VAX DEC/MAP Software Installation Guide

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Abstract

This guide contains procedures for installing VAX DEC/MAP V3.0 software.

Revision/Update Information:	This guide supersedes the *VAX DEC/MAP V2.0 Software Installation Guide*
Operating System and Version:	VMS Versions 5.1 and 5.2
Software Version:	DEC/MAP Version 3.0

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Preface

This guide explains how to install VAX DEC/MAP V3.0 software.

Intended Audience

This guide is intended for system and network managers.

The Structure of This Guide

This guide is organized as follows:

- Chapter 1 contains an introduction to the VAX DEC/MAP software product and VMSINSTAL.
- Chapter 2 describes the installation preparations and the installation of DEC/MAP.
- Chapter 3 describes information needed during installation of DEC/MAP.
- Chapter 4 describes the installation of DEC/MAP.
- Chapter 5 describes the installation of VOTS.
- Chapter 6 describes the installation of FTAM.
- Chapter 7 describes startup and IVP procedures.
- Chapter 8 describes installation on a cluster.
- Appendix A contains a list of files that are added to your system during the installation of VAX DEC/MAP.
- Appendix B contains an installation log file listing.
- Appendix C contains an installation verification procedure (IVP) log file listing.

Associated Manuals

Other manuals in the DEC/MAP set are:

- *VAX DEC/MAP Introduction*
- *VAX DEC/MAP FTAM User's Guide*
- *VAX DEC/MAP VOTS Programmer's Guide*
- *VAX DEC/MAP VOTS Problem Solving Guide*
- *VAX DEC/MAP MAPI Programmer's Guide*
- *VAX DEC/MAP Network Manager's Guide*
- *DTQNA Installation and Maintenance Manual*

Conventions Used in This Guide

The conventions in the convention table apply to this manual:

Convention	Meaning
Special type	Special type in examples indicates system output or user input.
Red	Red in examples indicates user input. In online versions, user input is shown in bold.
RET	Press the Return key.
UPPERCASE	Uppercase letters in command lines indicate keywords that must be entered. You can enter them in either uppercase or lowercase. You can abbreviate command keywords to the first three characters or the minimum unique abbreviation.
lowercase italics	Lowercase italics in command syntax or examples indicate variables for which either you or the system supplies a value.
[ ]	In examples showing VMS directory specifications, square brackets are a necessary part of the specification, [*directory-name*]. In a procedure, square brackets in an inquiry enclose the default response for the inquiry.
key	Press the specified key.
CTRL/*x*	Hold down the CTRL key, and then press the key specified by *x*.

. . .	Ellipses (dots) in examples represent either user input or system output that has been omitted.

Chapter 1

Introduction

This guide contains procedures for installing VAX DEC/MAP V3.0 software. VAX DEC/MAP V3.0 software is an integrated software offering consisting of the following:

1. DEC/MAP
2. VOTS
3. VAX FTAM

The VAX DEC/MAP V3.0 product requires that the three software components be installed in the order listed above. That is, DEC/MAP is installed first, then VOTS, and finally, VAX FTAM.

Note the distinction in names. The product name is VAX DEC/MAP, as opposed to the shorter DEC/MAP, which is one of its components.

Because the installation description is long, it has been broken up into three chapters for clarity. The chapter sequence matches the required installation sequence, which is as follows:

1. Chapter 4 contains the procedure for installation of DEC/MAP.
2. Chapter 5 contains the procedure for installation of VOTS.
3. Chapter 6 contains the procedure for installation of FTAM.

1.1 Product Description

MAP stands for Manufacturing Automation Protocol. A MAP network uses that protocol to allow factory applications running on the computers of multiple vendors to exchange information for the purpose of factory automation.

VAX DEC/MAP is Digital's implementation of MAP. It is a software offering that enables operators and/or applications on Digital's VAX computers to exchange messages with other operators and/or applications of other computers elsewhere on the MAP network. These other computers can be other VAXs, or they can be computers of other vendors. All computers on the network must have hardware and software that implements MAP.

1.2 Preparing for Installation

Prior to installation, you must make certain preparations. Those preparations are described in Chapter 2 and Chapter 3. Performing those preparations carefully and thoroughly will ensure that the installation session requires minimum system downtime.

If all preparations are made in advance, the installation should take approximately 1 hour, depending on your system configuration.

1.3 Using VMSINSTAL

Chapter 4, Chapter 5, and Chapter 6 explain how to install VAX DEC/MAP using VMSINSTAL. VMSINSTAL is a standard utility used to install most VAX software products. With only minor changes, to accommodate product differences, that utility remains much the same from one software product to another. Thus, using VMSINSTAL assures a consistent and logical approach to all installations. A preview of VMSINSTAL is given in Section 2.9.

1.4 Installation Sequence

VAX DEC/MAP software must be installed in the sequence given in Chapter 4, Chapter 5, and Chapter 6 of this guide. The following is an overview of the installation sequence.

1. Install DEC/MAP, but do not start it.
2. Reboot the node to load the drivers (DTQNA systems only).
3. Install VOTS, but do not configure it. (Configuration is done as part of the DEC/MAP installation in step 1.)
4. Start VOTS.
5. Install FTAM, but answer NO to the installation verification procedure (IVP) prompt.
6. Start DEC/MAP.
7. Run DEC/MAP IVP.

1.4.1 Installation Verification Procedure (IVP)

The last step of the installation procedure (running DEC/MAP IVP) checks the entire installation. DEC/MAP IVP invokes the VOTS and FTAM IVP procedures as well as its own IVP.

Chapter 2

Preparing for Installation

This chapter explains the preparations you need to make before you begin installing VAX DEC/MAP. At the end of the chapter is a preview of VMSINSTAL. Making all the preparations outlined in this chapter will ensure an easy and timely installation.

To prepare for VAX DEC/MAP installation, do the following:

a. Check for preliminary VMS considerations.
b. Check the VMS version.
c. Check the kit contents.
d. Display and/or print the release notes.
e. Obtain system privileges and disk space required for this installation.
f. Set system parameters to required values.
g. Set process quotas to required values.
h. Run the VMSLICENSE command file and enter the license information contained in the Product Authorization Key (PAK).

The following sections explain how to perform each of the above steps.

2.1 Preliminary VMS Considerations

The following VMS classes are required for full functionality of this layered product:

- VMS Required saveset
- VMS Network
- VMS Programming support
- VMS System Programming support

- VMS Utilities

2.2 Checking the VMS Version

VAX DEC/MAP V3.0 requires VMS Version 5.1 or 5.2. Use the following command to display the version number.

```
$ write sys$output f$getsyi("version")  RET
```

2.3 Checking the Contents of the Kit

Check your distribution kit to ensure it contains everything listed on the Bill of Materials.

VAX DEC/MAP software is available on CompacTape (TK50) and Magtape.

This tape contains:

MAP savesets
VAX FTAM savesets
VOTS savesets

The kit includes a Digital Product Authorization Key (PAK) for the VAX DEC/MAP software. You use this document to supply information to the VMSLICENSE procedure as described in Section 2.8.

The following documentation is included in your software kit.

- *VAX DEC/MAP Software Installation Guide* (*this guide*)
- *VAX DEC/MAP Introduction*
- *VAX DEC/MAP Network Manager's Guide*
- *VAX DEC/MAP MAPI Programmer's Guide*
- *VAX DEC/MAP FTAM User's Guide*
- *VAX DEC/MAP VOTS Problem Solving Guide*
- *VAX DEC/MAP VOTS Programmer's Guide*

2.4 Displaying and Printing Release Notes

VAX DEC/MAP provides online release notes. You can display and/or print the notes. You can have them placed in SYS$HELP, or, if you have already read the notes, you can ignore them.

During the installation procedure, you will be prompted to select one or more of those options. These prompts appear only if you have invoked VMSINSTAL with the N option. See Chapter 4.

2.5 Obtaining Required Privileges and Disk Space

Before you can install VAX DEC/MAP, you must have the following:

- On the SYSTEM account, you should have SETPRV privileges, or CMKRNL, WORLD, and SYSPRV privileges. You can check to see if you have those privileges by issuing the following command:

```
$ show process/priv RET
```

- A minimum of 9600 blocks of free disk space on your system disk during installation (6000 blocks are used permanently by the entire VAX DEC/MAP product). The blocks are allocated among individual parts of VAX DEC/MAP as follows:

Software	Needed for Installation	Needed Permanently
VOTS	3000	2250
FTAM	3350	2050
DEC/MAP	3250	1700
TOTAL	9600	6000

To see how much disk space you have, issue the following command:

```
$  show device sys$sysdevice  RET
```

2.6 Setting Required System Parameters

System parameters must be set to the following values to accommodate the space requirements for VAX DEC/MAP data structures:

System Parameter	MAP	FTAM	VOTS	TOTAL
FREE_GBLPAGES	380	1500	n/a	1880
FREE_GBLSECTS	20	85	n/a	105
INTSTKPAGES	4	n/a	n/a	4
MAXBUF	8204 or more	n/a	n/a	8204 or more
NPAGEDYN	60,000	n/a	n/a	60,000

2.6.1 Displaying System Parameters

Use the following commands to check the system parameters.

Displaying Free Global Pages

Determine the current number of free global pages. In response to the VMS prompt, enter:

```
$  WRITE SYS$OUTPUT F$GETSYI("FREE_GBLPAGES")  RET
```

VMS displays the current value associated with the FREE_GBLPAGES parameter.

Displaying Free Global Sections

Determine the current number of free global sections. In response to the VMS prompt, enter:

```
$  WRITE SYS$OUTPUT F$GETSYI("FREE_GBLSECTS")  RET
```

VMS displays the current value associated with the FREE_GBLSECTS parameter.

Displaying Interrupt Stack Pages

Determine the current size (in pages) of the interrupt stack. Each page on the stack requires a page of permanently resident memory. In response to the VMS prompt, enter:

```
$  WRITE SYS$OUTPUT F$GETSYI("INTSTKPAGES")  RET
```

VMS displays the current value associated with the INTSTKPAGES parameter.

Displaying Maximum Buffered I/O Space

Determine the current maximum size of a buffered I/O transfer (card readers, console diskettes, line printers, mailboxes, and terminals). The space for a buffered I/O operation is allocated from the permanently resident nonpaged dynamic pool.

In response to the VMS prompt, enter:

```
$  WRITE SYS$OUTPUT F$GETSYI("MAXBUF")   RET
```

VMS displays the current value associated with the MAXBUF parameter.

Displaying Nonpaged Dynamic Pool Size

Determine the current size in bytes of the nonpaged dynamic pool. In response to the VMS prompt, enter:

```
$  WRITE SYS$OUTPUT F$GETSYI("NPAGEDYN")   RET
```

VMS displays the current value associated with the NPAGEDYN parameter.

For additional information on these parameters, or for help in checking values, see the *VAX/VMS System Generation Utility Reference Manual*.

If you need to change one or more system parameters, proceed to Section 2.6.2.

If you do not need to change system parameters, proceed to Section 2.7.

2.6.2 Changing System Parameter Values with AUTOGEN

You use the AUTOGEN command procedure to change system parameters. AUTOGEN automatically adjusts values for parameters associated with the values you manually reset. To change system parameters with AUTOGEN, edit the following file:

```
SYS$SYSTEM:MODPARAMS.DAT
```

Use an editor to access the file. To change a parameter value already listed in this file, delete the current value associated with that parameter, and enter the new value.

To add a new parameter, add a line to the file that includes both the name of the parameter and its value. For example:

```
WSMAX = 1024
```

To modify incremental parameters, such as GBLPAGES and GBLSECTIONS, use ADD_. The following example increases the global page setting by 2000:

```
ADD_GBLPAGES = 2000
```

After you have made all your changes, exit from the editor and run the AUTOGEN procedure to recalculate your system parameters. Enter the following command at the DCL prompt:

```
$ SYS$UPDATE:AUTOGEN GETDATA REBOOT NOFEEDBACK
```

When you specify REBOOT, AUTOGEN performs an automatic system shutdown and then reboots the system when it has finished. Any users logged on to the system are immediately disconnected during the shutdown. The automatic reboot puts the new parameter values into effect.

The Autogen Utility automatically adjusts some of the SYSGEN parameters based on the consumption of resources during the last reboot. If you want to take advantage of this feature, do *not* pass the NOFEEDBACK parameter (P3) in the AUTOGEN command line.

