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Terminal Server Manager

digital™

Installation

Order Number: AA–NE45B–TE

Terminal Server Manager

Installation

April 1991

This manual tells you how to install the Terminal Server Manager distribution software onto VMS systems and how to verify the installation.

Supersession/Update Information:	This is a revised manual.
Operating System and Version:	VMS Version 5.0
Software Version:	TSM V1.4

This manual applies to Version 1.4 of TSM software and Version 5.0 of the VMS operating system, and all subsequent maintenance releases up to the next major product release.

digital™

Order Number: AA–JF00D–TE

AA–JF00D–TE
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Contents

Preface

This document describes how to:

- Install the Terminal Server Manager (TSM) distribution software onto a VMS system.
- Verify that TSM software functions.

Intended Audience

This guide is for system managers or network managers who are responsible for maintaining and configuring terminal servers on a local area network (LAN). To use this guide, you should be familiar with the VMS operating system and with management functions on the system such as installing optional software products.

Structure of This Guide

This guide contains the following chapters and appendixes:

Chapter 1	Introduces the Terminal Server Manager software and summarizes the installation and verification procedures.
Chapter 2	Describes how to prepare for and install the distribution software and suggests some operations to verify that the Terminal Server Manager software functions.
Appendix A	Lists the names of the files in the Terminal Server Manager distribution kit.
Appendix B	Contains an example of the installation and verification procedure.

Other Terminal Server Manager Documentation

- *Guide to Terminal Server Manager*

  Describes the TSM software, its operation, and its relationship to the terminal servers.

- Release notes

  Presents the latest information on the TSM software. The notes are in machine-readable form and are stored on the system during the installation procedure.

- TSM HELP File

  Provides on-line reference information in standard VMS HELP format accessible while running the TSM program.

Associated Documents

- *Guide to VMS Software Installation*

  Describes the VMSINSTAL procedure and lists error messages and recovery actions.

- Terminal server software documentation

  Provides information about using local mode and configurator commands for each terminal server product.

- VMS HELP file for the DCL/TSM interface

  Provides on-line VMS HELP information about TSM. Describes how to execute TSM commands from the DCL prompt.

- *VMS License Management Utility Reference Manual*

  Provides information about the License Management Facility (LMF), a software license management tool on the VMS operating system.

Conventions Used in This Guide

To effectively use this manual, you should familiarize yourself with the conventions discussed in this section. The following conventions apply to numbers:

- All numbers are decimal radix unless otherwise noted.
- All Ethernet addresses are given in hexadecimal.

The RETURN key, which you must press in order to execute commands, is assumed in command examples and is not shown in command displays.

The following table specifies a server-type code for each terminal server product. A particular server type can be specified in the software syntax and in the text of this manual by its type code.

Code	Server Type
DS100	DECserver 100 Terminal Server
DS200	DECserver 200 Terminal Server
DS250	DECserver 250 Terminal Server
DS300	DECserver 300 Terminal Server
DS500	DECserver 500 Terminal Server Series
ETS	Ethernet Terminal Server
MS100	MUXserver 100 Remote Terminal Server
MS300	MUXserver 300 Remote Terminal Server

The software syntax and program examples use the following conventions:

Convention	Meaning
`Special type`	Special type in examples indicates system output or user input.
`Red type`	Red type in examples indicates user input.
$\boxed{\text{RET}}$	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.
[ ]	Square brackets in command lines indicate that the enclosed text is optional. If there is more than one option, you can choose any combination of options but cannot repeat any option. Do not type the brackets when you enter the command.
{ }	Braces in command lines indicate that the enclosed text is required, and you must choose one (and only one) of the options. Do not type the braces when you enter the command.
( )	Parentheses in a prompt enclose text that is the default response for the prompt.
$\boxed{\textit{key}}$	Press the specified key.
$\boxed{\text{CTRL}/x}$	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 in order to emphasize important information.

1

Introducing the Terminal Server Manager

This chapter introduces the Terminal Server Manager (TSM) software and summarizes the steps to install the software and verify that the installation is successful.

1.1 What Is the Terminal Server Manager?

The Terminal Server Manager (TSM) software distribution kit contains an object library that links to the TSM program to produce an executable image. The TSM program runs as a utility program on a VMS system. The program accepts commands from the terminal (interactive processing) or from a text file (indirect processing). You use TSM commands to create a TSM management database and to maintain terminal server data in that database and in the DECnet database. TSM commands allow you to configure, observe, and troubleshoot terminal servers registered in the management database. A file of TSM HELP text is also included in the distribution kit. You can access this file while running the TSM program.

