



# DIGITAL Enterprise Integration Package OpenVMS AlphaServer 4x00

---

## DIGITAL HiTest Notes

Part Number: EK-HEIVA-HN. B01

**December 1997**

**Revision/Update Information:**

This is a revised document.

---

**December 1997**

Digital Equipment Corporation makes no representations that the use of its products in the manner described in this publication will not infringe on existing or future patent rights, nor do the descriptions contained in this publication imply the granting of licenses to make, use, or sell equipment or software in accordance with the description.

Possession, use, or copying of the software described in this publication is authorized only pursuant to a valid written license from DIGITAL or an authorized sublicensor.

© Digital Equipment Corporation 1997. All rights reserved.

The following are trademarks of Digital Equipment Corporation: AlphaServer, CI, DECams, DEChub, DECnet, DECnet Plus, DECwindows, DIGITAL, EtherWORKS, eXcursion, HSJ, HSZ, MSCP, OpenVMS, PATHWORKS, StorageWorks, VAX, VAXcluster, and the DIGITAL logo.

The following are third-party trademarks:

Intel is a registered trademark of Intel Corporation.

Microsoft and Windows 95 are registered trademarks and Windows and Windows NT are trademarks of Microsoft Corporation.

Netscape and Netscape Navigator are trademarks of Netscape Communications Corporation.

Purveyor is a trademark of Process Software Corporation.

ViewPoint is a trademark of Datametrics Systems Corporation.

All other trademarks are the property of their respective owners.

---

# Table of Contents

## 1 Introduction

DIGITAL HiTest Suite and Its Advantages .....	1-1
Overview of This DIGITAL HiTest Suite .....	1-2

## 2 Configuration Data

Hardware and Software Components .....	2-1
Special Configuration Rules .....	2-7
Memory Module Configuration Guidelines .....	2-7

## 3 System Installation and Setup

Hardware Installation .....	3-1
Site Requirements .....	3-1
Installed Base Cluster Considerations .....	3-1
Upgrading Software on the VAX Nodes .....	3-1
Upgrading Software on the AlphaServer Systems .....	3-2
AlphaServer 4x00 Installation Procedure .....	3-3
Installing the Operating System .....	3-3
Before Installing Layered Products .....	3-3
Installing the Layered Products .....	3-3
Installing DECnet Plus, PATHWORKS, and OpenVMS Management Tools .....	3-3
Changing the OpenVMS Management Station Startup Command .....	3-4
Performing the Post-Installation Tasks for ABS OMT .....	3-4
Enabling the ABS Policy Engine on Multiple Nodes .....	3-5
Customizing SYS\$MANAGER:TAPESTART.COM .....	3-5
Installing Internet Suite Components .....	3-5
Granting File Access to Multiple Web Servers .....	3-6
Starting the Purveyor Encrypt WebServer .....	3-6
Sample HTTP\$STARTUP.COM Procedure .....	3-6
Sample PURVEYOR\$STARTUP.COM Procedure .....	3-6
Tuning DIGITAL TCP/IP Services for OpenVMS (UCX) .....	3-7

## 4 Interoperability Tests and Results

Overview of Results .....	4-1
Test Environment .....	4-1
Test Tools .....	4-2

## Contents

Test Configuration .....	4-3
Minimum Configuration .....	4-3
Maximum Configuration .....	4-3
Test Process and Results .....	4-4

## 5 System Limits and Characterization Data

## 6 Problems and Resolutions

Hardware .....	6-1
Network Infrastructure/DE500 Problem .....	6-1
Operating System.....	6-1
PATHWORKS.....	6-1
Internet Suite .....	6-2
Netscape Server Problem .....	6-2
Netscape Navigator Problem.....	6-2
Purveyor Encrypt WebServer Problems .....	6-2
DIGITAL TCP/IP Services Problems .....	6-3

## A Detailed Hardware Configuration

System Diagrams .....	A-2
AlphaServer 4x00 Configurations .....	A-3
AlphaServer 4x00 PCI Slot Usage.....	A-4
Configuration Cabling .....	A-5
Disk Configuration .....	A-5
HSJ50-RZ28M Disk Configuration .....	A-6
Minimum Configuration .....	A-7
Maximum Configuration.....	A-7

## Figures

Figure 4-1: Test Environment .....	4-2
Figure A-1: System Diagram for Minimum Configuration .....	A-2
Figure A-2: System Diagram for Maximum Configuration .....	A-2
Figure A-3: AlphaServer 4x00 Motherboard .....	A-3
Figure A-4: AlphaServer 4x00 PCI Slot Configuration.....	A-4
Figure A-5: SW300-AA Cabinet with Disks and Controllers.....	A-5
Figure A-6: Example of a BA356 Storage Shelf with a Tape Drive.....	A-6

## Tables

Table 2-1: DIGITAL Enterprise Integration Package OpenVMS AlphaServer 4x00 HiTest Template .....	2-2
Table 2-2: System Management Station Template .....	2-4
Table 2-3: Hardware Component Revision Levels .....	2-5
Table 2-4: Software Component Revision Levels .....	2-6
Table 4-1: Common (Clusterwide) Storage .....	4-3
Table 4-2: Disk Setup for the Minimum Configuration .....	4-3
Table 4-3: Disk Setup for the Maximum Configuration .....	4-3
Table A-1: AlphaServer 4x00 Usage (Minimum and Maximum Configurations) .....	A-3
Table A-2: PCI Slot Usage (Minimum and Maximum) .....	A-4
Table A-3: Configuration Cabling.....	A-5
Table A-4: HSJ50 - RZ28M Disk Configuration .....	A-6
Table A-5: Shelf 1 (Connected to KZPDA-AA - System Cabinet, Top) .....	A-7
Table A-6: Shelf 1 (Connected to KZPDA-AA – System Cabinet, Top).....	A-7



---

# Preface

This document provides an overview of DIGITAL HiTest Suites and detailed technical information about interoperability test results for the DIGITAL Enterprise Integration Package OpenVMS AlphaServer 4x00 HiTest Suite. This system can be used as a standalone system or in an OpenVMS cluster environment.

## Audience

Primary users of this document are DIGITAL and Partners sales representatives and technical support personnel. Secondary audiences include product managers, customers, and the personnel responsible for installing, setting up, and operating a DIGITAL HiTest Suite.

## Road Map

This document contains the following chapters:

- 1. Introduction** – Provides a brief summary of the benefits of DIGITAL HiTest Suites and an overview of the Suite covered in this document.
- 2. Configuration Data** – Includes tables of configuration data about the hardware and software components that define the Template, and special configuration rules if any.
- 3. System Installation and Setup** – Presents useful information for installing and setting up this DIGITAL HiTest Suite.
- 4. Interoperability Tests and Results** – Describes how the tests were set up (including database organization), what data and programs were placed on what disks, and how the tests were run.
- 5. System Limits and Characterization Data** – Summarizes any system limitations or characterization data that were identified during testing.
- 6. Problems and Resolutions** – Discusses any problems and resolutions that were discovered during testing.
- Appendix A: Detailed Hardware Configuration** – Contains more detailed information about the hardware and software components listed in the Configuration Data chapter.