For more information about using AUTOGEN, see the VMS System Management Subkit.

2.7 Setting Required Process Quotas

Set process quotas to the following values:

Process Quotas	Value
ASTLM	25
BIOLM	25
BYTLM	40,500

To display process quotas, use the AUTHORIZE utility as follows:

```
$  SET DEFAULT SYS$SYSTEM  RET
$  RUN AUTHORIZE  RET
UAF>  SHOW SYSTEM  RET
```

If no changes are necessary, type EXIT to leave the AUTHORIZE utility.

To modify system account quotas, for example, ASTLM, do the following:

```
UAF>  MODIFY SYSTEM/ASTLM=25  RET
```

You will get a message confirming the change. Then type EXIT to leave the utility. You must log out, then log in again to reset the system account quotas.

The AUTHORIZE utility is described in the *VAX/VMS System Manager's Manual*.

2.8 License Registration

You must register the VAX DEC/MAP license through the VMS License Management Facility (LMF) in accordance with the license agreement signed for your site. The license registration information you need is contained in the Product Authorization Key (PAK) that is shipped with VAX DEC/MAP. The PAK is a paper certificate that contains information about your license to run a particular piece of software.

During the installation, VMSINSTAL asks if you have registered your VAX DEC/MAP license and loaded the appropriate authorization key. You must register and load your VAX DEC/MAP license *before* you start the installation in order to run the Installation Verification Procedure (IVP) and use the software.

To register a license under VMS, first log in to the system manager's account, SYSTEM. You then have a choice of two ways to register:

1. Invoke the SYS$UPDATE:VMSLICENSE.COM procedure. When it prompts you for information, respond with data from your Product Authorization Key (PAK).
2. At the DCL prompt, issue the LICENSE REGISTER command with the needed qualifiers, which are listed in the PAK.

If you use VAX DEC/MAP on more than one node of a VAXcluster, you need to perform a license load on the other nodes after you complete this installation.

The product authorization keys for FTAM and VOTS will be automatically registered and loaded during the installation of VAX DEC/MAP.

If you are installing VAX DEC/MAP on a system that already has, or previously had, VAX FTAM and VAX OSI transport service installed, you must unload and disable the Product Authorization Keys (PAKs) for both.

To see if your system has any existing FTAM or VOTS PAKs enter the following commands:

```
$ license list/full FTAM
$ license list/full VOTS
```

If your system has an FTAM or VOTS PAK registered, be sure to record the authorization number of each. If you have multiple PAKs for either product, be sure to record all authorization numbers and disable them.

Next you will need to unload the PAK(s) using one or both of the following commands:

$ license unload FTAM
$ license unload VOTS

To disable the FTAM and/or VOTS PAK(s), enter one or both of the following commands:

$ license disable FTAM/authorization=<authorization number>
$ license disable VOTS/authorization=<authorization number>

For complete information on using the LMF, see the *VMS License Management Utility Manual* in the VMS documentation set.

2.9 Preview of VMSINSTAL

VMSINSTAL is the command procedure that executes the installation of VAX DEC/MAP. To use VMSINSTAL, you must first log in to the system manager's account and set default to SYS$UPDATE.

When you invoke VMSINSTAL, provide the following parameters:

- MAP030
- The device name, for example, MUA0
- OPTIONS N—Specify N with the OPTIONS keyword to display or print the release notes. For example:

  ```
  $  @SYS$UPDATE:VMSINSTAL MAP030 ddcu: OPTIONS N  RET
  ```

  ddcu: is the device name, where:

  dd is the device code, *c* is the controller letter, and *u* is the unit number, for example, MUA0.

  VMSINSTAL prompts for the product and device names if you do not supply these parameters.

  VMSINSTAL does not display the release notes query if you omit the OPTIONS N parameter.

  When you invoke VMSINSTAL, it checks the following:

- Are you logged in to the system manager's account?

  It is recommended that you install layered software from the system manager's account.

- Do you have adequate quotas for installing layered products?

  If you do not have adequate quotas, refer back to Section 2.7 for specific quota values and how to set them.

VMSINSTAL then notifies you if DECnet is running and displays a list of all active processes. It then asks if you want to continue the installation.

All such queries are preceded by an asterisk (*) and followed with the default response in brackets. For example, the DECnet notice looks like this:

```
%VMSINSTAL-W-DECNET, your DECnet network is up and running.
 *Do you want to continue anyway [NO]?:
```

You can install VAX DEC/MAP with DECnet running, but you should have all users log out. In this case, if you wanted to stop the installation, you would accept the default by pressing Return. If you want to continue the installation, type Y and press Return.

Similar queries will be made throughout the installation session. In this guide, the installation session is organized in a series of numbered steps with additional explanations where appropriate. The step numbers do not appear on your display. They are included in this guide for clarity only.

If you have made all the preparations outlined in Chapter 2, you should have no difficulty responding to each querie.

Chapter 3

Information Needed During Installation

The tables in this chapter list the information you need to supply during the installation and configuration. You need to complete these tables with information relevant for your system.

- Table 3–1 lists information needed to set up the OSI transport default account.
- Table 3–2 lists information needed to set up the Network Access Points (NAP) Database and Subnetwork Access Points (SNAP) Database
- Table 3–3 lists information needed to set up the Routing_Record Database.
- Table 3–4 lists information needed to set up the Transport Service Access Point (TSAP) Database.

The following sections briefly explain the details you have to provide.

3.1 OSI Transport Default Account

You must have an OSI transport default account to install VAX DEC/MAP.

Additionally, default account information must be entered twice: once during DEC/MAP installation, and again during VOTS installation. It is imperative that the same information be entered in both procedures.

The DEC/MAP installation sets up configuration information in startup files. The VOTS installation actually creates the OSI transport default account.

VOTS uses the OSI transport default account for applications started up by an inbound connection request (that is, transport users with passively associated TSAPs). VOTS uses the account only if there is no username and password for a TSAP, either in the TSAP database or in the inbound connection request.

If you have previously installed VOTS on your system, the OSI transport default account may already exist. If the account exists, provide its existing username and password in Table 3–1 along with the rest of the information to complete the table.

Table 3–1: Information for the OSI Transport Default Account

Item	Notes	Your Value
Username	VMS username for the account. For example, OSI.	
Password	VMS password for the account. 9 or more characters.	
UIC	UIC for the account. For example, 376,370.	
Directory name	Name of the top level directory for the account. For example, OSI.	
Default device	Name of the disk used as default device for the account. For example, DISK$USER. This only applies if you do not want the directory in SYS$COMMON.	

3.1.1 Username and Password

If you already have an OSI transport default account belonging to your VOTS Version 1 system, you must enter its username and password during installation. To find out the username and password, you should:

1. Run the VOTS V1 control program OSICP on your VOTS Version 1 system. To do this, enter this command:

```
$ RUN SYS$SYSTEM:OSICP
```

2. Enter this OSICP command:

```
OSICP> SHOW TRANSPORT ALL
```

The items DEFAULT PASSWORD and DEFAULT USER show the username and password for the OSI transport default account.

3.1.2 UIC

You can specify the UIC in either octal or alphanumeric form. Whichever form you use, make sure you enter it in the same form in the Rights Database. Do not enclose the UIC in square brackets when you enter it.

The default UIC is 376,370.

3.2 Setting Up Access to Networks

The DEC/MAP configuration procedure provides a set of prompts that enable you to configure VOTS. To configure VOTS, you specify the networks that VOTS can use, the addresses that identify your local system on the networks, the addresses of remote systems on your Internet network (if used), and/or the identifiers for local transport users.

3.2.1 Setting Up NAPs

You must have at least one network access point (NAP) in the NAP Database in order to run the IVP.

The NAP Database contains information about the networks used by VOTS. There is one entry for each NAP. There are two types of NAP, each corresponding to a type of network:

- Internet. This provides for communication across several linked networks, known as **subnetworks**. An Internet network can consist of several subnetworks, each with distinct addressing rules and protocols for communications.

  Internet can access two types of subnetwork from a VOTS system: IEEE 802.4 and IEEE 802.3 LANs.
- Null_Internet. This can be used to access a single 802.4 or 802.3 LAN directly, with minimal use of Internet.

Each NAP entry also includes: information enabling VOTS to reach the actual network to be used; a local address to identify VOTS; and parameters governing the way transport connections use the network, for example, the timers used.

If you use an Internet NAP, you need to create one or more SNAPs. See Section 3.2.2. You also need to create one or more entries in the Routing_Record Database. See Section 3.3.

3.2.2 Setting Up SNAPs

The SNAP Database is only used by Internet. If you do not set up an Internet NAP, you do not need to set up any SNAPs.

Each SNAP contains information about a subnetwork used by Internet. After Internet has located the address of a remote host in the Routing_Record Database, it uses the SNAP Database to identify the subnetwork to be used at the start of the route to the remote host.

There are two types of SNAP, each corresponding to a type of subnetwork:

- 802.4 enables Internet to access an 802.4 LAN
- 802.3 enables Internet to access an 802.3 LAN

A SNAP entry also includes: information enabling VOTS to reach the actual subnetwork; a local address to identify VOTS; parameters governing the way Internet uses the subnetwork, for example, the timers used.

3.2.3 Creating NAPs and SNAPs During the Configuration Procedure

During the configuration procedure, you will need to answer questions about the types of network you wish to use. The procedure will use the information you supply to set up the corresponding NAPs. If you select the use of Internet, the configuration procedure will also set up the SNAPs to be used by Internet.

The procedure sets up NAPs and SNAPs by placing network management commands in the startup file. MAP$OSIT_STARTUP.COM is the command procedure that starts up VOTS and creates the VOTS databases. The management commands create and enable the NAPs and SNAPs.

Use Table Table 3–2 to record the information needed to set up NAPs and SNAPs.

Table 3–2: Network Information

Item	Notes	Your Value
Local NSAP address. Only required if you use Internet.	String that uniquely identifies your system in an Internet network. Example: 49.004208002BB03C21	
Enter details about Ethernet/802 devices your system will use. (See the System Support Addendum (SSA) for a list of supported devices.) Duplicate this part of the table as many times as needed.		
802.3/802.4 Device Name	VMS device mnemonic of an 802.3/802.4 device to be used by Internet or Null_Internet. Example: XQ or DO	

3.2.4 NSAP Address

Each transport service in an Internet network has a network service access point (NSAP) address that gives it a unique identity. You may be assigned an NSAP address by an external addressing authority. However, it is more likely that you will need to construct your own NSAP address, possibly in cooperation with the system managers for the other hosts on your Internet network.

The International Organization for Standards (ISO) has established rules for constructing unique NSAP addresses in the International Standard ISO 8348, Addendum 2. It is important that you follow these rules.

It is strongly recommended that you use the format described below under **X.121 Format**. If you cannot use this format — for example, because you do not have a DTE address — use the format described under **Local Format**.

X.121 Format

The X.121 format is:

37*x.121-address.ethernet/802-address*21

x.121-address is a DTE address assigned to you. This must be a full DTE address, including the country and network code. It must not be a shortened DTE address.

ethernet/802-address is an Ethernet/802 physical address owned by your LAN.

21 is a standard transport selector for OSI transport.

Be sure to enter the dot between *x.121-address* and *ethernet/802-address*. This tells VOTS to add any padding digits needed to make the NSAP address conform to ISO 8348, Addendum 2.

Local Format

You use local format if you will not connect your system to the global OSI network.

The format is:

49.*ethernet/802-address*

ethernet/802-address is an Ethernet/802 physical address owned by your LAN. You can enter up to 30 hexadecimal digits. Do not enter dashes.

If you cannot use either of these formats, see the *VAX DEC/MAP Network Management Guide* for guidance.

It is important to remember that each NSAP address must be unique. If you run VOTS on more than one system, each system must have a different NSAP address.

3.2.5 Ethernet/802 Device Name

See the System Support Addendum (SSA) for a list of Ethernet/802.3/802.4 devices supported by VOTS.

The configuration procedure will display the device names of the 802.3/802.4 devices on your system.

3.3 Setting Up Routing Records

The Routing_Record Database is only used by Internet. This database contains a list of remote hosts that local transport users will communicate with, using Internet. Each remote host is identified by an NSAP address.

Each remote host is associated with a SNAP set up on your local system. Internet uses the SNAP to identify the network it should use to send messages to the remote host.

Use Table Table 3–3 to record the information needed to set up a routing record for a remote host.

