRC
* Do you want to continue the installation? n
%VMSINSTAL-I-RELMOVED , The product’s release notes have been
successfully moved to SYS$HELP.
 Installation of PSI_AC V4.3 completed at 10:38

 VMSINSTAL procedure done at 10:38


$ @sys$update:vmsinstal psi_ac msa0:
```

```
 VAX/VMS Software Product Installation Procedure V5.1

It is 21-FEB-1989 at 10:45.
Enter a question mark (?) at any time for help.

* Are you satisfied with the backup of your system disk [YES]? <RET>

The following products will be processed:
  PSI_AC V4.3
 Beginning installation of PSI_AC V4.3 at 10:45

%VMSINSTAL-I-RESTORE, Restoring product saveset A ...
%VMSINSTAL-I-RELMOVED , The product's release notes have been
successfully moved to SYS$HELP.

   VAX PSI Access V4.3 installation procedures.


* Do you want X.29 support [YES]? <RET>

* Do you want all the utilities [YES]? <RET>


There are no more questions to answer during this installation.

%VMSINSTAL-I-RESTORE, Restoring product saveset B ...
%VMSINSTAL-I-RESTORE, Restoring product saveset C ...
%VMSINSTAL-I-RESTORE, Restoring product saveset D ...
%VMSINSTAL-I-RESTORE, Restoring product saveset E ...

Removing any obsolete files from any previous VAX PSI installation

 Installing VAX PSI Access V4.3 files.

 VAX PSI Access V4.3 files installed.


To  complete the installation, follow the instructions below:

-  Execute  the  command  procedure  SYS$MANAGER:PSI_SET_UP.COM to
   produce a LOAD_PSI043.COM and set up the permanent database.

-  On a system which is running DECnet execute the command procedure
   SYS$MANAGER:STARTPSI.COM, to bring up VAX PSI.
   On a system which is not running DECnet, execute the command
   procedure SYS$MANAGER:STARTNET.COM to bring up DECnet and VAX PSI.

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their
target directories...

 Installation of PSI_AC V4.3 completed at 11:06

 VMSINSTAL procedure done at 11:07

$ @sys$manager:psi_set_up

This command procedure assists in configuring VAX PSI.

LOAD_PSI043.COM must be built before attempting to start  VAX PSI.
The load file from an earlier version of VAX PSI cannot be used.

Do you wish to build load_psi043.com now  [YES]? <RET>

This  command  file  assists  in  creating  LOAD_PSI043.COM.
```

```
LOAD_PSI043.COM is a command file  used  to  SYSGEN  the  VAX  PSI
supported devices and startup the ACP.

The system being configured is of an unknown type.

What type of bus does the system being configured have
(UNIBUS,QBUS,BI,nobus)  nobus

Do you want to set up a default network  [YES]? <RET>

Default network name                (network-id): net1

The following NCP command may be used to configure the  permanent
database to support incoming X.29 terminals:

NCP define module X29-server state on

Do you want the database defined now [YES]? <RET>

Do you want to use  PSI MAIL [YES]? <RET>
Do you want support for incoming  PSI MAIL [YES]? <RET>

The PSI_MAIL object needs to run in an account with the right to
accept incoming X.25 calls.

Username    [DECNET]     (string):<RET>
Password                 (string): DECNET
Verification             (string): DECNET

The following NCP commands may be used to configure the  permanent
database to support incoming  PSI MAIL:

NCP define object psi_mail number 0 file sys$system:psi$mail -
user DECNET password PASSWORD
NCP define module x25-server destination psi_mail object psi_mail -
call mask ffffffffffffffffffffffffffffffff -
call value ff00000056332e30204d41494c2d3131

Do you want the database defined now [YES]? <RET>

Purging any  previous PSI_MAIL  definitions.   Please  ignore  any
error messages.

Created SYS$SYSROOT:[SYSMGR]LOAD_PSI043.COM

Do you wish to add network entries to the database now  [YES]? <RET>

You are assisted here in defining the X25-ACCESS database.