## Feedback and Ordering Information

What our readers think of this or any other DIGITAL documentation is important to us. If you have any comments, we would appreciate hearing from you. Send your comments to: *reader-comments@digital.com*.

Please reference the document title and part number (EK-HEIVA-HN. B01) in your correspondence about this document.

Copies of this and other DIGITAL documents can be ordered by calling 1-800-DIGITAL.



---

# Introduction

## DIGITAL HiTest Suite and Its Advantages

*DIGITAL HiTest Suites* are guidelines for configuring a set of prequalified computer systems. A HiTest Suite often contains all the hardware and software needed for a complete customer solution. DIGITAL HiTest Suites can be used as a basis for configuring systems that satisfy a wide set of customer requirements. Typically, Suites target specific markets such as Data Warehousing or Enterprise Integration.

DIGITAL Product Management and Engineering select the components and design the configurations in each HiTest Suite to ensure high system reliability, application performance, and upgradability. A Suite's hardware and software components have been successfully tested for interoperability.

A HiTest Suite specifies allowed ranges of hardware and software components, as well as each component's part number, description, and revision information. These specifications are listed in the *DIGITAL HiTest Template*.

The components in a HiTest Suite are organized into two groups, the *DIGITAL HiTest Foundation* and the *DIGITAL HiTest AppSet*. The HiTest Foundation includes the hardware, operating system, middleware, and database software. The HiTest Foundation can be used as a base on which any customer-desired applications can be installed. The HiTest AppSet includes the software specific to one class of customer solutions.

Configuring a DIGITAL HiTest Suite is straightforward. Select components from the HiTest Template to configure a DIGITAL HiTest System. Any system configured as specified in the DIGITAL HiTest Template can be called a DIGITAL HiTest System.

The HiTest Suite is documented in the *DIGITAL HiTest Notes*. The HiTest Notes list the HiTest Foundation and HiTest AppSet components. HiTest Notes also describe the testing of the Suite and include configuration details, installation instructions, tuning parameters, problems encountered and their solutions, and system diagrams.

Some components listed in the HiTest Foundation or AppSet may be optional. If the minimum quantity is zero (0), then the component is optional. If the minimum quantity is one or more, then you must order at least the minimum quantity.

The maximum quantities represent the largest group of components that were tested for interoperability with all the other components in the Suite. Although it may be possible to place more than the specified maximum quantity of a component on a DIGITAL system, extensive interoperability testing was not done at that level and such a system would not be considered a DIGITAL HiTest System.

## Introduction

You can select any combination of components with quantities ranging from the minimum to the maximum specified. Occasionally, special configuration rules give further guidance or restrict configurations. These rules appear in the Configuration Data chapter of the HiTest Notes.

A customer can include the Suite-specified hardware and software they need and then layer on additional software. Other types of hardware, called *add-on hardware*, can also be added to a DIGITAL HiTest System. The add-on hardware is specified in the Configuration Data chapter of the HiTest Notes, and in the HiTest Systems Web Pages, available through the following URLs:

<http://cosmo.tay.dec.com> (Intranet)

<http://www.partner.digital.com:9003/cgi-bin/comet> (Internet)

Even though the customer may install application software that is not specified in the Suite, the customer and DIGITAL still experience the advantages of knowing that all of the Suite-based hardware and software interoperates correctly. Of course, the full benefit of configuring a system from a HiTest Suite is obtained when the system includes only specified HiTest Foundation and AppSet components.

## Overview of This DIGITAL HiTest Suite

The DIGITAL Enterprise Integration Package OpenVMS AlphaServer 4x00 HiTest Suite was tested as a CI-Cluster Add-On. A CI-Cluster Add-On assumes that the system is being added to an existing OpenVMS cluster which already has sufficient storage and backup capabilities.

This HiTest Suite consists of the following software components:

- DIGITAL Enterprise Integration Package, Version 1.0, which consists of:
  - PATHWORKS (upgraded from the kit release to V5.0F)
  - OpenVMS Management Tools V2.0
  - Internet Product Suite V1.0
- OpenVMS Operating System for Alpha and VAX, V7.1

This suite will meet the needs of OpenVMS DIGITAL Enterprise Integration Package servers for medium- to high-end work groups. This Suite covers the full product line of mid-range AlphaServer 4x00 systems running OpenVMS DIGITAL Enterprise Integration Package.

---

## Configuration Data

This chapter describes the tested DIGITAL HiTest Configuration Suite including the hardware, software, and firmware components, and their revision levels. Special configuration rules are explained if required.

### Hardware and Software Components

Table 2-1 identifies the range of hardware and software components that can be configured using the DIGITAL Enterprise Integration Package OpenVMS AlphaServer 4x00 HiTest Suite. This range includes both the AlphaServer 4000 and the AlphaServer 4100 system with one or two CPUs, and 1 to 4 GB of memory.

Table 2-2 lists the System Management Station hardware and software.

Table 2-3 and Table 2-4 list the revision levels of the components.

The HiTest Template (Table 2-1) consists of three categories:

- **AppSet Software** – Includes software specific to one class of customer solutions, in this case DIGITAL Enterprise Integration Package.
- **Foundation Hardware** – Includes the base system, storage, and other hardware options.
- **Foundation Software** – Includes the operating system, middleware, and database software.

When ordering an item from a HiTest Template, select a quantity that is within the minimum/maximum range for the item. If the minimum quantity is zero (0), then the component is optional. If the minimum quantity is one or more, then order at least the minimum quantity, but not more than the maximum quantity. The maximum quantity represents the greatest number of components that were tested for interoperability with all the other components in the Suite.

A wide selection of other options such as storage and network adapters can also be configured.

It is assumed that this Suite is to be installed into an existing OpenVMS Cluster that already provides storage and backup capabilities.

For more details on the HiTest Suite hardware configuration, see Appendix A.