Table 3–3: Information for Routing Records

Item	Notes	Your Value
Enter information about a remote system that your system will communicate with, using Internet. Duplicate this table as many times as needed.		
Destination Name	Create a unique name to identify the remote system. Example: Paris	
NSAP Address	NSAP address of remote host. See Section 3.3.2.	
Adjacent System Subnetwork Address	The subnetwork address of the first system on the Internet network that your system will pass a message to. See Section 3.3.3.	

3.3.1 Destination Name

If you wish, you may create a destination name. This is a logical name for the NSAP address. If you supply a destination name, it will be added to the VOTS logical name table OSIT$NAMES. Applications using VOTS can then use the destination name instead of the NSAP address to identify remote hosts. As NSAP addresses may be very long, it is likely to be more convenient to use the destination name.

3.3.2 NSAP Address

See Section 3.2.4 for a description of NSAP addresses.

You need to supply the NSAP address that has been assigned to this remote system. Use either of the formats described in Section 3.2.4. Be sure the format is the same as that used on the remote system. For example, if the remote system has entered its local NSAP address in hexadecimal digits, you should also enter its address here in hexadecimal digits.

3.3.3 Adjacent System Subnetwork Address

Internet can only send messages to an **adjacent system**. This is the first system on the route to the destination remote host.

The adjacent system must be one of the following:

- A node on the same 802.3 LAN as the local host
- A node on the same 802.4 LAN as the local host

The adjacent system must also be either a router that can send the message to the next system on the route, or the destination itself.

You need to supply a subnetwork address for the adjacent system:

- If it is a node on the same 802.3 LAN as the local host, supply its physical address.
- If it is a DTE on the same 802.4 LAN as the local host, supply its DTE address.

3.4 Setting Up TSAPs

A TSAP is a unique identity associated with a transport user, that is, an application using VOTS. This identity enables the transport user to receive inbound connection requests.

Each inbound connection request contains a TSAP identifier (tsap-id) for a destination TSAP. VOTS locates the TSAP by searching the TSAP Database. When VOTS finds a tsap-id that matches the one in the connection request, it delivers the connection request.

An entry in the TSAP Database records an **association** between a transport user and a TSAP. There are two types of association: **active** and **passive**.

- An active association is initiated by an executing task. When the task requests VOTS to associate it with a named TSAP, VOTS makes an entry for that TSAP and task in the TSAP Database. This entry creates an active association between the TSAP (identified by its tsap-id) and the task (identified by its PID).

- A passive association is created by the system manager. The system manager makes an entry for a TSAP in the TSAP Database; the entry includes a tsap-id and the name of an image or command file. This entry creates a passive association between the TSAP (identified by its tsap-id) and the file.

Use Table 3–4 to record information needed to set up passively associated TSAPs.

See the *VAX DEC/MAP Network Manager's Guide* for further details.

Table 3–4: Information for TSAPs

Item	Notes	Your Value
TSAP Identifier	Unique identifier for an application using VOTS. Either a string of up to 32 ASCII characters, or a string of an even number of up to 64 hexadecimal digits. Example: MAILRESPONSE	
File Name	VMS file name up to 127 characters long. This is a .COM or .EXE file. It is executed when an inbound connection request arrives for this TSAP. Example: PHONE.COM	
Username and Password	VMS username and password for the account used when the file above is executed. (If not specified, the default account is used.)	

Chapter 4

Installing DEC/MAP

This chapter describes how to install the DEC/MAP part of VAX DEC/MAP software on your VAX computer.

4.1 DEC/MAP Installation Procedure

This section contains excerpts from the installation dialog, along with explanatory text. See Appendix A for a complete log file of the installation.

Digital may enhance future releases of VMSINSTAL and add additional prompts. While the additional prompts may not be documented in this guide, the installation should proceed normally.

NOTE

Once started, the installation procedure can be aborted at any time by pressing CTRL/y.

1. If you are not logged in, log in to the system manager's account.

```
Username:  SYSTEM  RET
Password:
```

2. Invoke VMSINSTAL as follows:

```
$  @SYS$UPDATE:VMSINSTAL MAP030 ddcu: OPTIONS N  RET
```

ddcu: is the device name, where:

dd is the device code, *c* is the controller letter, and *u* is the unit number.

```
     VAX/VMS Software Product Installation Procedure V5.1/V5.2

It is dd-mmm-yyyy at hh:mm.
Enter a question mark (?) at any time for help.
%VMSINSTAL-W-DECNET, your DECnet network is up and running.
* Do you want to continue anyway [NO]?  Y RET
```

3. Type Y to continue. Press Return to accept the default and stop the installation.

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

4. Press Return to accept the default and continue. Type NO to stop the installation.
5. Mount the installation kit volume and respond to the prompt.

```
* Are you ready [Y]?

The following products will be processed:

MAP V3.0

Beginning installation of name MAP V3.0 at (hh:mm)
%VMSINSTAL-I-RESTORE, Restoring product saveset A...
```

6. Select release notes option(s) as follows:

```
Release Notes Options:
(1) Display release notes
(2) Print release notes
(3) Both 1 and 2
(4) Copy release notes to SYS$HELP
(5) Do not display, print, or copy release notes

 * Select option [2]: 2  RET
```

If you select option 1, VMSINSTAL immediately displays the release notes on your terminal. If you select option 2, VMSINSTAL prompts for a queue name with the following prompt:

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

After you enter a queue (or press Return to indicate the default output print device, SYS$PRINT), VMSINSTAL displays the following prompt:

```
* Do you want to continue the installation [NO]?: Y RET
```

If you type NO or press Return, VMSINSTAL discontinues the installation. If you type Y or YES, the installation continues.

7. Select installation options as follows:

```
* Do you want to purge files replaced by this installation [YES]? Y RET
```

VMSINSTAL does not automatically purge files that are replaced during the installation. These are the files residing in SYS$SYSTEM and SYS$LIBRARY that constitute each release of DEC/MAP. Purging is recommended; press Return to purge the files. If you do not want to purge the files, type NO in response to the question. The system HELP files are updated in either case.

```
Now checking for license . . .

         Product:        MAP
         Producer:       DEC
         Version:        3.0
         Release date:   30-OCT-1989
```

8. Verify the PAK as shown in the example.

```
 * Does this product have an authorization key registered and loaded? Y RET
    %MAP-S-LICENSE, Installation continues.

%MAP-I-LICENSE, The FTAM PAK will now be applied...
%LICENSE-I-LOADED, DEC FTAM was successfully loaded with 0 units

%MAP-I-LICENSE, The VOTS PAK will now be applied...
%LICENSE-I-LOADED, DEC VOTS was successfully loaded with 0 units

%MAP-I-LICENSE, Installation continues...

    Now checking for VAX OSI Transport Service and VAX FTAM software. . .

%MAP-E-NOVOTS, Your system does not have VAX OSI Transport Service installed.
%MAP-E-NOVOTS, Please be sure to install this before starting DEC/MAP.
%MAP-E-NOFTAM, Your system does not have VAX FTAM installed.
%MAP-E-NOFTAM, Please be sure to install this before starting DEC/MAP.
```

VMSINSTAL displays the system parameter values and process quotas that the procedure checks for.

```
Now checking this system for the following System Parameters:

            MAXBUF         >= 8204
            INTSTKPAGES    >= 4
            NPAGEDYN       >= 60000
            FREE_GBLSECTS  >= 20
            FREE_GBLPAGES  >= 380

Parameter check complete
```

9. Enter your MAP node name.

```
MAP Node Name
-------------
  You muat now enter your system's MAP node name. This node name
  will be used in defining system-wide logical names for your
  local address.

* Enter MAP node name [YOUR_NODE_NAME]: RET
```

10. Enter MAP network access information.

```
You will now be asked to enter the subnetwork access point type
that you wish to configure for your DEC/MAP network.

     Enter A     for 802.3
     Enter T     for 802.4
     Enter B     for both 802.3 and 802.4

  * Please enter your selection [T]: B RET

  Now creating file MAP$OSIT_STARTUP.COM (starts VOTS for DEC/MAP)...
  This file contains startup commands specific to the network type
  you have selected.
```

11. Enter VOTS default account information.

```
You will need to provide information on the VOTS default account
that you configured when you installed the VAX OSI Transport Service
software

* Please enter your VOTS default account Username [OSIT$DEFAULT]:

* Please enter your VOTS default account Password:
```

Note that your password must be a minimum of nine characters. It can be a maximum of 127 characters.

```
* Enter your password again for confirmation:
 working...

* Please enter your VOTS default account UIC [[376,370]]: [370,376]

* Please enter your VOTS default account Device and Directory
location [sys$specific:[OSIT$DEFAULT]]: dua1:[osit$default]
```

NOTE

You will have to enter the above VOTS account information again when you install VOTS.

12. Enter network access device information.

    For information about Internet addressing, see *VAX DEC/MAP Network Manager's Guide*

    ```
     You have the following IEEE 802.3 devices:

      XQA

    * Please enter your IEEE 802.3 device [XQA]:
    ```

    Note that the only IEEE 802.4 device supported by VAX DEC/MAP is DOA. Therefore, VMSINSTAL does not query you for its name.

13. Enter Internet addressing information.

    NOTE

    Refer to Chapter 3 for information on Internet addressing. You should have entered all needed Internet addressing information in the tables in Chapter 3 before beginning the installation of VAX DEC/MAP. For example, the values for NSAP and SNAP shown below are examples only. The values for your node will be different.

    ```
    Now configuring for full internet...

    You will be prompted for information needed to set up a NAP, a Routing
    Record and a SNAP.  You do not have to enter this information now.
    Further configuration must be done through SYS$UPDATE:MAP$CONFIG.COM
    before invoking the MAP$IVP.

    * Do you want to configure full internet at this time? [Y]:

    * Do you know your addressing authority to construct
    the NSAP address? [N]:

    * Please enter your addressing authority  [49]:

    * Please enter your local_area  [00CC]:


    Now setting up the routing record information...

    * Do you want to configure a routing record? [N]:
    ```

    If you do not know the SNAP and NSAP of your system, you can answer NO to the above question. You can configure later using MAP$CONFIG.COM.

```
* Please enter the NSAP of the remote system: 4900CCAA000400952F21

* Please enter the SNAP of the adjacent system: TOKEN%AA000400132F

* Do you want to configure another routing record? [N]:

MAP$OSIT_STARTUP.COM successfully created.

Creating the local directory database...
%FDL-I-CREATED, SYS$COMMON:[SYSEXE]MAP$MDS_LIT.DAT;9 created.
```

14. Enter MAP Directory Services (MDS) information as shown in the example. Note that the information needed to do this step is specific to your network. Moreover, it is information that only your network manager can provide. Consult your network manager if you have questions. For information on network management, see *VAX DEC /MAP Network Manager's Guide*.

```
The following information is needed for MAP directory services
    * Please enter your country name [US]:
    * Please enter your organization name [DEC]:
    * Please enter your organization unit [CIM]:

A file named MAP$LOGICALS.COM will be provided in the SYS$STARTUP
directory. This file will contain the logical definitions created
from your responses to the previous three questions.  MDS will use
these logical names in resolving name references.  This file will also
contain Directory System Agent logicals.

Now Creating MAP$LOGICALS.COM. . .

* Do you have a Directory System Agent on your map network? [N]: Y RET

* Enter the DSA simple name: NODE_NAME$DSA

* Enter the VOTS address of the DSA system: INTERNET%4900CCAA000400952F21
* Enter the Presentation Service Access Point [DSA]:
* Enter the Session Service Access Point [DAP]:
* Enter the Transport Service Access Point [DSA_TSAP]:
* Enter the application process title [<not defined>]:
* Enter the application entity qualifier [<not defined>]:
* Enter the supported application context [{2 5 3 1}]:

* Do you want to configure another DSA? [N]:

MAP$LOGICALS.COM created.
```

NOTE

Installation of DEC/MAP will halt unless you execute the next two steps, which consist of pressing Return twice. The steps are for viewing important information about: STARTUP, IVP, SHUTDOWN, and CONFIGURATION. If you have read the information

before, you need only press Return twice. If you have not already read the information, be sure to do so.