Do you want to define the X25-ACCESS database now [YES]? <RET>

This  procedure  can  purge  the  database  to  remove  all  known
connector  nodes  information  before  it  updates  the  permanent
database.

The following NCP command will be used to purge the database:

NCP PURGE MODULE X25-ACCESS KNOWN NETWORKS ALL

Do you want the information in the permanent database
purged now [NO]? <RET>
```

```
Your VAX PSI Access system uses a  connector node  to  communicate
with one or more PSDNs.  You will be asked for a network name  for
the connection to the connector  system and  the node name of that
system.  The network name you supply  MUST  be  the  same  as  the
network name on the connector node that you wish to use.

Network name        (network-id): net1
Connector node         (node-id): boris

Network    = net1
Connector node   = boris

Is the above information correct  [YES]? <RET>

The following NCP command will be used  to  update  the  permanent
database:

NCP define module x25-access network net1 node boris


Adding entry to the X25-ACCESS database for network net1

Are there any more NETWORKS to be defined  [NO]? <RET>


Do you wish to load VAX PSI now [NO]? <RET>

To check out your installation after starting VAX PSI refer to the
Configuration Testing Chapter in the VAX PSI Management Guide.
```

C

Example of a VAX PSI Combination Installation

The following is an example of a VAX PSI Combination installation.

```
$ @sys$update:vmsinstal psi msa0: options n

    VAX/VMS Software Product Installation Procedure V5.1

It is 20-FEB-1989 at 14:45.
Enter a question mark (?) at any time for help.

* Are you satisfied with the backup of your system
disk [YES]? <RET>

The following products will be processed:
  VAX PSI V4.3
 Beginning installation of VAX PSI V4.3 at 14:45

%VMSINSTAL-I-RESTORE, Restoring product saveset A ...

Release notes with this kit are always copied to SYS$HELP.

Additional Release Notes Options:

  1.  Display release notes
  2.  Print release notes
  3.  Both 1 and 2
  4.  None of the above

* Select option [2]: <RET>
* Queue name [SYS$PRINT]: <RET>
Job PSI043 (queue SYS$PRINT_CRC, entry 964) started on LXY22_CRC
* Do you want to continue the installation? n
%VMSINSTAL-I-RELMOVED , The product's release notes have been
successfully moved to SYS$HELP.
        Installation of VAX PSI V4.3 completed at 14:48

 VMSINSTAL procedure done at 14:48

$ @sys$update:vmsinstal psi msa0:
```

```
      VAX/VMS Software Product Installation Procedure V5.1

It is 20-FEB-1989 at 14:55.
Enter a question mark (?) at any time for help.

* Are you satisfied with the backup of your system
  disk [YES]? <RET>

The following products will be processed:
  VAX PSI V4.3

 Beginning installation of VAX PSI V4.3 at 14:55

%VMSINSTAL-I-RESTORE, Restoring product saveset A ...
%VMSINSTAL-I-RELMOVED , The product's release notes have been
successfully moved to SYS$HELP.

 VAX PSI V4.3 installation procedures.


* Do you want X.29 support [YES]? <RET>

* Do you want all the utilities [YES]? <RET>


There are no more questions to answer during this installation.

%VMSINSTAL-I-RESTORE, Restoring product saveset B ...
%VMSINSTAL-I-RESTORE, Restoring product saveset C ...
%VMSINSTAL-I-RESTORE, Restoring product saveset D ...
%VMSINSTAL-I-RESTORE, Restoring product saveset E ...

Removing obsolete files from any previous VAX PSI installation

  Installing VAX PSI V4.3 files.

 VAX PSI V4.3 files installed.


To  complete the installation, follow the instructions below:

-  Execute  the  command  procedure  SYS$MANAGER:PSI_SET_UP.COM to
   produce a LOAD_PSI043.COM and set up the permanent database.