**Table 2-1: DIGITAL Enterprise Integration Package OpenVMS AlphaServer 4x00 HiTest Template**

DIGITAL Enterprise Integration Package <i>HiTest AppSet</i>				
OpenVMS AlphaServer 4x00 HiTest Foundation				
For documentation and updates: <a href="http://cosmo.tay.dec.com">http://cosmo.tay.dec.com</a> and <a href="http://www.partner.digital.com:9003">http://www.partner.digital.com:9003</a> For hard copy of this Suite's HiTest Notes, order EK-HEIVA-HN.				
Line Item	Description	Part Number	HiTest Range	
			Min	Max
AppSet Software				
1	DIGITAL Enterprise Integration Package	Included with item 2	1	1
<b>Note:</b> The DIGITAL Enterprise Integration Package software described in item 2 includes three applications from third-party software suppliers. After the DIGITAL Enterprise Integration Package software is installed, the customer must obtain permanent software licenses for these applications:				
<ul style="list-style-type: none"><li>• <b>Netscape Communications Server</b> – License is supplied by DIGITAL under DIGITAL part number QL-57BA9-AA.</li><li>• <b>Purveyor Encrypted Server</b> – License is supplied by DIGITAL under the following DIGITAL part numbers:<ul style="list-style-type: none"><li>– QL-57HA9-AA (International)</li><li>– QL-57GA9-AA (US and Canada)</li></ul></li><li>• <b>Datametrics ViewPoint</b> – License is supplied by the third-party software supplier. For more information, contact Datametrics at 1-888-436-6300.</li></ul>				
Foundation Hardware				
2	<i>Select just one base system:</i> <b>AlphaServer 4000 5/466 Drawer, OpenVMS, 1 GB</b> <b>AlphaServer 4100 5/466 Drawer, OpenVMS, 1 GB</b> <b>AlphaServer 4000 5/466 Drawer, OpenVMS, 2 GB</b> <b>AlphaServer 4100 5/466 Drawer, OpenVMS, 2 GB</b>  <i>Hardware includes:</i> <ul style="list-style-type: none"><li>• 5/466 MHz CPU with 4 MB cache</li><li>• PB2GA-JB TRIO64 1 MB Graphics</li><li>• DE500-AA 10/100 Mbps Fast Ethernet</li><li>• KZPDA-AA FW SCSI and cable</li><li>• SCSI CD-ROM drive</li><li>• RX23L-AB 1.44 MB Floppy drive</li><li>• LK47W-A2 PS/2 style keyboard</li><li>• Three-button PS/2 compatible mouse</li></ul> <i>Software includes:</i> <ul style="list-style-type: none"><li>• OpenVMS operating system license and media</li><li>• DIGITAL Enterprise Integration Package, consisting of the following services: Management, Network Transport and Connectivity, File and Print, Internet, Database, Mail, Application Development, Presentation</li></ul>	<b>DY-53JEB-FA</b> <b>DY-51JAB-FB</b> <b>DY-53JEB-GA</b> <b>DY-51JAB-GB</b>	1	1
3	<b>Pedestal with StorageWorks shelf</b>  <i>Hardware includes:</i> <ul style="list-style-type: none"><li>• 4.3 GB 7200 RPM UltraSCSI Disk (DS-RZ1CB-VW)</li><li>• Pedestal with one StorageWorks shelf and mounting kit</li></ul>	<b>BA30P-AB</b>	1	1
4	<b>466 MHz CPU OpenVMS SMP UPG</b> <b>Note:</b> The CPU upgrade includes the OpenVMS SMP Base Extension License.	<b>KN304-DC</b>	0	1
5	<b>1 GB Memory Option</b> <b>Note:</b> Total system memory (including upgrades) must not exceed 4 GB.	<b>MS330-FA</b>	0	3

<b>DIGITAL Enterprise Integration Package <i>HiTest AppSet</i></b> <b>OpenVMS AlphaServer 4x00 HiTest Foundation</b>				
For documentation and updates: <a href="http://cosmo.tay.dec.com">http://cosmo.tay.dec.com</a> and <a href="http://www.partner.digital.com:9003">http://www.partner.digital.com:9003</a> For hard copy of this Suite's HiTest Notes, order EK-HEIVA-HN.				
Line Item	Description	Part Number	HiTest Range	
			Min	Max
6	<b>2 GB Memory Option</b> <b>Note:</b> Total system memory (including upgrades) must not exceed 4 GB.	MS330-GA	0	1
7	<b>PCI 10/100-Mbit Fast Ethernet NIC</b>	DE500-AA	0	1
8	<b>PCI/FDDI Adapter</b>	DEFPA-DB	0	2
9	<i>Select one of the following monitors:</i> <b>15-in color monitor</b> <b>17-in color monitor</b> <b>21-in color monitor</b>	<b>SN-VRCX5-WA</b> <b>SN-VRCX7-WA</b> <b>SN-VRCX1-WA</b>	1	1
10	<b>4.3 GB 7200 RPM UltraSCSI Disk</b> <b>Note:</b> This part number replaces RZ29B-VW, which was used for testing this HiTest Suite. When using UltraSCSI drives in a BA356-series StorageWorks Shelf, ensure that the shelf contains a 180W power supply (DS-BA35X-HH).	DS-RZ1CB-VW	2	3
11	<b>PCI to CI Adapter</b>	CIPCA-BA	1	2
12	<b>CI Cables conforming to customer needs</b> <b>Note:</b> Consult DIGITAL Technical Support for the correct cable length and part number for customer site.	BNCIA-20	1	2
<b>Foundation Software</b>				
13	<b>OpenVMS, V7.1, base license and factory installed software</b>	Included with item 2	1	1
14	<b>OpenVMS Media and documentation on CD-ROM</b> <b>Note:</b> Media and documentation are required for the first system at the site.	QA-MTIAA-H8	0	1
15	<b>OpenVMS V7.1 Concurrent Use License</b> <b>Note:</b> The asterisk (*) in the part number for this line item denotes variant fields. For additional information about available licenses, services, and media, refer to the appropriate price book.	QA-MT3AA-3*	0	1
16	<i>Order the appropriate Volume Shadowing License:</i> <b>Volume Shadowing License for OpenVMS Alpha</b> <b>Volume Shadowing License for OpenVMS Alpha</b> <b>Note:</b> Part number QL-2A1AA-3B is a per-disk license; when this license is used, one copy of the license must be ordered for each disk. Part number QL-2A1AQ-AA is a software capacity license; when the software capacity license is used, only one copy of the license is ordered for the HiTest System.	<b>QL-2A1AA-3B</b> <b>QL-2A1AQ-AA</b>	0 0	<i>n</i> 1
17	<b>OpenVMS Cluster Software License</b>	QL-MUZAC-AA	1	1
18	<b>Layered Products CD-ROM</b> <b>Note:</b> Media and documentation is required for the first system at the site.	QA-03XAA-H8	0	1
19	<b>System Management Station</b>	See Table 2-2	0	1