15. View startup information as shown in the example.

```
* Type Return for important startup and IVP information: RET

SYSTEM MANAGER:
--------------

                  DEC/MAP Network Startup Information
                ---------------------------------------

 Do NOT start your MAP network until all the following conditions
 have been met:

        1. The VAX OSI Transport Services and VAX FTAM SOFTWARE have been
           successfully installed.
        2. The VAX DEC/MAP SOFTWARE has been successfully installed.
        3. The VAX DEC/MAP HARDWARE has been successfully installed.
        4. **Your VAX has been REBOOTED prior to the INITIAL startup.

        ** NOTE: To start the VAX DEC/MAP Network type:

              @SYS$STARTUP:MAP$STARTUP.COM  RET

        ** NOTE: To SHUT DOWN the VAX DEC/MAP network type:

                 @SYS$MANAGER:MAP$STOP.COM  RET
```

16. View more important information as shown in the example.

```
* Type Return for important shut down information: RET

   VAX DEC/MAP Installation Verification Procedure Information
   -----------------------------------------------------------

 The IVP will NOT be run automatically after the installation.
 Do NOT run the IVP until all the following conditions have been met:

 1.  You have successfully started your VAX DEC/MAP Network
            by executing the command @SYS$STARTUP:MAP$STARTUP.COM
     (see above on starting your VAX DEC/MAP Network)

 To run the IVP use the following command:
            @SYS$TEST:MAP$IVP.COM

 Prior to using your network, you should have successfully run
 the VAX DEC/MAP IVP.  This will invoke the DEC VAX OSI Transport
 Services IVP and a modified VAX FTAM IVP.  The VAX DEC/MAP IVP and
 related files will be saved should you ever need to run the IVP again.

* Type Return for important cluster information: RET

SYSTEM MANAGER:
--------------
```

```
   A VAX DEC/MAP configuration file, MAP$CONFIG.COM, is being
   provided with this installation.  Use this file in a CLUSTERED
   environment to make VAX DEC/MAP available to other nodes in
   the cluster by typing:
     @SYS$UPDATE:MAP$CONFIG.COM
   on every node on which VAX DEC/MAP is desired.

   REMEMBER:  Please be sure that the following conditions are met
   for every node in the cluster on which you want VAX DEC/MAP available:

       1. VAX DEC/MAP HARDWARE is installed.
       2. A valid VAX DEC/MAP license is registered and loaded in the
              node's license database.


%MAP-I-INSTCONT, No further questions will be asked during this installation.
%VMSINSTAL-I-RESTORE, Restoring product saveset B ...

%MAP-I-MAPINST, Now Linking the ZQ and DO drivers...
Please ignore "No user transfer address" warnings during the link -- this
is normal.

%LINK-W-USRTFR, image VMI$ROOT:[SYSUPD.MAP030]MAP$DODRIVER.EXE;1 has no
user transfer address

Installation continuing . . .  please wait . . .


Now verifying files have been transferred to target locations...
Missing SYS$LOADABLE_IMAGES:ZQDRIVER.EXE
Missing SYS$LOADABLE_IMAGES:DODRIVER.EXE
%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...

 Installation of MAP V3.0 completed at 16:53

 VMSINSTAL procedure done at 16:54
```

17. Complete the installation session.

    No further questions will be asked. You have provided all the necessary information for the installation of DEC/MAP to be completed.

    Next, turn to Chapter 5 for the installation of VOTS.

Chapter 5

Installing VOTS

This chapter describes how to install the VOTS part of VAX DEC/MAP software on your VAX computer.

5.1 Introduction

You will now use VMSINSTAL to install VOTS. (Refer to Section 2.9 for a discussion of VMSINSTAL.)

You will need the information you have entered in the tables in Chapter 3 for this part of the installation.

That information will provide a default configuration so you can run VOTS and the Installation Verification Procedure (IVP). At a later stage, you may change default values or your configuration; see Chapter 7 for details.

5.1.1 Messages During Installation

During the installation procedure, the following messages may appear on the screen:

```
%VOTS-I-FILEXISTS, VMI$ROOT:[SYSMGR]NETTRACE_SECURITY.COM already
exists on system

%VOTS-I-FILNOTINST, VMI$ROOT:[SYSMGR]NETTRACE_SECURITY.COM not installed

%VOTS-I-FILEXISTS, VMI$ROOT:[SYSLIB]NETTRACE$KEY.INIT already
exists on system

%VOTS-I-FILNOTINST, VMI$ROOT:[SYSLIB]NETTRACE$KEY.INIT not installed
```

Ignore these and other informational messages with the prefix %VOTS-I-FILNOTINST or %VOTS-I-FILEXISTS.

5.2 VOTS Installation Procedure

This section shows the displays and prompts that appear on the screen during the installation procedure. The prompts are listed as a series of numbered steps. These step numbers do not appear on the screen. Their purpose is to guide you through the installation procedure.

What appears on the screen is often determined by your answer to the previous question. This is reflected here by the explanation given for each step.

Default answers are in square brackets. To accept a default, press Return.

NOTE

Once started, the installation procedure can be aborted at any time by pressing CTRL/y.

1. In the previous chapter you used VMSINSTAL to install DEC/MAP. In this chapter you will use VMSINSTAL to install VOTS. However, before you begin, if this is a DTQNA based system, you must reboot your node using the SHUTDOWN command, for example:

   ```
   $ @SYS$SYSTEM:SHUTDOWN 0 SHUTDOWN YES NO
   ```

   For detailed information on the use of the SHUTDOWN command, see the *VAX/VMS System Manager's Manual*.

2. To start the installation procedure, enter the command:

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

   ddcu: is the device name, where:

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

   VMSINSTAL prompts for the product and device names if you do not supply these parameters. VMSINSTAL does not display the release notes query if you omit the OPTIONS N parameter.

   When you have entered the command, this display appears:

   ```
   VAX/VMS Software Product Installation Procedure version no

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

   There may also be other messages after this display:

- If DECnet–VAX is currently running on your system, this display appears:

  ```
  %VMSINSTAL-W-DECNET, Your DECnet network is up and running.
  ```

  This message is followed by the prompt:

  ```
  * Do you want to continue anyway [NO]?
  ```

  You do not have to turn off DECnet to install VOTS, so enter YES.

3. The next prompt is:

   ```
   * 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, enter NO. The installation then ends, and returns to the VMS prompt. You should back up your system disk and start the installation procedure again.

4. If you press Return for YES, the next prompt is:

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

   where *device* is the device on which the distribution volumes are to be mounted.

   Load distribution volume 1 (VOTS01) in the drive. Enter YES when you are ready to continue.

5. When you enter YES, this display appears:

   ```
   %MOUNT-I-MOUNTED, VOTS01 mounted on _device:

   The following products will be processed:

   VOTS V2.0

   Beginning installation of VOTS V2.0 at time

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

6. The next display shows the options for printing and displaying the release notes. Digital recommends that you print and read the Release Notes before continuing the installation.

The display is:

```
Release Notes Options:

1. Display release notes

2. Print release notes

3. Both 1 and 2

4. Copy release notes to SYS$HELP

5. Do not display or print release notes

Select option [2]:
```

Select one of these options. Digital recommends that you choose Option 2.

NOTE

> Note: The Release Notes will be copied to SYS$HELP no matter which option you choose; you do not need to choose Option 4.

If you select Option 1, the following is displayed:

```
VMI$ROOT:[SYSUPD.VOTS020]VOTS020.RELEASE_NOTES;1
```

The Release Notes will then 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]:
```

Press Return for the default or specify another print queue.

If you select Option 3, you are asked on which queue you wish the file to be printed. The Release Notes will then be displayed on your terminal.

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

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

If you press Return, the installation procedure stops and you can 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 problems that might affect the installation of the VOTS software.

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

```
$ @VMSINSTAL VOTS020 device-name
```

The VMSINSTAL procedure creates a file for the Release Notes called VOTS020.RELEASE_NOTES in the SYS$HELP: directory. After your option has been dealt with by the installation, this message should appear:

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

7. The next prompt is:

   ```
   * Do you want to purge files replaced by this installation [YES]?
   ```

   Press Return for YES.

   The next prompt is:

   ```
   * Is there an existing OSI transport default account [NO]?
   ```

   You need an OSI transport default account to run the IVP. If you have previously installed VOTS on your system, this account may already exist.

   NOTE

   The OSI transport default account referred to here is the same one referred to in Chapter 4 as part of the DEC/MAP software installation. So, if you have followed the proper installation sequence as outlined in Chapter 3, you have already determined the correct values to use here.

   If you already have an OSI transport default account, enter YES and go to Step 10. If you do not have an OSI transport default account, press Return.

8. You are now asked for information to create a new OSI transport default account.

   The first prompt is:

   ```
   * Enter the UIC for the account [376,370]:
   ```

   Press Return for the default.

The next prompt is:

```
* Enter the user name for the account [OSIT$DEFAULT]:
```

Enter a VMS username for the account. You must enter a minimum of nine characters for your user name, and you can enter up to 127 characters. Press Return for the default.

The next prompt is:

```
* Enter the directory name for the account [OSIT$DEFAULT]:
```

Enter the name of the directory in which to locate the OSI transport default account. Do not enclose the name in square brackets. Press Return for the default.

The next prompt is:

```
* Enter the password for the account:
```

Enter a VMS password for the account; you must enter at least nine characters for a valid password. You can use a maximum of 127 characters.

The next display is:

```
* Should the OSI transport default account be placed under the
system root [YES]?

%VMSINSTAL-I-SYSDIR, This product creates system directory
[OSIT$DEFAULT].

If you intend to execute this layered product on other nodes in your
VAXcluster, and you have the appropriate software license, you must
prepare the system-specific roots on the other nodes by issuing the
following command on each node (using a suitably privileged account):

$ CREATE/DIRECTORY SYS$SPECIFIC:[OSIT$DEFAULT]/OWNERUIC='osit$uic'
```

See Chapter 8 for detailed instructions on installing VOTS on a cluster. Note that osit$uic is the UIC to use for the OSI transport default account on the node.

If you enter NO, go to step 9.

If you press Return, this display appears:

```
%VMSINSTAL-I-SYSDIR, This product creates system directory
directory name.
%VMSINSTAL-I-ACCOUNT, This installation creates an account named
OSIT$DEFAULT
%UAF-I-ADDMSG, user record successfully added
%UAF-I-RDBADDMSGU, identifier OSIT$DEFAULT value:[given UIC]
added to RIGHTSLIST.DAT
%VMSINSTAL-I-ACCOUNT, This installation updates an account named
OSIT$DEFAULT
%UAF-I-MDFYMSG, user record(s) updated
```

where *directory name* and *given UIC* were specified in earlier prompts.

Now go to step 10.

9. If you chose not to place the OSI transport default account under the system root, the next prompt is:

```
* Enter the name of the default device for the account:
```

Enter the name of the disk to hold the directory for the account.

This display appears:

```
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
device name:directory name.
%VMSINSTAL-I-ACCOUNT, This installation creates an account named
OSIT$DEFAULT
%UAF-I-ADDMSG, user record successfully added
%UAF-I-RDBADDMSGU, identifier OSI value: [given UIC]
added to RIGHTSLIST.DAT
%VMSINSTAL-I-ACCOUNT, This installation updates an account named
OSIT$DEFAULT
%UAF-I-MDFYMSG, user record(s) updated
```

You have now answered the questions required to copy VOTS files from the distribution kit, and to create the OSI transport default account.

10. The next prompt, to which you should answer NO, is:

```
* Do you wish to configure VOTS now [YES]?
```

Answer NO to that prompt. If you should mistakenly answer YES to that prompt, press CTRL/y to abort the installation procedure.

You can ignore further screens until the installation is finished.

NOTE

VOTS was configured during the DEC/MAP installation procedure. To modify the VOTS configuration in the future, you can use SYS$UPDATE:MAP$CONFIG.COM.

11. Next, you should start VOTS by entering the following command:

```
$ @SYS$STARTUP:MAP$OSIT_STARTUP
```

Chapter 6

Installing FTAM

This chapter describes how to install the FTAM part of VAX DEC/MAP software on your VAX computer.

6.1 Introduction

You will now use VMSINSTAL to install FTAM. (Refer to Section 2.9 for a discussion of VMSINSTAL.) To help you identify requests for input, a dash (—) precedes each request.

Before FTAM is installed, VOTS must be started. Be sure step 11 from Chapter 5 has been executed to start VOTS.

The following description assumes that you are still logged in to the SYSTEM account.

NOTE

Once started, the installation procedure can be aborted at any time by pressing CTRL/y.

6.2 FTAM Installation Procedure

Use the following procedure to install FTAM.

