# VAX SPM Installation Guide

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This document contains instructions for installing VAX SPM (including VAX SPM Collector) on VAX/VMS. It also explains how to read the on-line release notes before or after installing the product. This document applies to VAX SPM version 3.4 and all maintenance updates beyond that version.

| | |
|---|---|
| **Revision/Update Information:** | This manual supersedes any previous VAX SPM Installation Guide |
| **Operating System and Version:** | VAX/VMS V5.0 or later |
| **Software Version:** | VAX SPM Version 3.4 |

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# Contents


PREFACE v

CHAPTER 1 VAX SPM INSTALLATION PROCEDURES 1–1

1.1 PREPARING TO INSTALL VAX SPM 1–1

1.2 PREREQUISITE SOFTWARE FOR VAX SPM 1–1

1.3 ACCESS TO THE ON-LINE RELEASE NOTES 1–1

1.4 INSTALLATION PROCEDURE REQUIREMENTS 1–1
1.4.1 User Account Quotas and Privileges 1–3
1.4.2 Using VMSINSTAL 1–4

1.5 INSTALLATION PROCEDURE 1–5
1.5.1 Step 1. Log in to the System Manager's Account 1–5
1.5.2 Step 2. Install the SPM License 1–5
1.5.3 Step 3. Invoke VMSINSTAL 1–5
1.5.4 Step 4. Insert the First Installation Kit Volume 1–6
1.5.5 Step 5. Select the Release Notes Option 1–6
1.5.6 Step 6. Select Installation Options 1–6
1.5.7 Step 7. Installing Over an Existing Full Kit 1–7
1.5.8 Step 8. Retaining the Image Analysis Utilities 1–7
1.5.9 Step 9. Verify the SPM License 1–7
1.5.10 Step 10. Create the SPM Account 1–8
1.5.10.1 Changing UIC of existing SPM account • 1–10
1.5.11 Step 11. Event Trace Facility (ETF) Programming Support 1–10
1.5.12 Step 12. Insert the Subsequent Installation Kit Volumes 1–11
1.5.13 Step 13. Finishing the Installation 1–11
1.5.14 Step 14. The Installation Verification Procedure 1–13
1.5.15 Step 15. End of the Installation Procedure 1–14

1.6 AFTER THE INSTALLATION 1–14

## Contents


1.7 SPECIAL POST-INSTALLATION ACTIVITIES FOR VAXCLUSTER SYSTEMS 1–15
1.7.1 SPM$POSTINSTAL.COM for VAXcluster Systems 1–16
1.7.2 Post-Installation Activities for VAXcluster Systems 1–16

1.8 ERROR CONDITIONS 1–17

1.9 MAINTENANCE UPDATES 1–18

1.10 DETERMINING AND REPORTING PROBLEMS 1–19
1.10.1 Required SPR Information 1–19

APPENDIX A SAMPLE INSTALLATION A–1


## TABLES


1–1 Installation Parameters and Quotas 1–1
1–2 Disk Space Requirements (blocks) 1–2
1–3 Quotas required to run IVP 1–2
1–4 Quotas required to use SPM 1–3

# Preface

This document describes how to install VAX SPM (including VAX SPM Collector) on the VAX/VMS operating system. It is intended for system managers. This document applies to Version 3.4 and all maintenance releases through the next major version. (A major version number is represented by the digits to the *left* of the decimal point, and the point release version number is indicated to the *right* of the decimal point. Therefore, this document applies to VAX SPM Version 3.4 and all point releases up to but not including Version 4.0.)

Before continuing with this manual, please note the following information.

- VAX SPM is generically used throughout this manual to refer to both the complete VAX SPM product and the VAX SPM Collector product. When it is necessary to refer specifically to the complete product, the name VAX SPM (full kit) is used.
- Keep this document with your distribution kit. You will need to refer to it again should you receive any maintenance updates or need to reinstall VAX SPM for any other reason.
- The installation procedure is described step by step. The dialog, for the most part, is self-explanatory. The system prompts you to answer questions and change volumes, and waits for you to tell it to continue.
- At the back of this document is a Reader's Comments form. If you have any comments on this manual, please fill out the form and mail it.
- For information on submitting Software Performance Reports (SPRs), see the ''Determining and Reporting Problems'' section.
- This document does not contain release notes information; instead, release notes are provided on-line. You can read the release notes before you install VAX SPM and at any time after the product is installed.
- To gain access to the release notes before VAX SPM is installed, follow the installation procedure up to Step 5, in which you may choose to read or print the release notes and discontinue the installation procedure.
- To read the release notes after installation, type or print the file SYS$HELP:SPMvvu.RELEASE_NOTES where vv represents the major version, in this case 03, and where u represents the update number.
- The HELP file also directs you to the release notes file. After installation, simply type:

  ```
  $ HELP SPM RELEASE_NOTES RET
  ```

- For more information on installing products on VAX/VMS, see the *VMS System Manager's Manual*.

# 1 VAX SPM Installation Procedures

## 1.1 Preparing to Install VAX SPM

Your Bill of Materials specifies the number and contents of your media. Be sure to check the contents of your kit against the list in the Bill of Materials. If your kit is damaged, or if you find that parts of it are missing, please call your DIGITAL representative.

Distribution media must be mounted in numerical order. The installation procedure will prompt you to mount the volumes.

To mount the distribution medium, see the *VMS System Manager's Manual*. This manual also details several options to the installation procedure; be sure to read it.

## 1.2 Prerequisite Software for VAX SPM

VAX SPM Version 3.4 requires VAX/VMS Version 5.0 or later.

If you are installing VAX SPM on a VAXstation with the VWS software, ensure the VWS software has been installed.

## 1.3 Access to the On-line Release Notes

VAX SPM provides on-line release notes which may be printed or displayed during the installation procedure. Invoke VMSINSTAL with the N option to get the release note prompt. The prompt to display or print the release notes appears in the installation procedure dialog, as noted in the description of Step 5.