Table 2-2: System Management Station Template

DIGITAL Enterprise Integration Package <i>HiTest AppSet</i>				
System Management Station				
Line Item	Description	Part Number	HiTest Range	
			Min	Max
System Management Station Hardware				
<b>Note:</b> This HiTest Suite supports the use of a system management station. When the system management option is included, this HiTest Template identifies the items required. When system management is to be provided through other means, this system management station option may be omitted without invalidating the HiTest Suite.				
1	<b>DIGITAL PWS 200I Personal Workstation for Windows NT</b> <i>Hardware includes:</i> <ul style="list-style-type: none"><li>• 200 MHz CPU with 256 KB cache</li><li>• 64 MB memory</li><li>• Matrox Millenium 3D graphics</li><li>• 10BaseT/10Base2 Ethernet</li><li>• 2.0 GB UW disk</li><li>• EIDE CD-ROM</li><li>• 1.44 MB floppy</li><li>• PS/2 style keyboard</li><li>• Two-button PS/2 compatible mouse</li></ul> <i>Software includes:</i> <ul style="list-style-type: none"><li>• Windows NT V4.0</li></ul> <b>Note:</b> A functionally equivalent Intel system may be substituted without invalidating this HiTest Template.	SN-B3KAP-EL	1	1
2	<i>Select one high resolution monitor (the 21-inch is recommended):</i> <b>15-inch monitor</b> <b>17-inch monitor</b> <b>21 inch monitor</b>	SN-VRCX5-WA SN-VRCX7-WA SN-VRCX1-WA	1	1
System Management Station Software				
3	<b>Windows NT Client, Version 4.0 media, documentation, and license</b>	Included with item 1	1	1
4	<b>Windows NT Service Pack 3</b>	Microsoft	1	1
5	<b>DIGITAL PATHWORKS 32, Version 7.0A Media and Documentation</b> <b>Note:</b> Media and documentation are required for each installation site. <b>Note:</b> As of November 21, 1997, PATHWORKS 32 will be included on the OpenVMS Software Library Package.	QA-5LKAA-H8	1	1
6	<b>DIGITAL PATHWORKS 32, Version 7.0A system license</b> <i>Includes:</i> <ul style="list-style-type: none"><li>• PATHWORKS 32 networking components</li><li>• eXcursion for Windows 95 and Windows NT 4.0</li><li>• PowerTerm 525 terminal emulator</li></ul>	Included with item 1 in Table 2-1	1	1
7	<b>OpenVMS Management Tools (OMT) V2.0</b>	Included with base system	1	1

**Table 2-3: Hardware Component Revision Levels**

Hardware Component	Hardware	Firmware	Software
SRM Console	–	V4.8-5	–
4.3 GB disk (RZ29B-VW)	–	0014	–
Tape Drive TLZ7L-VA	A01	–	–
DE500	A01	–	–
PALcode	–	–	V1.19-5
AlphaBIOS	–	5.28-0	–
KZPDA	A01	–	–
KZPSC	D01	2.36	–
KZPSA	A09	A10	–
DEFPA	A01	2.46	–
CIPCA	D	3.15	–
HSJ50-AJ	B01	V50J-2	–
Graphics board (S3)	-2	–	–
StorageWorks Shelf Power Supply (DS-BA35X-HH)	B01 or greater	–	–

## Configuration Data

Table 2-4 lists the software component revision levels. All of these components except OpenVMS are part of the DIGITAL Enterprise Integration Package V1.0.

**Table 2-4: Software Component Revision Levels**

Software Component	Version/Revision	Patch Level
OpenVMS	7.1	—
Management Services, which consists of the following: <ul style="list-style-type: none"> <li>• OpenVMS Management Station</li> <li>• DECamds</li> <li>• Archive/Backup System for OpenVMS Management Tools</li> <li>• Archive/Backup Agent for Windows NT</li> <li>• Datametrics ViewPoint OpenVMS Data Collector</li> <li>• Datametrics ViewPoint Performance Management Console</li> <li>• eXcursion</li> </ul>	2.0 2.1 7.1 2.1 1.0 4.2 4.2 3.0	— — — — — — — —
Network Transport and Connectivity Services, which consists of the following: <ul style="list-style-type: none"> <li>• DECnet Plus for OpenVMS Alpha End System</li> <li>• DIGITAL TCP/IP Services for OpenVMS</li> <li>• DIGITAL PATHWORKS 32</li> </ul> <p><b>Note:</b> DIGITAL PATHWORKS 32 is installed on the client side. Also, the tested revision or ECO differs from the original version supplied on the DIGITAL Enterprise Integration Package consolidation release CD-ROM. The new version was installed from the Layered Products CD-ROM (line item 18 in Table 2-1).</p>	7.1 4.1-12 7.0A	ECO 1 ECO 6 —
File and Print Services, which consists of PATHWORKS for OpenVMS (LAN Manager) <p><b>Note:</b> The tested revision or ECO differs from the original version supplied on the DIGITAL Enterprise Integration Package consolidation release CD-ROM. The new version was installed from the Layered Products CD-ROM (line item 18 in Table 2-1).</p>	5.0F	—
Internet Services, which consists of the following: <ul style="list-style-type: none"> <li>• Purveyor Encrypt WebServer for OpenVMS Alpha</li> <li>• Netscape Communications Server for OpenVMS Alpha</li> <li>• Netscape Navigator for OpenVMS Alpha</li> </ul> <p><b>Note:</b> After the installation of Netscape Navigator, it should be upgraded to Version 3.X. (See "Netscape Navigator Problem" in Chapter 6 of this document for more information.)</p> <p><b>Note:</b> The tested revision or ECO differs from the original version supplied on the DIGITAL Enterprise Integration Package consolidation release CD-ROM. The new version was installed from the Layered Products CD-ROM (line item 18 in Table 2-1).</p>	Internet Product Suite, Version 1.1 1.2B 1.12 2.021	— — —
Presentation Services, which consists of DECwindows Motif for OpenVMS Alpha	1.2-3	—



## Special Configuration Rules

The special configuration rules for this HiTest Suite include:

- **Clusters with CI Interconnects** – The CI node number will need to be set so that it does not conflict with the other CI cluster members. This is set on the CIPCA adapter. See *CIPCA Adapter Installation and User's Guide* (Order # EK-CIPCA-UG) for complete instructions on setting the Node ID.
- **Storage Shelves** – When configuring larger HiTest Systems, the BA356 storage shelves are configured as a single bus.

For complete details on configuring a BA356 shelf, see *StorageWorks Solutions 7 Device, 16-Bit SSB Shelf (BA356-S Series) User's Guide* (Order # EK-BA356-UG).

## Memory Module Configuration Guidelines

Each memory module provides either the low half or the high half of that memory option pair's memory region. Two types of memory modules are available: synchronous and extended data out (EDO).

Memory module configuration guidelines include:

- Memory modules must be installed and used in pairs.
- Both memory modules in a memory pair must be of the same size and type.
- Memory must be configured in descending order, that is, the largest memory pair must be in slot 0 Low and slot 0 High, the second largest pair in 1 Low and 1 High, and so on.

The *AlphaServer System Drawer User's Guide* (order number EK-4100A-UG) provides more details. The guide gives the detailed configuration information needed to properly install CPU and memory options, as well as PCI options.



