Compaq NAS Packages for OpenVMS VAX and Alpha Systems

Installation Guide

September 2002

This guide contains instructions for installing the NAS Packages for OpenVMS Systems

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Preface

This guide describes how to install each of the Compaq NAS™ Packages Version 8.3A for OpenVMS™ VAX™Systems running OpenVMS VAX Version 7.3 and for OpenVMS Alpha Systems running OpenVMS Alpha Version 7.3-1

- NAS Client 150
- NAS Base Server 200
- NAS Client 250
- NAS Server 300
- NAS Production Server 400

Intended Audience

This product is customer-installable by users already familiar with the VMSINSTAL procedure and POLYCENTER[TM] Software Installation Utility (PCSI).

Compaq Computer Corporation offers comprehensive services, including on-site software installation, for customers who need additional services. OpenVMS recommends that you get installation services if you are unfamiliar with the VMSINSTAL procedure or PCSI Utility.

Structure of this Guide

This guide is organized as follows:

- Chapter 1 describes the NAS packages and tells you how to access and print the documentation.
- Chapter 2 describes the operating system and hardware required for installing the NAS packages, license procedures, installation of the NAS base kit and modifying system parameters for the NAS components.
- Chapter 3 describes installing the NAS packages components, including pre- and postinstallation procedures.
- Chapter 4 describes procedures for installing higher NAS packages versions or levels and installing a lower-level NAS Packages license.
- Appendix A describes prerequisites, including disk space, installation time, and system parameters for the NAS packages components.
- Appendix B lists the system management books that appear on the component bookshelves provided by the NAS packages.
- Appendix C lists former NAS packages components that have been removed or retired.

- Appendix D provides an Operating System compatibiliy matrix for NAS component software products.

Related Manuals

OpenVMS recommends that you print and read the component installation guides before installing the NAS packages. You may print this electronic documentation as reasonably necessary to exercise your license to use the NAS packages. See Section 1.3.1 for the location of the component installation guides.

The following manuals from the OpenVMS documentation set provide additional information about installing NAS packages:

- OpenVMS License Management Utility Manual
- OpenVMS System Manager's Manual: Essentials
- OpenVMS System Management Utilities Reference Manual: A-L
- A Comparison of System Management on OpenVMS Alpha and OpenVMS VAX
- POLYCENTER Software Installation Utility User's Guide

Conventions

The following conventions are used in this guide:

NAS	Means Network Application Support.
UPPERCASE TEXT	Uppercase letters indicate the name of a command, a file, a parameter, a procedure, or utility.
monospace font	This typeface indicates a command, option, or path name, and is also used in examples of program code.
bold	Bold indicates user input in code examples.
$	The dollar sign is used to indicate the DCL prompt. This prompt may be different on your system.
50 000 000	Spaces are used to punctuate whole decimal numbers containing five or more digits.
. . .	Vertical ellipsis in an example means information not directly related to the example has been omitted.
italics	Italics with initial capitals indicates the title of a book. For example, the The Middleware Source Book.
	Italics for a lowercase text string indicates emphasis of a term. For example, the first entry.

1
Overview

This chapter contains the following information:

- A description of NAS (Section 1.1)
- A brief overview of the NAS Packages (Section 1.2)
- The components of the NAS Packages (Section 1.2.1 and Section 1.2.2).

1.1 What NAS Is

NAS (Network Application Support) is a set of standards-compliant software that resides above the base platform (hardware and operating system), providing client/server enabling software. The term middleware is used to describe this level of software.

NAS software provides a consistent set of interfaces to support applications running on different platforms. It is the OpenVMS approach to enterprise-wide information systems.

The NAS architecture defines a comprehensive set of services that enables applications to work easily across diverse hardware and software platforms and networks. The NAS architecture groups these services into six categories:

- Presentation services
- Printing services
- Communication services
- Control services
- Computation services
- Management services

The components of the NAS packages represent the implementation of the services defined by the NAS architecture. For example, DECwindows Motif implements the X-Windows Motif and PEX standards.

This guide provides an overview of considerations for installing the components and installing and using the NAS packages licenses and tools.

1.2 NAS Packages

The NAS packages make it easy to use NAS services. They include an integrated set of the most commonly used services, along with the underlying network transports. They merge a set of components that enables the creation of run-time clients and servers.

The NAS Client 150 provides base client software services: network transports, graphical user interface (GUI), and clustering. These services allow the integration of data and applications in a distributed, multiplatform client/server environment.

The NAS Base Server 200 provides the choice of common network transports and base services, such as print and file sharing, and presentation services required for distributed client/server environments.

The NAS Client 250 builds on the NAS Client 150 and provides the client and peer-to-peer software to allow PCs and workstations to integrate with users, data, and other applications in a distributed, multiplatform client/server environment.

The NAS Server 300 includes the NAS Base Server 200 and extends it with a set of commonly used industry-standard application programming interfaces (APIs) and services that enable applications to integrate with users, data, and other applications in a distributed, multiplatform client/server environment.

Building upon the NAS Server 300, the NAS Production Server 400 enhances the reliability and availability of applications, data, and systems for business-critical environments such as transaction processing.

This guide provides information about NAS Packages Version 8.3 for OpenVMS VAX and Alpha Systems.

1.2.1 What Has Changed in the NAS Packages

The NAS Packages have moved to a license-only delivery as of Version 8.1a (January 1998). Separate NAS media has been discontinued. The NAS components can be found on the Software Product Library. Some can be ordered separately.

NAS Packages Version 8.3A documents the NAS component product changes since Version 8.1A, including product updates and retirements.

1.2.2 Components of the NAS Packages

The tables in this section list the components in the various NAS Packages.

The NAS packages do not provide a license for all components delivered (for example, PATHWORKS server software). Consult the Software Product Description (SPD) for your NAS package for licensing information about a specific component.

The version of each NAS component licensed is as stated within the Software Products Library of the calendar quarter in which the NAS PAK is dated. Update licenses may be purchased for use of later versions of any component.

The notes in the tables indicate that some of the components listed are system-integrated products (SIPs), installed as part of the operating system. Your NAS package provides licenses to run these products.

Online documentation for these SIPs is provided on the OpenVMS VAX and OpenVMS Alpha operating system documentation CD–ROMs. Online documentation for the other NAS Packages components is provided on the Online Documentation Library CD–ROM (available as part of the Software Products Library or separately orderable).

Table 1–1 lists the components of the NAS Client 150. See Table 1-2 through Table 1-5 for individual package components for NAS Base Server 200, NAS Client 250, NAS Server 300, and NAS Production Server 400. For further information, see the SPD for each package.

Table 1–1 NAS Client 150

Package Name	License Name	SPD VAX	SPD Alpha
NAS Client 150	NET-APP-SUP-150	62.99	62.90
Component Name	**License Name**	**SPD VAX**	**SPD Alpha**
Compaq DECnet-Plus for OpenVMS End System	DVNETEND	25.03	50.45
Compaq DECnet for OpenVMS End Node (license)[1]	DVNETEND	48.48	48.48
Compaq DECwindows Motif for OpenVMS	DW-MOTIF	42.19	42.19
Compaq TCP/IP Client for OpenVMS	UCX-IP-CLIENT	46.46	46.46
Compaq VMScluster Client Software for OpenVMS[1]	VMSCLUSTER-CLIENT	29.78	29.78

[1]This is a system-integrated product (SIP).

Table 1-2 lists the components of the NAS Base Server 200.

Table 1–2 NAS Base Server 200

Package Name	License Name	SPD VAX	SPD Alpha
NAS Base Server 200	NET-APP-SUP-200	36.86	44.54
Component Name	**License Name**	**SPD VAX**	**SPD Alpha**
Compaq DECnet-Plus for OpenVMS End System	DVNETEND	25.03	50.45
Compaq DECnet for OpenVMS End Node (license)[1]	DVNETEND	48.48	48.48
Compaq DECprint Supervisor (DCPS) for OpenVMS[3]		44.15	44.15
Base	DCPS-BASE		
Plus	DCPS-PLUS		
Open	DCPS-OPEN		
Compaq DECwindows Motif for OpenVMS	DW-MOTIF	42.19	42.19
Compaq PATHWORKS for OpenVMS (Advanced Server)[2]		30.50	30.50
Compaq TCP/IP Services for OpenVMS	UCX	46.46	46.46

[1]This is system-integrated product (SIP).

[2]Tested, but not licensed with NAS

[3]License rights are now included with OpenVMS Operating System

Table 1-3 lists the components of the NAS Client 250.

Table 1–3 NAS Client 250

Package Name	License Name	SPD VAX	SPD Alpha
NAS Client 250	NET-APP-SUP-250	36.89	44.57
Component Name	**License Name**	**SPD VAX**	**SPD Alpha**
Compaq DECforms for OpenVMS Run-Time Only System	FORMS-RT	29.90	29.90
Compaq DECnet-Plus for OpenVMS End System	DVNETEND	25.03	50.45
Compaq DECnet for OpenVMS End Node (license)[1]	DVNETEND	48.48	48.48
Compaq DECprint Supervisor (DCPS) for OpenVMS[2]		44.15	44.15
Base	DCPS-BASE		
Plus	DCPS-PLUS		
Compaq DECwindows Motif for OpenVMS	DW-MOTIF	42.19	42.19
Compaq TCP/IP Services for OpenVMS	UCX	46.46	46.46
Compaq VAXcluster Software for OpenVMS VAX[1]	VAXCLUSTER	29.78	
or			29.78
Compaq VMScluster Software for OpenVMS Alpha[1]	VMSCLUSTER		
DEC Distributed Queuing Service for OpenVMS	DQS	28.80	45.86
Reliable Transaction Router Client for OpenVMS	RTR-CL	34.30	51.04

[1]This is a system-integrated product (SIP).

[2]License rights are now included with OpenVMS Operating System

Table 1-4 lists the components of the NAS Server 300.

Table 1–4 NAS Server 300

Package Name	License Name	SPD VAX	SPD Alpha
NAS Server 300	NET-APP-SUP-300	36.85	44.55
Component Name	**License Name**	**SPD VAX**	**SPD Alpha**
Compaq DECforms for OpenVMS Run-Time Only System	FORMS-RT	29.90	29.90
Compaq DECnet-Plus for OpenVMS Extended Function	DVNETEXT	25.03	50.45
Compaq DECnet for OpenVMS Full Function (license)[1]	DVNETRTG	48.48	48.48

[1]This is system-integrated product (SIP).

(continued on next page)

Table 1–4 (Cont.) NAS Server 300

Component Name	License Name	SPD VAX	SPD Alpha
Compaq DECprint Supervisor (DCPS) for OpenVMS[3]		44.15	44.15
Base	DCPS-BASE		
Plus	DCPS-PLUS		
Open	DCPS-OPEN		
Compaq DECwindows Motif for OpenVMS	DW-MOTIF	42.19	42.19
Compaq PATHWORKS for OpenVMS (Advanced Server)[2]		30.50	30.50
Compaq TCP/IP Services for OpenVMS	UCX	46.46	46.46
Compaq VAXcluster Software[1]	VAXCLUSTER	29.78	
or			
Compaq VMScluster Software[1]	VMSCLUSTER		29.78
DEC Distributed Queuing Service for OpenVMS	DQS	28.80	45.86
Reliable Transaction Router Client for OpenVMS	RTR-CL	51.04	51.04

[1]This is system-integrated product (SIP).