-  On a system which is running DECnet execute the command
   procedure SYS$MANAGER:STARTPSI.COM, to bring up VAX PSI.
   On a system which is not running DECnet, execute the command
   procedure SYS$MANAGER:STARTNET.COM to bring up DECnet and
   VAX PSI.

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their
target directories...

 Installation of VAX PSI V4.3 completed at 15:31

 VMSINSTAL procedure done at 15:32

@sys$update:vmsinstal psi_ac msa0:
 VAX/VMS Software Product Installation Procedure V5.1

It is 20-FEB-1989 at 16:03.
Enter a question mark (?) at any time for help.
```

```
* Are you satisfied with the backup of your
  system disk [YES]? <RET>

The following products will be processed:
  PSI_AC V4.3

 Beginning installation of PSI_AC V4.3 at 16:04

%VMSINSTAL-I-RESTORE, Restoring product saveset A ...
%VMSINSTAL-I-RELMOVED , The product's release notes have been
successfully moved to SYS$HELP.

 VAX PSI Access V4.3 installation procedures.


* Do you want to install a combination system [NO]? Yes

* Do you want X.29 support [YES]? <RET>

* Do you want all the utilities [YES]? <RET>


There are no more questions to answer during this installation.

%VMSINSTAL-I-RESTORE, Restoring product saveset B ...
%VMSINSTAL-I-RESTORE, Restoring product saveset C ...
%VMSINSTAL-I-RESTORE, Restoring product saveset D ...
%VMSINSTAL-I-RESTORE, Restoring product saveset E ...

Removing obsolete files from any previous VAX PSI installation

 Installing VAX PSI Access V4.3 files.


 VAX PSI Access V4.3 files installed.

To  complete the installation, follow the instructions below:

-  Execute  the  command  procedure  SYS$MANAGER:PSI_SET_UP.COM to
   produce a LOAD_PSI043.COM and set up the permanent database.

-  Reboot the system.

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their
target directories...
 Installation of PSI_AC V4.3 completed at 16:40

 VMSINSTAL procedure done at 16:40

@sys$manager:psi_set_up

This command procedure assists in configuring VAX PSI.

LOAD_PSI043.COM must be built before attempting to start  VAX PSI.
The load file from an earlier version of VAX PSI cannot be used.

Do you wish to build load_psi043.com now  [YES]? <RET>

This  command  file  assists  in  creating  LOAD_PSI043.COM.

LOAD_PSI043.COM is a command file  used  to  SYSGEN  the  VAX  PSI
supported devices and startup the ACP.

Do you want to set up a default network  [YES]?  <RET>
```

```
Default network name               (network-id): net1

Device type         (dev-c-u): kmv-0-0

Default CSR address is %O760420
CSR address           (octal):<RET>

Default VECTOR is %O000310
Vector                (octal): <RET>

Configuration data for line KMV-0-0

Device CSR is            %O760420
Device VECTOR is         %O000310

Do you want to Keep, Alter or Delete this entry
(K, A, D) [K]? <RET>

Device KMV-0-0 added to new configuration

Do you want to configure more lines [NO]? <RET>

The following NCP command may be used to configure the  permanent
database to support incoming X.29 terminals:

NCP define module X29-server state on

Do you want the database defined now [YES]? <RET>

Do you want to use  PSI MAIL [YES]? <RET>
Do you want support for incoming  PSI MAIL [YES]? <RET>

The PSI_MAIL object needs to run in an account with the right to
accept incoming X.25 calls.

Username    [DECNET]     (string): <RET>
Password                 (string): decnet
Verification             (string): decnet

The following NCP commands may be used to configure the  permanent
database to support incoming  PSI MAIL:

NCP define object psi_mail number 0 file sys$system:psi$mail -
user DECNET password PASSWORD
NCP define module x25-server destination psi_mail object
psi_mail - call mask ffffffffffffffffffffffffffffffff -
call value ff00000056332e30204d41494c2d3131

Do you want the database defined now [YES]? <RET>

Purging any  previous PSI_MAIL  definitions.   Please  ignore  any
error messages.