The distribution kit contains a text file referred to as release notes. You can print this file during the installation, or you can print it later. The release notes contain additional information about installing and using TSM.

A data file called the TSM management directory serves as the terminal server management database. The TSM program adds information to this file about the terminal servers on the Ethernet and, at the same time, propagates some of that information to the DECnet database if you specify a valid DECnet address. The TSM software uses the information in this file to carry out its terminal server management functions. DECnet uses the information for such DECnet operations as down-line loading and up-line dumping servers.

The ability of the TSM program to propagate server information to the DECnet database provides the same function as the terminal server configuration command procedure called DSVCONFIG. If you are managing terminal servers by using TSM, you need not use DSVCONFIG.

NOTE

> You should not use both TSM and the terminal server command procedure DSVCONFIG to update the DECnet database. If you use both, you risk overwriting server information that TSM propagated there. You could also overwrite server information if you update the DECnet database by using the Network Control Program (NCP) commands.

Appendix A contains a list of the files provided with the TSM software.

1.2 Where Are the TSM Files Installed?

In addition to the TSM image and help files, other files are installed on the system during the TSM installation procedure. They are TSM port setup, default, and *get_char* command files. By default, TSM creates all files in SYS$COMMON and reads them in SYS$SYSROOT, equal to SYS$SPECIFIC and SYS$COMMON (in that order). The TSM command files are created in a directory called SYS$COMMON:[DECSERVER]. If, however, you choose to have the files in a directory on a nonsystem disk, it is possible to specify a different target directory by defining the logical name TSM$DEFAULT_DIRECTORY.

The TSM installation procedure gives the user the option of defining (or redefining) the directory name, or leaving it at the default SYS$COMMON:[DECSERVER].

1.3 Where Is the TSM Management Directory Created?

TSM requires that a file containing the TSM management directory is available during installation. When you run TSM, if this file does not already exist, TSM creates it. The default pathname by which TSM opens and reads this file is:

SYS$SYSROOT:[DECSERVER]TSM$CONFIG.DAT

If the logical TSM$DEFAULT_DIRECTORY is defined, the default pathname is:

TSM$DEFAULT_DIRECTORY:TSM$CONFIG.DAT

TSM checks the logical name TSM$DIRECTORY for a pathname that locates and identifies the management directory. If you have assigned a different location than the default, TSM accesses TSM$CONFIG.DAT (or the new name you assigned) in the location that the TSM$DIRECTORY has specified. The definition of TSM$DIRECTORY takes precedence over the definition of TSM$DEFAULT_DIRECTORY.

1.4 Performing the Software Installation

Installing the Terminal Server Manager distribution software involves the following steps:

- Carrying out several preinstallation procedures
- Running the VMSINSTAL command procedure or carrying out several post-installation procedures
- Verifying that TSM software functions

These activities establish your VMS system as a management host for one or more terminal servers. A management host can be a single VMS system, or it can be a member node of a VAXcluster system.

For a VMS system to act as a management host, it must be running DECnet–VAX software, and it must be located on the same local area network (LAN) as the terminal servers being managed.

1.4.1 The VMSINSTAL Command Procedure

You install the TSM distribution software onto a VMS system with the command procedure called VMSINSTAL, which is part of the VMS operating system. The TSM software distribution kit includes a procedure file that VMSINSTAL uses to do the installation. VMSINSTAL does the following:

- Copies the files from the distribution medium to the VMS system

- Creates the appropriate directory for these files if one does not already exist

See Chapter 2 for instructions on installing the distribution software with VMSINSTAL.

1.4.2 TSM Installation and Terminal Server Software Installation

If you are installing TSM software and terminal server software, it is recommended that you install all terminal server software before you install the TSM software.

You will be using TSM to configure databases and not DSVCONFIG (as described in the software installation guides for the various terminal server types).

NOTE

If you use DSVCONFIG to update the DECnet database, you risk overwriting server information that TSM propagated there. You could overwrite server information if you update terminal server entries in the DECnet database by using NCP commands.

1.4.3 TSM Installation Verification

When the TSM software is installed, you have the option of running an Installation Verification Procedure (IVP) to verify that the TSM software is installed properly. Additionally, you should test the TSM software to ensure that it runs on your system. See Section 2.5 for information on verifying TSM software functions.