[2]Tested, but not licensed with NAS

[3]License rights are now included with OpenVMS Operating System

Table 1-5 lists the components of the NAS Production Server 400.

Table 1–5 NAS Production Server 400

Package Name	License Name	SPD VAX	SPD Alpha
NAS Production Server 400	NET-APP-SUP-400	40.63	44.56

Component Name	License Name	SPD VAX	SPD Alpha
Compaq ACMS for OpenVMS (Run-Time)	ACMS-RT	25.50	25.50
Compaq DECforms for OpenVMS Run-Time Only System	FORMS-RT	29.90	29.90
Compaq DECnet-Plus for OpenVMS Extended Function	DVNETEXT	25.03	50.45
Compaq DECnet for OpenVMS Full Function (license)[1]	DVNETRTG	48.48	48.48
Compaq DECprint Supervisor (DCPS) for OpenVMS[3]		44.15	44.15
Base	DCPS-BASE		
Plus	DCPS-PLUS		
Open	DCPS-OPEN		
Compaq DECwindows Motif for OpenVMS	DW-MOTIF	42.19	42.19

[1]This is system-integrated product (SIP).

[3]License rights are now included with OpenVMS Operating System

(continued on next page)

Table 1–5 (Cont.) NAS Production Server 400

Component Name	License Name	SPD VAX	SPD Alpha
Compaq VAXcluster Software[1]	VAXCLUSTER	29.78	
or			
Compaq VMScluster Software[1]	VMSCLUSTER		29.78
Compaq PATHWORKS for OpenVMS (Advanced Server)[2]		30.50	30.50
Compaq RMS Journaling for OpenVMS VAX (license)[1]	RMSJNL	27.58	27.58
Compaq TCP/IP Services for OpenVMS	UCX	46.46	46.46
Compaq Volume Shadowing for OpenVMS[1]	VOLSHAD	27.29	27.29
DEC Distributed Queuing Service for OpenVMS DQS		28.80	45.86
Reliable Transaction Router for OpenVMS		51.04	51.04
Client	RTR-CL		
Full Function	RTR-SVR		

[1]This is system-integrated product (SIP).

[2]Tested, but not licensed with NAS

1.3 How to Locate the NAS Packages Products

For information on where to locate the NAS packages components contained on the Software Products Library CD–ROM set, refer to table 1-2 of the Software Products Library Master Index (hardcopy), or the [README] directory contained on disc 1.

Table 1–6 lists the Software Products Library directory names and the corresponding NAS packages:

Table 1–6 NAS Packages Directories

[NAS_CLIENT_150]	NAS Client 150
[NAS_BASE_SERVER]	NAS Base Server 200
[NAS_CLIENT_250]	NAS Client 250
[NAS_SERVER_300]	NAS Server 300
[NAS_PROD_SERVER_400]	NAS Production Server 400

Each directory is divided into:

- A .KIT subdirectory containing binaries (save sets and PCSI files) for the specific NAS package. This subdirectory is not currently used. All savesets and files for components are in the .kit directories of the components.
- A .DOCUMENTATION subdirectory containing documentation in ASCII (.TXT) and PostScript[TM] (.PS) formats for the specific NAS package.

For example, the NAS Client 250 directory is structured as follows:

[NAS_CLIENT]	
[NAS_CLIENT.KIT]	Empty directory
[NAS_CLIENT.DOCUMENTATION]	NAS Client 250 and component installation documentation, SPD, Cover Letter

Table Table 1–7 lists the printable documentation provided within the .DOCUMENTATION directories for the NAS Client 150, NAS Base Server 200, NAS Client 250, NAS Server 300, and NAS Production Server 400. These documents are provided in .PS (PostScript) and .TXT (ASCII) formats.

Table 1–7 NAS Packages-Specific Documentation

File Name	Type of Document
NAS-dir-name_SPD.TXT (.PS)	NAS packages SPDs
NAS_IGUIDE.TXT (.PS)	NAS Installation Guide (this guide)
NAS_COVER.TXT (.PS)	NAS packages cover letters

1.3.1 Accessing Component Installation Guides, Cover Letters, and SPDs

For most NAS packages component products, Installation Guides, cover letters, and SPDs are located in that product's .DOCUMENTATION subdirectory on the Software Products Library. See the NAS table in the Software Products Library Master Index for the component product directory names. In addition, installation guides are typically included in the Online Documentation Library.

For the NAS packages components that are system-integrated products, the installation guides, cover letters, and SPDs can be found in the Operating System Kit. The system-integrated products within NAS packages include:

DECnet for OpenVMS (Phase IV)
RMS Journaling for OpenVMS
VMScluster or Compaq VAXcluster Software
Volume Shadowing for OpenVMS

2
NAS Packages Preparation and Installation

This chapter discusses the preparation for and installation of the NAS packages licenses. Appendix A describes the prerequisites for installing the NAS packages components. Section 3.4 describes the installation of the NAS packages components.

This chapter describes:

- Installation prerequisites for the NAS packages (Section 2.1)
- Licensing requirements for the NAS packages (Section 2.2)
- Using the POLYCENTER Software Installation (PCSI) Utility (Section 2.3)
- Using the VMSINSTAL utility (Section 2.4)
- Modifying the system parameters for NAS packages components (Section 2.5)
- Identifying and reporting errors (Section 2.6)

2.1 Installation Prerequisites for the NAS Packages

This section describes the hardware and software prerequisites, required tailoring classes for installing the NAS packages, and system backup suggestions.

2.1.1 Required Hardware

The NAS packages support all the valid Alpha CPU and all VAX CPU configurations, except as noted in the following list:

- MicroVAX™ I
- VAXstation™ I
- VAXstation 8000
- VAX–11/725
- VAX–11/730
- VAX–11/750
- VAX–11/782

For a list of the processors supported by individual components, see the individual component SPDs.

Table 2-1 shows the memory and the disk space required to install each NAS package. To run the components, you may need additional disk space.

Table 2–1 NAS Packages Hardware Requirements

NAS Package[1]	Disk Space During Installation In Blocks	In MB	Disk Space After Installation In Blocks	In MB	Memory
OpenVMS VAX					
NAS Client 150	490 000	240	481 000	235	32 MB
NAS Base Server 200	576 000	281	563 000	275	32 MB
NAS Client 250	524 000	256	501 000	245	32 MB
NAS Server 300	601 000	294	578 000	282	32 MB
NAS Production Server 400	601 000	294	578 000	282	32 MB
OpenVMS Alpha					
NAS Client 150	744 200	364	728 000	356	32 MB
NAS Base Server 200	852 000	416	831 000	406	32 MB
NAS Client 250	800 000	391	760 800	372	32 MB
NAS Server 300	921 000	450	874 800	427	32 MB
NAS Production Server 400	921 000	450	874 000	427	32 MB

[1]See the individual NAS Packages SPDs for further information

2.1.2 Required Operating System Software

The NAS Packages for OpenVMS VAX V8.3A require OpenVMS VAX 7.3.

The NAS Packages for OpenVMS Alpha V8.3A require OpenVMS Alpha 7.3-1

You must have a current and valid OpenVMS VAX or OpenVMS Alpha operating system license already loaded. See Appendix D, "NAS/Operating System Compatibility Matrix" for a list of component products supporting other OS versions.

2.1.3 Required OpenVMS Tailoring Classes

The OpenVMS operating system comes with a variety of support options, or classes. The NAS packages components require the following OpenVMS tailoring classes:

- Network Support
- Programming Support
- System Programming Support
- Secure User's Environment
- Utilities
- OpenVMS Workstation Support
- Miscellaneous Files
- Translated Image Files (Alpha only)

2.1.4 Backing Up Your System Disk

At the beginning of an installation, VMSINSTAL asks if you have backed up your system disk; POLYCENTER Software Installation (PCSI) does not ask. OpenVMS Engineering recommends that you perform a standalone backup of your system disk before installing any software. Use the backup procedures that have been established at your site.

For details on backing up your disk, see the OpenVMS System Managers Manual: Essentials and the OpenVMS System Management Utilities Reference Manual: A-L in the OpenVMS VAX operating system documentation.

2.2 NAS Packages License Requirements

Note

NAS Packages Version 8.3A software is furnished under the licensing provisions of Compaq Computer Company's Standard Terms and Conditions. For more information about Compaq licensing terms and policies, contact your local Compaq office, or visit the Compaq Software Licensing page on the World Wide Web at:

http://www.compaq.com/products/software/info/terms/swl_sld.html

You can install NAS package license only on OpenVMS VAX Version 7.1 or higher or OpenVMS Alpha Version 7.1 or higher. If you are running an earlier version of the OpenVMS operating system, you must upgrade before proceeding.

You must register the NAS package license with the OpenVMS License Management Facility (LMF) before you install the NAS components. Registering the NAS package license registers all the components for that package.

The Product Authorization Key (PAK) that is shipped with the NAS packages contains the license registration information you need. The PAK is a paper certificate that contains information about the license you have purchased to run all NAS component software.

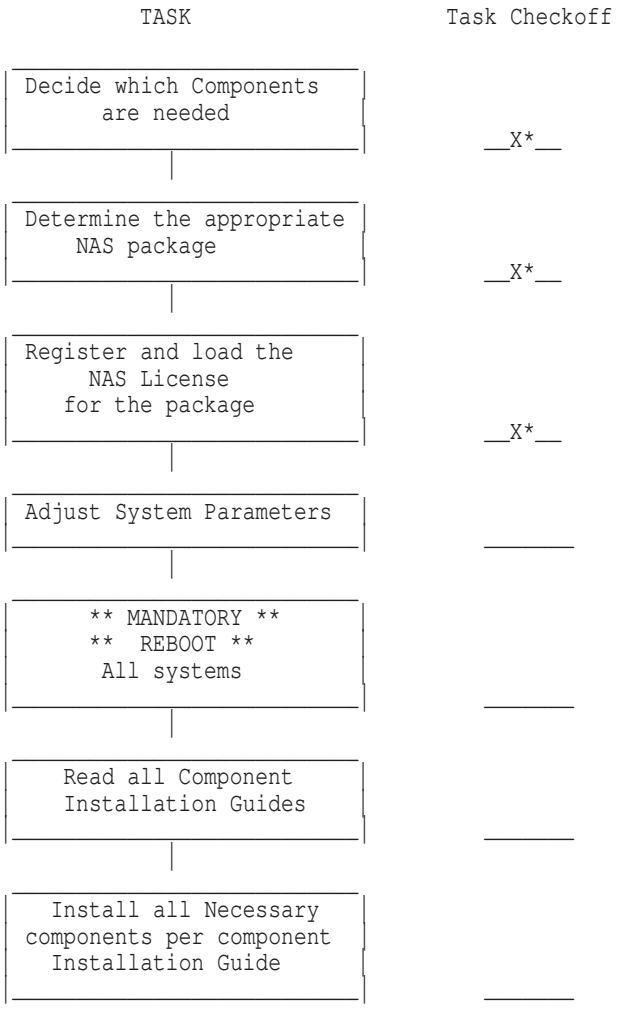
This section deals with license registration, which is a preinstallation procedure.