1. Place the (first) volume of the distribution kit on an appropriate device.

   Note that later, the VMSINSTAL procedure requires you to know the name of this device.

2. From the SYSTEM account, start VMSINSTAL.
   - Enter the following command:

     ```
     $ @SYS$UPDATE:VMSINSTAL VAXFTAM011 ddcu: OPTIONS N  RET
     ```

     ddcu: is the device name, where:

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

     VMSINSTAL prompts for the product and device names if you do not supply these parameters. VMSINSTAL does not display the release notes query if you omit the OPTIONS N parameter.

   VMSINSTAL displays the procedure title, the date, and time.

3. If DECnet is running, VMSINSTAL displays the following message:

   ```
   %VMSINSTAL-W-DECNET, Your DECnet network is up and running.
   ```

   Because the VAX FTAM installation is independent of the DECnet network, you can perform this installation procedure while the DECnet network is running.

4. If any user processes (other than your SYSTEM process) exist, VMSINSTAL lists the users:

   ```
   %VMSINSTAL-W-ACTIVE, The following processes are still active:
           list-of-users
   ```

5. Next, VMSINSTAL asks:

   ```
   * Do you want to continue anyway [NO]?
   ```

   Select one of the following responses:

   - If any user processes exist, and you want to inform the users of the installation, you can, at this point, stop VMSINSTAL by entering: NO RET.

     After stopping VMSINSTAL:

     a. Inform users of the installation.

     b. Execute VMSINSTAL again (as described in step 2 of this installation procedure).
   - If you want to continue the installation procedure, enter: YES RET.

6. VMSINSTAL asks:

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

   Select one of the following responses:

   – If you need to back up your system disk, stop the installation procedure by entering: NO RET.

     Stopping the installation procedure causes VMSINSTAL to return you to the system prompt. At the system level, do the following:

     a. Back up the disk.

     b. Run VMSINSTAL again (as described in step 2 of this installation procedure).

   – If you have already backed up the system disk, continue the installation procedure by entering: YES RET.

7. VMSINSTAL asks if you want any VMSINSTAL options. Digital recommends that you specify option N.

   Option N causes VMSINSTAL to later offer you a list of options for handling the Release Notes, including printing them immediately. (If you are interested in VMSINSTAL's other options, see the *VAX/VMS System Manager's Manual*.

   ```
   * Options:
   ```

   Select one of the following responses:

   – To print or display the *VAX FTAM Release Notes*, as recommended, select Option N by entering: N RET.

   – To bypass all VMSINSTAL options, just press RET.

8. If you enter a device name (rather than a disk/directory name), VMSINSTAL asks you to mount the first volume of your distribution kit.

   ```
   Please mount the first volume of the set on device-name:
   ```

   where *device-name* is the device name that you specified above.

   If you did not mount the (first) volume previously, do so at this time.

   VMSINSTAL asks you to confirm when the volume is mounted:

   ```
   * Are you ready?
   ```

   – When the volume is mounted on the device, enter: YES RET.

VMSINSTAL looks for the mounted volume, and on finding it, announces:

```
%MOUNT-I-MOUNTED, FTAM mounted on device-name:
```

9. VMSINSTAL looks for the specified product in the location (device or directory) that you specified.

   If the product resides in that location, VMSINSTAL confirms the product being installed, as follows:

```
The following products will be processed:
   VAXFTAM V1.1
```

   VMSINSTAL begins installing some of the distribution files, including the Release Notes.

```
     Beginning installation of VAXFTAM V1.1 at time
%VMSINSTAL-I-RESTORE, Restoring product saveset A...
```

NOTE
Effect of an Incorrect Location

If the location name is valid but the VAXFTAM product code is absent from the specified location, VMSINSTAL returns an error and redisplays the product prompt (* Product:). At the product prompt, you must stop VMSINSTAL by pressing CTRL/Z and execute VMSINSTAL again.

10. VMSINSTAL now processes the Release Notes. The processing of the notes file depends on whether you specified Option N. VMSINSTAL does one of the following:

    Without Option N:

    By default, VMSINSTAL simply copies the Release Notes to SYS$HELP and displays a %VMSINSTAL-I-RELMOVED message indicating that the Release Notes have been moved.

    If you did not select Option N, proceed now to step 12.

    With Option N:

    Option N causes VMSINSTAL to offer you several Release Notes options, as follows:

```
Release Notes Options:

    1.  Display release notes
    2.  Print release notes
    3.  Both 1 and 2
    4.  Copy release notes to SYS$HELP
    5.  Do not display, print or copy release notes

* Select option [2]:
```

It is important to read the *VAX FTAM Release Notes* in case they contain information that affects the installation.

You should select either Option 1 or Option 2.

Note that for both Option 1 and Option 2, VMSINSTAL also copies the Release Notes to SYS$HELP.

Option 1 (Displaying Release Notes):

If you cannot print the *VAX FTAM Release Notes* now, display them instead. To display the notes,

- Enter: 1 RET

Option 2 (Printing Release Notes):

Digital recommends that you print the Release Notes. Printing (Option 2) is the default, so to print the notes,

- Press RET

VMSINSTAL asks you to specify a print queue to which you want to send the Release Notes:

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

Select one of the following responses:

- To print the *VAX FTAM Release Notes* on the system's default printer, just press RET.
- To print the notes on another printer, specify a print queue.

A message indicates that the system has queued the file.

11. After printing or displaying the notes, VMSINSTAL asks:

```
* Do you want to continue the installation?
```

Your response depends on the Release Notes option that you selected.

Option 1 (Displaying Release Notes):

If you have displayed and read the Release Notes, continue the installation.

- Enter: YES RET

Option 2 (Printing Release Notes):

If you are printing the Release Notes, pause or discontinue the installation in order to read the Release Notes.

Select one of the following responses:

- Pausing the installation

  If you can guarantee the security of your terminal while you collect and read the *VAX FTAM Release Notes*, Digital recommends that you pause the installation procedure at this point.

  Wait to answer the continuation question. After you read the Release Notes, VMSINSTAL should still be asking:

  ```
  * Do you want to continue the installation?
  ```

  - Enter: YES RET

  VMSINSTAL now copies the Release Notes to SYS$HELP and displays a %VMSINSTAL-I-RELMOVED message.

- Stopping the installation

  If pausing the installation procedure is impractical, you should stop the installation before reading the Release Notes.

  - To stop the installation, enter: NO RET.

  Stopping the installation causes the following events:

  a. VMSINSTAL copies the Release Notes to SYS$HELP and displays a %VMSINSTAL-I-RELMOVED message.

  b. VMSINSTAL announces its completion and asks you for another product to process.

     - To stop VMSINSTAL at the products prompt (* Products:), press CTRL/Z.

  After reading the Release Notes, run the VMSINSTAL procedure as before, until you reach the VMSINSTAL options prompt (* Options:).

  At the options prompt, only press RET.

12. At this point, the installation procedure verifies whether VOTS is running.

    If VOTS is running:

    VMSINSTAL proceeds to step 13.

    If VOTS is stopped:

    VMSINSTAL announces that VAX FTAM requires VOTS and the installation fails.

```
        VAX FTAM requires VAX OSI Transport Service (VOTS) to be
        running on your system.  You need to start up VOTS on your
        system; refer to the "VAX OSI Transport Service Installation
        Guide."

%VMSINSTAL-E-INSFAIL, The installation of VAXFTAM V1.1 has failed.
```

    After failing, VMSINSTAL immediately asks you for another product to process.

    - At the products prompt (* Products:), press CTRL/Z.
    - Ensure that VOTS V2.0 (or later) is installed, running, and enabled.
    - Run VMSINSTAL again (as described in step 3 of this installation procedure).

13. VMSINSTAL verifies whether the VOTS Product Authorization Key (PAK) is loaded in the volatile license database.

    If the VOTS PAK is absent:

    The absence of a VOTS PAK causes VMSINSTAL to fail after printing the following announcement:

```
       This product requires VAX OSI Transport Services
       (VOTS) as a prerequisite.  You must install the VOTS
       license key before you can install VAX FTAM.

%VMSINSTAL-E-INSFAIL, The installation of VAXFTAM V1.0 has failed.
```

    If the VOTS PAK is loaded:

    If the VOTS PAK is in the database, VMSINSTAL continues to the next step.

14. Next, VMSINSTAL displays the following types of VAX FTAM product information:

```
Product:      FTAM
Producer:     DEC
Version:      version-number
Release Date: release-date
```

Then the procedure asks:

```
* Does this product have an authorization key registered and loaded?
```

– Enter: YES RET

Note that both the VOTS and FTAM PAKs were registered and loaded during the installation of DEC/MAP.

VMSINSTAL now goes to step 15.

15. VMSINSTAL now asks about running the IVP.

```
* Do you want to run the IVP after the installation [YES]?
```

– Answer NO to that prompt. If you mistakenly accept the default (YES), press CTRL/y to abort the installation.

16. VMSINSTAL now verifies whether OSIFserver is running.

If OSIFserver is stopped:

The installation procedure goes to the next step (step 17).

If OSIFserver is running:

On finding an OSIFserver process, VMSINSTAL fails and generates the following messages:

```
    An OSIF$OSAKSERVER process is running on your system.
    Please stop this process by executing
    SYS$MANAGER:OSIF$STOP.COM and execute VMSINSTAL
    again.

%VMSINSTAL-E-INSFAIL, The installation of VAXFTAM V1.1 has failed.
```

After failing, VMSINSTAL immediately asks you for another product to process.

– At the products prompt (* Products:), press CTRL/Z.

– Stop OSIFserver.

- Run VMSINSTAL again (as described in step 2 of this installation procedure).

17. If there is no OSIFserver process, the VMSINSTAL continues. It asks:

```
* Do you want to purge files replaced by this installation [YES]?
```

Select one of the following responses:

- To retain pre-existing VAX FTAM files, enter: NO RET.
- To purge pre-existing VAX FTAM just press RET.

18. VMSINSTAL now continues installing distribution files:

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

19. At this point the procedure verifies whether VOTS is still running.

One of the following circumstances exists:

VOTS is running

The installation procedure goes to the next step (step 20).

VOTS is not running

The installation fails and displays the following messages:

```
%OSIT-F-NOVOTS, VOTS is not accessible - Check that it has been started.
%VMSINSTAL-E-INSFAIL, The installation of VAXFTAM V1.1 has failed.
```

After failing, VMSINSTAL immediately asks you for another product to process.

- At the products prompt (* Products:), press CTRL/Z.
- Ensure that VOTS V2.0 (or later) is installed, running, and enabled. See Section 6.1.
- Run VMSINSTAL again (as described in step 2 of this installation procedure).

20. VMSINSTAL now displays the following advice:

```
To have VAX FTAM restart automatically whenever you reboot
the system, edit SYS$MANAGER:SYSTARTUP_V5.COM and include the
following command after the command that starts VOTS.

        $ @SYS$MANAGER:OSIF$START.COM
```

You can ignore that message. The VAX DEC/MAP startup file, MAP$STARTUP.COM will start FTAM for you.

21. VMSINSTAL moves the VAX FTAM files to their correct directories:

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

22. VMSINSTAL now starts OSIFserver. The procedure displays the OSIFserver process identifier and announces OSIFserver startup activities:

```
%RUN-S-PROC_ID, identification of created process is pid
```

where *pid* is the process identifier (PID) of the newly created OSIFserver process.

For startup and configuration information, see Chapter 7.

Chapter 7

Running and Verifying VAX DEC/MAP

This chapter shows you how to start, verify, and stop VAX DEC/MAP.

7.1 Starting VAX DEC/MAP on Your Node

After you have successfully installed VAX DEC/MAP, as described in the previous chapters, you can start it manually as follows:

```
$  @SYS$STARTUP:MAP$STARTUP.COM   RET
```

To have VAX DEC/MAP start automatically each time the system is booted, include the following in SYS$MANAGER:SYSTARTUP_V5.COM (the site-specific startup file):

```
$  @SYS$STARTUP:MAP$STARTUP.COM
```

NOTE

If you run VAX DEC/MAP and DECnet software on the same system, make sure STARTNET.COM is executed before MAP$STARTUP.COM in the system startup file, SYS$MANAGER:SYSTARTUP_V5.COM.