2

Installing the TSM Distribution Software

This chapter describes how to prepare for installation and how to install the Terminal Server Manager (TSM) distribution software onto your VMS system.

2.1 Preparing to Run the Installation Procedure

Before you run the installation procedure, be sure to do the following:

- Determine which system will contain the TSM software.
- Check that at least 3700 blocks of free disk space are available on the system.
- Ensure that you have access to the SYSTEM account.
- Register the TSM V1.4 Product Authorization Key (PAK).

2.1.1 Determining the System for Installing TSM

You must determine which system will run the TSM software; that system will require a device that reads the distribution medium. On a VAXcluster system, the software resides in a common directory; therefore, you install the distribution software onto one node only.

2.1.2 Prerequisite Software

Your system must have VMS Operating Systems V5.0, V5.1, V5.2, V5.3, or V5.4 with a DECnet-VAX license.

The VMS Tailoring Classes required for full functionality of this product are VMS Required Saveset, Network Support, Programming Support, and Utilities.

2.1.3 Required Disk Space

In order to install TSM, you need at least 3700 blocks of free disk space on the system disk (SYS$SYSDEVICE:). After installation, only 1700 free blocks are required to run TSM. To determine the number of free blocks, enter the following DCL command:

```
$ SHOW DEVICES SYS$SYSDEVICE
```

The number of free blocks appears on your screen, under the heading Free Blocks. If your system disk does not contain 3700 free blocks, you must free up the required space before you install the TSM software.

2.1.4 Account Requirements

Installation of the TSM software requires that you have the privileges necessary to run VMSINSTAL. These privileges are: SYSPRV, SYSNAM, OPER, NETMBX, and TMPMBX. Digital Equipment Corporation recommends that you use the SYSTEM account to install the Terminal Server Manager software.

2.1.5 VMS License Management Facility Requirements

Before you install this product, you should register your Product Authorization Key (PAK) with the License Management Facility (LMF). The PAK, which contains information about the license, is a paper certificate shipped with the product. In a cluster environment the PAK must be registered on each node in the cluster.

During the installation, you are asked if you have registered the Protocol Emulator license and loaded the appropriate authorization key (PAK). If you have not already done so, you can complete the installation and run the Installation Verification Procedure (IVP). The Protocol Emulator will not run if you have not registered the license or loaded the PAK. Once you perform the license registration and have loaded the PAK, you will be able to run the Protocol Emulator.

To register and load the license, log in to the the system manager's account. Then type the following command:

```
$ @SYS$UPDATE:VMSLICENSE.COM
```

When you are prompted for information, enter the data from your PAK. For more information on LMF, see the *VMS License Management Utility Manual* in the VMS documentation set.

2.2 VMSINSTAL Conventions

VMSINSTAL is an interactive procedure. The procedure displays a series of questions preceded by an asterisk (*). The default response, if there is one, is displayed in brackets ([ ]). At the end of a question, either a colon (:) or a question mark (?) is displayed. Enter your response immediately after the colon or question mark, then press RET. To choose the default, press RET only. If you enter a question mark (?) as a response, VMSINSTAL provides explanatory text about the question and repeats the question.

Refer to the relevant VMS documentation described in the Preface for a complete description of VMSINSTAL.

2.3 Running VMSINSTAL

To perform this procedure for installing TSM, follow these steps:

1. Place the TSM distribution medium on the appropriate device drive.
2. Ensure that the drive is in the ready state before proceeding.
3. Log in to the SYSTEM account.
4. Enter these commands:

   ```
   $ SET DEFAULT SYS$UPDATE RET
   $ @VMSINSTAL TSM device-identifier OPTIONS N RET
   ```

   The value device-identifier is the device on which the distribution medium is mounted. Running the procedure with this command line is the only way to get the release notes printed automatically. If you run VMSINSTAL without the keywords OPTIONS N, the release notes are not mentioned.

VMSINSTAL begins by displaying the procedure title, the date and time, and continues with the following:

```
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
```

The DECnet warning message appears only if DECnet software is running. Other warning messages can also appear. Refer to the relevant operating system documentation described in the Preface.