2.2.1 Installing a NAS Package: Summary

The checklist in Figure 2-1 summarizes the major steps necessary to successfully install a Compaq NAS package on OpenVMS VAX:

Figure 2–1 NAS Installation Checklist for OpenVMS Systems

A checklist summarizing the major steps necessary to successfully install a NAS package on OpenVMS:



* = In most cases you will have already done this, and these steps will not be necessary.

Note

If you are updating the system parameters, you must reboot your system before installing the individual NAS packages components, or the components installations may fail.

2.2.2 NAS packages License Registration

Register only the highest NAS packages license. For example:

- If you are upgrading to the NAS Server 300 or NAS Production Server 400 from the NAS Base Server 200
- If you are upgrading to the NAS Client 250 from the NAS Client 150

Disable and unload the lower-level license by using the LICENSE DISABLE and the LICENSE UNLOAD commands. These commands are described in the OpenVMS License Management Utility Manual.

In general, higher level NAS packages include the right to use all components of a lower level NAS package. The exception is the NAS Base Server 200, which does not include the right to use all NAS Client 150 components.

To register a license, log in to the SYSTEM account and run the SYS$UPDATE:VMSLICENSE.COM procedure. When the procedure prompts you for information, enter data from your PAK. The product name is one of the following, depending on which license you purchased:

NET-APP-SUP-150 for the NAS Client 150
NET-APP-SUP-200 for the NAS Base Server 200
NET-APP-SUP-250 for the NAS Client 250
NET-APP-SUP-300 for the NAS Server 300
NET-APP-SUP-400 for the NAS Production Server 400

2.2.3 VAXcluster/VMScluster License Requirements

If you are installing the NAS packages on a VAXcluster/VMScluster, you must:

1. Purchase a separate license for each node in your VAXcluster or VMScluster that will use the NAS packages.

   The NAS Base Server 200 does not include a license for VAXcluster or VMScluster Software.

2. Register a license for each node in the VAXcluster that will use the NAS packages, using the command procedure SYS$UPDATE:VMSLICENSE.COM.

3. Modify the license to limit its use to the intended node with a command in the following format:

   ```
   LICENSE MODIFY /INCLUDE=nodename /AUTH=authorization#  NET-APP-SUP-nnn
   ```

   In this format:

   - nodename is the name of the node on which VAXcluster can be used.
   - authorization# is your license authorization number.
   - nnn indicates the NAS package you are registering.

   The following example modifies the license for the NAS Server 300 on node MYNODE in a VAXcluster:

   ```
   $ LICENSE MODIFY /INCLUDE=MYNODE /AUTH=AL9-WM-99999-999 NET-APP-SUP-300
   ```

4. Enter the LICENSE LOAD command from the node you indicate in step 3, or use the OpenVMS SYSMAN Utility.

For complete information on using LMF, see the OpenVMS License Management Utility Manual in the OpenVMS operating system documentation CD–ROM.

2.2.4 NAS Packages Licenses that Duplicate Existing Licenses

If your system contains a license for a NAS packages component that is separate from the NAS packages license, then a licensing problem may exist. To avoid the problem, you should modify single component license(s) to exclude the node(s) licensed to the NAS PAK.

Modify the NAS packages license to include only the node that it licenses.

For example, use a procedure in the following format to prevent a new node from using the current DECwindows Motif (DW-MOTIF) license on the cluster and use the NAS Server 300 license instead:

```
$ LICENSE MODIFY DW-MOTIF/EXCLUDE=NAS-node-name
$ LICENSE MODIFY NET-APP-SUP-300/INCLUDE=NAS-node-name /AUTH=authorization#
```

License names for the NAS component products can be found in Chapter 1, within the tables listing the components for each NAS package.

For more information on modifying existing licenses, see Section 2.2.3 and the OpenVMS License Management Utility Manual.

2.3 Using the POLYCENTER Software Installation (PCSI) Utility

NAS Packages Version 8.3A provide some of the NAS components in POLYCENTER Software Installation (PCSI) format. PCSI distributions have several advantages over traditional VMSINSTAL kits. Some of the major advantages are improved installation speed and the ability to track and deinstall products at a later date.

PCSI has both DCL and DECwindows Motif interfaces. For more information on either interface, see the POLYCENTER Software Installation Utility User's Guide.

Note

You must read the component installation guides before performing an installation using PCSI. Each component's installation guide provides the specific installation commands for that component, which may be different from the installation commands used to install the NAS packages.

2.4 Using the VMSINSTAL Utility

Use the VMSINSTAL utility to install most of the NAS components.

To use VMSINSTAL:

1. Set your default directory to SYS$UPDATE.
2. Invoke VMSINSTAL using a command in the following format:

   ```
   $ @SYS$UPDATE:VMSINSTAL save-set-name device-name: OPTION N
   ```

   In this format, save-set-name is the name of the save set you are installing and device-name: is the name of the device on which you are installing. If you do not supply these two parameters VMSINSTAL prompts you for the product and device names.

If you want to be prompted for the product and device names and to display or print the release notes, use the following format:

```
$ @SYS$UPDATE:VMSINSTAL "" "" OPTIONS N
```

3. VMSINSTAL then checks the following:

   - Whether you logged in to a privileged account.

     VMS Engineering recommends that you install software from the system manager's account with your default device and directory set to SYS$UPDATE.

   - Whether you have adequate quotas for installation. See Section A.1.4 for the process account quotas required for installation of the NAS packages.
   - Whether DECnet is up and running.
   - Whether any users are logged in to the system.

   If either of these last two conditions exist, you should remove the condition before resuming the installation procedure.

If VMSINSTAL detects any problems during the installation, it notifies you and asks if you want to continue the installation. If you have any questions about whether you should continue, refer to the NAS packages component installation guides. To stop the installation process and correct the situation, enter N and press Return. Then correct the problem and restart the installation.

2.5 Modifying System Parameters

This section describes:

- Checking system parameter values
- Using MODPARAMS_NAS*.DAT to update system parameters
- Calculating the values for GBLPAGES and GBLSECTIONS
- Changing system parameter values with AUTOGEN

2.5.1 Checking System Parameter Values

To check the values of your system parameters:

1. Enter the following command at the DCL prompt to invoke the System Generation Utility (SYSGEN):

   ```
   $ RUN SYS$SYSTEM:SYSGEN
   ```

   The screen displays the SYSGEN> prompt.

2. Enter the SHOW command and a system parameter name to display the value of that parameter.

   The values displayed should equal or exceed the value of each system parameter listed in the appropriate System Parameter Requirements table in Section A.2 for the NAS package you are installing:

NAS Client 150	Table A–4
NAS Base Server 200	Table A–5
NAS Client 250	Table A–6

NAS Server 300	Table A–7
NAS Production Server 400	Table A–8

For example, the following command displays the value for the WSMAX system parameter:

```
SYSGEN> SHOW WSMAX
```

3. After checking the parameters, enter EXIT at the SYSGEN> prompt to return to DCL level.

2.5.2 Using MODPARAMS_NAS*.DAT to Update System Parameters

The NAS Packages Version 8.2 provide a choice of data files (MODPARAMS_NAS*.DAT) that can be edited into your MODPARAMS.DAT file. This provides the minimum parameters necessary in order to install the NAS packages. You may need to increase the parameters specified in these files, depending on what other products are installed on your system.

Table 2-2 lists the files that are provided in the NAS kits.

Table 2–2 MODPARAM Files for NAS Packages

NAS Package	MODPARAM File Name
NAS Client 150	MODPARAMS_NAS_CLIENT_150.DAT
NAS Base Server 200	MODPARAMS_NAS_BASE_SERVER.DAT
NAS Client 250	MODPARAMS_NAS_CLIENT.DAT
NAS Server 300	MODPARAMS_NAS_SERVER.DAT
NAS Production Server 400	MODPARAMS_NAS_PROD_SERVER.DAT

To use MODPARAMS_NAS*.DAT to update your MODPARAMS.DAT file:

1. Find MODPARAMS_NAS*.DAT in the [NAS_*.DOCUMENTATION] directory. To locate the volume number of the CD where this directory resides, refer to your SPL master index. The directories are described in Table 1–6.
2. Append the MODPARAMS_NAS*.DAT file to the end of SYS$SYSTEM:MODPARAMS.DAT.
3. After combining the two files, if there are two values for the same MIN_ parameter, delete the line that contains the lower value.

If you refer to MODPARAMS_NAS.DAT, please update your MODPARAMS.DAT file to reference the new NAS packages parameter files.

2.5.3 Calculating the Values for GBLPAGES and GBLSECTIONS

To install and run the NAS packages, you must have sufficient free global pages and global sections. The values for GBLPAGES and GBLSECTIONS in the System Parameter Requirements tables provided in Section A.2 indicate the unused global sections and unused global pages your system needs for the installation to process successfully.

To calculate how many unused global pages and global sections your system has:

1. Run the Install Utility (INSTALL) using the following command:

   ```
   $ INSTALL LIST /GLOBAL /SUMMARY
   ```

   The Install Utility displays a summary of global pages and global sections used by your system, as well as the current number of unused global pages. For example:

   ```
   Summary of Local Memory Global Sections

   258 Global Sections Used, 22580/3420 Global Pages Used/Unused
   ```

2. Determine if the number of unused global pages (3420 in the example) is equal to or greater than what you need. If the number of unused pages is less than what you require, you need to increase the value for GBLPAGES.

3. Note the amount shown for Global Sections Used (258 in the example).

4. Run the System Generation Utility (SYSGEN) and use the SHOW command to determine how many global sections have been allocated. For example:

   ```
   $ RUN SYS$SYSTEM:SYSGEN

   SYSGEN> SHOW GBLSECTIONS

   Parameter Name Current Default Minimum Maximum Unit
   -------------- ------- ------- ------- ------- ----
   GBLSECTIONS    512     250     20      4095    Sect
   ```

5. Add the amount shown in the summary (258 in the example) to the value for GBLSECTIONS in the appropriate System Parameter Requirements table provided in Section A.2. If the resulting value is greater than the value for currently available GBLSECTIONS as shown by SYSGEN in step 4, you must increase the value of the GBLSECTIONS parameter.

Section 2.5.4 describes the procedures for increasing these values using AUTOGEN. Refer to the OpenVMS System Management manual for information on using AUTOGEN.