7.2 Shutting Down VAX DEC/MAP on Your Node

To manually shut down VAX DEC/MAP, type:

```
$  @SYS$MANAGER:MAP$STOP.COM   RET
```

To have VAX DEC/MAP shut down automatically each time your node is brought down, include the following in SYS$MANAGER:SHUTDWN.COM (the site-specific shutdown file):

```
$  @SYS$MANAGER:MAP$STOP.COM
```

7.3 Running the Installation Verification Procedure

You should run the VAX DEC/MAP Installation Verification Procedure (IVP) before using VAX DEC/MAP.

The VAX DEC/MAP IVP does not run automatically. You must run it manually. You cannot run the IVP until:

- The appropriate hardware is installed.
- The DEC/MAP, VOTS, and FTAM software is installed.
- You start VAX DEC/MAP on your node by executing the command @SYS$STARTUP:MAP$STARTUP.COM.
- You are logged into the system account.
- The system account has process quotas set to the values listed in Section 2.7.

To run the IVP, type:

```
$  @SYS$TEST:MAP$IVP.COM   RET
```

For the VOTS IVP, use the default VOTS address.

For descriptions of the error messages generated by these conditions, see the *VAX/VMS System Messages and Recovery Procedures Reference Manual* and the *Guide to VAX/VMS Software Installation.*

If you receive an error message, you should take the action described in the message. You may need to change a system parameter or increase an authorized quota value.

Note that VMSINSTAL deletes or changes entries in the process symbol tables during the installation. Therefore, if you plan to continue using the system manager's account, you should log out, then log in again to restore those symbols.

7.4 User Account Quotas and Privileges

What process quotas and privileges are required by individual users of VAX DEC/MAP services depends on which of those services (that is, MAPI, FTAM, Directory Services, etc.) he or she will be using. Consult the individual VAX DEC/MAP application user's guides for information about user process quotas and privileges.

7.5 Maintenance Updates

Digital may periodically issue maintenance update releases of VAX DEC /MAP. Each update will consist of an installation kit. You should install this kit as described in this book or in the documentation accompanying the update.

Each time a maintenance update is released, the version number changes. For example, if the current version is V1.0, then the version number of the first maintenance update will be V1.1. In addition, a maintenance update usually includes updated Release Notes that document changes made to VAX DEC/MAP since the previous release.

For information on reading the online Release Notes before VAX DEC/MAP is installed, follow the installation procedure up to step 4. At that point, you can type or print the Release Notes and discontinue installation.

To read the Release Notes after installation, type or print the file SYS$HELP:MAP030.RELEASE_NOTES. For example:

```
$  TYPE SYS$HELP:MAP030.RELEASE_NOTES    RET
```

7.6 Determining and Reporting Problems

If an error occurs while you are using VAX DEC/MAP which you believe is due to a problem in VAX DEC/MAP, you should submit a Software Performance Report (SPR). If you find an error in the VAX DEC/MAP documentation, you should fill out and submit the Reader's Comments form appearing at the back of the manual in which the error was found.

When you submit an SPR, please do the following:

- Describe as accurately as possible the state of the system and the circumstance when the problem occurred. Include the version number of VAX DEC/MAP being used. You can find the version number by entering the command:

```
$ ANALYZE/IMAGE SYS$SYSTEM:MAPCL.EXE  RET
```

Illustrate the problem with specific examples. If you report a documentation error, specify the title of the manual and include the section and page number where the error appears.

- State the problem concisely.
- Report only one problem per SPR. This ensures a quick response.
- Notify your Software Services representative, who will submit your SPR.

Experience shows that many SPRs do not contain sufficient information to duplicate or identify the problem. Complete and concise information will help Digital give accurate and timely service to software problems.

Chapter 8

Installing VAX DEC/MAP on a Cluster

8.1 Cluster Installation Procedure

The steps below describe how to install VAX DEC/MAP on a number of nodes in a cluster.

The steps include directions for creating a node-specific default directory on each node. These are the default directories for the OSI transport default account. There is only one OSI transport default account, but each node has its own directory for this account.

It is more secure to create node-specific default directories than to place the default directory in a cluster common area.

Follow these steps:

1. If you already have an OSI transport default account, and its default directory is in a cluster common area, remove the account using AUTHORIZE.
2. Install the entire VAX DEC/MAP product on any node in the cluster, following the steps described in this guide beginning with Chapter 4, and continuing through Chapter 6.

   Use the default replies when creating the OSI transport default account. The installation will create an account with a default directory in a node-specific directory. The name of this directory is SYS$SPECIFIC:[OSIT$DEFAULT].
3. At each of the other nodes in the cluster, do the following:
   - Enter this command, from the privileged system manager's account:

     ```
     $ CREATE/DIRECTORY SYS$SPECIFIC:[OSIT$DEFAULT]/OWNER_UIC='osit$uic'
     ```

where osit$uic is the user identification code (UIC) you wish to use for the OSI transport default account on that node. Include the brackets when you enter the UIC, for example, [376,370].

- At each of the other nodes in the cluster, do the following:
  1. Enter this command from the privileged system manager's account:

     ```
     $ @SYS$UPDATE:MAP$CONFIG
     ```

  2. Choose selection 1 from the menu. (1. Configure this node...)
  3. Respond to the prompts as necessary—most have default values. Your responses will allow a node-specific file, SYS$STARTUP:MAP$OSIT startup to be created. This file will be called by the MAP$STARTUP command procedure.
  4. When this is complete, you are returned to the menu. Choose selection 7 to exit.
- Start up VAX DEC/MAP by entering this command at the VMS prompt:

  ```
  $ @SYS$STARTUP:MAP$STARTUP.COM
  ```

To have DEC/MAP automatically start at boot time and stop at shutdown on each cluster node, see Section 7.1 and Section 7.2.

NOTE

The license loads for DEC/MAP, VOTS, and FTAM are done automatically by MAP$STARTUP.COM.

Appendix A

The VAX DEC/MAP Files

This appendix lists the VAX DEC/MAP files added by the installation procedure. The files are listed by directory on SYS$SYSDEVICE.

A.1 Files Copied into SYS0.SYS$STARTUP

MAP$INTERNET_STARTUP.COM
MAP$OSIT_STARTUP.COM
MAP$ROUT_RECORDS.COM

A.2 Files Copied into SYS0.SYSCOMMON.SYS$LDR

DODRIVER.EXE
ZQDRIVER.EXE

A.3 Files Copied into SYS0.SYSCOMMON.SYS$STARTUP

MAP$8023.COM
MAP$8024.COM
MAP$BOTTOM.COM
MAP$HEADER.COM
MAP$LOGICALS.COM
MAP$ROUT_RECORDS.COM
MAP$SNAP_RECORDS.COM
MAP$STARTUP.COM
MAP$TSAP_RECORDS.COM

A.4 Files Copied into SYS0.SYSCOMMON.SYSEXE

MAP$DO_START.EXE
MAP$DTQNARAM.SYS
MAP$DTQNA_INIT.EXE
MAP$MDS.FDL
MAP$QNA_EVL.EXE
MAP$REMOTE_INFO.EXE
MAPCL$LOOP.COM
MAPCL$LOOP.EXE
MAPCL.EXE

A.5 Files Copied into SYS0.SYSCOMMON.SYSHLP

MAP030.RELEASE_NOTES
MAPCL.HLB

A.6 Files Copied into SYS0.SYSCOMMON.SYSHLP.EXAMPLES

MAP$MAPI_INIT_EXAMPLE.C
MAP$MAPI_RCVR_EXAMPLE.C

A.7 Files Copied into SYS0.SYSCOMMON.SYSLIB

MAP$DODRIVER.OBJ
MAP$LINK.OPT
MAP$MAPI_DEF.ADA
MAP$MAPI_DEF.BAS
MAP$MAPI_DEF.FOR
MAP$MAPI_DEF.H
MAP$MAPI_DEF.MAR
MAP$MAPI_DEF.PAS
MAP$MAPI_DEF.PLI
MAP$MAPI_DEF.R32
MAP$MAPI_MSG.ADA
MAP$MAPI_MSG.BAS

MAP$MAPI_MSG.FOR
MAP$MAPI_MSG.H
MAP$MAPI_MSG.MAR
MAP$MAPI_MSG.PAS
MAP$MAPI_MSG.PLI
MAP$MAPI_MSG.R32
MAP$MAPI_SHR.EXE
MAP$MDS_DEF.ADA
MAP$MDS_DEF.BAS
MAP$MDS_DEF.FOR
MAP$MDS_DEF.H
MAP$MDS_DEF.MAR
MAP$MDS_DEF.PAS
MAP$MDS_DEF.PLI
MAP$MDS_DEF.R32
MAP$MDS_SHR.EXE
MAP$MDS_TRANSLATION.EXE
MAP$REMOTE_INFO.DAT
MAP$TOKENBUS_CMN_RTN.OBJ
MAP$ZQDRIVER.OLB

A.8 File Copied into SYS0.SYSCOMMON.SYSMGR

MAP$STOP.COM

A.9 Files Copied into SYS0.SYSCOMMON.SYSTEST

MAP$IVP.COM
MAP$MAPI_IVP.COM
MAP$MAPI_IVP_RCVR.EXE
MAP$MAPI_IVP_SNDR.EXE
MAP$SHO_COUNT.COM

A.10 File Copied into SYS0.SYSCOMMON.SYSUPD

MAP$CONFIG.COM

A.11 Files Copied into VMS$COMMON.SYS$LDR

DODRIVER.EXE
ZQDRIVER.EXE

A.12 Files Copied into VMS$COMMON.SYS$STARTUP

MAP$8023.COM
MAP$8024.COM
MAP$BOTTOM.COM
MAP$HEADER.COM
MAP$LOGICALS.COM
MAP$ROUT_RECORDS.COM
MAP$SNAP_RECORDS.COM
MAP$STARTUP.COM
MAP$TSAP_RECORDS.COM

A.13 Files Copied into VMS$COMMON.SYSEXE

MAP$DO_START.EXE
MAP$DTQNARAM.SYS
MAP$DTQNA_INIT.EXE
MAP$MDS.FDL
MAP$QNA_EVL.EXE
MAP$REMOTE_INFO.EXE
MAPCL$LOOP.COM
MAPCL$LOOP.EXE
MAPCL.EXE

A.14 Files Copied into VMS$COMMON.SYSHLP

MAP030.RELEASE_NOTES
MAPCL.HLB

A.15 Files Copied into VMS$COMMON.SYSHLP.EXAMPLES

MAP$MAPI_INIT_EXAMPLE.C
MAP$MAPI_RCVR_EXAMPLE.C

A.16 Files Copied into VMS$COMMON.SYSLIB

MAP$DODRIVER.OBJ
MAP$LINK.OPT
MAP$MAPI_DEF.ADA
MAP$MAPI_DEF.BAS
MAP$MAPI_DEF.FOR
MAP$MAPI_DEF.H
MAP$MAPI_DEF.MAR
MAP$MAPI_DEF.PAS
MAP$MAPI_DEF.PLI
MAP$MAPI_DEF.R32
MAP$MAPI_MSG.ADA
MAP$MAPI_MSG.BAS
MAP$MAPI_MSG.FOR
MAP$MAPI_MSG.H
MAP$MAPI_MSG.MAR
MAP$MAPI_MSG.PAS
MAP$MAPI_MSG.PLI
MAP$MAPI_MSG.R32
MAP$MAPI_SHR.EXE
MAP$MDS_DEF.ADA
MAP$MDS_DEF.BAS
MAP$MDS_DEF.FOR
MAP$MDS_DEF.H
MAP$MDS_DEF.MAR
MAP$MDS_DEF.PAS
MAP$MDS_DEF.PLI
MAP$MDS_DEF.R32
MAP$MDS_SHR.EXE
MAP$MDS_TRANSLATION.EXE
MAP$REMOTE_INFO.DAT
MAP$TOKENBUS_CMN_RTN.OBJ
MAP$ZQDRIVER.OLB

A.17 File Copied into VMS$COMMON.SYSMGR

MAP$STOP.COM

A.18 Files Copied into VMS$COMMON.SYSTEST

MAP$IVP.COM
MAP$MAPI_IVP.COM
MAP$MAPI_IVP_RCVR.EXE
MAP$MAPI_IVP_SNDR.EXE
MAP$SHO_COUNT.COM

A.19 File Copied into VMS$COMMON.SYSUPD

MAP$CONFIG.COM

Appendix B

An Installation Example

This appendix lists a sample installation session dialog.