5. Type Y; then press RET to answer YES and proceed with the installation.

   The procedure now asks the following question:

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

6. Press RET to answer YES or take appropriate action.

   If you are installing from the distribution medium (not from copied savesets) VMSINSTAL now checks that the device is mounted. Then you are prompted to mount the distribution volume:

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

7. Ensure that the device is in the ready state. Type Y, and then press RET.

   A confirmation message says that the medium is mounted. The procedure continues:

   ```
   The following products will be processed:

     TSM Vn.n

     Beginning installation of TSM Vn.n at hh:mm

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

   If you requested release notes at the beginning of the VMSINSTAL procedure by typing OPTIONS N, the procedure continues as described in step 8. If you did not request release notes at the beginning of the VMSINSTAL procedure, the procedure continues as described in step 10.

   If you requested release notes, the procedure now lists your options for printing and displaying the release notes.

```
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]:
```

8. Select one of these options. Digital Equipment Corporation suggests that you select option 2.

   a. If you select option 1, you see this:

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

      The release notes immediately start scrolling at your terminal.

   b. If you select option 2, you are asked to queue the file for printing.

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

      If you want the release notes printed on the default printer, press RET, or specify another print queue. A message indicates that the file was queued.

   c. If you select option 3, you are first asked to queue the file for printing.

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

      If you want the release notes printed on the default printer, press RET. If you want another printer, specify another print queue. A message indicates that the file was queued.

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

      The release notes immediately start scrolling at your terminal.

   d. If you select option 4 or option 5 and do not request release notes, VMSINSTAL moves them, and then asks if you want to purge your files.

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

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

After the system displays the queue message and the release notes (if you selected one of the display options), the procedure continues. VMSINSTAL asks the following:

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

9. If you type Y, VMSINSTAL continues. However, Digital Equipment Corporation suggests that you press RET to signify N and stop the procedure. Then read the release notes before proceeding.

    a. Check the release notes for any changes in this installation procedure.

    b. Run the procedure again when you are ready to continue. Enter this form of the command:

    ```
    $ @VMSINSTAL TSM device-identifier RET
    ```

    The value device-identifier indicates the device on which the distribution medium is mounted. When VMSINSTAL runs again, it proceeds from step 4 but omits the queries regarding release notes.

    The procedure then describes the Installation Verification Procedure (IVP) and asks if you wish to run it.

    ```
            This kit contains an Installation Verification
            Procedure(IVP) to verify the correct installation of TSM.
            It can be run prior to the conclusion of this procedure
            by answering "YES" to the IVP prompt or invoked after
            the installation as follows:

            @SYS$COMMON:[SYSTEST]TSM$IVP.COM

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

10. If you want to run the IVP after the installation, press RET. If you do not want to run the IVP, type N. Digital recommends that you press RET to run the IVP.

    The procedure then displays product information and asks if a PAK exists.

    A PAK includes the appropriate data to authorize use of the product on a specific type of processor.

    ```
            Product: TSM
            Producer: DEC
            Version: n.n
            Release Date: dd-mmm-yy

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

11. Type Y if a PAK is registered and loaded. If you type N, the installation continues but you cannot run the IVP.

    The procedure then describes enabling an NCP service circuit and asks if you want to enable service.

```
The TSM installation procedure normally enables service on the first cir-
cuit that it finds on the node. This allows the node to down-line load and
up-line dump terminal servers.

If you answer "NO" to the following question, service will not be enabled.

* Do you want service enabled in the installation procedure [YES]?
```

    a. Press RET to enable service.

       The procedure then asks where you want to install the TSM command files and library files.

```
TSM requires a directory where the TSM command files and library files will
be installed.  If the logical TSM$DEFAULT_DIRECTORY is defined, the files
will be installed in that directory.  If the logical is not defined, the
files will be installed in a directory on the system disk called SYS$COM-
MON:[DECSERVER].  The target directory for the files as it is now defined
is shown below.

Press return to use the value shown or enter a new disk and directory
specification.

* Target directory for TSM files [SYS$COMMON:[DECSERVER]]:
```

    b. Press RET to use the value shown or enter a new disk and directory specification.

VMSINSTAL continues with the following:

```
No more questions will be asked during the installation.

Installing Terminal Server Manager VMS Vn.n...

Linking Terminal Server Manager VMS Vn.n...

Restoring the remaining TSM distribution kit files...

Adding TSM to DCL command tables...

Adding TSM to VMS help library...

Defining and setting OBJECT NML to PROXY BOTH ALIAS OUTGOING ENABLED

Enabling SERVICE on QNA-0...