%NCP-I-SUCCESS,  Success
Object = PSI_MAIL
NML-I-RECDELET, Database entry deleted
%NCP-I-SUCCESS,  Success

%NML-I-RECDELET, Database entry deleted

 Created SYS$SYSROOT:[SYSMGR]LOAD_PSI043.COM
```

```
Do you wish to add network, line or DTE entries to the
database now  [YES]? <RET>

You are assisted here in defining the X25-ACCESS database.

Do you want to define the X25-ACCESS database now [YES]? <RET>

This  procedure  can  purge  the  database  to  remove  all  known
connector  nodes  information  before  it  updates  the  permanent
database.

The following NCP command will be used to purge the database:

NCP PURGE MODULE X25-ACCESS KNOWN NETWORKS ALL

Do you want the information in the permanent database
purged now [NO]? <RET>

Your VAX PSI Access system uses a  connector node  to  communicate
with one or more PSDNs.  You will be asked for a network name  for
the connection to the connector  system and  the node name of that
system.  The network name you supply  MUST  be  the  same  as  the
network name on the connector node that you wish to use.

Network name        (network-id): net2
Connector node         (node-id): bella

Network    = net2
Connector node   = bella

Is the above information correct  [YES]? <RET>

The following NCP command will be used  to  update  the  permanent
database:

NCP define module x25-access network net2 node bella


Adding entry to the X25-ACCESS database for network net2

Are there any more NETWORKS to be defined  [NO]? <RET>


This command procedure allows you to define one  or  more  PSDN(s)
and one or more DTEs associated with each network.

Do you want to define the X25-PROTOCOL database now [YES]? <RET>

You can use this procedure to  purge the  database  to  remove all
DTEs  and  all  X.25  protocol  information  before  updating  the
permanent database.  You can also use this procedure to remove the
line  information  from  the  database.  Note  that  if  the  line
permanent  database is purged then all DECnet lines along with VAX
PSI lines will be removed.



The following NCP commands will be used to purge the DTE and  X.25
permanent database:

NCP purge module x25-protocol known networks all
NCP purge module x25-protocol known dtes known networks all
```

```
The following NCP commands will be used to purge the line
permanent database:

NCP purge known lines all

Do you want the information in the X.25 and DTE permanent
database purged [NO]?<RET>

Do you want the line information in the permanent database
purged  [NO]? <RET>

PSDN and profile names are defined here.  You can  define  one  or
more  PSDNs.   For  each  PSDN  you  will  be asked to provide the
network name and the profile name for that network.


Network name   (string): net1
Profile name   (string) [net1]: sonnet

The following command will be used to update the permanent
database:

NCP define module x25-protocol network net1 -
    profile sonnet
Do you want the information in the permanent database
updated  [YES]? <RET>

DTEs are defined here.  You can define one or more DTEs
connected to this network.  For each DTE you will be asked
to provide the following information:

o DTE address
o Range of channels to be used by the DTE
o Line associated with the DTE

DTE address    (number): 2342123456789
Channels range   (list): 1250-1150
Line name     (dev-c-u): kmv-0

The following NCP commands will be used to update
the permanent database.

NCP define line kmv-0 network net1 protocol lapb state on
NCP define module x25-protocol dte 2342123456789 -
    network net1 -
    channels 1250-1150 -
    line kmv-0 -
    state on

Do you want to update the permanent database now  [YES]? <RET>

Updating database

Do you want to define any more DTEs connected to this
network [NO]? <RET>

Do you want to define any more networks [NO]? <RET>

Do you wish to add VAX PSI Multi-host entries [YES]? <RET>
```

```
X25-Server destinations are set up  here.  These  permit  incoming
calls received by this node to be redirected  to  the  appropriate
host. This procedure asks for a list of hosts with  VAX PSI Access
installed. This list of nodes will not include the  node  you  are
currently working on.