B.1 Sample Installation Session

```
 Welcome to VAX/VMS V5.1

Username: SYSTEM
Password:
 Welcome to VAX/VMS version V5.1 on node ELITE
    Last interactive login on Friday,  6-OCT-1989 14:51
    Last non-interactive login on Friday,  6-OCT-1989 14:57
$
$@SYS$UPDATE:VMSINSTAL MAP MUA0:
 VAX/VMS Software Product Installation Procedure V5.1


It is 6-OCT-1989 at 17:22.
Enter a question mark (?) at any time for help.
%VMSINSTAL-W-DECNET, Your DECnet network is up and running.
* Do you want to continue anyway [NO]? Y
* Are you satisfied with the backup of your system disk [YES]?

The following products will be processed:
  MAP V3.0
 Beginning installation of MAP V3.0 at 17:22

%VMSINSTAL-I-RESTORE, Restoring product saveset A ...
%VMSINSTAL-I-RELMOVED , The product's release notes have been successfully
moved to SYS$HELP.
* Do you want to purge files replaced by this installation [YES]?

  Now checking for VAX DEC/MAP license . . .

        Product:      MAP
        Producer:     DEC
        Version:      3.0
        Release Date: 30-OCT-1989

* Does this product have an authorization key registered and loaded? Y
%MAP-I-LICENSE, Installation continues...
```

```
%MAP-I-LICENSE, The FTAM PAK will now be applied...
%LICENSE-I-LOADED, DEC FTAM was successfully loaded with 0 units

%MAP-I-LICENSE, The VOTS PAK will now be applied...
%LICENSE-I-LOADED, DEC VOTS was successfully loaded with 0 units

%MAP-I-LICENSE, Installation continues...


Now checking for VAX OSI Transport Service and VAX FTAM Software . . .

%MAP-E-NOVOTS, Your system does not have VAX OSI Transport Service installed.
%MAP-E-NOVOTS, Please be sure to install this before starting DEC/MAP.
%MAP-E-NOFTAM, Your system does not have VAX FTAM installed.
%MAP-E-NOFTAM, Please be sure to install this before starting DEC/MAP.

Now checking this system for the following System Parameters:

  MAXBUF        >= 8204
  INTSTKPAGES   >= 4
  NPAGEDYN      >= 60000
  FREE_GBLSECTS >= 20
  FREE_GBLPAGES >= 380


Parameter check complete.


MAP Node Name
-------------
  You must now enter the system's MAP node name.  This node name
  will be used in defining system wide logical names for your
  local address.

* Enter MAP Node Name [ELITE]:

You will now be asked to enter the subnetwork access point type
that you wish to configure for your DEC/MAP network.

      Enter A   for IEEE 802.3
      Enter T   for IEEE 802.4
      Enter B   for both IEEE 802.3 and IEEE 802.4


* Please enter your selection [T]: A


Now creating file MAP$OSIT_STARTUP.COM (starts VOTS for DEC/MAP)....
 This file contains startup commands specific to the network type
 you have selected.

Please provide information on the VOTS default account that you will
configure later when you install the VAX OSI Transport Service software.

NOTE: No account is created at this time.  However, the DEC/MAP
      installation requires having this information early.

* Please enter the VOTS default account Username [OSIT$DEFAULT]:


* Please enter the VOTS default account Password:

*    Enter again for verification :
```

```
     working...

* Please enter the VOTS default account UIC [[376,370]]:

* Please enter the VOTS default account Device and Directory
  location [sys$specific:[OSIT$DEFAULT]]:

 You have the following IEEE 802.3 devices:

  XEA

* Please enter your IEEE 802.3 device [XEA]:


You will be prompted for information needed to setup a NAP, a Routing
Record and a SNAP.  You do not have to enter this information now.
Further configuration must be done through SYS$UPDATE:MAP$CONFIG.COM
before invoking the MAP$IVP.

* Do you want to configure full internet at this time? [Y]:

Now configuring for full internet...


* Do you know your addressing authority to construct the NSAP address? [N]:

* Please enter your addressing authority  [49]: 49

* Please enter your local_area  [00CC]: 1000

Now setting up the routing record information...


* Do you want to configure a routing record? [N]: Y

* Please enter the remote NSAP address: 49100008002B030ABE21

* Please enter the subnetwork address of the adjacent
  system: CSMA_CD%08002B030ABE

* Do you want to configure another routing record? [N]: N

MAP$OSIT_STARTUP.COM successfully created.

Creating the local directory database...
%FDL-I-CREATED, SYS$COMMON:[SYSEXE]MAP$MDS_LIT.DAT;1 created

The following information is needed for MAP directory services.

* Please enter your country name [US]: IN
* Please enter your organization name [DEC]: ACME
* Please enter your organization unit [CIM]: SALES


  A file named MAP$LOGICALS.COM will be provided in the SYS$STARTUP
  directory. This file will contain the logical definitions created
  from your responses to the previous three questions.  MDS will use
  these logical names in resolving name references.  This file will also
  contain Directory System Agent logicals.

Now Creating MAP$LOGICALS.COM. . .


* Do you have a Directory System Agent on your map network? [N]: Y

* Enter the DSA simple name: SAFRON$DSA
```

```
* Enter the VOTS address of the DSA system: NULL_DOT3NET%AA000400762C
* Enter the Presentation Service Access Point [DSA]:
* Enter the Session Service Access Point [DAP]:
* Enter the Transport Service Access Point [DSA_TSAP]: SAFRON$DSA_TSAP
* Enter the application process title [<NOT DEFINED>]:
* Enter the application entity qualifier [<NOT DEFINED>]:
* Enter the supported application context [{2 5 3 1}]:

* Do you want to configure another DSA? [N]:

MAP$LOGICALS.COM created.

* Type <RETURN> for important startup and IVP information:


SYSTEM MANAGER:
    DEC/MAP Network Startup Information
  ---------------------------------------

 Do NOT start your MAP network until all the following conditions
 are true:

 1. The VAX OSI Transport Services and VAX FTAM SOFTWARE have been
         successfully installed.

 2. The VAX DEC/MAP SOFTWARE & HARDWARE have been successfully installed.

 3. Your VAX has been REBOOTED (DTQNA systems only) prior to the
           INITIAL startup.

        ** NOTE: To start the VAX DEC/MAP Network type:
                  @SYS$STARTUP:MAP$STARTUP.COM

 ** NOTE: To SHUT DOWN the VAX DEC/MAP network type:
       @SYS$MANAGER:MAP$STOP.COM


* Type <RETURN> for more important information:

   VAX DEC/MAP Installation Verification Procedure Information
   -----------------------------------------------------------

 The IVP will NOT be run automatically after the installation.
 Do NOT run the IVP until all the following conditions have been met:

 1.  You have successfully started your VAX DEC/MAP Network
            by executing the command @SYS$STARTUP:MAP$STARTUP.COM

 To run the IVP use the following command:
             @SYS$TEST:MAP$IVP.COM

 Prior to using your network, you should have successfully run
 the VAX DEC/MAP IVP.  This will invoke the DEC VAX OSI Transport
      Services IVP and a modified VAX FTAM IVP.  The VAX DEC/MAP IVP and
        related files will be saved should you ever need to run the IVP again.


* Type <RETURN> for important information regarding cluster
  installations:

SYSTEM MANAGER:
--------------
```

```
   A VAX DEC/MAP configuration file, MAP$CONFIG.COM, is being
   provided with this installation.  Use this file in a CLUSTERED
   environment to make VAX DEC/MAP available to other nodes in
   the cluster by typing:
     @SYS$UPDATE:MAP$CONFIG.COM
   on every node on which VAX DEC/MAP is desired.

   REMEMBER:  Please be sure that the following conditions are met
   for every node in the cluster on which you want VAX DEC/MAP available:

       1. The appropriate communications hardware is installed.
       2. A valid VAX DEC/MAP license is registered and loaded in the
                node's license database.


%MAP-I-INSTCONT, No further questions will be asked during this installation.
%VMSINSTAL-I-RESTORE, Restoring product saveset B ...

%MAP-I-MAPINST, Now Linking the ZQ and DO drivers...
Please ignore "No user transfer address" warnings during the link -- this
is normal.
%LINK-W-USRTFR, image VMI$ROOT:[SYSUPD.MAP030]DODRIVER.EXE;1 has no user
transfer address
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
VMI$ROOT:[SYSTEST.MAP].

Installation continuing . . .  please wait . . .

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...
 Installation of MAP V3.0 completed at 17:41

 VMSINSTAL procedure done at 17:41

$
$

$ @SYS$UPDATE:VMSINSTAL VOTS MUA0:

 VAX/VMS Software Product Installation Procedure V5.1


It is 6-OCT-1989 at 17:42.
Enter a question mark (?) at any time for help.
%VMSINSTAL-W-DECNET, Your DECnet network is up and running.
* Do you want to continue anyway [NO]? Y
* Are you satisfied with the backup of your system disk [YES]?

The following products will be processed:
  VOTS V2.0
 Beginning installation of VOTS V2.0 at 17:43

%VMSINSTAL-I-RESTORE, Restoring product saveset A ...
%VMSINSTAL-I-RELMOVED , The product's release notes have been successfully
moved to SYS$HELP.
* Do you want to purge files replaced by this installation [YES]?

* Is there an existing OSI default account [NO]? N

* Enter the UIC for the account [[376,370]]:

* Enter the user name for the account [OSIT$DEFAULT]:

* Enter the directory name for the account [OSIT$DEFAULT]:
```

```
* Enter a password for the account:

* Enter the password again for confirmation:

* Should the OSI default account be placed under the system root [YES]?
%VMSINSTAL-I-SYSDIR, This product creates system directory [OSIT$DEFAULT].

    If you intend to execute this layered product on other nodes in your
    VAXcluster, and you have the appropriate software license, you must
    prepare the system-specific roots on the other nodes by issuing the
    following command on each node (using a suitably privileged account):

 $ CREATE /DIRECTORY SYS$SPECIFIC:[OSIT$DEFAULT]/owner_uic=[376,370]

%VMSINSTAL-I-ACCOUNT, This installation creates an ACCOUNT named OSIT$DEFAULT.
%UAF-I-ADDMSG, user record successfully added
%UAF-I-RDBADDMSGU, identifier OSIT$DEFAULT value: [000376,000370] added to
RIGHTSLIST.DAT
%UAF-I-RDBADDMSGU, identifier OSIT$DEF value: [000376,177777] added to
RIGHTSLIST.DAT
%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named OSIT$DEFAULT.
%UAF-I-MDFYMSG, user record(s) updated

* Do you wish to configure VOTS now [YES]? N

         You have  answered  all the questions necessary
         for  the  installation  to be completed.  The
         installation will now run unattended.

         You have chosen not to configure  VOTS.  You  must
         configure VOTS before you can start VOTS or run the
         IVP.  After the installation has completed, you can
         run the VOTS configuration procedure by entering:

         $ @SYS$MANAGER:OSIT$CONFIG.COM ALL

         VOTS will not  be  started.  You  must  start  VOTS
         before  you can run the IVP or use VOTS.  After the
         installation has completed, you can start  VOTS  by
         entering:

         $ @SYS$MANAGER:OSIT$STARTUP.COM

         Before you use VOTS, you must run the IVP to verify
         the installation.  To run the IVP, enter:

         $ @SYS$TEST:OSIT$IVPINIT

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

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...
 Installation of VOTS V2.0 completed at 17:53

 VMSINSTAL procedure done at 17:53
$
$ @SYS$STARTUP:MAP$OSIT_STARTUP
Loading OSIDriver [Version 2.0]...
%LES-S-PROC_ID, identification of created process is 0000011D

Now executing 802.3 specific commands...

Creating and enabling 802.3 SNAP (SNAP name is CSMA_CD)...
```

```
ELITE$802_3 defined as your 802.3 subnetwork address
Creating and enabling the INTERNET NAP
Will use 491000AA0004009A2E21 as the local NSAP address...

MAP$OSIT_STARTUP completed successfully.
$
$ @SYS$UPDATE:VMSINSTAL VAXFTAM MUA0:
 VAX/VMS Software Product Installation Procedure V5.1


It is 6-OCT-1989 at 17:56.
Enter a question mark (?) at any time for help.
%VMSINSTAL-W-DECNET, Your DECnet network is up and running.
* Do you want to continue anyway [NO]? Y
* Are you satisfied with the backup of your system disk [YES]?

The following products will be processed:
  VAXFTAM V1.1
 Beginning installation of VAXFTAM V1.1 at 17:56

%VMSINSTAL-I-RESTORE, Restoring product saveset A ...
%VMSINSTAL-I-RELMOVED , The product's release notes have been successfully
moved to SYS$HELP.

        Product:     FTAM
        Producer:     DEC
        Version:      1.1
        Release Date: 20-OCT-1988

* Does this product have an authorization key registered and loaded? Y
* Do you want to run the IVP after the installation [YES]? N
* Do you want to purge files replaced by this installation [YES]?

 There are no more questions to answer during this installation.

%VMSINSTAL-I-RESTORE, Restoring product saveset B ...

 A patch has been applied to the image OSIT$DRIVER.EXE. You must
 reboot the system after this installation completes for this
 patch to take effect.

%VMSINSTAL-I-RESTORE, Restoring product saveset C ...
%UAF-I-MDFYMSG, user record(s) updated

 To have VAX FTAM restart automatically whenever you reboot
 the system, edit SYS$MANAGER:SYSTARTUP_V5.COM and include the
 following command after the command that starts VOTS.

  $ @SYS$STARTUP:OSIF$START.COM

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...
%RUN-S-PROC_ID, identification of created process is 0000011E
 Installation of VAXFTAM V1.1 completed at 18:03

 VMSINSTAL procedure done at 18:03
$
$ @SYS$STARTUP:MAP$STARTUP

Now Starting VAX DEC/MAP V3.0 ...

Checking for licenses...

%MAP-S-LICNSLOAD, Licenses already loaded.

VAX DEC/MAP startup proceeding...
```

```
Installing DEC/MAP shareable images...
%DCL-I-SUPERSEDE, previous value of OSIT$PPIMAGE has been superseded
%DCL-I-SUPERSEDE, previous value of NETTRACE$KEY_INIT has been superseded
%DCL-I-TABEXIST, NETTRACE$_PRIVILEGES already exists - not superseded
The OSI device is already loaded

%LES-S-PROC_ID, identification of created process is 0000012B
%DCL-I-SUPERSEDE, previous value of MAP$NODE has been superseded

Now executing 802.3 specific commands...

Creating and enabling 802.3 SNAP (SNAP name is CSMA_CD)...


ELITE$802_3 defined as your 802.3 subnetwork address
%DCL-I-SUPERSEDE, previous value of ELITE$802_3 has been superseded
Creating and enabling the INTERNET NAP
Will use 491000AA0004009A2E21 as the local NSAP address...
%DCL-I-SUPERSEDE, previous value of ELITE has been superseded

MAP$OSIT_STARTUP completed successfully.

Starting the VAX FTAM product ...
%RUN-S-PROC_ID, identification of created process is 0000012C

Defining TSAP for loopback test...


 TSAP LOOP_TSAP
 At  9-OCT-1989 11:44:43.58
 Successfully created




Defining VAX DEC/MAP Logical Names...
%DCL-I-TABSUPER, previous table MAP$MDS_LNM_TABLE has been superseded
%DCL-I-SUPERSEDE, previous value of OSIF$DIRECTORY_IMAGES has been superseded

 MDS Application Name MAP$DUA
 At  9-OCT-1989 11:44:52.77
 Successfully registered in local directory

 MDS Application Name SAFRON$DSA
 At  9-OCT-1989 11:44:59.17
 Successfully registered in local directory
Defining syntax handler for use by MAPI applications...
Defining local FTAM responder (ELITE$FTAM) in directory database...

 MDS Application Name ELITE$FTAM
 At  9-OCT-1989 11:45:09.60
 Successfully registered in local directory

VAX DEC/MAP Network Startup Complete.

$ LO
  SYSTEM       logged out at  6-OCT-1989 18:20:14.48
```