After the installation use AUTHORIZE to create proxy accounts for all
the TSM users on this node (if you have not done so already).
```

These messages indicate that the installation procedure is carrying out various tasks needed for running TSM. One message instructs you to create proxy accounts for TSM users. More information about proxy accounts appears in Section 2.4.

If the logical TSM$DEFAULT_DIRECTORY is not defined and the [DECSERVER] directory does not exist on SYS$COMMON (regardless of whether it exists on SYS$SPECIFIC), the installation procedure creates one on SYS$COMMON and also displays the following message.

```
Terminal Server Manager Vn.n requires a directory named [DECSERVER] as
a location for the TSM management directory database.

%VMSINSTAL-I-SYSDIR, This product creates system directory [DECSERVER].
```

If you did not choose to run the IVP in step 10, VMSINSTAL indicates that files were moved and the TSM installation has completed.

```
Installation procedure for Terminal Server Manager VMS Vn.n has com-
pleted.

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target direc-
tories...

Terminal Server Manager VMS Vn.n was successfully installed.

Installation of TSM Vn.n completed at hh:mm

VMSINSTAL procedure done at hh:mm

$
```

If you have chosen to run the IVP in step 10, VMSINSTAL indicates that the TSM installation has completed and files were moved, and then begins the IVP.

```
Installation procedure for Terminal Server Manager VMS
Vn.n has completed.

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target direc-
tories...

Beginning the TSM Vn.n Installation Verification Procedure.

Please ignore the following TSM test data.
```

The IVP displays several lines of test data. The procedure then signifies that the installation is complete.

```
Terminal Server Manager VMS Vn.n was successfully installed.

Installation of TSM Vn.n completed at hh:mm

VMSINSTAL procedure done at hh:mm

$
```

c. Proceed to Section 2.4 to perform several post-installation procedures.

2.4 Postinstallation Procedures

TSM requires that you perform the following post-installation procedures in order to execute TSM commands that operate on the DECnet database.

- Set up the Network Management Listener (NML).
- Either enable proxy access for the NML on other nodes in a cluster (the installation procedure does this for the node on which you install TSM) and set up a proxy log in for all TSM users, or define the logical TSM$NO_PROXY in a node's system start-up file.
- Instruct TSM users to enable applicable privileges in their LOGIN.COM.
- If you chose to use the TSM$DEFAULT_DIRECTORY logical, you must move the DSVCONFIG.DAT file from SYS$COMMON:[DECSERVER] to the TSM$DEFAULT_DIRECTORY, and you should add the definition of the logical to the system start-up command file.
- If TSM is installed on a cluster, the TSM license must be loaded on each node where TSM will run. For more information, see the *VMS License Management Utility Manual* of the VMS documentation set.

2.4.1 Setting Up NML for DECnet Database Operations

TSM communicates with DECnet-VAX by doing task-to-task communication with the object called NML. This image provides services, such as gathering and reporting information about network status, zeroing line and node counters, and loading a stand-alone system image to a remote node. TSM calls upon NML to issue the equivalent of NCP SET NODE and DEFINE NODE commands for terminal server nodes.

When you first execute a TSM command that affects the DECnet database, TSM creates an NML process. The NML server process performs DECnet operations on behalf of the process running TSM. This process remains in effect until you exit TSM.

For TSM to carry out DECnet database operations (for example, NCP SET and DEFINE operations) on behalf of the TSM user, the TSM process must supply access control information to the NML object. Two ways of accomplishing this are to: (1) use the proxy log in mechanism or (2) define the logical TSM$NO_PROXY so that TSM prompts for an explicit account with the privilege necessary for DECnet database operations.

First, if you use proxy log in accounts, you must enable proxy access for the NML object. The TSM installation procedure does this for the node on which you install TSM. But in a cluster environment, you need to do this on each node in the cluster. This is a one-time-only procedure.

```
$ MCR NCP
NCP> DEFINE OBJECT NML PROXY BOTH ALIAS OUTGOING ENABLED
NCP> SET OBJECT NML PROXY BOTH ALIAS OUTGOING ENABLED
NCP> SHOW OBJECT NML CHARACTERISTICS
NCP> EXIT
```

Second, you must ensure that TSM users have proxy access to their own nodes. The proxy account maps the so-called remote user to the local user (in this case, the same person). For example, if a TSM user runs TSM on node XYZZY from the NETMGR account, you add a proxy that maps XYZZY::NETMGR (remote user) to NETMGR (local user). In a cluster environment, use the cluster alias.

Add a proxy account if the network user authorization file NETUAF.DAT does not already exist. Create it by executing the CREATE/PROXY command immediately prior to the ADD/PROXY commands. Add a proxy account:

```
$ SET DEFAULT SYS$SYSTEM
$ MCR AUTHORIZE
UAF> ADD/PROXY XYZZY::SELF/DEFAULT
UAF> EXIT
```

As an alternative to using proxy access for DECnet database operations, TSM uses an explicit account name and password to log in the account as an NML server process. To set up an explicit account name, define the logical name TSM$NO_PROXY in a system start-up file. Setting the logical to anything other than 0 or FALSE causes TSM to prompt for an account name (one with privileges for DECnet operations) and for a password (not echoed); for example:

```
$ DEFINE TSM$NO_PROXY TRUE
$ TSM
Terminal Server Manager Vn.n
Usage is DIRECTORY
TSM> SET SERVER PEACH DECNET ADDRESS 13.100
%TSM-I-ENTER_ACCOUNT, Enter username and password for non-proxy
DECNET access
Username: SYSTEM
Password:

%TSM-I-NML_STARTUP, TSM is establishing a link to NML - please wait
TSM>
```

Remember, if you do not define TSM$NO_PROXY or if you define it to 0 or FALSE, TSM expects the proxy access setup and does not prompt for an account name and password.

2.4.2 Enabling Privileges for TSM Operations

When you use proxy log in accounts, TSM users are logged in under their own account as an NML server process performing DECnet operations for the process running TSM. When you define TSM$NO_PROXY, TSM logs in the specified account as an NML server process. OPER and SYSPRV privileges must be enabled from the LOGIN.COM file of the account that runs TSM. If you want to enable SYSPRV just for NML use, enable privileges in the LOGIN.COM as follows:

```
$ SET PROCESS/PRIV=OPER
$ IF F$MODE() .EQS. "NETWORK" THEN $ SET PROCESS/PRIV=(SYSPRV)
```

OPER privilege is required to run TSM and to operate on the DECnet volatile database. SYSPRV privilege is generally required to operate on the DECnet permanent database (that is, it provides write access to the permanent database files).

These privileges allow TSM to automatically propagate server information to the DECnet database when you register (using the ADD command) a terminal server in the TSM database. Similarly, these privileges make it possible to execute other TSM commands that affect the DECnet database.

2.5 Verifying that TSM Software Functions

To verify that the TSM software functions correctly on your VMS system, you can perform the tasks listed here that use TSM. You might choose to do the following:

- Add information about a terminal server to the TSM management directory.
- Perform some management functions for that terminal server.

To perform these procedures, refer to the material on creating an operating environment and performing TSM management operations in the *Guide to Terminal Server Manager*.

If you complete the above successfully, the TSM software is operating correctly. You can now begin management operations using TSM on the LAN. If you have any problems, refer to the material on checking for terminal server problems and TSM problems in the *Guide to Terminal Server Manager*.

A

TSM Distribution Files

Installing TSM software creates several files on the VMS system. This appendix lists and describes the TSM files created.

File Name	Description
tsm$sample_reference.txt	Sample file stored in SYS$COMMON:[DEC-SERVER] or TSM$DEFAULT_DIRECTORY showing what information might be useful in a TSM reference file for a terminal server.
tsm*nnn*.release_notes	The TSM release notes file stored in SYS$HELP and in SYS$COMMON:[DECSERVER] or TSM$DEFAULT_DIRECTORY, where the value *nnn* is the software version number, for example, 010 for Version 1.0.
tsm$alarm.com	Sample alarm notification DCL procedure stored in the SYS$COMMON:[DECSERVER] TSM$DEFAULT_DIRECTORY.
tsm$ds1_v20_get_char.com	DCL procedures, stored in SYS$COMMON:[DECSERVER] or TSM$DEFAULT_DIRECTORY for up-line retrieving a DECserver 100 server's configuration characteristics.
tsm$config.dat	File for the TSM management directory created in the SYS$COMMON:[DECSERVER] or TSM$DEFAULT_DIRECTORY directory after the TSM software is successfully installed.
tsm$help.hlb	TSM HELP library file created in SYS$HELP.
tsm$main.exe	TSM software image created in SYS$SYSTEM during installation.
tsm$msg.exe	TSM message file stored in SYS$MESSAGE.

File Name	Description
tsm$ivp.com	TSM installation verification command procedure stored in SYS$COMMON:[SYSTEST].
tsm$msg.msg	Message file source code stored in SYS$MESSAGE.
*f*_*vvu*_defaults.com	Sample TSM command files that are stored in SYS$COMMON:[DECSERVER] or TSM$DEFAULT_DIRECTORY. These files reset terminal server characteristics and are named as follows:

f	Is a facility code describing the terminal server product on which the file operates.

Code	Product
DSV	DECserver 100 Terminal Server
TSV	Ethernet Terminal Server
MSVA	MUXserver 100 Remote Terminal Server
vv	Is the terminal server software version number. For example, vv is 02 for a Version 2.u product.
u	Is the terminal server software update number. For example, u is 2 for a Version *vv*.2 product.

B

Installation and Verification Example

This appendix shows an example of the installation and verification of the Terminal Server Manager software.