You can use the WRITE command with the F$GETSYI lexical function to find the number of free global pages and global sections. The following example shows how to get this information at your terminal (the default for SYS$OUTPUT):

```
$ WRITE SYS$OUTPUT F$GETSYI("CONTIG_GBLPAGES")
15848
$ WRITE SYS$OUTPUT F$GETSYI("FREE_GBLSECTS")
24
```

2.5.4 Changing System Parameter Values with AUTOGEN

The component installation guides provide the detailed preinstallation information for each of the components. A system reboot is necessary to incorporate system parameter changes and should be done using AUTOGEN. Each NAS package component has its own system parameter requirements that would require multiple reboots if treated separately.

The System Parameter Requirements tables provided in Section A.2 list the minimum required system parameters for each NAS package. The files MODPARAMS_NAS*.DAT contain these parameters, which you use to reset MODPARAMS.DAT. Using these parameters allows you to reset all your system parameters. Use AUTOGEN to tune the parameters based upon your system workload, and then reboot the system once.

By performing these preliminary steps, you avoid a system reboot for each NAS package component to have the parameter changes take effect.

Use the AUTOGEN command procedure to change system parameters. AUTOGEN automatically adjusts values for parameters that are associated with the values you reset manually.

To change system parameters with AUTOGEN:

1. Edit the file SYS$SYSTEM:MODPARAMS.DAT using thes eguidelines:

   - To change a parameter value listed in this file, delete the current value associated with that parameter and enter the new value.
   - To add a new parameter, add a line to the file that includes both the name of the parameter and its value. For example:

     ```
     WSMAX = 4200
     ```

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

     ```
     ADD_GBLPAGES = 2000
     ```

   When you set the page file quota, do not use a value that exceeds the amount of page file space available on the system.

   It is recommended that you use MIN_parameter to set parameters in MODPARAMS.DAT. (An exception does exist: values for NPAGEDYN are additive.) Add the values supplied in the appropriate system parameter requirements table from Section A.2 to the current system values. Use SYSGEN to determine the current values of NPAGEDYN and NPAGEVIR. For example:

   ```
   $ MCR SYSGEN
   SYSGEN> USE ACTIVE

   SYSGEN> SHOW NPAGEDYN
   Parameter Name    Current    Default     Min.     Max.     Unit Dynamic
   --------------    -------    -------    -------  -------   ---- -------
   NPAGEDYN          4884992    360000     16384     -1       Bytes
   ```

   Current shows what your system is currently using. In this example you would add a line in the following format to your MODPARAMS.DAT file:

   ```
   MIN_NPAGEDYN = 4884992  + value-from-sys-param-table
   ```

   In this format, value-from-sys-param-table is the value from the appropriate System Parameter Requirements table in Section A.2.

2. Exit from the editor and execute the AUTOGEN procedure to recalculate your system parameters and reboot using the following command:

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

Note

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

The AUTOGEN Utility automatically adjusts some of the SYSGEN parameters based on the consumption of resources since the last reboot. If you do not want to take advantage of this automatic adjustment, include the NOFEEDBACK qualifier on the AUTOGEN command line.

For more information about using AUTOGEN, see the OpenVMS System Manager's Manual: Essentials.

2.6 Identifying and Reporting NAS Packages Installation Problems

If an error occurs that you believe is caused by a problem with the NAS packages installation, make sure that you have read the NAS packages release notes to see if the problem is known and has a solution. If your problem is not resolved by this means, do one of the following:

- If you have a BASIC or DECsupport Software Agreement, call your Customer Support Center.
- If you have a Self-Maintenance Software Agreement, submit a Software Performance Report (SPR).
- If neither of the above statements describes your situation and you are under warranty, submit an SPR.

In your call or SPR, please note which NAS package component you are having a problem with.

3

Installing the NAS Packages Components

This chapter describes the following:

- Component preinstallation considerations Section 3.1
- Component preinstallation checklist Section 3.2
- Component installation order and dependencies Section 3.3
- Component installation Section 3.4
- Postinstallation considerations Section 3.5

3.1 Component Preinstallation Considerations

This section describes some considerations you should be aware of before beginning the component installations.

3.1.1 Updating NAS Components

If you have already installed a NAS license package on your system, you will update that package by identifying and updating the component products. It is not necessary to re-install the license package.

The Master Index of the Software Products Library identifies the currently shipping and updating component versions.

This guide describes how to install each of the NAS™ Packages for OpenVMS™ VAX™Systems or OpenVMS Alpha Systems.

3.1.2 DECnet-Plus Considerations

The NAS packages provides Compaq DECnet-Plus™for OpenVMS VAX which is an implementation of Phase V of the DIGITAL Network Architecture (DNA). DECnet-Plus allows you to use DECnet protocols, OSI protocols, or both. You can also run DECnet and OSI applications, unchanged, over TCP/IP, and products from Compaq or from third parties.

To configure DECnet-Plus you can use the BASIC, FAST, or ADVANCED configuration. The BASIC configuration can be used in most cases. For details see the following manuals:

- DECnet-Plus for OpenVMS Installation and Basic Configuration Manual
- DECnet-Plus for OpenVMS Applications Installation and Advanced Configuration Manual

3.1.3 DECnet-Plus Component Restrictions

A limited number of NAS Packages components have some restrictions regarding the use of DECnet:

- Compaq PATHWORKS for OpenVMS (Advanced Server)

  This component does not support the use of long names. It will work with DECnet-Plus using node synonyms (allowing continued use of the standard 6-character node name).

  See the component documentation for details.

- Compaq TCP/IP Services for OpenVMS

  If you plan to use the DECnet-Plus over TCP/IP feature, then TCP\IP software is a prerequisite. Your end system will be able to operate over TCP\IP only if the TCP\IP product used on your system supports the PATHWORKS Internet Protocol (PWIP) interface.

3.1.4 Retired Product Considerations

Over time, some of the NAS component products havae been retired and the right to use those products is no longer included with the NAS packages. They are not shipped on the OpenVMS Software Products Library, and not supported.

If your original purchases of a NAS package included licenses for component products that have now been retired, your licenses will continue to be honored if you install a more recent NAS license package.

Please see Appendix C for a list of retired component products.

3.2 Component Preinstallation Checklist

Before installing components, be sure you have:

- Backed up your system, as described in Section 2.1.4
- Registered your NAS packages' licenses, as described in Section 2.2
- Modified your system parameters and rebooted, as described in Section 2.5
- Printed and read the component installation guides, as described in Section 1.3.1

3.3 Component Installation Order and Dependencies

See Table 3–1 for the installation order and dependencies for all the components provided through the NAS packages:

- Component Name lists the components.

  You do not have to install the entire NAS packages collection. Those components you do install must be installed in the order shown.

- PCSI Name or VMSINSTAL Save Set Name differentiates between components installed using VMSINSTAL and those installed using the POLYCENTER Software Installation Utility (PCSI).

  - Use VMSINSTAL to install those components designated in the format component-id.%, where component-id is the component save set name.

- Use PCSI to install those components designated in the format component-id/Version=version-number, where component-id is the PCSI name and version-number is the component version number.

- Dependencies indicates component dependencies.

  These products must be installed on your system before you can install or run a specific component.

Be sure to read the component installation guides before you install; they provide details on installation and configuration that are not described in this summary guide.

Note

You must install and license the OpenVMS VAX operating system before installing the NAS packages base kit or any of the NAS packages components.

Table 3–1 NAS Packages Installation Order

Component Name	Comment
Edit MODPARAMS.DAT as necessary, and reboot using AUTOGEN. See Section 2.5	
VMScluster Client for OpenVMS VAX[1]	
DECnet[1]	
RMS Journaling[1]	
Volume Shadowing[1]	
DECnet-Plus	See individual component
Base Kit	packages for restrictions on the
OSI Applications Kit[2]	use of transports, including: DECnet-Plus, DECnet Phase IV and DIGITAL TCP/IP.
DEC Distributed Queuing Service	
Compaq DECwindows Motif for OpenVMS VAX	
Compaq TCP/IP Services	
Compaq PATHWORKS for OpenVMS (Advanced Server)	
DECprint Supervisor	
Compaq DECforms	
Compaq ACMS	
Reliable Transaction Router	

[1]OpenVMS System Integrated Product (SIP). See your online OpenVMS VAX documentation for configuration information.

[2]The OSI Applications Kit is optional. You only need to install it if you plan to use an OSI application such as FTAM (file transfer access management), VT (Virtual terminal for remote login), X.400 (electronic mail), X.500 (distributed) directory services or any other OSI application.

3.4 Component Installation

To install NAS packages' components, complete the following steps:

1. Perform the component installations using either the VMSINSTAL Utility, which is described in Section 2.4, or the POLYCENTER Software Installation (PCSI) Utility. Refer to the specific directions in each component installation guide.
2. Configure each component as required by the component installation guide. Following configuration, rerun the component Installation Verification Procedure (IVP) if required. For more details about postinstallation requirements, see Section 3.5.
3. Using the component order in Table 3–1, add the startup commands for the components you have installed to SYS$MANAGER:SYSTARTUP_VMS.COM.

Note

Any component installation that requires editing of the SYS$MANAGER:SYSTARTUP procedure should refer to SYS$MANAGER:SYSTARTUP_VMS.COM, not SYS$MANAGER:SYSTARTUP_V5.COM.

4. Edit MODPARAMS.DAT as necessary, following the instructions in Section 2.5.
5. Reboot your system using AUTOGEN, as indicated in the component installation guides.

3.5 Postinstallation Considerations

Each NAS packages' component has its own postinstallation requirements. Read the installation guide for each component you install to determine what postinstallation actions you need to take. Note whether you must reboot your system to complete the installation.

It is not required that you configure DECnet in order to install DECwindows Motif. If you decide to use DECwindows Motif in conjunction with DECnet, be sure to follow the postinstallation instructions in the DECwindows Motif Installation Guide.

In some cases, an Installation Verification Procedure (IVP) might fail. Even though the IVP has failed, the product may have been installed successfully. Please consult your component installation guide for further information.

4

Upgrading NAS Packages Versions or Levels

This chapter describes the following:

- Installing a higher-level NAS packages license Section 4.1
- Installing a lower-level NAS packages license Section 4.2
- Installing NAS on an earlier version of OpenVMS Section 4.3

Note

If you are performing more than one of the above listed actions, perform them in the order listed above.

The following explains how to determine if it is necessary to replace your current Product Authorization Key (PAK) and how to do so.

Check the current license status by entering the following command from the node you want to license:

```
$ SHOW LICENSE NET-APP-SUP-*
```

If you see the message %SHOW-I-NOLICMATCH, no licenses match the search criteria; you need to install the new PAK. Register and load the new NAS packages license. See Section 2.2.2 for details.

If the SHOW LICENSE command displays a license, compare the level of the new license to the level of the installed license:

- If the new license level is lower than the installed license level, see Section 4.2.
- If the new license level is the same, you do not need to install a new PAK.
- If the new license level is higher, proceed to Section 4.1.