Appendix C

IVP Log File

This appendix contains a log file of IVP execution.

C.1 IVP Session

```
 Welcome to VAX/VMS V5.1

Username: SYSTEM
Password:
 Welcome to VAX/VMS version V5.1 on node ELITE
    Last interactive login on Friday,  6-OCT-1989 17:14
    Last non-interactive login on Friday,  6-OCT-1989 17:13

$ @SYS$TEST:MAP$IVP

Now checking System Quotas:
   MAXBUF >=8204
  And Process Quotas:
   ASTLM >= 25
   BYTLM >= 40500
   BIOLM >= 25


  VAX DEC/MAP V3.0 Installation Verification Procedure
  ----------------------------------------------------

    The VAX DEC/MAP IVP consists of three tests which verify the installation
              of various software components of your VAX DEC/MAP Network.

 1. VAX OSI Transport Services test
 2. VAX FTAM (File Transfer Access and Management) test
 3. VAX DEC/MAP MAP Control Program SHOW TRANSPORT COUNTERS
 4. VAX DEC/MAP MAP Application Interface

It is 6-OCT-1989 at 18:13.

Now executing test 1 - VOTS IVP...


 VOTS Installation Verification Procedure V2.0
```

```
This procedure verifies your VOTS installation.  To do this, it uses a
TSAP  known  as  VOTSIVP  and  a  VOTS-address, which you supply.  The
VOTS-address contains the name of a NAP; this procedure  runs one test
for each class of protocol that the  NAP  supports.  You also need  to
know either the network address of your host or the network address of
the remote VOTS host.  Known local addresses are:

    Type             Address

    internet
INTERNET%49.1000AA0004009A2E21
    null_internet
NULL_DOT3NET%AA0004009A2E


Each test establishes a Transport Connection, transfers 1600 bytes  of
expedited  data,  in  16-byte blocks, and  10000 bytes of normal data,
followed by an end-of-data marker (one byte).

Please Enter VOTS-address: INTERNET%49.1000AA0004009A2E21

-----------------------------------------
OSIT$IVP  ..Test Number - 1
-----------------------------------------
OSIT$IVP  ..Creating OSI device
OSIT$IVP  ..Initiating transport connection
OSIT$IVP  ..Established TC characteristics

     TC id       - 1
     TC class:
                 - class 4
     TC options:
                 - extended format
                 - checksums off
                 - expedited data
                 - explicit flow control

OSIT$IVP  ..Transmitting 1600 bytes of expedited data
OSIT$IVP  ..Transmission of expedited data complete
OSIT$IVP  ..Transmitting 10000 bytes of normal data
OSIT$IVP  ..Transmission of normal data complete
OSIT$IVP  ..Transmitting end of data marker
OSIT$IVP  ..Reading counts from receiver task
OSIT$IVP  ..Recorded 1600 bytes of expedited data
OSIT$IVP  ..Recorded 10000 bytes of normal data
OSIT$IVP  ..Recorded end of data marker
OSIT$IVP  ..Disconnecting transport connection

 VOTS V2.0 Installation Verification Procedure
 completed  at 18:13


Now executing test 2 - FTAM IVP...

 The VAX FTAM IVP copies a small data file, SYS$SCRATCH:OSIF$IVP.TMP,
 to your local ftam responder's account as OSIFILE.TMP. The IVP then
 requests a directory listing of the new file, before copying it back
 to SYS$SCRATCH:OSIF$IVP.CPY.
```

```
 Next, the IVP requests a difference of the original file,
 SYS$SCRATCH:OSIF$IVP.TMP, and the second new file,
        SYS$SCRATCH:OSIF$IVP.CPY. The original file, OSIFILE.TMP file, is
        then renamed to OSIFILE.RNM.  Finally, the IVP then deletes the two
        new files.

Your local FTAM responder is ELITE$FTAM


 DIRECTORY SERVICE INFORMATION
 FROM LOCAL DIRECTORY SYSTEM
 At  6-OCT-1989 18:13:41.47


 Application Simple Name = IN@ACME@SALES@ELITE$FTAM

    Object class               = Title AE
    PSAP                       = RMS
    SSAP                       = FTAM
    TSAP                       = OSIF
    MAP$NET_ADDRESS            = INTERNET%491000AA0004009A2E21

$ COPY /OSI /LOG SYS$SCRATCH:OSIF$IVP.TMP -
  ELITE$FTAM::OSIFILE.TMP
%COPY-S-COPIED, SYS$SYSROOT:[SYSMGR]OSIF$IVP.TMP;1 copied to
ELITE$FTAM::SYS$SPECIFIC:[OSIT$DEFAULT]OSIFILE.TMP;1 (20 records)
$ DIRECTORY /OSI ELITE$FTAM::OSIFILE.TMP

Directory ELITE$FTAM::

SYS$SPECIFIC:[OSIT$DEFAULT]OSIFILE.TMP;1

Total of 1 file.
$ COPY /OSI /LOG ELITE$FTAM::OSIFILE.TMP -
     SYS$SCRATCH:OSIF$IVP.CPY
%COPY-S-COPIED, ELITE$FTAM::SYS$SPECIFIC:[OSIT$DEFAULT]OSIFILE.TMP;1
copied to $5$DUA45:[SYS0.][SYSMGR]OSIF$IVP.CPY;1 (20 records)
$ DIFFERENCE SYS$SCRATCH:OSIF$IVP.TMP SYS$SCRATCH:OSIF$IVP.CPY
Number of difference sections found: 0
Number of difference records found: 0

DIFFERENCES /IGNORE=()/MERGED=1-
    SYS$SYSROOT:[SYSMGR]OSIF$IVP.TMP;1-
    SYS$SYSROOT:[SYSMGR]OSIF$IVP.CPY;1
$ RENAME /OSI /LOG -
      ELITE$FTAM::OSIFILE.TMP OSIFILE.RNM
%RENAME-I-RENAMED, ELITE$FTAM::OSIFILE.TMP renamed to
SYS$SPECIFIC:[OSIT$DEFAULT]OSIFILE.RNM;1
$ DELETE /OSI /LOG ELITE$FTAM::OSIFILE.RNM
%DELETE-I-FILDEL, ELITE$FTAM::SYS$SPECIFIC:[OSIT$DEFAULT]OSIFILE.RNM;1
deleted (3 blocks)

 VAX FTAM V1.1 Installation Verification Procedure
 completed successfully at 18:14.


Now executing test 3 - MAP Control Program Command IVP...

MAPCL> Show Transport All Counter


 TRANSPORT INFORMATION
 At  6-OCT-1989 18:14:45.04
```

```
    COUNTERS
    ALL COUNTERS

    Creation time                      = 6-OCT-1989 17:54:22.32
    Pool allocation failures           = 0
    Checksum failures                  = 0
    Total inbound TCs established      = 6
    Total outbound TCs established     = 6
    Failures to establish inbound TCs   = 0
    Failures to establish outbound TCs  = 0

MAPCL> Show Transport Counters IVP completed successfully at 18:14

 VAX MAPCL Installation Verification Procedure
 completed successfully at 18:14.

Now executing test 4 - MAP Application Interface IVP...

 MDS Application Name ELITE$SNDR
 At  6-OCT-1989 18:14:59.43
 Successfully registered in local directory

Receiver application using INTERNET%491000AA0004009A2E21 for net address

 MDS Application Name ELITE$RCVR
 At  6-OCT-1989 18:15:02.74
 Successfully registered in local directory
Sender attempting associate...
Attempting to transfer 2 bytes.
  waiting for return data...
Sender releasing association.

Sender attempting associate...
Attempting to transfer 5 bytes.
  waiting for return data...
Sender releasing association.

Sender attempting associate...
Attempting to transfer 14 bytes.
  waiting for return data...
Sender releasing association.

Sender attempting associate...
Attempting to transfer 40 bytes.
  waiting for return data...
Sender releasing association.

Sender attempting associate...
Attempting to transfer 109 bytes.
  waiting for return data...
Sender releasing association.

Sender attempting associate...
Attempting to transfer 296 bytes.
  waiting for return data...
Sender releasing association.
```

```
Sender attempting associate...
Attempting to transfer 806 bytes.
  waiting for return data...
Sender releasing association.

Sender attempting associate...
Attempting to transfer 2193 bytes.
  waiting for return data...
Sender releasing association.

Sender attempting associate...
Attempting to transfer 5961 bytes.
  waiting for return data...
Sender releasing association.

Sender attempting associate...
Attempting to transfer 16206 bytes.
  waiting for return data...
Sender releasing association.

 VAX MAPI Installation Verification Procedure
 completed successfully at 18:15.


VAX DEC/MAP IVP  completed.

VAX DEC/MAP V3.0 Successful Software Installation


It is 6-OCT-1989 at 18:15.
$ LO
  SYSTEM       logged out at  6-OCT-1989 18:16:00.33
```

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