---

## System Installation and Setup

This chapter presents information that is useful when installing and setting up a DIGITAL HiTest System configured from this DIGITAL HiTest Suite. System preparation includes installation of the hardware, operating system, and applications.

---

### Note

Read this entire document, especially Chapters 5 and 6, before you attempt to install any of the layered products or applications described in this document. Chapters 5 and 6 contain information for pre-empting problems that were discovered during the testing of this HiTest Suite.

---

## Hardware Installation

The hardware was installed and interconnected as shown in Appendix A.

## Site Requirements

Systems configured from this template require network addresses and a Cluster ID relevant to the site environment. Consult your Network Administrator.

---

### Note

It is recommended that all the DE500-AA Ethernet adapters be set to “fast” mode, if possible. This is preferable in an NI cluster where a CI is not available to offload the network adapters.

---

## Installed Base Cluster Considerations

Before upgrading TCP/IP Services with the versions and ECO levels listed in this section, refer to the section DIGITAL TCP/IP Services Problems in Chapter 6. It contains a description of how to avoid system crashes when shutting down communications.

## Upgrading Software on the VAX Nodes

To ensure interoperability, upgrade all VAX nodes with the following products and all relevant licenses, including VAXcluster and SHADOWING licenses:

- Operating System: OpenVMS Version 7.1
- Layered Products: DIGITAL Enterprise Integration Package Version 1.0:
  - DECnet Plus Version 7.1

## System Installation and Setup

- DIGITAL TCP/IP Services for OpenVMS VAX Version 4.1-12, Engineering Change Order (ECO 6)
- DIGITAL PATHWORKS Version 5.0F for OpenVMS (LAN Manager)
- Internet Suite Components:
  - Netscape Navigator for OpenVMS, Version 2.021
  - Netscape Communications Server for OpenVMS, Version 1.12
  - Purveyor Encrypt WebServer for OpenVMS, Version 1.2B

### Upgrading Software on the AlphaServer Systems

To ensure interoperability, upgrade existing AlphaServer systems with the following products and all relevant licenses, including VAXcluster and SHADOWING licenses:

- Operating System: OpenVMS Version 7.1
- Layered Products: DIGITAL Enterprise Integration Package Version 1.0:
  - DECnet Plus Version 7.1
  - DIGITAL TCP/IP Services for OpenVMS AXP Version 4.1-12, ECO 6
  - DIGITAL PATHWORKS Version 5.0F for OpenVMS (LAN Manager)
- OpenVMS Management Tools Version 2.0:
  - OpenVMS Management Station, Version 2.1
  - DECamds, Version 7.1
  - Archive/Backup System for OpenVMS Management Tools (ABS OMT), Version 2.1
  - Datametrics ViewPoint Data Collector, Version 4.2
  - eXcursion, Version 3.0
- Internet Suite Components:
  - Netscape Navigator for OpenVMS, Version 2.021
  - Netscape Communications Server for OpenVMS, Version 1.12
  - Purveyor Encrypt WebServer for OpenVMS, Version 1.2B

---

#### Note

After Netscape Navigator is installed on the AlphaServer, it should be upgraded to Version 3.X. Netscape Navigator for OpenVMS, Version 3.X is a beta version of the Netscape Navigator for OpenVMS product. This version of the Netscape Navigator for OpenVMS can be downloaded from the Digital OpenVMS System web site (<http://www.openvms.digital.com/>). See Chapter 6 of this document for information about upgrading Netscape Navigator.

---

## AlphaServer 4x00 Installation Procedure

The following sections describe how to install the operating system and layered products on the AlphaServer 4x00. All layered products are released components of the DIGITAL Enterprise Integration Package.

### Installing the Operating System

Install the DIGITAL OpenVMS Version 7.1 operating system on the AlphaServer 4x00. (Refer to the OpenVMS documentation set, Version 7.1 for installation information.)

### Before Installing Layered Products

Before installing any layered products, apply the OpenVMS SYSGEN parameters according to the *DIGITAL Enterprise Integration Package Installation Guide*. The *DIGITAL Enterprise Integration Package Installation Guide* can be found on Disk 1 of the DIGITAL Enterprise Integration Package distribution media in the following file:

```
[DEIS010.documentation]DEIS010_IGUIDE.TXT
```

The SYSGEN parameters are included in the following file, which is also found on Disk 1 of the DIGITAL Enterprise Integration Package distribution media:

```
[DEIS010.documentation]modparams_EIS.dat
```

### Installing the Layered Products

The layered products in this HiTest Suite include DECnet Plus, PATHWORKS, OpenVMS Management Tools, and the Internet Product Suite.

The following procedure describes how to install DECnet Plus, PATHWORKS, OpenVMS Management Tools Version 2.0 on the AlphaServer 4x00. After these products are installed, the Internet Suite Components must also be installed on the AlphaServer 4x00. Refer to the section on Installing Internet Suite Components for information.

The DIGITAL Enterprise Integration Package software was installed from the DIGITAL Enterprise Integration Package CD-ROM consolidated installation kit. This installation kit is included with item 2 in Table 2-1.

### Installing DECnet Plus, PATHWORKS, and OpenVMS Management Tools

To install DECnet Plus, PATHWORKS, and OpenVMS Management Tools Version 2.0 on the AlphaServer 4x00, do the following:

1. Install DECnet Plus including TCP/IP Services.
2. Check that the logical SYS\$NODE and the logical SYS\$CLUSTER\_NODE for the cluster alias are correctly defined. For example, a node named MYNODE with a cluster alias ALLSYS, should have values defined as follows:

```
sys$node          defined as "MYNODE:."
sys$cluster_node  defined as "ALLSYS:."
```

---

#### Note

DECnet Plus and DIGITAL TCP/IP Services must be installed before installing PATHWORKS. The PATHWORKS Configurator picks up the network information automatically if the network is available.

---

3. Install PATHWORKS Version 5.0F from the Layered Products CD-ROM. (Refer to the PATHWORKS documentation set for installation information.)

4. Do the following to install OpenVMS Management Tools Version 2.0:
  - a. Install OpenVMS Management Station (TNT).
  - b. Change the OpenVMS Management Station startup command as described in the section *Changing the OpenVMS Management Station Startup Command*.
  - c. Install DECamsd.
  - d. Install ABS OMT.
  - e. Do the post-installation tasks for ABS OMT, as described in the section *Performing the Post-Installation Tasks for ABS OMT*.
  - f. Install Datametrics Viewpoint. Viewpoint may return the error “CTL3D.DLL not found” on client installation. Go to the following URL for details on how to fix this problem:  
<http://www.datametrics.com/omt/omtfixes.htm>
  - g. Install eXcursion.