4.1 Installing a Higher Level of NAS Packages Software

Higher level NAS packages provide additional software to support additional user needs. The steps involved in installing a higher NAS packages level are the same as they are for installing NAS package license for the first time:

1. Register and load the new NAS packages license (see Section 2.2.2).
2. Readjust your system parameters to reflect the requirements of the new NAS packages level you install (see Section A.1.3).

3. Reinstall the NAS packages components (see Chapter 3).

Note

Remember an upgrade license (NAS 200 to NAS 300 for example), requires a return of the previous lower level license. You will not be allowed to use any duplicate licenses in this case.

4.2 Installing a Lower-Level NAS License

Installing a new version of NAS packages with a lower-level NAS packages license is not recommended. If you attempt to install a lower-level NAS packages license and you remove the old license, NAS packages components that are part of the higher level may not run.

4.3 Installing NAS on an Earlier Version of OpenVMS

If you plan to run NAS on an earlier version of the OpenVMS operating system, you may need an update to the LMF group table. An update patch kit may be obtained at

http://www.compaq.com/support/files/

Look for Software Patches, OpenVMS. Use the search engine for the filename: VAXLMF03_061.

A

Component Installation Prerequisites

This appendix has two major sections: prerequisites common to all packages and package-specific prerequisites.

A.1 Prerequisites Common to All Packages

The prerequisites described in this section are common to all the NAS packages. See Section A.2 for specific values for prerequisites for each package.

A.1.1 Privileges

To install the NAS packages, you must be logged in to an account that has full system privileges.

If you are installing a component using VMSINSTAL, note that VMSINSTAL turns off BYPASS privilege at the start of the installation.

A.1.2 Required Disk Space and Installation Times

The disk space requirements for the individual NAS packages components are shown in Section A.2, Table A–3.

This table gives disk space requirements during and after installation, and also gives the approximate installation times for the separate components based on CD–ROM installatiions. In general, the times given are for the VMSINSTAL procedure or POLYCENTER Software Installation (PCSI) Utility only. They do not include the time required for pre- and post-installation tasks, or the time required for running the Installation Verification Procedures (IVPs).

A.1.3 System Parameter Requirements

The following tables in Section A.2 give the system parameter values for each NAS package:

NAS Client 150	Table A–4
NAS Base Server 200	Table A–5
NAS Client 250	Table A–6
NAS Server 300	Table A–7
NAS Production Server 400	Table A–8

The values given are for a fully installed configuration. (See Section 2.5.4 to fine tune system parameters for the particular work load needs of your system.)

Note

A system reboot is necessary to incorporate system parameter changes and should be done using AUTOGEN (see Section 2.5.4).

The values shown in the tables in Section A.2 are intended as a general guideline and should not be construed as absolutes. Each table reflects the values in the MODPARAMS_NAS*.DAT file for a specific platform, as described in Section A.2. After the configuration you have installed has been running successfully for some period of time, you may want to change the values for parameters that are not being properly utilized.

This is particularly relevant if you have not installed all of the NAS components or you are not using them simultaneously. Use AUTOGEN to size these values according to how you use the system.

For DECnet, you must determine the values for SCSNODE, SCSSYSTEMID, and SYSMWCNT (see the PATHWORKS V5 for OpenVMS (LAN Manager) Server Installation and Upgrade Guide). For example:

SCSNODE = same as DECnet node name for the server
SCSSYSTEMID = (1024x DECnet area number) + DECnet–VAX node number
SYSMWCNT = current value of SYSMWCNT + (number of GBLPAGES being added / 128)

Round SYSMWCNT up to the nearest integer.

For example, if you are using GBLPAGES=55 000 to install PATHWORKS V5 for OpenVMS (LAN Manager), add an additional 429 to SYSMWCNT.

If you are in a VAXcluster or VMScluster environment, SCSNODE and SCSSYSTEMID should already be appropriately set. If you must change SCSNODE to make it the same as the DECnet node name, you must also create a new queue file and redefine the queues. See the OpenVMS system management documentation for instructions on this procedure.

A.1.4 Process Account Quotas

The user account you use to install the NAS Packages must have sufficient process quotas to enable you to perform the installation. Section A.1.4 summarizes these minimum quotas.

Table A–1 NAS Packages Process Account Quotas

Quota Name	VAX Value	Alpha Value
ASTLM	325	24
BIOLM	100	18
BYTLM	200 000	200 000

(continued on next page)

Table A–1 (Cont.) NAS Packages Process Account Quotas

Quota Name	VAX Value	Alpha Value
DIOLM	100	18
ENQLM	2 000	200
FILLM	300	100
JTQUOTA	4 096	
PGFLQUOTA	32 000	
PRCLM	10	3
TQELM	10	
WSDEF	512	
WSEXTENT	16 384	
WSQUOTA	1 024	

The file SYSUAF.DAT contains process quotas for users, including those for the installing account. Use the OpenVMS Authorize Utility (AUTHORIZE) to verify and change user account quotas. To verify and change user account quotas:

1. Set your default directory to SYS$SYSTEM.
2. Run AUTHORIZE by entering the following commands:

```
$ SET DEFAULT SYS$SYSTEM
$ RUN AUTHORIZE
```

   The screen displays the UAF> prompt.

3. Use the SHOW command with an account name to check that particular account. For example:

```
UAF> SHOW SYSTEM
```

4. To change a quota, use the MODIFY command in the following format:

```
MODIFY account-name /quota-name=nnn
```

The following example changes the BYTLM quota for the SYSTEM account:

```
UAF> MODIFY SYSTEM/BYTLM=64000
```

5. To exit from the utility, enter EXIT at the UAF> prompt.

   After you exit from the utility, the system displays messages indicating whether or not changes were made.

6. After the changes have been made, you must log out and log in again for the new quotas to take effect.

   For more information on modifying account quotas, see the OpenVMS System Management Utilities Reference Manual.

A.1.5 DECnet Executor Parameters

Table A–2 lists the DECnet executor parameters, which must have at least the values indicated.

Table A–2 DECnet_Executor_Parameters

Parameter	VAX Value	Alpha Value
MAX LINKS	100	100
PIPELINE QUOTA	13 000	13 000

A.1.6 Identifying and Reporting Component Installation Problems

If an error occurs that you believe is caused by a problem with the installation of a NAS package component, make sure that you have read the component installation guides to see if the problem is known and has a solution. If your problem is not resolved by this means, do one of the following:

- If you have a BASIC or DECsupport Software Agreement, call your Customer Support Center.
- If you have a Self-Maintenance Software Agreement, submit a Software Performance Report (SPR).
- If neither of the above statements describes your situation and you are under warranty, submit an SPR.

In your call or SPR, please note which NAS packages component you are having a problem with.

A.2 Package-Specific Prerequisites

This section provides tables for each of the NAS packages, describing the installation times and disk space required for each component, and the SYSGEN parameters required to run the package if all components are installed.

A.2.1 NAS Component Disk Space Requirements

Table A–3 describes the disk space and time required to install the components of the NAS packages, and includes a matrix to show which packages contain each component. The component versions shown below are included in the NAS 8.3A release, and support OpenVMS Alpha Version 7.3-1 or OpenVMS VAX Version 7.3.

Table A–3 NAS Component Disk Space and Installation Time Requirements

NAS Package Component	Blocks During Install	Blocks After Install	Time in min-utes	NAS Package				
OpenVMS VAX								
Compaq ACMS for OpenVMS Run-Time 4.4B	28 000	25 000	5					400
Compaq DECforms Run-Time Only System 3.2	3 000	2 600	5			250	300	400
Compaq DECnet-Plus for OpenVMS VAX 7.3				150	200	250	300	400
Base Kit	89 000	89 000	5	150	200	250	300	400
OSAK	5 000	6 900	5	150	200	250	300	400
FTAM	28 000	28 000	5	150	200	250	300	400
VT	4 000	4 000	5	150	200	250	300	400
Compaq DECprint Supervisor (DCPS) Base, Plus, Open 2.1	5 900	5 500	10		200	250	300	400
Compaq DECwindows Motif 1.2-6	119 000[2]	108 000[2]	20	150	200	250	300	400
Compaq PATHWORKS (Advanced Server)6.1	125 000	125 700	10		200		300	400
Compaq TCP/IP Client for OpenVMS VAX 5.3	70 000	70 000[1]	15	150		250		
Compaq TCP/IP Services for OpenVMS VAX 5.3	70 000	70 000[1]	15		200		300	400
DEC Distributed Queuing Service for OpenVMS 1.3-1	2 700	1 300	5			250	300	400
Reliable Transaction Router (Back) 4.1	50 000	36 000	10			250	300	400
OpenVMS Alpha								
Compaq ACMS for OpenVMS 4.4B	38 000	33 000	10					400
Compaq DECforms Run-Time Only System 3.2	5 400	4 900	5			250	300	400
Compaq DECnet-Plus 7.3-1[3]				150	200	250	300	400
Base Kit	89 000	89 000	5	150	200	250	300	400
OSAK	5 000	0 000	5	150	200	250	300	400
FTAM	27 600	27 600	5	150	200	250	300	400
VT	4 000	3 500	5	150	200	250	300	400
Compaq DECprint Supervisor (DCPS) Base, Plus, Open 2.1	7 400	6 900	5		200	250	300	400
Compaq DECwindows Motif 1.2-6	317 000[2]	288 000[2]	33	150	200	250	300	400

[1]This is an estimate; the space required after installation depends on site-specific database files.

[2]This is the space required to install all of DECwindows Motif. Your actual disk space requirements may be less.

[3]You must run AUTOGEN and reboot your system after the installation of this product

(continued on next page)

Table A–3 (Cont.) NAS Component Disk Space and Installation Time Requirements

NAS Package Component	Blocks During Install	Blocks After Install	Time in min-utes	NAS Package			
OpenVMS Alpha							
Compaq PATHWORKS (Advanced Server) 6.1	144 000	144 732	10		200	300	400
Compaq TCP/IP Client for OpenVMS Alpha 5.3	125 000	125 000	20	150	250		
Compaq TCP/IP Services for OpenVMS Alpha 5.3	125 000	125 000[1]	15		200	300	400
DEC Distributed Queuing Service for OpenVMS 1.3-1	4 500	2 300	10		250	300	400
Reliable Transaction Router (Back) 4.1	50 000	36 000	10				400

[1]This is an estimate; the space required after installation depends on site-specific database files.

A.2.2 NAS Client 150 System Parameter Prerequisites

Table A–4 describes the SYSGEN parameters required if you install all of the components of the NAS Client 150. These SYSGEN parameters are provided in the file MODPARAMS_NAS_BASE_SERVER.DAT.

Table A–4 NAS Client 150 System Parameter Requirements

Parameter	VAX Value	Alpha Value
CHANNELCNT	255[2]	255[2]
CLISYMTBL	400[7]	400[7]
GBLPAGES	140 288[1]	230 400[1]
GBLPAGFIL	10 120[1]	3 048[1]
GBLSECTIONS	882[1]	1 172[1]
GH_RES_CODE		1 024
GH_RSRVPGCNT		512
IMGREG_PAGES		2 000
KSTACKPAGES		2
MAXBUF	2 048[3]	8 192[3]
NPAGEDYN	735 000[4]	670 000[4]
PAGEDYN	274 000[4]	289 000[4]
PQL_DPGFLQUOTA	32 768	

[1]The values given are the number of free (unused) pages and sections that must be available before installation.