Destination name       (string)                 : greta
Destination node name  (string)                 : greta
Destination priority                    [200]   : <RET>
Call mask              (2-32 hex)       [None]  : <RET>
Call value             (2-32 hex)       [None]  : <RET>
Closed user group name (1-16 characters) [None] : <RET>
Sending address        (1-15 decimal)   [None]  : <RET>
Subaddress range       (decimal range)  [None]  : <RET>
Object identification  (string)         [36]    : <RET>

The destination will be set up as follows:

NCP>define module x25-server -
 destination greta -
 node greta -
 priority 200 -
 object 36

Do you want to define this destination now  [YES]? <RET>

 Updating the permanent database

Do you want to define any more destinations  [NO]? <RET>

To check out your installation after restarting VAX PSI refer to
the Configuration Testing Chapter in the VAX PSI Management Guide.
```

D
Contents of the VAX PSI Distribution Kits

During the installation, the VAX PSI software creates a file that contains the name of each file installed during that particular installation. This file is called PSI$IVP.TXT and VAX PSI copies it to the SYS$UPDATE directory. To see which files VAX PSI has installed, print a copy of this file or view it on your terminal.

When you install VAX PSI or VAX PSI Access on a VAXcluster, all files reside in the System Common Root area, except for the following which are copied to the System Specific area:

- PSI$043.DAT
- PSI$ACCESS_043.DAT
- PSI_SECURITY.COM

D.1 Contents of the VAX PSI Distribution Kit

This section contains an alphabetical listing of the VAX PSI files installed in each directory.

For all systems, the images listed below are copied to the SYS$LOADABLE_ IMAGES directory:

NWDRIVER.EXE
PSI$L3CS.EXE
PSI$L3NM.EXE
PSI$NMR.EXE
LES$DECNET.EXE
LES$DECNET_ALT.EXE
LES$DECNET_EVL.EXE
PSI$GAP.EXE

LES$LES.EXE
PSI$043.DAT
PSI$DR.EXE
PSI$DRX.EXE
PSI$L2.EXE
PSI$L2NM.EXE
PSI$L2E.EXE
PSI$L2DM.EXE
PSI$L3.EXE
PSI$NETPRF.EXE

The following files are copied to the SYS$SYSTEM directory:

PSI$MAIL.COM
PSI$LES_CONTROL.DAT
LES$STARTUP.EXE
LES$ACP.EXE

The following files are copied to the SYS$MANAGER directory:

PSI_CONFIG.COM
PSI_DEFINE.COM
PSI_SET_UP.COM
STARTPSI.COM
PSI$CONFIG_HELP.COM
PSI$GET_CONFIG_DATA.COM
PSI_MULTI_HOST.COM

The following files are copied to the SYS$LIBRARY directory:

PSILIB.MLB
PSILIB.REQ
PSI_MAILSHR.EXE
PSI$ACPCODESHR.EXE
PSI$ACPDATASHR.EXE
LES$ACP_CODE.EXE

The following files are copied to the SYS$LIBRARY directory if the corresponding language (shown in brackets) is present:

PSILIB.FOR (FORTRAN)
PSILIB.H (C)
PSILIB.L32 (BLISS)
PSILIB.PAS (PASCAL)

The following files are copied to the SYS$TEST directory:

PSI_ICP.COM
PSI$XTR.COM
PSI$XTR.EXE
PSI$XTS.EXE
PSI$PR.EXE
PSI$CTP.EXE
PSI$CTP.TLB
PSI$CTP_NETOBJ.COM