```
Username: SYSTEM RET
Password: password RET

        Welcome to VAX/VMS version V5.1 on node ddn
    Last interactive login on Tuesday, 7-FEB-1989 15:49
    Last non-interactive login on Tuesday, 12-DEC-1990 16:08

$ set default sys$update RET
$ @vmsinstal tsm sys$update options n RET

        VAX/VMS Software Product Installation Procedure V5.1

It is 12-DEC-1990 at 16:14.
Enter a question mark (?) at any time for help.
* Are you satisfied with the backup of your system disk [YES]? RET

The following products will be processed:
  TSM V1.4

        Beginning installation of TSM V1.4 at 16:14

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

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]: 5 RET

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

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

This kit contains an Installation Verification Procedure (IVP)
to verify the correct installation of TSM. It can be run
prior to the conclusion of this procedure by answering
"YES" to the IVP prompt or invoked after the installation
as follows:

@SYS$COMMON:[SYSTEST]TSM$IVP.COM

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

Product:      TSM
Producer:     DEC
Version:      1.4
Release Date: 1-JUL-90

* Does this product have an authorization key registered and load-
ed? y RET

The TSM installation procedure normally enables service
on the first circuit that it finds on this node. This
allows the node to down-line load and up-line dump
terminal servers.

If you answer "NO" to the following question, service
will not be enabled.

* Do you want service enabled in the installation procedure [YES]?

TSM requires a directory where the TSM command files and library
will be installed. If the logical TSM$DEFAULT_DIRECTORY is
defined, the files will be installed in that directory. If
the logical is not defined, the files will be installed in a
directory on the system disk called SYS$COMMON:[DECSERVER].
The target directory for the files as it is now defined is shown
below.

Press return to use the value shown or enter a new disk and
directory specification.

* Target directory for TSM files [SYS$COMMON:[DECSERVER]]:

    No more questions will be asked during the installation.

    Installing Terminal Server Manager VMS Version 1.4...

    Linking Terminal Server Manager VMS V1.4...

    Restoring the remaining TSM distribution kit files...

    Adding TSM to DCL command tables...

    Adding TSM to VMS help library...

    Defining and setting OBJECT NML to PROXY BOTH ALIAS OUTGOING ENABLED
```

```
    Enabling SERVICE on QNA-0...

    After the installation use AUTHORIZE to create proxy accounts for
    all the TSM users on this node (if you have not done so already).

    Installation procedure for Terminal Server Manager VMS V1.4
    has completed.

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

  Beginning the TSM V1.4 Installation Verification Procedure.

  Please ignore the following TSM test data.

Terminal Server Manager V1.4
Copyright Digital Equipment Corporation. 1990. All Rights Reserved.
Usage is DIRECTORY

Server:          IVP_TEST_TSM       Circuit(s):      QNA-0
Address:         FE-FF-FF-FF-FF-FF  Maint. Password: 0000000000000000
Type:            DS100              Login Password:  ACCESS
Partition name:  DEFAULT            DECnet Address:  0
Dump File:       SYS$COMMON:[DECSERVER]DS1IVP_TEST_TSM.DMP
Image File:      SYS$SYSROOT:[DECSERVER]PS0801ENG.SYS
Reference File:  SYS$SYSROOT:[DECSERVER]IVP_TEST_TSM.TXT

    Terminal Server Manager VMS V1.4 was successfully installed.

    Installation of TSM V1.4 completed at 16:27

    VMSINSTAL procedure done at 16:28

$ logout RET

SYSTEM logged out at 12-DEC-90 16:28:58.92
```

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Terminal Server Manager
Installation
AA–JF00D–TE

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