## 1.4 Installation Procedure Requirements

Before you can install VAX SPM, you must have the following:

- SETPRV privilege, or CMKRNL, WORLD, OPER, and SYSPRV privileges for the installation
- 2 megabytes of physical memory
- The minimum sysgen parameters and quotas described in Table 1–1
- The required free disk space described in Table 1–2

**Table 1–1 Installation Parameters and Quotas**

| Quota or Parameter | Minimum Value |
|---|---|
| NPAGEDYN | 4300+(MAXPROCESSCNT*4) |
| VIRTUALPAGECNT | >= 10000 |

**Table 1–1 (Cont.) Installation Parameters and Quotas**

| Quota or Parameter | Minimum Value |
|---|---|
| GBLPAGES | 17+(DCLTABLES_001 global pages) |
| GBLSECTIONS | 5 |
| Process PGFLQUOTA | >= 10000 |
| Process BYTLM | >= 10024 |

**Table 1–2 Disk Space Requirements (blocks)**

| Product | Before Installation | Net Used |
|---|---|---|
| VAX SPM (full kit) | 18000 | 11000 |
| VAX SPM Collector | 5000 | 2000 |

If you select to run the IVP after the installation the following are also required:

- The minimum sysgen parameters and quotas from Table 1–3
- Disk quotas disabled on the device for the SPM account
- If DECnet VAX is installed the account must also have NETMBX privilege.

**Table 1–3 Quotas required to run IVP**

| Quota or Parameter | Minimum Value |
|---|---|
| NPAGEDYN | 4300+(MAXPROCESSCNT*4)+4700 |
| Process ASTLM | 24 |
| Process DIOLM | 18 |
| Process ENQLM | 30 |
| Process FILLM | 50 |
| Process PRCLM | 2 |
| Process WSDEF | 150 |

Refer to the *Guide to Setting Up a VMS System* for information on modifying system parameters or account quotas/privileges.

As long as the quotas listed at the beginning of this document are met, you can continue with the installation.

Approximate installation time after the saveset has been restored from the distribution media: 10 to 45 minutes, depending on your system configuration.

### 1.4.1 User Account Quotas and Privileges

To use VAX SPM, each account must meet the following quotas and minimum requirements:

- SETPRV privilege, or all of the following privileges
  - ALTPRI
  - CMKRNL
  - DETACH
  - NETMBX
  - PRMMBX
  - PSWAPM
  - SYSLCK
  - SYSNAM
  - SYSPRV
  - TMPMBX
  - WORLD
- The minimum quotas from Table 1–4

**Table 1–4 Quotas required to use SPM**

| Quota | Minimum Value |
|---|---|
| ASTLM | 24 |
| BIOLM | 18 |
| BYTLM | 9600 |
| DIOLM | 18 |
| ENQLM | 50 |
| FILLM | 50 |
| PGFLQUOTA | 10000 |
| PRCLM | 2 |
| WSDEF | 150 |

**Note: For remote video displays the values for ASTLM, BIOLM, and DIOLM must be taken into consideration. If the number of nodes being collected on exceeds the value of any of these quotas the corresponding value must be changed to the number of nodes that will be collected on remotely at any one time.**

## 1.4.2 Using VMSINSTAL

To install VAX SPM, log in to the system manager's account. In Step 2 of the installation procedure you must invoke VMSINSTAL. The VMSINSTAL command line has the following format:

```
$ @SYS$UPDATE:VMSINSTAL SPMx03n ddn: OPTIONS N RET
```

**1 SPMx03n**

Where *x* identifies the specific VAX SPM product and *n* represents the point release number of that particular product. If you are installing VAX SPM Collector, then *x* is 'C' (SPMC03n). If you are installing VAX SPM (full kit), then *x* is null (SPM03n). Refer to the label on the VAX SPM distribution kit or the VAX SPM Bill of Materials for the point release number of your kit. You can also enter an asterisk (*) in place of SPMx03n.

**2 ddn:**

Where *dd* is the device code and *n* is the unit number. CSA1: is the device name used in examples in this document. It is not necessary to use the console drive for installing VAX SPM. If you do use the console drive, when the installation is complete, be sure to replace any media you may have found in the drive. Note that you cannot use the console drive if you are installing VAX SPM on a VAX 8600 or 8650.

**3 OPTIONS N**

Specify ''N'' with the OPTIONS keyword to specify that release notes be displayed or printed.

VMSINSTAL prompts you for any parameter that is not supplied on the command line.

When you invoke VMSINSTAL, it checks the following:

- Whether you are logged in to the system manager's account (SYSTEM). It is recommended that you install layered software from the system manager's account.
- Whether you have adequate quotas for installing layered products.

  VMSINSTAL checks for the following quota values:

  - ASTLM = 24
  - BIOLM = 18
  - BYTLM = 18000
  - DIOLM = 18
  - ENQLM = 30
  - FILLM = 20

  VMSINSTAL then checks to see if either of the following conditions exist that should be discontinued prior to resuming the installation procedure:

  **1** Whether DECnet is up and running

**2** If there are any users logged in to the system

If VMSINSTAL detects any of these conditions, VMSINSTAL gives you the opportunity to stop the installation procedure by prompting you before continuing. If you want to stop the installation, simply press the RETURN key.

## 1.5 Installation Procedure

This section contains excerpts from the installation dialog, along with explanatory text.

Note that enhancements to VMSINSTAL in future releases of VMS may result in additional prompts appearing during the course of the installation. Such prompts may not be documented in this installation guide; however, the installation should proceed normally. Refer to the *Read Before Installing or Using* letter for any notes pertaining to installing VAX SPM.

### 1.5.1 Step 1. Log in to the System Manager's Account

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

### 1.5.2 Step 2. Install the SPM License

VAX SPM supports the License Management Facility (LMF) features provided by VMS, and requires that the Product Authorization Key (PAK) be registered. To register the PAK provided with your kit, type the following command:

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

Reference the *License Management Utility Reference Manual* for information pertaining to this command procedure and to management features of LMF.

### 1.5.3 Step 3. Invoke VMSINSTAL

Type the following commands to invoke VMSINSTAL:

```
$  @SYS$UPDATE:VMSINSTAL SPM03n CSA1: OPTIONS N  RET
```

VMSINSTAL displays the following:

```
   VAX/VMS Software Product Installation Procedure

It is dd-mmm-yyyy at hh:mm.
Enter a question mark (?) at any time for help.

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

### 1.5.4 Step 4. Insert the First Installation Kit Volume

Mount the media as requested and type Y when it is mounted.