PSI$CTP_ADD_NETOBJ.COM
PSI$CTP_REM_NETOBJ.COM

The following file is copied to the SYS$HELP directory:

PSI043.RELEASE_NOTES

The following files are copied to the SYS$MESSAGE directory:

PSI$MESSAGES.EXE
LES$ACP_MESSAGES.EXE

The following files are copied to the SYS$EXAMPLES directory:

PSI$CHARGING.EXE
PSI$CHARGING.MAR
PSI$DLM_REDIRECT.MAR
PSI$X25_SEND_BASIC.BAS
PSI$X25_SEND_C.C
PSI$X25_SEND_COBOL.COB
PSI$X25_SEND_FORTRAN.FOR
PSI$X25_SEND_MACRO.MAR
PSI$X25_SEND_PASCAL.PAS
PSI$X25_RECEIVE_BASIC.BAS
PSI$X25_RECEIVE_C.C
PSI$X25_RECEIVE_COBOL.COB
PSI$X25_RECEIVE_FORTRAN.FOR
PSI$X25_RECEIVE_MACRO.MAR
PSI$X25_RECEIVE_PASCAL.PAS

The following images are NOT installed if you are loading VAX PSI on a MicroVAX. These images are copied to the SYS$LOADABLE_IMAGES directory:

PSI$KMXDIA.EXE
PSI$KMXPDM.EXE
PSI$KMXPRO.EXE
PSI$KMYDIA.EXE
PSI$KMYPDM.EXE
PSI$KMYPRO.EXE
XNDRIVER.EXE
XSDRIVER.EXE
XWDRIVER.EXE

The following images are NOT installed if you are loading VAX PSI on a MicroVAX. These images are copied to the SYS$TEST directory:

UETPSIDUP.COM
UETPSIDUP.EXE

The following images are only installed if you are loading VAX PSI on a MicroVAX, and are copied to the SYS$LOADABLE_IMAGES directory:

PSI$KMVPRO.EXE
UEDRIVER.EXE
UVDRIVER.EXE

If you request X.29 support, the following is copied into the SYS$LOADABLE_IMAGES directory:

NVDRIVER.EXE

If you request X.29 support, the following are copied into the SYS$SYSTEM directory:

PSIPAD.EXE
PSISETX29.EXE
PSISHOWX29.EXE

If you request X.29 support, the following is copied into the SYS$HELP directory:

PSIPADHLP.HLB

If you request X.29 support, the following is copied into the SYS$MESSAGE directory:

PSI$PAD_MESSAGES.EXE

If you request X.29 support, the following are copied into the SYS$EXAMPLES directory:

PSI$X29_DESTINATION_COM.COM
PSI$X29_DESTINATION_MACRO.MAR
PSI$X29_DESTINATION_C.C
PSI$X29_DESTINATION_PASCAL.PAS
PSI$X29_NETPROCESS_MACRO.MAR
PSI$X29_NV_UNIT_NUMBER_MACRO.MAR
PSI$X29_OUTGOING_MACRO.MAR
PSI$X29_OUTGOING_C.C
PSI$X29_OUTGOING_PASCAL.PAS
PSI$X29_TEMPLATES.MAR
PSI$X29_USER_TEMPLATE.COM
PSI$X29_SYSTEM_TEMPLATE.COM

If you request the VAX PSI utilities, the following are copied into the SYS$LOADABLE_IMAGES directory:

LES$TRACE.EXE
LES$TRACE_MBX.EXE

If you request the VAX PSI utilities, the following are copied into the SYS$SYSTEM directory:

PSIACC.EXE
PSIAUTHORIZE.EXE
PSIKDA.EXE
NETLTC.EXE
NETTRACE.EXE

If you request the VAX PSI utilities, the following are copied into the SYS$LIBRARY directory:

PSIAUTHORIZE.INIT
NETTRACE$12_ANALYZE.EXE
NETTRACE$12E_ANALYZE.EXE
NETTRACE$13_ANALYZE.EXE
NETTRACE$GAP_ANALYZE.EXE
NETTRACE$GTW_ANALYZE.EXE
NETTRACE$13_DDX76_ANALYZE.EXE
NETTRACE$KEY.INIT
NETTRACE$X29_ANALYZE.EXE

If you request the VAX PSI utilities, the following are copied into the SYS$HELP directory:

PSIAUTHORIZEHLP.HLB
TRACEHLP.HLB