Refer to the directory [OMT020.OMT020\_DOC] on Disk 4 of the DIGITAL Enterprise Integration Package distribution media for more information on installing OpenVMS Management Tools Version 2.0.

### Changing the OpenVMS Management Station Startup Command

After OpenVMS Management Station (TNT) is installed, the “boot” parameter must be removed from the OpenVMS Management Station startup command in SYSTARTUP\_VMS.COM. With the “boot” parameter removed, the OpenVMS Management Station startup command will look like the following:

```
$ @SYS$STARTUP:TNT$STARTUP
```

---

#### Note

---

If the “boot” parameter is not removed from the OpenVMS Management Station startup command, the OpenVMS Management Station process will not start.

---

### Performing the Post-Installation Tasks for ABS OMT

The post-installation tasks for ABS OMT are performed on the Media Device Management Services (MDMS) and the Storage Library System (SLS). MDMS and SLS are installed as part of the installation of ABS OMT.

1. After installing ABS OMT, run SLSS\$SYSTEM:SLS\$SLSMGR to perform the following post-installation tasks:
  - a. Authorize access to the SLS database
  - b. Authorize access to the SLS pool for users
2. Verify that the SLSS\$DBX object is defined. If the SLSS\$DBX object is *not* defined, run SY\$MANAGER:NET\$NCP\_APPLICATIONS.COM.

The *ABS Installation Guide* and the *MDMS (V2.8) Operations Guide* describe each of the post-installation tasks for MDMS. The *MDMS Operations Guide* is in the file [OMT020.OMT020\_DOC]ABS\_MDMS.PS on the installation media for OpenVMS Management Tools Version 2.0. The *ABS Installation Guide* is in the file [OMT020.OMT020\_DOC]ABS\_INST.PS on the installation media for OpenVMS Management Tools Version 2.0.

### Enabling the ABS Policy Engine on Multiple Nodes

To enable the ABS Policy Engine on more than one node in a cluster, include an entry for each node at the bottom of ABS\$SYSTEM:ABS\$POLICY\_CONFIG.DAT. For example, the following entries are used to enable the ABS Policy Engine on node\_1, node\_2, and node\_3:

```
ABS$POLICY_ENGINE_LOCATION = node_1::
ABS$POLICY_ENGINE_LOCATION = node_2::
ABS$POLICY_ENGINE_LOCATION = node_3::
```

### Customizing SYS\$MANAGER:TAPESTART.COM

Set the following parameters in SYS\$MANAGER:TAPESTART.COM:

**PRI** – Specifies your cluster alias (or node name, in the event your system is a standalone). For example, PRI := ALLSYS specifies a cluster alias of ALLSYS.

**DB\_NODES** – Specifies your node names. For example, DB\_NODES := node\_1, node\_2 specifies your node names as node\_1 and node\_2.

**MTYPE\_1** – Specifies a media type. For example, MTYPE\_1 := TLZ09 specifies a TLZ09 tape drive as your media type.

**DENS\_1** – Specifies the tape density. Leaving this parameter blank specifies that the default density for the device will be used.

**DRIVES\_1** – Specifies the tape's hardware device name. For example, \$20\$MKB600.

### Installing Internet Suite Components

1. Install the following Internet Suite Components according to the installation guides found on the OpenVMS Internet Product Suite CD-ROM:
  - Netscape Navigator for OpenVMS, Version 3.X
  - Netscape Communications Server Version 1.12 for OpenVMS
  - Purveyor Encrypt WebServer Version 1.2B for OpenVMS
2. Upgrade Netscape Navigator. For details, see the Netscape Navigator Problem in Chapter 6.

To access the installation guide for the Internet Suite Components, do the following:

1. Insert the OpenVMS Internet Product Suite CD-ROM in your CD-ROM drive.
2. Enter the following command to mount the CD-ROM:

```
$ MOUNT/SYSTEM cd-device: OVMSIPS12 CD
```

---

#### Note

---

Mounting the CD with the MOUNT/SYSTEM CD-DEVICE: OVMSIPS11 CD command will mount the CD and define the system logical, CD.

---

3. Print the installation guides from the following location:  
 CD: [ INTERNET\_PRODUCT\_SUITE.HTML\_POSTSCRIPT ] INSTALL\_GUIDE.PS  
 Most of the installation documentation can be found in the subdirectories of  
 CD:[INTERNET\_PRODUCT\_SUITE].

## System Installation and Setup

4. The actual install is accomplished by a command procedure that is located in the [000000] directory of the CD. To invoke this procedure, enter the following command:

```
$ @CD:[ 000000 ] INTERNET_PRODUCTS_INSTALL
```

An example of this installation is shown in the *OpenVMS Internet Product Suite Version 1.1 Installation Guide and Product Notes*.

### Granting File Access to Multiple Web Servers

When installing multiple web servers, it may be necessary for both servers to access the same files. It is possible for each server to access the same pages by using an identifier. To set up an identifier for this purpose, do the following:

1. Add an "HTTP" identifier to the SYSUAF (System User Authorization File).
2. Set the attribute of the "HTTP" identifier to "Resource."
3. Grant the "HTTP" identifier to both server accounts.
4. Set the security ACLs on the directory that both servers will be accessing.

### Starting the Purveyor Encrypt WebServer

The Purveyor Encrypt WebServer can only be started from the Purveyor directory.

You must start the Purveyor Encrypt WebServer with a command procedure like the one in the following section:

```
$ @HTTP$STARTUP.COM
```

### Sample HTTP\$STARTUP.COM Procedure

The following is an example of a usable HTTP\$STARTUP.COM procedure:

```
$ NODE = F$GETSYI("NODENAME")
$ SUBMIT/QUEUE 'NODE'_batch -
  SYS$SYSDEVICE:[PURVEYOR]Purveyor$Startup.com -
  /LOG=SYS$SYSDEVICE:[PURVEYOR]HTTPD$PURVEYOR_'NODE' -
  /noprint
$ EXIT
```

### Sample PURVEYOR\$STARTUP.COM Procedure

The PURVEYOR\$STARTUP.COM procedure changes the default directory to the PURVEYOR directory and starts the Purveyor from that directory.

The following is an example of a usable PURVEYOR\$STARTUP.COM procedure:

```
$ SET DEFAULT SYS$SYSDEVICE:[PURVEYOR]
$ NODE = F$GETSYI("NODENAME")
$ @SYS$SYSDEVICE:[PURVEYOR]PURVEYOR_STARTUP 'NODE'.DB
$ EXIT
```

---

#### Note

Currently, both Purveyor and Netscape Servers will be installed on the system disk related to the architecture. It is possible to combine the executables of the related products into a cluster-common directory regardless of the architecture. The startup of both the Netscape Server and Purveyor does take the architecture into consideration on startup.

---



### **Tuning DIGITAL TCP/IP Services for OpenVMS (UCX)**

UCX will need tuning as the load increases.