```
Please mount the first volume of the set on CSA1:.
* Are you ready?  Y RET
The following products will be installed:

  SPM Vn.n

Beginning installation of SPM Vn.n at hh:mm
%VMSINSTAL-I-RESTORE, Restoring product saveset A...
```

### 1.5.5 Step 5. Select the Release Notes Option

```
Release Notes Options:
    (1) Display release notes
    (2) Print release notes
    (3) Both
* Select option [3]:  RET
```

Type the number of the desired release note option.

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

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

After you enter a queue (or simply press RETURN to indicate the default output print device, SYS$PRINT), VMSINSTAL asks if you want to continue with the installation by displaying the following prompt:

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

If you type NO or press RETURN, VMSINSTAL terminates the installation.

### 1.5.6 Step 6. Select Installation Options

```
* Do you want to run the IVP after installation [YES]?  RET
* Do you want to purge files replaced by this installation [YES]?  RET
```

The Installation Verification Procedure (IVP) runs tests to check that the installation procedure was successful. If you do not want to run the IVP, type ‘‘NO’’ in response to the question. Press RETURN to run the IVP after the installation.

The installation procedure does not automatically purge files that are replaced during the installation. These are the files residing in SYS$SYSTEM, SYS$LOADABLE_IMAGES, SYS$STARTUP, SYS$MANAGER, SYS$LIBRARY, SYS$HELP, SYS$MESSAGE, and SYS$TEST, that constitute each release of VAX SPM. Purging is recommended; you must press RETURN to request that files be purged. If you do not want the files purged, type ‘‘NO’’ in response to the question.

The system HELP files are updated in either case and the SPM startup and shutdown command procedures in SYS$STARTUP and SYS$MANAGER are never purged.

### 1.5.7 Step 7. Installing Over an Existing Full Kit

When you are installing the VAX SPM Collector, VMSINSTAL checks for the existence of VAX SPM (full kit) Version 3.4 or earlier on your system. If it is found and your machine is part of a VAXcluster with a common system disk, the installation will overwrite the VAX SPM (full kit). In this case, you should proceed only if you wish to make each VAXcluster member a VAX SPM Collector node.

**Note: A VAXcluster consisting of both VAX SPM (full kit) nodes and VAX SPM Collector nodes requires that VAX SPM (full kit) Version 3.4 be installed on one node; other nodes need only register the appropriate license.**

```
+-----------------------------------------------------------+
! A full version of VAX SPM exists on this VAXcluster.     !
! The installation of this Collector version of VAX SPM    !
! will replace the full version; therefore, proceed with   !
! the installation only if all members of this             !
! VAXcluster will be licensed for the VAX SPM Collector.   !
+-----------------------------------------------------------+

* Do you wish to continue with the installation [Y]?
```

If you type NO, VMSINSTAL terminates the installation.

### 1.5.8 Step 8. Retaining the Image Analysis Utilities

The *Image Analysis* utilities are no longer provided with VAX SPM as of version 3.3 and are not supported. If these utilities exist on your system from a previous installation of VAX SPM, VMSINSTAL will give you the option of retaining these utilities or having them removed from your system. Retained *Image Analysis* utilities may be accessed using the VAX SPM V3.2 DCL syntax.

```
+-----------------------------------------------------------+
! As of VAX SPM V3.3, the Image Analysis software is no    !
! longer provided and is not supported. If you decide to   !
! retain this software from a previous installation,       !
! please refer to the installation guide for further       !
! instructions on how to access these utilities.           !
+-----------------------------------------------------------+

* Do you wish to retain the Image Analysis software [N]?
```

If you type NO or press RETURN, the *Image Analysis* utilities will be deleted from your system.

### 1.5.9 Step 9. Verify the SPM License

Before the IVP can be executed, the SPM license must be installed. If the license has not yet been installed, answer ‘‘NO’’ to the question below and the installation procedure cancels the execution of the IVP. When the installation completes register the license as in Step 2 and execute the IVP as described in this document.

```
!---------------------------------------------------------------!
!                                                               !
! This product supports the VMS License Management Facility.   !
! If you have not previously registered and loaded the SPM      !
! license you must do so before running the IVP.                !
!                                                               !
! To register the SPM license, use the information on your      !
! Product Authorization Key (PAK) provided with your kit        !
! to answer the prompts to:                                     !
!                                                               !
! $ @SYS$UPDATE:VMSLICENSE                                      !
!                                                               !
! If you have not yet registered the SPM license answer NO      !
! to the question below.  After the installation completes      !
! register the PAK and execute the IVP as described in the      !
! installation guide.                                           !
!                                                               !
!---------------------------------------------------------------!


 Product:      SPM  (or SPM-COLLECTOR for VAX SPM Collector)
 Producer:     DEC
 Version:      3.4
 Release Date: 15-FEB-1990

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

## 1.5.10 Step 10. Create the SPM Account

In order to ensure that VAX SPM runs with the proper quotas and privileges, an account is created. You may modify the attributes of this account after the installation is complete provided you do not lower any quotas or remove any privileges.

**Note: You may not use the DISUSER or the CAPTIVE flags for the UAF entry you create for the SPM account. If either of these flags is specified, VAX SPM will not function properly when used in cluster mode.**

```
+-----------------------------------------------------------+
! In order to insure that VAX SPM runs with the proper     !
! quotas and privileges, an account will be created.       !
!                                                           !
! Feel free to modify the attributes of this account       !
! after the installation is complete to meet your site     !
! needs, provided you do not lower any quotas              !
! or remove privileges.                                    !
!                                                           !
! **** SECURITY NOTE **** **** SECURITY NOTE ****          !
!                                                           !
!  The SPM account inherits the PWDLIFETIME field from     !
!  the DEFAULT record.                                      !
!  Use AUTHORIZE if you wish to modify this value.          !
!                                                           !
+-----------------------------------------------------------+

* Enter the USERNAME for the VAX SPM account [SPM]:  RET
```

You may enter the name of a new account or use the name of an existing account. If the account you specified already exists you are asked to confirm your choice as follows.

```
%SPM-I-USEREXISTS, 'username' account currently exists
* Do you wish to use this account [Y]?  RET
```

Earlier version of VAX SPM created the account with a system UIC. For security reasons, you may want to change the UIC of the existing account. If you specified that you want to use the existing account the following message will appear:

```
+-------------------------------------------------------------------------+
!                                                                         !
! **** SECURITY NOTE **** **** SECURITY NOTE **** **** SECURITY NOTE **** !
!                                                                         !
! The existing SPM account may have a system UIC.  For security           !
! reasons it is recommended not to have a system UIC for this account.    !
! Please refer to the Installation Guide for more information about       !
! after effects of changing the SPM account's UIC.                        !
!                                                                         !
+-------------------------------------------------------------------------+
```

Refer to section Section 1.5.10.1 for information about changing the UIC of the existing SPM account.