[2]Or any number larger than the largers FILLM used on the system (whichever is larger)

[3]If Motif is loaded

[4]Maximum

[7]During installation only

(continued on next page)

Table A–4 (Cont.) NAS Client 150 System Parameter Requirements

Parameter	VAX Value	Alpha Value
PQL_MASTLM	100	100
PQL_MBIOLM	100	100
PQL_MBYTLM	40 000	200 000
PQL_MDIOLM	100	
PQL_MWSDEFAULT	512	1 024
PQL_MENQLM	200	300
PQL_MFILLM	100	100
PQL_MPGFLQUOTA		32 768
PQL_MPRCLM	8	10
PQL_MWSEXTENT	2 048	8 192
PQL_MWSQUOTA	1 024	2 048
PROCSECTCNT	40	64
SCSNODE[5]		
SCSSYSTEMID[5]		
SYSMWCNT[5]		
SWPOUTPGCNT	500	512
VIRTUALPAGECNT	50 000[6]	80 000[6]
WSMAX	4 096[4]	12 000[4]
WINDOW_SYSTEM	1	1

[4]Maximum

[5]See discussion in Section A.1.3

[6]Or a number larger than the largest PGFLQUOTA used on the system (whichever is larger)

A.2.3 NAS Base Server 200 System Parameter Prerequisites

Table A–5 describes the SYSGEN parameters required if you install all of the components of the NAS Base Server 200. These SYSGEN parameters are provided in the file MODPARAMS_NAS_BASE_SERVER.DAT.

Table A–5 NAS Base Server 200 System Parameter Requirements

Parameter	VAX Value	Alpha Value
CHANNELCNT	256[2]	315[2]
CLISYMTBL	400[7]	400[7]
GBLPAGES	145 408[1]	241 664[1]
GBLPAGFIL	10 120[1]	3 048[1]

[1]The values given are the number of free (unused) pages and sections that must be available before installation.

[2]Or any number larger than the largers FILLM used on the system (whichever is larger)

[7]During installation only

(continued on next page)

Table A–5 (Cont.) NAS Base Server 200 System Parameter Requirements

Parameter	VAX Value	Alpha Value
GBLSECTIONS	992[1]	1 275[1]
GH_RES_CODE		1 024
GH_RSRVPGCNT		512
IMGREGPAGES		2 000
KSTACKPAGES		2
MAXBUF	8 192[3]	8 192[3]
MAXPROCESSCNT		12
NPAGEDYN	735 000[4]	670 000[4]
PAGEDYN	274 000[4]	289 000[4]
PQL_DPGFLQUOTA	32 768	
PQL_MASTLM	100	100
PQL_MBIOLM	100	100
PQL_MBYTLM	40 000	200 000
PQL_MDIOLM	100	100
PQL_MENQLM	200	300
PQL_MFILLM	100	100
PQL_MPGFLQUOTA		32 768
PQL_MPRCLM	8	10
PQL_MWSDEFAULT	512	1 024
PQL_MWSEXTENT	2 048	8 192
PQL_MWSQUOTA	1 024	2 048
PROCSECTCNT	40	64
SCSNODE[5]		
SCSSYSTEMID[5]		
SYSMWCNT[5]		
SWPOUTPGCNT	500	512
VIRTUALPAGECNT	50 000[6]	[6]
WSMAX	4 096[4]	19 549[4]
WINDOW_SYSTEM	1	1

[1]The values given are the number of free (unused) pages and sections that must be available before installation.

[3]If Motif is loaded

[4]Maximum

[5]See discussion in Section A.1.3

[6]Or a number larger than the largest PGFLQUOTA used on the system (whichever is larger)

A.2.4 NAS Client 250 System Parameter Prerequisites

Table A–6 describes the SYSGEN parameters required if you install all of the components of the NAS Client 250. These SYSGEN parameters are provided in the file MODPARAMS_NAS_CLIENT.DAT.

Table A–6 NAS Client 250 System Parameter Requirements

Parameter	VAX Value	Alpha Value
CHANNELCNT	256[2]	255[2]
CLISYMTBL	400[7]	400[7]
GBLPAGES	161 792[1]	253 952[1]
GBLPAGFIL	12 394[1]	4 298[1]
GBLSECTIONS	1 140[1]	1 413[1]
GH_RES_CODE		1 024
GH_RSRVPGCNT		512
KSTACKPAGES		2
IMGREG_PAGES		2 000
LOCKIDTBL_MAX	2 048	2 048
LOCKIDTBL	256	256
MAXBUF	5 000[3]	8 192[3]
MAXPROCESSCNT		32
NPAGEDYN	735 000[4]	670 000[4]
PAGEDYN	274 000[4]	289 000[4]
PQL_DENQLM	1 000	1 000
PQL_DPGFLQUOTA	32 768	
PQL_MASTLM	100	100
PQL_MBIOLM	100	100
PQL_MBYTLM	40 000	200 000
PQL_MDIOLM	100	100
PQL_MENQLM	200	300
PQL_MPGFLQUOTA		32 768
PQL_MPRCLM		10
PQL_MWSDEFAULT	512	1 024
PQL_MFILLM	100	100
PQL_MPRCLM	8	
PQL_MWSEXTENT	2 048	8 192
PQL_MWSQUOTA	1 024	2 048
PROCSECTCNT	40	64
RESHASHTBL	512	512
SCSNODE[5]		
SCSSYSTEMID[5]		

[1]The values given are the number of free (unused) pages and sections that must be available before installation.

[2]Or any number larger than the largers FILLM used on the system (whichever is larger)

[3]If Motif is loaded

[4]Maximum

[5]See discussion in Section A.1.3

[7]During installation only

(continued on next page)

Table A–6 (Cont.) NAS Client 250 System Parameter Requirements

Parameter	VAX Value	Alpha Value
SYSMWCNT[5]		
SWPOUTPGCNT	500	512
VIRTUALPAGECNT	50 000[6]	80 000[6]
WSMAX	4 200[4]	12 000[4]
LOAD_SYS_IMAGES	1	7
WINDOW_SYSTEM	1	1

[4]Maximum

[5]See discussion in Section A.1.3

[6]Or a number larger than the largest PGFLQUOTA used on the system (whichever is larger)

A.2.5 NAS Server 300 System Parameter Prerequisites

Table A–7 describes the SYSGEN parameters required if you install all of the components of the NAS Server 300. These SYSGEN parameters are provided in the file MODPARAMS_NAS_SERVER.DAT.

Table A–7 NAS Server 300 System Parameter Requirements

Parameter	VAX Value	Alpha Value
CHANNELCNT	256[2]	315[2]
CLISYMTBL	400[7]	400[7]
GBLPAGES	165 888[1]	273 408[1]
GBLPAGFIL	12 394[1]	4 298[1]
GBLSECTIONS	1 250[1]	1 591[1]
GH_RES_CODE		1 024
GH_RSRVPGCNT		512
IMGREG_PAGES		2 000
KSTACKPAGES		2
LOAD_SYS_IMAGES	1	7
LOCKIDTBL_MAX	2 048	2 048
LOCKIDTBL	256	256
MAXBUF	8 192[3]	8 192[3]
MAXPROCESSCNT		32
NPAGEDYN	735 000[4]	670 000[4]
PAGEDYN	274 000[4]	289 000[4]
PQL_DENQLM	1 000	1 000

[1]The values given are the number of free (unused) pages and sections that must be available before installation.

[2]Or any number larger than the largers FILLM used on the system (whichever is larger)

[3]If Motif is loaded

[4]Maximum

[7]During installation only

(continued on next page)

Table A–7 (Cont.) NAS Server 300 System Parameter Requirements

Parameter	VAX Value	Alpha Value
PQL_DPGFLQUOTA	32 768	
PQL_MASTLM	100	100
PQL_MBIOLM	100	100
PQL_MBYTLM	40 000	200 000
PQL_MDIOLM	100	100
PQL_MENQLM	200	300
PQL_MFILLM	100	100
PQL_MPGFLQUOTA		32 768
PQL_MPRCLM	8	10
PQL_MWSDEFAULT	512	1 024
PQL_MWSEXTENT	2 048	8 192
PQL_MWSQUOTA	1 024	2 048
PROCSECTCNT	40	64
RESHASHTBL	512	512
SCSNODE[5]		
SCSSYSTEMID[5]		
SYSMWCNT[5]		
SWPOUTPGCNT	500	512
VIRTUALPAGECNT	50 000[6]	80 000[6]
WSMAX	4 200	19 594
WINDOW_SYSTEM	1	1

[5]See discussion in Section A.1.3

[6]Or a number larger than the largest PGFLQUOTA used on the system (whichever is larger)

A.2.6 NAS Production Server 400 System Parameter Prerequisites

Table A–8 describes the SYSGEN parameters required if you install all of the components of the NAS Production Server 400. These SYSGEN parameters are provided in the file MODPARAMS_NAS_SERVER.DAT.

Table A–8 NAS Production Server 400 System Parameter Requirements

Parameter	VAX Value	Alpha Value
CHANNELCNT	256[2]	315[2]
CLISYMTBL	500[7]	400[7]
GBLPAGES	169 984[1]	278 528[1]
GBLPAGFIL	14 442[1]	6 346[1]

[1]The values given are the number of free (unused) pages and sections that must be available before installation.

[2]Or any number larger than the largers FILLM used on the system (whichever is larger)

[7]During installation only

(continued on next page)

Table A–8 (Cont.) NAS Production Server 400 System Parameter Requirements

Parameter	VAX Value	Alpha Value
GBLSECTIONS	1 313[1]	1 654[1]
GH_RES_CODE		1 024
GH_RSRVPGCNT		512
IMGREG_PAGES		2 000
KSTACKPAGES		2
LOAD_SYS_IMAGES	1	7
LOCKIDTBL_MAX	2 048	2 048
LOCKIDTBL	256	256
MAXBUF	8 192[3]	8 192[3]
MAXPROCESSCNT		32
NPAGEDYN	735 000[4]	670 000[4]
PAGEDYN	274 000[4]	289 000[4]
PQL_MWSDEFAULT	512	
PQL_DPGFLQUOTA	32 768	
PQL_DASTLM	20	20
PQL_MASTLM	100	100
PQL_DBIOLM	12	12
PQL_MBIOLM	100	100
PQL_MBYTLM	40 000	200 000
PQL_DDIOLM	20	20
PQL_MDIOLM	100	100
PQL_DENQLM	1 000	1 000
PQL_MENQLM	200	300
PQL_MFILLM	100	200
PQL_MPGFLQUOTA		32 768
PQL_MPRCLM	8	10
PQL_MWSDEFAULT	512	1 024
PQL_MWSEXTENT	2 048	8 192
PQL_MWSQUOTA	1 024	2 048
PROCSECTCNT	40	64
RESHASHTBL	512	512
SCSNODE[5]		
SCSSYSTEMID[5]		
SYSMWCNT[5]		
SWPOUTPGCNT	500	512

[1]The values given are the number of free (unused) pages and sections that must be available before installation.