Monitor the small and large buffers and take note of any drops that occur. To display the small and large buffers, enter the following command at the UCX prompt:

```
UCX> SHOW COMMUNICATION/MEM
```

Refer to the *Digital TCP/IP Services for OpenVMS Command Reference Manual* for information on the SET COMMUNICATION command, which is used to adjust the small and large buffers.



---

## Interoperability Tests and Results

This chapter describes how our tests were set up, what data and programs were placed on what disks, and how the tests were run.

This chapter describes:

- Test Environment
- Test Tools
- Test Configuration
- Test Process and Results

### Overview of Results

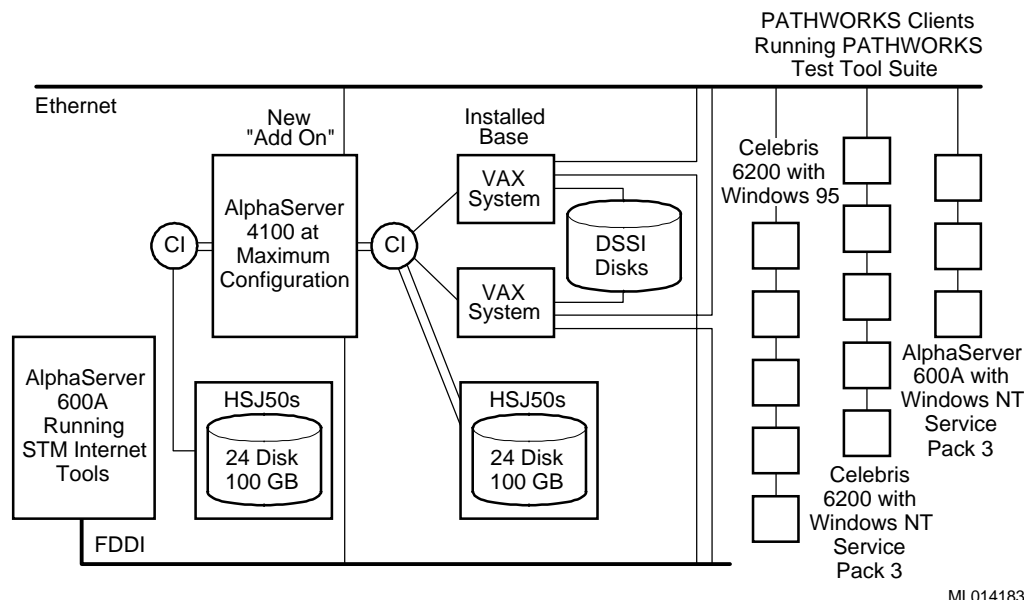
Interoperability testing was performed successfully on the DIGITAL Enterprise Integration Package OpenVMS AlphaServer 4x00 DIGITAL HiTest Suite. The tests verified that the business processes functioned correctly.

### Test Environment

The DIGITAL Enterprise Integration Package OpenVMS AlphaServer 4x00 DIGITAL HiTest System was tested in an established clustered environment and connected via a Cluster Interconnect (CI) interface. The existing cluster consisted of two VAX systems and an Alpha system. The VAX system disk was a two-volume shadow set on a CI interface with paging and swapping files located on a common DSSI disk.

Figure 4-1 shows the test environment for this HiTest Template.

**Figure 4-1: Test Environment**



ML014183

## Note

All nodes in this HiTest Template have at least one FDDI and one Ethernet port.

## Test Tools

The test tools used for interoperability testing included:

- PATHWORKS Test Suite** – This suite was used to verify client/server functionality. These tests ensure interoperability between a Windows 95 or Windows NT client, and LAN Manager-compliant servers.
 

This suite consists of over 400 functional tests. These tests performed operations on several different types of files including text, executable, and various sequential and indexed file types. The file sizes ranged from 1 to 10 MB. This suite was also used as a server stress test by running it from multiple clients against a single server.

Clients tested included Microsoft Windows NT 4.0 with Service Pack 3 on both AXP and Intel processor based systems. Clients also included Microsoft Windows 95. All clients ran a mix of TCP/IP, NetBEUI, and DECnet network transports.
- System Test Manager Test Suite** – The System Test Manager (STM) test suite includes a set of Internet test tools for mail, FTP, and web server testing. These tools were used to verify the functionality of the Internet suite products.

## Test Configuration

Table 4-1 shows the common (clusterwide) storage for this HiTest Suite. RZ28M-VW disks were used for the clusterwide storage.

**Table 4-1: Common (Clusterwide) Storage**

Quantity	Capacity (GB)	Disk Content/Data	Disk Controller
2	2.1	AlphaServer system shadow set	HSJ50-AJ
2	2.1	VAX system shadow set	HSJ50-AJ
1	2.1	PATHWORKS ODS shares	HSJ50-AJ
6	2.1	Stripeset for PATHWORKS ODS shares	HSJ50-AJ
3	2.1	RAIDset for PATHWORKS ODS shares	HSJ50-AJ
2	2.1	EIP software on shadow set	HSJ50-AJ
2	2.1	ABS catalogs on shadow set	HSJ50-AJ
2	2.1	PATHWORKS system file on shadow set	HSJ50-AJ
1	2.1	Cluster common startup files	HSJ50-AJ
1	2.1	System files	HSJ50-AJ
1	2.1	Internet software	HSJ50-AJ
1	2.1	Hot spares (for RAIDset)	HSJ50-AJ

## Minimum Configuration

Table 4-2 shows the minimum disk configuration for this HiTest Suite.

**Table 4-2: Disk Setup for the Minimum Configuration**

Quantity	Capacity (GB)	Disk Content/Data	Disk Controller
1	4.3	Paging and swapping disk	KZPDA-AA
1	4.3	PATHWORKS ODS shares	KZPDA-AA
1	4.3	Spare	KZPDA-AA

## Maximum Configuration

Table 4-3 shows the maximum disk configuration for this HiTest Suite.

**Table 4-3: Disk Setup for the Maximum Configuration**

Quantity	Capacity (GB)	Disk Content/Data	Disk Controller
2	4.3	Paging and swapping disk	KZPDA-AA
1	4.3	PATHWORKS ODS shares	KZPDA-AA
1	4.3	Spare	KZPDA-AA

### Test Process and Results

The test load was generated as follows:

- **OpenVMS Management Tools Version 2.0** – Backups were performed on PATHWORKS ODS shares using the ABS OMT facility, and were queued to coincide with the tests that ran from the PCs. The following information applies to the testing of OpenVMS Management Tools Version 2.0:
  - A print queue was stopped and restarted during the test utilizing the OpenVMS Management Station facility (TNT).
  - DECadms and Datametrics' Viewpoint were used to monitor the cluster's performance during the test.
  - eXcursion was used to display monitor processes to the various output devices.
- **Failing RAID Disk Drive:**
  - An RZ29 drive was pulled from the RAIDset attached to the RAID controller (KZPSC) to simulate a failing disk drive.
  - An RZ29 drive was pulled from the RAIDset attached to the HSZ50 to simulate a failing disk drive.
- **Failing HSJ50 Controllers** – One of the HSJ50-AJ's controllers was removed to simulate a failing controller.
- **CI Port Failure** – A CI cable was removed from Transmit A Port to initiate CI port failure.
- **Network Recovery** – A network cable connected to the DEFPA (FDDI) was removed temporarily to check for network failure.