If you answer NO you are asked to enter a different username.

If the username you have entered is for a new account you are asked the following questions.

```
* Enter the UIC (include brackets):  [group,member] RET
* Enter the DEVICE where the 'username' directory will
reside [SYS$SYSDEVICE]:  RET
```

**Note: It is strongly recommended that you use a non-system UIC. If a system UIC is specified, a message will be displayed asking whether you would like to specify a different UIC.**

If the UIC specified is already in use by another account, you are notified and asked to enter a different UIC.

If the device name specified does not exist, you will be notified and asked to enter a new name. If you are installing SPM in a cluster, we recommend you pick a device which is accessible from all nodes within the cluster.

**Note: It is strongly recommended that you use a disk other than SYS$SYSDEVICE as the location for your SPM account. SYS$SYSDEVICE is supplied as the default as it is guaranteed to be available on every system.**

**If you plan to execute the IVP, disable disk quotas for the device to contain the SPM account prior to starting the installation. Alternatively, you may set up a quota entry for the intended SPM account on the desired volume prior to beginning the installation.**

You are asked to enter a password for the new (or existing) account and then verify the password just entered. The password is not displayed at your terminal. The password must be at least 15 characters long.

```
* Enter the PASSWORD for the 'acct' account (minimum 15 characters):
```

RET

```
* Verify:  RET
```

If the password is too short or the verification entry does not match the original password, you are notified and asked to enter another password.

If a new account was specified, the account and directory are created, the account quotas, privileges are set up to meet the VAX SPM requirements, and the password is set to the one you supplied.

If an existing account is used, the password is set to the one you supplied and the account quotas, privileges are set up to meet the VAX SPM requirements.

DECnet is required to run SPM in cluster mode. If DECnet is installed then the SPM$REMOTE DECnet object is defined in both the permanent and volatile databases.

If DECnet is not available then you are asked if you wish to continue with the installation.

```
* Do you wish to continue with the installation [Y]?  RET
```

If your system is NOT a member of a VAXcluster system then you may continue with the installation regardless of the presence of DECnet.

#### 1.5.10.1 Changing UIC of existing SPM account

To change the UIC of the existing account use the MODIFY command in AUTHORIZE. Once you have changed the UIC, you may need to change the file ownership of files that the SPM account created. Specifically, you will need to change the ownership of the files in the default directory associated with the SPM account. The SET FILE command can be used to change the file ownership. You will need SYSPRV privilege in order to do this.

```
$ SET FILE disk$:[spm-directory...]*.*;*/OWNER_UIC=[new-uic]
```

The ownership of files in any other directories that are used by the SPM account may also need to be updated.

## 1.5.11 Step 11. Event Trace Facility (ETF) Programming Support

If you intend to use the Event Trace Facility (ETF), answer YES to the following question and then select the appropriate language support that you require.

```
* Do you want to install ETF programming support [Y]?  RET

  Support files are supplied for the following VAX programming languages:
        VAX Ada, BASIC, BLISS, C, FORTRAN, Pascal, PL/1

* Do you want to install all programming language support files [Y]?
RET
```

If you answer NO to this last question, VMSINSTAL prompts you for each language support you require and then displays your choices to confirm your selection.

```
  You have selected the following languages for ETF support:
        VAX Ada, BASIC, BLISS, C, FORTRAN, Pascal, PL/1

* Are these selections correct [Y]?  RET
```

ETF support files for VAX Macro are provided automatically.

### 1.5.12 Step 12. Insert the Subsequent Installation Kit Volumes

```
%BACKUP-I-READYREAD, mount volume 2 on _CSA1: for reading
Enter "YES" when ready:  YES RET
```

The BACKUP utility prompts you to insert the next volume and waits for you to type YES after inserting it. If you type NO in response to the prompt, BACKUP will display the question again.

If you need to abort the installation procedure, press CTRL/Y. When you press CTRL/Y, the installation procedure deletes all files it has created up to that point and exits. If you want to retry the installation procedure after pressing CTRL/Y, you must start over from Step 3.

### 1.5.13 Step 13. Finishing the Installation

From this point in the installation, you may receive the following informational messages. These messages are normal and do not indicate errors.

- %LINK-W-USRTFR, ....
- %VMSINSTAL-I-SYSDIR, This product creates system directory [SYSHLP.EXAMPLES.SPM]

If the installation procedure is successful, the executable images are moved to their target directories.

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

In addition, SYS$HELP:HELPLIB.HLB and SYS$LIBRARY:DCLTABLES.EXE are updated to include the new version of the VAX SPM help text and the PERFORMANCE command line definition, respectively; and the VAX SPM release notes are copied to SYS$HELP:SPM03n.RELEASE_NOTES.

```
+------------------------------------------------------------------------+
! The VAX SPM software is now installed on your system.                  !
!                                                                        !
! If you have elected to run the Installation Verification Procedure as  !
! part of this installation it will be executed following this message.  !
!                                                                        !
! Once the VMSINSTAL procedure is complete, you need to refer to the     !
! section titled, "After the Installation," in the VAX SPM Installation  !
! guide and perform the activities described in that section before      !
! attempting to use the software.                                        !
+------------------------------------------------------------------------+
```

This message indicates the software installation portion of the VMSINSTAL procedure is complete.