[3]If Motif is loaded

[4]Maximum

[5]See discussion in Section A.1.3

(continued on next page)

Table A–8 (Cont.) NAS Production Server 400 System Parameter Requirements

Parameter	VAX Value	Alpha Value
VIRTUALPAGECNT	50 000[6]	80 000[6]
WSMAX	4 200[4]	19 594[4]
WINDOW_SYSTEM	1	1

[4]Maximum

[6]Or a number larger than the largest PGFLQUOTA used on the system (whichever is larger)

B

System Management Documentation

Table B-1 and Table B-2 list the system management documentation for the products that make up the NAS packages. They are arranged on the basis of the NAS services provided by these products; for example, Presentation Service or Printing Service.

Many of the documents referenced below can be found at the OpenVMS Documentation Website:
http://www.openvms.compaq.com:8000/

These manuals are also provided on the OpenVMS VAX and OpenVMS Alpha Layered Product Online Documentation Libraries for viewing with the Bookshelf Navigation Utility.

For information on general system management tasks see your operating system documentation.

Table D-1 lists documentation for the NAS services implemented by the NAS packages.

Table B–1 System Management Documentation- NAS Services

Presentation Services	
DECforms	DECforms for OpenVMS Systems Installation Guide DECforms Programmer's Reference Manual
DECwindows Motif	DECwindows Motif Version 1.2-6 for OpenVMS Installation Guide DECwindows Motif Guide to Applications Programming Managing DECwindows Motif for OpenVMS Systems Using DECwindows Motif for OpenVMS
Printing Services	
DEC Distributed Queuing Service	DEC Distributed Queuing Service for OpenVMS Systems Documentation Set
DECprint Supervisor	DECprint Supervisor for OpenVMS Software Installation Guide DECprint Supervisor for OpenVMS System Manager's Guide DECprint Supervisor for OpenVMS Installation Quick Reference Guide[1]

[1]This document is available only in hardcopy.

(continued on next page)

Table B–1 (Cont.) System Management Documentation- NAS Services

Communication and Control Services	
Compaq ACMS	ACMS Installation Guide ACMS Getting Started ACMS Quick Reference Guide ACMS Managing Applications
Reliable Transaction Router	Reliable Transaction Router Installation Guide Reliable Transaction Router System Manager's Manual

Table B-2 lists documentation for the system interfaces implemented by the NAS Packages.

Table B–2 System Management Documentation-System Interfaces

Platform Extensions	
Compaq VMScluster Client for OpenVMS VAX	Guidelines for VMScluster Configurations[1] OpenVMS System Manager's Manual[1] OpenVMS System Management Utilities Reference Manual[1] VMScluster Systems for OpenVMS[1]
Compaq RMS Journaling	RMS Journaling for OpenVMS Manual[1]
Compaq Volume Shadowing	Volume Shadowing for OpenVMS[1]
Network Transport	
Compaq DECnet-Plus	DECnet-Plus for OpenVMS Introduction and User's Guide DECnet-Plus for OpenVMS Installation and Basic Configuration DECnet-Plus Applications Installation and Advanced Configuration DECnet-Plus for OpenVMS Network Management DECnet-Plus Network Control Language Reference DECnet-Plus Problem Solving
Compaq DECnet	DECnet for OpenVMS Guide to Networking[1] DECnet for OpenVMS Networking Manual[1] DECnet for OpenVMS Network Management Utilities[1]
Compaq TCP/IP Services and Compaq TCP/IP Client	TCP/IP Services for OpenVMS Installation and Configuration TCP/IP Services for OpenVMS Concepts and Planning TCP/IP Services for OpenVMS Management TCP/IP Services for OpenVMS Management Command Reference

[1]This book is also available on the operating system documentation disc.

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Table B–2 (Cont.) System Management Documentation-System Interfaces

	Network Transport
Compaq PATHWORKS for OpenVMS	PATHWORKS for OpenVMS Server Installation and Configuration Guide Advanced Server Guide to Managing Advanced Server Licenses Advanced Server Commands Reference Manual Server[2] PATHWORKS for OpenVMS Server Administrator's Guide

[2]This book is available only in hardcopy.

C
NAS Retired Products

The purpose of this appendix is to help the system manager to identify products that have been retired from the NAS packages. These licenses will continue to be available to those who purchased their NAS packages while the products were still active, but services, media and documentation are no longer available from Digital/Compaq/HP.

Table C–1 NAS Retired Products

Retired NAS Component	License Name	Last Version	Retired	NAS Package
DECmessageQ for OpenVMS (Run-Time)[1]	DMQ-RTO-V	4.0A	Dec-98	150 200 250 300 400
DECwindows Motif for OpenVMS VAX Local Language Versions		1.2-3	May-00	150 200 250 300 400
UI/Cesky	DW-MOTIF-UI-CESKY	1.2-3	May-00	150 200 250 300 400
UI/Deutsch	DW-MOTIF-UI-DEUTSCH	1.2-5	Jun-02	150 200 250 300 400
UI/Español	DW-MOTIF-UI-ESPANOL	1.2-3	May-00	150 200 250 300 400
UI/Français	DW-MOTIF-UI-FRANCAIS	1.2-3	May-00	150 200 250 300 400
UI/Italiano	DW-MOTIF-UI-ITALIANO	1.2-3	May-00	150 200 250 300 400
UI/Magyar	DW-MOTIF-UI-MAGYAR	1.2-3	May-00	150 200 250 300 400
UI/Polski	DW-MOTIF-UI-POLSKI	1.2-3	May-00	150 200 250 300 400
UI/Russkij	DW-MOTIF-UI-RUSSKIJ	1.2-3	May-00	150 200 250 300 400
UI/Slovensky	DW-MOTIF-UI-SLOVENSKY	1.2-3	May-00	150 200 250 300 400
UI/Svenska	DW-MOTIF-UI-SVENSKA	1.2-3	May-00	150 200 250 300 400
Compaq PrintServer Software	licensed with printer	5.2	Sep-01	200 250 300 400
MailWorks Server for OpenVMS[2]	ALLIN1-MAIL-SERVER	1.3A	Jul-99	300 400

[1]available from BEA Systems, Inc.

[2]Compaq Mature Products Support now available

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Table C–1 (Cont.) NAS Retired Products

Retired NAS Component	License Name	Last Version	Retired	NAS Package
ObjectBroker for OpenVMS (Run-Time)[1]	ACAS-RT	2.7	Jun-98	150 200 250 300 400
Oracle Rdb™ for OpenVMS (Run-Time)[3]	RDB-RUNTIME	6.1	Feb-96	250 300 400
Oracle Trace Collector™ for OpenVMS	DECTRACE	2.2	Feb-96	400
POLYCENTER Performance Advisor for OpenVMS	VPA	2.2	Apr-97	300 400
POLYCENTER Performance Data Collector for OpenVMS	DECPS-DC	2.2	Apr-97	250 300 400
POLYCENTER Software Distribution for OpenVMS	RSM-SERVER	2.2	Apr-97	200 250 300 400
POSIX for OpenVMS	POSIX	3.0	Jun-99	200 250 300 400

[1]available from BEA Systems, Inc.

[3]available from Oracle, Inc.

D

NAS/Operating System Compatibility Matrix

Table D–1 shows NAS component release history and the operating system versions supported by each component. The NAS licenses can ben installed on OpenVMS V7.1 or higher.

The tables below show the NAS product versions and their support for major Operating System releases. If the same OS version is supported by multiple component product versions, the highest numbered component product version is strongly recommended. Abbreviations in the table include:

- FCS - First customer ship (on Software Products Library or Operating System kit)
- SPD - Software Product Description
- "No" - Operating System in this column is not supported by component software version.

The media kits for the NAS components below are shipped on the Software Products Library (cd-rom consolidation), which is released quaraterly. The Software Products Library Master Index includes a NAS table which can be used to see which NAS products have updated in any quarterly release.

The purchase of a NAS Package includes the rights to any component software version shipping on the Software Products Library at the time the NAS Package is originally purchased. For rights to new versions, a NAS update service is recommended, or update license certificates can be purchased for the NAS Package or individual components.

Table D–1 NAS/OS Compatibility Matrix for OpenVMS Alpha

OpenVMS Alpha				Operating System Version				
Product Name	Vers.	FCS	SPD	7.2-1	7.2-2	7.3	7.3-1	Pkg[1]
ACMS for OpenVMS (Runtime)	4.4B	02/02	25.50	No	7.2-2	7.3	7.3-1	5
	4.4A	02/02	25.50	No	7.2-2	7.3	No	5
	4.4	08/01	25.50	7.2-1	7.2-2	7.3	No	5
	4.3	08/00	25.50	7.2-1	No	No	No	5

[1]The number listed in this column refers to the NAS Package in which this product exists. The key is below:

1 = NAS Client 150 for OpenVMS Alpha Systems
2 = NAS Base Server 200 for OpenVMS Alpha Systems
3 = NAS Client 250 for OpenVMS Alpha Workstations
4 = NAS Server 300 for OpenVMS Alpha Systems
5 = NAS Production Server 400 for OpenVMS Alpha Systems

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Table D–1 (Cont.) NAS/OS Compatibility Matrix for OpenVMS Alpha

OpenVMS Alpha				Operating System Version				
Product Name	**Vers.**	**FCS**	**SPD**	**7.2-1**	**7.2-2**	**7.3**	**7.3-1**	**Pkg[1]**
	4.2	05/97	25.50	7.2-1	No	No	No	5
DEC Distributed Queuing Service for OpenVMS	1.3	05/94	45.86	7.2-1	7.2-2	7.3	7.3-1	3,4,5
DECforms for OpenVMS (RunTime)	3.2	11/00	29.90	7.2-1	7.2-2	7.3	7.3-1	3,4,5
	3.1	02/00	29.20	7.2-1	No	No	No	3,4,5
	3.0	11/98	29.20	7.2-1	No	No	No	3,4,5
DECnet-Plus for OpenVMS Alpha	7.3-1	08/02	50.45	No	No	No	7.3-1	ALL
	7.3	05/01	50.45	No	No	7.3	No	ALL
	7.2A	09/01	50.45	No	7.2-2	No	No	ALL
	7.2-1	07/99	50.45	7.2-1	No	No	No	ALL
	7.2	02/99	50.45	7.2	No	No	No	ALL
DECnet for OpenVMS Alpha (Phase IV)	7.3-1	08/02	50.45	No	No	No	7.3-1	ALL
	7.3	05/01	48.48	No	No	7.3	No	ALL
	7.2	02/99	48.48	7.2-1	7.2-2	No	No	ALL
DECprint Supervisor (DCPS) for OpenVMS	2.1	08/02	44.15	7.2-1	7.2-2	7.3	7.3-1	2,3,4,5
	2.0	06/01	44.15	7.2-1	7.2-2	7.3	No	2,3,4,5
	1.8	08/00	44.15	7.2-1	No	No	No	2,3,4,5
	1.7	05/99	44.15	7.2-1	No	No	No	2,3,4,5
	1.6	02/99	44.15	7.2-1	No	No	No	2,3,4,5
DECwindows Motif for OpenVMS	1.2-6	05/01	42.19	7.2-1	7.2-2	7.3	7.3-1	ALL
	1.2-5	02/99	42.19	7.2-1	No	No	No	ALL
	1.2-4	06/96	42.19	7.2-1	No	No	No	ALL
	1.2-3A	03/97	42.19	7.2-1	No	No	No	ALL