If you request the VAX PSI utilities, the following is copied into the SYS$MESSAGE directory:

NETTRACE_MESSAGES.EXE

If you request the VAX PSI utilities, the following are copied into the SYS$MANAGER directory:

PSI_SECURITY.COM
PSIACCOUNTING.COM
NETTRACE_INSTALL.COM
NETTRACE_SECURITY.COM
PSI_TRACE_START.COM

LOAD_PSI043.COM is created by PSI_SET_UP.COM, and is copied to the system specific SYS$MANAGER directory.

PSIACCOUNTING.DAT is created when the Accounting utility is turned on in the system specific SYS$MANAGER directory.

D.2 Contents of the VAX PSI Access Distribution Kit

This section contains an alphabetical listing of the VAX PSI Access files installed in each directory.

For all systems, the images listed below reside in the SYS$LOADABLE_IMAGES directory:

NWDRIVER.EXE
PSI$L3CS.EXE
PSI$L3NM.EXE
PSI$NMR.EXE
LES$DECNET.EXE
LES$DECNET_ALT.EXE
LES$DECNET_EVL.EXE
PSI$GAP.EXE
LES$LES.EXE
PSI$ACCESS_043.DAT
PSI$GTR.EXE

The following files are copied to the SYS$SYSTEM directory:

PSI$MAIL.COM
PSI$LES_CONTROL.DAT
LES$STARTUP.EXE
LES$ACP.EXE

The following files are copied to the SYS$MANAGER directory:

PSI_CONFIG.COM
PSI$CONFIG_HELP.COM
PSI_SET_UP.COM
PSI_DEFINE.COM
PSI$GET_CONFIG_DATA.COM
STARTPSI.COM

The following files are copied to the SYS$LIBRARY directory:

PSILIB.MLB
PSILIB.REQ
PSI_MAILSHR.EXE
PSI$ACPCODESHR.EXE
PSI$ACPDATASHR.EXE
LES$ACP_CODE.EXE

The following files are copied to the SYS$LIBRARY directory if the corresponding language (shown in brackets) is present:

PSILIB.FOR (FORTRAN)
PSILIB.H (C)
PSILIB.L32 (BLISS)
PSILIB.PAS (PASCAL)

The following files are copied to the SYS$TEST directory:

PSI_ICP.COM
PSI$XTR.COM
PSI$XTR.EXE
PSI$XTS.EXE
PSI$PR.EXE
PSI$CTP.EXE
PSI$CTP.TLB
PSI$CTP_NETOBJ.COM
PSI$CTP_ADD_NETOBJ.COM
PSI$CTP_REM_NETOBJ.COM

The following file is copied to the SYS$HELP directory:

PSI_AC043.RELEASE_NOTES

The following files are copied to the SYS$MESSAGE directory:

PSI$MESSAGES.EXE
LES$ACP_MESSAGES.EXE

The following files are copied to the SYS$EXAMPLES directory:

PSI$CHARGING.EXE
PSI$CHARGING.MAR
PSI$DLM_REDIRECT.MAR
PSI$X25_SEND_BASIC.BAS
PSI$X25_SEND_C.C
PSI$X25_SEND_COBOL.COB
PSI$X25_SEND_FORTRAN.FOR
PSI$X25_SEND_MACRO.MAR
PSI$X25_SEND_PASCAL.PAS
PSI$X25_RECEIVE_BASIC.BAS
PSI$X25_RECEIVE_C.C
PSI$X25_RECEIVE_COBOL.COB
PSI$X25_RECEIVE_FORTRAN.FOR
PSI$X25_RECEIVE_MACRO.MAR
PSI$X25_RECEIVE_PASCAL.PAS

For VAX PSI Access, the files for X.29 support and utilities are installed in the same areas as for VAX PSI. See Section D.1 for details of which files are copied to which areas.

LOAD_PSI043.COM is created by PSI_SET_UP.COM, and is copied to the system specific SYS$MANAGER directory.

PSIACCOUNTING.DAT is created when the Accounting utility is turned on, and is copied to the system specific SYS$MANAGER directory.

Index

F

H

I

K

L

M

N

O

X