The following files have been created or modified by the installation procedure:

- SYS$SYSTEM:SPM$ANALYZER.EXE†
- SYS$SYSTEM:SPM$ARCHIVE.EXE

† Not included in VAX SPM Collector

- SYS$SYSTEM:SPM$CHARGE.EXE†
- SYS$SYSTEM:SPM$COLLECT.EXE
- SYS$SYSTEM:SPM$COLLECT_ONLY.EXE‡
- SYS$SYSTEM:SPM$COLLECT_SYSTEMPC.EXE
- SYS$SYSTEM:SPM$FILES.EXE
- SYS$SYSTEM:SPM$INVESTIGATE.EXE†
- SYS$SYSTEM:SPM$REPORT_DISKSPACE.EXE
- SYS$SYSTEM:SPM$REPORT_HISTORY.EXE†
- SYS$SYSTEM:SPM$REPORT_LOGFILE.EXE†
- SYS$SYSTEM:SPM$REPORT_SYSTEMPC.EXE†
- SYS$SYSTEM:SPM$RESOURCE.EXE†
- SYS$SYSTEM:SPMTIMER.COM
- SYS$LOADABLE_IMAGES:SPMTIMER.EXE
- SYS$MANAGER:SPM$SHUTDWN.COM
- SYS$STARTUP:SPM$STARTUP.COM
- SYS$HELP:HELPLIB.HLB
- SYS$HELP:SPM$ANALYZER.HLB†
- SYS$HELP:SPM$FILES.HLB
- SYS$HELP:SPM$INVESTIGATE.HLB†
- SYS$HELP:SPM$RESOURCE.HLB†
- SYS$HELP:SPM034.RELEASE_NOTES
- SYS$SYSROOT:[SYSHLP.EXAMPLES]SPM.DIR
- SYS$SYSROOT:[SYSHLP.EXAMPLES.SPM]SPM$MANAGER.COM
- SYS$SYSROOT:[SYSHLP.EXAMPLES.SPM]SPM$MANAGER_CONFIGURE.CO
- SYS$SYSROOT:[SYSHLP.EXAMPLES.SPM]SPMASCII.DTR
- SYS$SYSROOT:[SYSHLP.EXAMPLES.SPM]SPMBINARY.DTR
- SYS$SYSROOT:[SYSHLP.EXAMPLES.SPM]SPMETF_EXAMPLE.COM
- SYS$LIBRARY:DCLTABLES.EXE
- SYS$LIBRARY:SPM$ANLSHR.EXE†
- SYS$LIBRARY:SPM$ETFSHR.EXE
- SYS$LIBRARY:SPM$EVENT_TRACE.xxx *
- SYS$MANAGER:SPM$POSTINSTAL.COM
- SYS$MESSAGE:SPM$MESSAGES.EXE

‡ Not included in VAX SPM (full kit)

* File type of each ETF language support file selected

- SYS$TEST:SPM$IVP.COM
- SYS$SYSROOT:[SYSTEST.SPM$IVP]SPM$CHGIVP.DAT†
- SYS$SYSROOT:[SYSTEST.SPM$IVP]SPM$ETFIVP.MAR
- SYS$UPDATE:SPM$BE_GONE.COM

If you chose not to retain the *Image Analysis* component, the following files have been deleted:

- SYS$SYSTEM:SPM$DEFINE_IMAGE.EXE
- SYS$SYSTEM:SPM$REPORT_IMAGE.EXE
- SYS$SYSTEM:SPM$CONVERT_SYSTEMPC.EXE
- SYS$HELP:SPMDEFIMA.HLB
- SYS$SYSROOT:[SYSHLP.EXAMPLES.SPM]SPMIMAGE.COM
- SYS$LIBRARY:SPMSAMPLE.OPT
- SYS$LIBRARY:SPMSHELL.OBJ
- SYS$LIBRARY:SPMSHR.EXE
- SYS$LIBRARY:SPMTRACE.OBJ
- SYS$MESSAGE:SPMMSGFIL.EXE
- SYS$TEST:SPM$CLOCKIVP.OBJ
- SYS$TEST:SPM$TRACEIVP.OBJ

### 1.5.14 Step 14. The Installation Verification Procedure

If this option was chosen, the installation procedure calls the Installation Verification Procedure (IVP) to verify that VAX SPM was successfully installed.

The same installation procedure is used for both the VAX SPM Collector kit and VAX SPM (full kit).

A variety of messages are displayed during the Installation Verification Procedure. The initial messages indicate the start of the procedure and an indication of which type of VAX SPM kit is installed.

```
+-------------------------------------------------------------------+
! Beginning the VAX SPM Vn.n Installation Verification Procedure. !
+-------------------------------------------------------------------+
```

For the VAX SPM Collector, the following message appears:

```
+-----------------------------------------+
! A collector version of VAX SPM is installed. !
+-----------------------------------------+
```

For the VAX SPM (full kit), the following message appears:

```
+-----------------------------------------+
! A complete version of VAX SPM is installed. !
+-----------------------------------------+
```

A variety of additional messages are displayed as the Installation Verification Procedure tests the software. When the procedure is complete the following is displayed.

```
+-------------------------------------------------+
! The VAX SPM Vn.n IVP has completed successfully. !
+-------------------------------------------------+
```

The IVP can also be executed independent of the installation by typing:

```
$  @SYS$TEST:SPM$IVP  RET
```

## 1.5.15 Step 15. End of the Installation Procedure

```
Enter the products to be installed from the next distribution volume set.
* Products [EXIT]:  RET

        VMSINSTAL procedure done at hh:mm

$  LOGOUT  RET
SYSTEM     logged out at dd-mmm-yyyy hh:mm:ss.ss
```

When the VAX SPM installation procedure is complete, you can choose to install more products or end the installation procedure. To end the installation procedure, type ''EXIT'' or press the RETURN key. If you removed any media from the console drive before beginning, replace it now.

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

# 1.6 After the Installation

VAX SPM is now installed and can be invoked with the PERFORMANCE or SPM command.

The installation procedure modifies the DCL command table so that the PERFORMANCE command is recognized and processed. However, the old command table is still in effect for those users who are currently logged in. All logged-in users who want to use the PERFORMANCE command must log out of the system and log back in.

To complete the VAX SPM installation procedure, you must now edit your site-specific system startup and shutdown files.

- Edit the system startup file, SYS$MANAGER:SYSTARTUP_V5.COM, to include the line:

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

  When processed at system startup time, the command procedure loads the SPMTIMER driver and defines the SPM$EXAMPLES logical name.

- Edit the system shutdown file, SYS$MANAGER:SYSHUTDWN.COM, to include the line:

  ```
  $  @SYS$MANAGER:SPM$SHUTDWN.COM  RET
  ```

This command procedure ensures that data collection operations are terminated normally prior to system shutdown.

If you answered NO to the IVP question during the installation, then you must load the SPMTIMER driver at this time. To do this, type the command:

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

If you decide to change the password for the account you specified as the SPM account, you must also modify the password entry for the SPM$REMOTE object in the DECnet database (if you have DECnet) to the new password you have chosen.