[1]The number listed in this column refers to the NAS Package in which this product exists. The key is below:

1 = NAS Client 150 for OpenVMS Alpha Systems
2 = NAS Base Server 200 for OpenVMS Alpha Systems
3 = NAS Client 250 for OpenVMS Alpha Workstations
4 = NAS Server 300 for OpenVMS Alpha Systems
5 = NAS Production Server 400 for OpenVMS Alpha Systems

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Table D–1 (Cont.) NAS/OS Compatibility Matrix for OpenVMS Alpha

OpenVMS Alpha				Operating System Version				
Product Name	**Vers.**	**FCS**	**SPD**	**7.2-1**	**7.2-2**	**7.3**	**7.3-1**	**Pkg[1]**
PATHWORKS for OpenVMS[2]	6.1	08/01	30.50	7.2-1	7.2-2	7.3	7.3-1	2,4,5
	6.0D	05/01	30.50	7.2-1	7.2-2	7.3	No	2,4,5
Advanced Server for OpenVMS[2]	7.3	05/01	30.50	7.2-1	7.2-2	7.3	7.3-1	2,4,5
	7.2A	07/99	30.50	7.2-1	No	No	No	2,4,5
	7.2	02/99	30.50	7.2-1	No	No	No	2,4,5
RMS Journaling	7.3-1	08/02	27.58	No	No	No	7.3-1	5
	7.3	05/01	27.58	No	No	7.3	No	5
	7.2	02/99	27.58	7.2-1	7.2-2	No	No	5
TCP/IP Services for OpenVMS	5.3	05/02	46.46	No	7.2-2	7.3	7.3-1	ALL
	5.1	02/01	46.46	7.2-1	7.2-2	7.3	No	ALL
	5.0A	07/99	46.46	7.2-1	No	No	No	ALL
VMScluster Software	7.3-1	08/02	29.78		See Product SPD			3,4,5
	7.3	05/01	29.78		See Product SPD			3,4,5
	7.2	02/99	29.78		See Product SPD			3,4,5
Volume Shadowing for OpenVMS	7.3-1	08/02	27.29	No	No	No	7.3-1	5
	7.3	05/01	27.29	No	No	7.3	No	5
	7.2-2	09/01	27.29	No	7.2-2	No	No	5
	7.2	02/99	27.29	7.2-1	No	No	No	5
Reliable Transaction Router for OpenVMS (Back)	4.1	08/01	51.04	7.2-1	7.2-2	7.3	7.3-1	5
	4.0	05/01	51.04	7.2-1	–	7.3	No	5
	3.2	08/99	51.04	7.2-1	No	No	No	5

[1]The number listed in this column refers to the NAS Package in which this product exists. The key is below:

1 = NAS Client 150 for OpenVMS Alpha Systems
2 = NAS Base Server 200 for OpenVMS Alpha Systems
3 = NAS Client 250 for OpenVMS Alpha Workstations
4 = NAS Server 300 for OpenVMS Alpha Systems
5 = NAS Production Server 400 for OpenVMS Alpha Systems

[2]Tested with NAS, but licensed outside of NAS on a per client basis

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Table D–1 (Cont.) NAS/OS Compatibility Matrix for OpenVMS Alpha

OpenVMS Alpha				Operating System Version				
Product Name	**Vers.**	**FCS**	**SPD**	**7.2-1**	**7.2-2**	**7.3**	**7.3-1**	**Pkg[1]**
Reliable Transaction Router for OpenVMS (Front)	4.1	08/01	51.04	7.2-1	7.2-2	7.3	7.3-1	5
	4.0	05/01	51.04	7.2-1	–	7.3	No	5
	3.2	08/99	51.04	7.2-1	No	No	No	5

[1]The number listed in this column refers to the NAS Package in which this product exists. The key is below:

1 = NAS Client 150 for OpenVMS Alpha Systems
2 = NAS Base Server 200 for OpenVMS Alpha Systems
3 = NAS Client 250 for OpenVMS Alpha Workstations
4 = NAS Server 300 for OpenVMS Alpha Systems
5 = NAS Production Server 400 for OpenVMS Alpha Systems

Table D–2 NAS/OS Compatibility Matrix for OpenVMS VAX

OpenVMS VAX				Operating System Version			
Product Name	**Vers.**	**FCS**	**SPD**	**7.1[3]**	**7.2**	**7.3**	**Pkg[1]**
ACMS for OpenVMS (Runtime)	4.4B	10/02	25.50	7.1	7.2	7.3	5
	4.4A	02/02	25.50	7.1	7.2	7.3	5
	4.4	09/01	25.50	7.1	7.2	7.3	5
	4.3	03/00	25.50	7.1	7.2	No	5
	4.2	06/97	25.50	7.1	7.2	No	5
DEC Distributed Queuing Service for OpenVMS	1.3	05/94	28.80	7.1	7.2	7.3	3,4,5
DECforms for OpenVMS (RunTime)	3.2	03/01	29.90	7.1	7.2	7.3	3,4,5
	3.1	03/00	29.20	7.1	7.2	No	3,4,5
	3.0	12/98	29.20	7.1	7.2	No	3,4,5
DECnet-Plus for OpenVMS VAX	7.3	05/01	25.03	No	No	7.3	ALL
	7.2-1	09/99	25.03	No	7.2	No	ALL
	7.2	02/99	25.03	No	7.2	No	ALL
DECnet for OpenVMS (Phase IV)	7.3	05/01	48.48	No	No	7.3	ALL

[1]The number listed in this column refers to the NAS Package in which this product exists. The key is below:

1 = NAS Client 150 for OpenVMS VAX Systems
2 = NAS Base Server 200 for OpenVMS VAX Systems
3 = NAS Client 250 for OpenVMS VAX Workstations
4 = NAS Server 300 for OpenVMS VAX Systems
5 = NAS Production Server 400 for OpenVMS VAX Systems

[3]Support services for OpenVMS V7.1 were retired on 30-Jun-2002

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Table D–2 (Cont.) NAS/OS Compatibility Matrix for OpenVMS VAX

OpenVMS VAX				Operating System Version			
Product Name	**Vers.**	**FCS**	**SPD**	**7.1[3]**	**7.2**	**7.3**	**Pkg[1]**
	7.2	02/99	48.48	No	7.2	No	ALL
DECprint Supervisor (DCPS) for OpenVMS	2.0	05/01	44.15	7.1	7.2	7.3	2,3,4,5
	1.8	09/00	44.15	7.1	7.2	No	2,3,4,5
	1.7	06/99	44.15	7.1	7.2	No	2,3,4,5
	1.6	03/99	44.15	7.1	No	No	2,3,4,5
DECwindows Motif for OpenVMS	1.2-6	05/01	42.19	7.1	7.2	7.3	ALL
	1.2-5	02/99	42.19	7.1	7.2	No	ALL
	1.2-4	06/96	42.19	7.1	7.2	No	ALL
	1.2-3A	03/97	42.19	7.1	7.2	No	ALL
PATHWORKS for OpenVMS[2]	6.1	09/01	30.50	7.1	7.2	7.3	2,4,5
	6.0D	05/01	30.50	7.1	7.2	7.3	2,4,5
	6.0C	03/00	30.50	7.1	7.2	No	2,4,5
	6.0B	03/99	30.50	No	7.2	No	2,4,5
	6.0A	12/98	30.50	No	No	No	2,4,5
	5.F01	06/98	30.50	7.1	No	No	2,4,5
RMS Journalling	7.3	05/01	28.58	No	No	7.3	5
	7.2	02/99	28.58	No	7.2	No	5
TCP/IP Services for OpenVMS	5.3	06/02	46.46	No	7.2	7.3	ALL
	5.1	03/01	46.46	No	7.2	7.3	ALL
	5.0A	09/99	46.46	No	7.2	No	ALL
	4.2	03/98	46.46	7.1	No	No	ALL
VAXcluster Software	7.3	05/01	29.78	No	No	7.3	3,4,5
	7.2	02/99	29.78	No	7.2	No	3,4,5

[1]The number listed in this column refers to the NAS Package in which this product exists. The key is below:

1 = NAS Client 150 for OpenVMS VAX Systems
2 = NAS Base Server 200 for OpenVMS VAX Systems
3 = NAS Client 250 for OpenVMS VAX Workstations
4 = NAS Server 300 for OpenVMS VAX Systems
5 = NAS Production Server 400 for OpenVMS VAX Systems

[2]Tested with NAS, but licensed outside of NAS on a per client basis

[3]Support services for OpenVMS V7.1 were retired on 30-Jun-2002

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Table D–2 (Cont.) NAS/OS Compatibility Matrix for OpenVMS VAX

OpenVMS VAX				Operating System Version			
Product Name	**Vers.**	**FCS**	**SPD**	**7.1[3]**	**7.2**	**7.3**	**Pkg[1]**
	7.1	03/97	29.78	–	No	7.3	3,4,5
Volume Shadowing for OpenVMS	7.3	5/01	27.29	No	No	7.3	5
	7.2	2/99	27.29	No	7.2	No	5
	7.1	3/97	27.29	–	No	No	5
Reliable Transaction Router for OpenVMS (Back)	4.1	09/01	51.04	7.1	7.2	7.3	5
	4.0	03/01	51.04	7.1	7.2	7.3	5
	3.2	09/99	51.04	7.1	7.2	No	5
	3.1D	03/98	51.04	7.1	No	No	5
Reliable Transaction Router for OpenVMS (Front)	4.1	09/02	51.04	7.1	7.2	7.3	5
	4.0	03/01	51.04	7.1	7.2	7.3	5
	3.2	09/99	51.04	7.1	7.2	No	5
	3.1D	03/98	51.04	7.1	No	No	5

[1]The number listed in this column refers to the NAS Package in which this product exists. The key is below:

1 = NAS Client 150 for OpenVMS VAX Systems
2 = NAS Base Server 200 for OpenVMS VAX Systems
3 = NAS Client 250 for OpenVMS VAX Workstations
4 = NAS Server 300 for OpenVMS VAX Systems
5 = NAS Production Server 400 for OpenVMS VAX Systems

[3]Support services for OpenVMS V7.1 were retired on 30-Jun-2002

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