**Note: Any login command procedure that will be associated with the SPM account must not issue any commands which invoke a network process while the SPM$REMOTE object is logging in. To restrict the use of network commands, make a test for F$MODE( ) .NES. "NETWORK" before issuing any command which could run a network process, such as MAIL.**

## 1.7 Special Post-Installation Activities for VAXcluster Systems

If you have just completed the installation of VAX SPM on a VAXcluster system which utilizes a node specific system disk, you must perform the VAX SPM installation on each common or private system root in the VAXcluster system before VAX SPM is fully functional.

If you have just completed the installation of VAX SPM on a VAXcluster system which utilizes a single common system disk, it is not necessary to install VAX SPM on each of the other VAXcluster system members. You may use the command procedure, SYS$MANAGER:SPM$POSTINSTAL.COM or manually perform the post-installation activities. Refer to sections Section 1.7.1 or Section 1.7.2.

If your VAXcluster has a VAXcluster alias, then each node in the cluster must have the alias defined in the DECnet database in order for SPM to work correctly. The alias must be defined even if the node does not wish to accept incoming connects to the alias node.

For example, consider a cluster of nodes AAA (1.1), BBB (1.2), CCC (1.3), and DDD (1.4). The cluster alias for this cluster is ABCD (1.1023). Nodes CCC and DDD are workstation satellites that do not wish to accept connects addressed to the cluster alias. The commands to properly configure this cluster's DECnet database are:

```
$ MCR SYSMAN
SYSMAN> SET ENVIRONMENT/CLUSTER
SYSMAN> DO MCR NCP DEFINE NODE 1.1023 NAME ABCD
SYSMAN> DO MCR NCP DEFINE EXECUTOR ALIAS NODE ABCD
SYSMAN> SET ENVIRONMENT/NODE=(CCC,DDD)
SYSMAN> DO MCR NCP DEFINE EXECUTOR ALIAS INCOMING DISABLE
```

If your network is not properly configured SPM will reject the connection.

**Note: To use the remote capabilities of VAX SPM on your VAXcluster system, DECnet must be configured to have at least as many available links as there are members of the VAXcluster plus one. For example, if your VAXcluster system consists of five members you will need at least six available links to issue a VAX SPM command for the entire VAXcluster.**

You are now ready to use VAX SPM throughout your VAXcluster.

Once you have completed these activities, type the following command to verify the steps you have just completed:

```
$  PERFORMANCE COLLECT=CAPACITY * RET
```

Or invoke the VAX SPM IVP with the command:

```
$  @SYS$TEST:SPM$IVP RET
```

## 1.7.1 SPM$POSTINSTAL.COM for VAXcluster Systems

Use SYS$MANAGER:SPM$POSTINSTAL.COM, to perform the necessary post installation functions on all other nodes in the cluster. It is to be run *only once* after the installation. The post installation command procedure takes care of the following items:

- Loading the license if it is registered in the license database on the cluster
- Invoking SPM$STARTUP.COM to load or reload the SPMTIMER driver and define the SPM$EXAMPLES logical
- Replacing DCLTABLES.EXE
- Updating SPM$REMOTE information in the DECNET database

## 1.7.2 Post-Installation Activities for VAXcluster Systems

If you do not use the SYS$MANAGER:SPM$POSTINSTAL.COM command procedure you must perform certain actions on other VAXcluster system members before VAX SPM is functional on each node. Log in to the system manager's account or other suitably privileged account on the target system and perform the following:

- Load the appropriate VAX SPM (full kit) (SPM) or VAX SPM Collector (SPM-COLLECTOR) license by giving the command:

```
$  LICENSE LOAD SPM RET
or
$  LICENSE LOAD SPM-COLLECTOR RET
```

- Load the SPM device driver by giving the command:

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

- If the file SYS$LIBRARY:DCLTABLES.EXE is installed, replace the current version of that file with the new one which was created during the installation by typing the following command:

  ```
  $  INSTALL REPLACE SYS$LIBRARY:DCLTABLES.EXE RET
  ```

  Note that you must have at least 17 (plus the number of global pages used by DCLTABLES_001) free global pages and 5 free global sections before performing the above command.

  Also, in order for users currently logged in to the system to gain access to the SPM commands, they must log out and log back in to obtain the new DCL command tables.

- During the installation the following message may be displayed.

  ```
  +-------------------------------------------------------------------+
  ! The network object SPM$REMOTE has been defined in the node specific !
  ! database for this system.                                          !
  +-------------------------------------------------------------------+
  ```

  This message means that you have a node specific DECnet database and you will have to define the SPM$REMOTE object manually in this node's permanent database. If you did not receive this message proceed to the next step.

  To define the SPM$REMOTE object in the permanent database, type the following commands:

  ```
  $  NCP = "$NCP"
  $  NCP DEFINE OBJECT SPM$REMOTE NUMBER 60 -
                                  FILE SYS$SYSTEM:SPM$COLLECT.EXE -
                                  PROXY NONE USER 'SPM$ACCOUNT' -
                                  PASSWORD 'SPM$PASSWORD'
  ```

  Type the account name you specified for 'SPM$ACCOUNT' during the installation when asked the question:

  ```
  * Enter the USERNAME for the VAX SPM account [SPM]:
  ```

  Type the password you specified for 'SPM$PASSWORD' during the installation when asked the question:

  ```
  * Enter the PASSWORD for the 'acct' account (minimum 15 characters):
  ```

- Create the SPM$REMOTE object definition in the volatile DECnet database by giving the commands:

  ```
  $  NCP = "$NCP"
  $  NCP SET OBJECT SPM$REMOTE ALL
  ```

## 1.8 Error Conditions

If the installation procedure or IVP fails for any reason, one of the following messages is displayed:

```
%VMSINSTAL-E-INSFAIL, The installation of SPM Vn.n has failed.
Please consult the VAX SPM Installation Guide for further information.

The VAX SPM Vn.n IVP has failed.
Please consult the VAX SPM Installation Guide for further information.
```

An error during the installation can be caused by one or more of the following conditions:

- Insufficient disk space to complete the installation
- Insufficient value specified for system virtual page count parameter
- Insufficient AST quota
- Insufficient buffered I/O byte count
- Insufficient subprocess quota
- Insufficient open file quota
- Insufficient process paging file quota
- Insufficient process working set quota
- Incorrect version of VAX/VMS

For descriptions of the error messages generated by these conditions, see the *VMS System Messages and Recovery Procedures Reference Manual* and the *VMS System Manager's Manual*.

If you are notified that any of these conditions exist, you should take the appropriate action, as described in the message. You may need to change a system parameter or increase a process quota. If the installation fails, you must restart the installation procedure from step 3.

If installation fails due to an IVP failure, contact a Digital field representative.

## 1.9 Maintenance Updates

DIGITAL may periodically issue maintenance update releases of VAX SPM. Each update will consist of an installation kit. You should install this kit as described in this book or in any documentation that may accompany the maintenance update.

Each time a maintenance update is released, the version number changes. For example, if the current version is V1.0, the version number of the first maintenance update will be V1.1. In addition, the maintenance update usually includes changes to the release notes. The release notes describe changes made to VAX SPM since the previous release.

The update release notes are provided on-line. You can read the release notes before you install VAX SPM and at any time after the product is installed. For information on reading the release notes before VAX SPM is installed, follow the installation procedure up to Step 5. At that point, you can choose to type or print the release notes and discontinue the installation. To read the release notes after installation, type or print the file SYS$HELP:SPMvvu.RELEASE_NOTES.

The HELP file also directs you to the release notes file. After installation, simply type:

```
$ HELP SPM RELEASE_NOTES RET
```

**Note: Because VAX SPM contains references to global symbols defined by VMS, re-install VAX SPM each time you update to a new version of VMS.**

## 1.10 Determining and Reporting Problems

If an error occurs while you are using VAX SPM, and there is reason to believe that the error is due to a problem in VAX SPM, take one of the following actions:

- If you have a BASIC or DECsupport Software Agreement, call your Customer Support Center. (With these services, you receive telephone support that provides high-level advisory and remedial assistance. For more information contact you local DIGITAL representative.)
- If you have a Self-Maintenance Software Agreement, submit a Software Performance Report (SPR).
- If you purchased VAX SPM within the last 90 days, and you think the problem is caused by a software error, submit a Software Performance Report (SPR).

If you find an error in the VAX SPM documentation, fill out and submit the Reader Comments Form appearing at the back of the manual in which the error was found.

### 1.10.1 Required SPR Information

When you prepare to submit an SPR, please do the following:

1. Describe as accurately as possible the state of the system and the circumstance when the problem occurred. Include in the description the version number of VAX SPM being used. You can find the version number by typing the following command:

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

   The section titled "Image Identification Information", and the line containing the text "Image File Identification:" both contain the version number. You may also determine the version number of the specific SPM utility (say REPORT=SYSTEM_PC) with the following command:

   ```
   $ PERFORMANCE REPORT=SYSTEM_PC/VERSION RET
   %SPM-I-VERSION, VAX SPM Vn.n-nn
   ```

   Illustrate the problem with specific examples.

   If you report a documentation error, specify the title of the manual, and the section and page number where the error occurred.

2. Minimize the scope of the problem.
3. Remember to include listings of any command files, relevant data files, and so on.
4. Provide a listing of the program.

5 Submit sources or data files on machine-readable media (floppy diskette or magnetic tape), if possible. All media will be returned to you when the SPR is answered.

6 Report only one problem per SPR. This will facilitate a more rapid response.

7 Mail the SPR package to DIGITAL.

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.

# A Sample Installation

This appendix contains a sample installation of VAX SPM (full kit). The Installation Verification Procedure (IVP) runs at the end of the installation.

```
$ @sys$update:vmsinstal spm spm$kits:[spmv34]

 VAX/VMS Software Product Installation Procedure V5.1

It is 5-DEC-1989 at 11:07.
Enter a question mark (?) at any time for help.

%VMSINSTAL-W-DECNET, Your DECnet network is up and running.
%VMSINSTAL-W-ACTIVE, The following processes are still active:
        SERVER_002D
        SERVER_0011
* 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:

  SPM V3.4

 Beginning installation of SPM V3.4 at 11:07

%VMSINSTAL-I-RESTORE, Restoring product saveset A ...
%VMSINSTAL-I-RELMOVED , The product's release notes have been successfully moved to SYS$HELP.
Copyright (c) Digital Equipment Corporation. 1989. All Rights Reserved.
* Do you want to run the IVP after the installation [YES]?
* Do you want to purge files replaced by this installation [YES]? no
!-----------------------------------------------------------------!
!                                                                 !
! This product supports the VMS License Management Facility.     !
! If you have not previously registered and loaded the SPM       !
! license you must do so before running the IVP.                  !
!                                                                 !
! To register the SPM license, use the information on your       !
! Product Authorization Key (PAK) provided with your kit         !
! to answer the prompts to:                                       !
!                                                                 !
! $ @SYS$UPDATE:VMSLICENSE                                        !
!                                                                 !
! If you have not yet registered the SPM license answer NO       !
! to the question below.  After the installation completes       !
! register the PAK and execute the IVP as described in the       !
! installation guide.                                             !
!                                                                 !
!-----------------------------------------------------------------!

        Product:      SPM
        Producer:     DEC
        Version:      3.4
        Release Date: 15-FEB-1990

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

## Sample Installation

```
+------------------------------------------------------------------------+
! In order to insure that VAX SPM runs with the proper quotas and privileges,!
! an account will be created.                                            !
!                                                                        !
! Feel free to modify the attributes of this account after the installation  !
! is complete to meet your site needs, provided you do not lower any quotas  !
! or remove privileges.                                                  !
!                                                                        !
! **** SECURITY NOTE **** **** SECURITY NOTE **** **** SECURITY NOTE ****    !
!                                                                        !
!  The SPM account inherits the PWDLIFETIME field from the DEFAULT record.   !
!  Use AUTHORIZE if you wish to modify this value.                       !
!                                                                        !
+------------------------------------------------------------------------+

* Enter the USERNAME for the VAX SPM account [SPM]:
%SPM-I-USEREXISTS, SPM account currently exists

* Do you wish to use this account [Y]?

* Enter the PASSWORD for SPM account (minimum 15 characters):

* Verify:

+------------------------------------------------------------------------+
!                                                                        !
! **** SECURITY NOTE **** **** SECURITY NOTE **** **** SECURITY NOTE **** !
!                                                                        !
! The existing SPM account may have a system UIC.  For security          !
! reasons it is recommended not to have a system UIC for this account.   !
! Please refer to the Installation Guide for more information about      !
! after effects of changing the SPM account's UIC.                       !
!                                                                        !
+------------------------------------------------------------------------+

%SPM-I-MODPASS, Modifying account SPM password, quotas and privileges
%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named SPM.
%UAF-I-MDFYMSG, user record(s) updated
%SPM-I-DEFSPMREM, Defining SPM$REMOTE object in DECnet database

+------------------------------------------------------------------------+
!   This installation procedure provides support files for developing     !
!   ETF applications in several programming languages.                    !
+------------------------------------------------------------------------+

* Do you want to install ETF programming support [Y]?

  Support files are supplied for the following VAX programming languages:

        Ada, BASIC, BLISS, C, FORTRAN, Pascal, PL/1

* Do you want to install all programming language support files [Y]?

  You have selected the following languages for ETF support:

            VAX Ada, BASIC, BLISS, C, FORTRAN, Pascal, PL/1

* Are these selections correct [Y]?

+-----------------------------------------------------------------+
! All questions regarding the installation of VAX SPM have now  !
! been asked.  The installation will continue for approximately !
! 10-45 minutes.                                                !
+-----------------------------------------------------------------+

%VMSINSTAL-I-RESTORE, Restoring product saveset B ...
%SPM-I-CONTINUE, Restore of saveset B complete, now linking the SPM components

+-------------------------------------------------------------------+
! The message LINK-W-USRTFR is normal and does not indicate an error. !
+-------------------------------------------------------------------+
```

```
%LINK-W-USRTFR, image VMI$ROOT:[SYSUPD.SPM034]SPMTIMER.EXE;1 has no user transfer address
%VMSINSTAL-I-SYSDIR, This product creates system disk directory  VMI$ROOT:[SYSHLP.EXAMPLES.SPM].
%CREATE-I-EXISTS, VMI$ROOT:[SYSHLP.EXAMPLES.SPM] already exists
%VMSINSTAL-I-SYSDIR, This product creates system disk directory VMI$ROOT:[SYSTEST.SPM$IVP].
%CREATE-I-EXISTS, VMI$ROOT:[SYSTEST.SPM$IVP] already exists

+-----------------------------------------------------------------------------+
! The VAX SPM software is now installed on your system.                       !
!                                                                             !
! If you have elected to run the Installation Verification Procedure as part  !
! of this installation it will be executed following this message.            !
!                                                                             !
! Once the VMSINSTAL procedure is complete, you need to refer to the section  !
! titled "After the Installation" in the VAX SPM Installation Guide and       !
! perform the activities described in that section before attempting to use   !
! the software.                                                               !
+-----------------------------------------------------------------------------+

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

+-------------------------------------------------------------------+
! Beginning the VAX SPM V3.4-02 Installation Verification Procedure. !
+-------------------------------------------------------------------+


+-----------------------------------------------+
! A complete version of VAX SPM is installed. !
+-----------------------------------------------+


+-----------------------------------------------------------+
! Load the Software Timer Driver and test it by executing !
! the following commands simultaneously:                  !
!                                                         !
!              PERFORMANCE COLLECT=CAPACITY               !
!              PERFORMANCE COLLECT=TUNE                   !
!              PERFORMANCE COLLECT=SYSTEM_PC              !
+-----------------------------------------------------------+


%SPM-I-SWA0EXISTS, SPM device SWA0 already exists.
Attempting reload of the SPMTIMER device driver.

%DCL-I-SUPERSEDE, previous value of SPM$SWTIMER has been superseded
%SPM-I-EXECONFIG, retrieving VMS EXECUTIVE configuration at 11:14:50.35
%SPM-I-COLLECTSTART, starting PC collections at 11:14:54.42

+-------------------------------------------------+
! Test the PERFORMANCE REPORT=SYSTEM_PC command. !
+-------------------------------------------------+


+-----------------------------------------------+
! Test the PERFORMANCE REPORT=CHARGE command. !
+-----------------------------------------------+


+-------------------------------------------------+
! Test the PERFORMANCE REPORT=DISK_SPACE command. !
+-------------------------------------------------+


+-----------------------------------------------------------+
! Show the status of the CAPACITY data collection process. !
+-----------------------------------------------------------+
```

```
%SPM-I-ESTABCON, establishing connection to remote node(s)
%SPM-I-NODEMSG, INQUIRE message for node COMPUT
    Status of SPM_CAPACITY
    Log File              : $255$DUA0:[SYS1.SYSCOMMON.][SYSUPD.SPM034]SPMIVP.1;1
    Sample Interval       : 10 seconds
    Current Sample        : 8
    Collections Beginning :  5-DEC-1989 11:14:48.07
    Collections Ending    : not specified
    Collecting CPU Statistics
    Collecting Disk Statistics
    Collecting Device Statistics
    Collecting File Primitive Statistics
    Collecting I/O Statistics
    Collecting Lock Statistics
    Collecting Memory Statistics
    Collecting Page Fault Statistics
    Collecting Process, Extended Process, Image Name Statistics
    Collecting Scheduler Statistics
    Collecting Server Statistics
    Collecting System Communication Statistics
    Collecting XQP Statistics
    %SYSTEM-S-NORMAL, normal successful completion

+------------------------------------------------------------+
! Terminate the CAPACITY and TUNE data collection processes. !
+------------------------------------------------------------+


+-----------------------------------------------+
! Test the PERFORMANCE ARCHIVE=HISTORY  command. !
+-----------------------------------------------+

Processing file VMI$ROOT:[SYSUPD.SPM034]SPMIVP.1;1

+-----------------------------------------------+
! Test the PERFORMANCE REPORT=HISTORY command. !
+-----------------------------------------------+


+-----------------------------------------------+
! Test the PERFORMANCE REPORT=LOG_FILE command. !
+-----------------------------------------------+


+-----------------------------------------------+
! Test the PERFORMANCE ANALYZE=LOG_FILE command. !
+-----------------------------------------------+


+------------------------------------------------------------+
! Test the SPM Event Trace Facility.                         !
+------------------------------------------------------------+
! The message %INSTALL-W-NOPREV may appear. This is normal and !
! does not indicate an error.                                !
+------------------------------------------------------------+

%INSTALL-W-NOPREV, no previous entry exists -
        new entry created for DISK$VMSRL5:<SYS1.SYSCOMMON.SYSLIB>SPM$ETFSHR.EXE

+-----------------------------------------------------+
! The VAX SPM V3.4-02 IVP has completed successfully. !
+-----------------------------------------------------+

 Installation of SPM V3.4 completed at 11:17

 VMSINSTAL procedure done at 11:17
```