The system performed without problems. However, the following failures were induced, which did not interfere with system performance:

- **Failing Disk Drive** – The RAIDset attached to the RAID controller (KZPSC) continued without errors; a hot spare drive automatically replaced the failed drive. The RAIDset attached to the (HSZ50) continued without errors.
- **Failing HSJ50 Controllers** – Testing continued without errors; the redundant controller assumed all of the I/O.
- **CI Port Failure** – The system correctly reconnected to an adjacent CI port.
- **Network Recovery** – When the network cable was reconnected, the test continued without errors. All network traffic was routed through the DE500 adapter.

---

## System Limits and Characterization Data

This chapter describes any system limits that may have been determined as a result of the testing, along with information about the system characterization during testing.

The system characterization information that was discovered during the testing of this HiTest Suite pertains to PATHWORKS; ODS shares are recommended for optimum PATHWORKS share performance.





## Problems and Resolutions

This chapter describes any problems that may have been encountered during the testing. A resolution for each problem is given. The resolution provides the system manager or user with a fix or workaround for the problem.

The following problems were identified during testing:

### Hardware

#### Network Infrastructure/DE500 Problem

<b>Problem</b>	Testing DE500s set to “FAST” mode using an EtherWORKS switch sometimes causes network errors.
<b>Resolution</b>	The network errors are due to the inability of the switch to support the level of traffic. Using a DEChub instead of an EtherWORKS switch eliminates this problem.

### Operating System

#### PATHWORKS

<b>Problem</b>	PATHWORKS performance was sluggish with the initial system configuration.
<b>Resolution</b>	<p>The following steps were taken to improve performance:</p> <ul style="list-style-type: none"> <li>The network traffic was distributed by using the following logicals to direct the DECnet traffic over a specific network adapter.  <code>\$ DEFINE/SYSTEM/EXEC NETBIOS\$DEVICE EWB0:</code>            Other logicals to direct NetBEUI and TCP/IP communications are:  <code>\$ DEFINE/SYSTEM/EXEC NETBEUI_DEVICE EWB0:</code>  <code>\$ DEFINE/SYSTEM/EXEC PWRK\$KNBDAEMON_DEVICE EWB0:</code> </li> <li>Since these hardware configurations offer a good amount of physical memory, another solution was to increase the size of the memory file cache area using the SYSGEN parameter VCC_MAXSIZE. (A value of 30,000 was used for testing.)</li> </ul>

## Internet Suite

### Netscape Server Problem

- |                   |  |
|-------------------|--|
| <b>Problem</b>    | Netscape Server occasionally halts on servers such as the AlphaServer 4100 system.   |
| <b>Resolution</b> | To allow the Netscape parent process to continue, execute a STOP/ID command for any Netscape subprocesses. (Netscape subprocesses have a process name of the form HTTP_80_#, where # is a number.) |

### Netscape Navigator Problem

- |                   |  |
|-------------------|--|
| <b>Problem</b>    | When attempting to send a mail message, Netscape fails with the following message:<br><br>Unable to create FCC file  |
| <b>Resolution</b> | Retrieve and install Version 3.x of Netscape Navigator Gold from the following Digital Web site:<br><br><code>http://www.openvms.digital.com/</code><br><br>Follow the hints for Netscape Version 3.x for OpenVMS. Note the “Before You Begin” section.<br><br>Also note that there are two .EXE files for Version 3.0 of Netscape Navigator Gold which are available from this web site. The two .EXE files are the following:<br><br><code>NETSCAPE-EXPORT-Alpha-V30B?-??????.EXE</code><br><code>NETSCAPE-EXPORT-VAX-V30B?-??????.EXE</code><br><br>where the wildcard strings ? and ?????? represent the beta version number and beta version date of the .EXE file.<br><br>The .EXE file that you retrieve and install must be the one that is appropriate for the platform on which it will be installed. On Alpha systems, install <code>NETSCAPE-EXPORT-Alpha-V30B?-??????.EXE</code> . On VAX systems, install <code>NETSCAPE-EXPORT-VAX-V30B?-??????.EXE</code> .<br><br>The versions of the Netscape Navigator Gold .EXE files that were tested for this HiTest Suite were the following:<br><br><code>NETSCAPE-EXPORT-Alpha-V30B7-072197.EXE</code><br><code>NETSCAPE-EXPORT-VAX-V30B7-072197.EXE</code> |

---

#### Note

---

Netscape Navigator for OpenVMS V3.x is a beta release.

---

### Purveyor Encrypt WebServer Problems

- |                   |  |
|-------------------|--|
| <b>Problem</b>    | The Browser prompts a user to save a file that does not have a filename extension. For example, the browser might prompt a user to save a file with the filename “file.”   |
| <b>Resolution</b> | Rename the file to include a filename extension. For example, the following commands could be used to rename the filename “file.”<br><br><code>RENAME file.; file.html</code><br><code>RENAME file.; file.txt</code> |

<b>Problem</b>	The Purveyor Encrypt WebServer responds to a lowercase GET statement.
<b>Resolution</b>	When writing web pages, use RFC-compliant coding statements, which are all uppercase.

## DIGITAL TCP/IP Services Problems

<b>Problem</b>	The UCX PopServer runs out of memory and hangs.					
<b>Resolution</b>	To prevent this problem, reset the parameters in the UCX\$POP account. The parameters and values must be reset as follows:					
	Maxjobs	0	Fillm	300	Bytlm	200000
	Maxacctjobs	0	Shrfillm	0	Pbytlm	0
	Maxdetach	0	BIolm	150	Jtquota	4096
	Prclm	2	DIolm	150	Wsdef	512
	Prio	8	ASTlm	250	Wsquo	1024
	Queprio	0	TQElm	34	Wsextent	20000
	CPU	(none)	Enqlm	2000	Pgflquo	256000
	If the UCX PopServer continues to run out of memory and hang, set the “Bytlm” parameter to a higher value than 200000 and the “Pgflquo” parameter to a higher value than 256000. (This may become necessary as the user workload increases.)					
	If the UCX PopServer was installed on a VAX and a common SYSUAF was used, all UCX\$* account parameters, except for “Pgflquo” and “Bytlm,” must be adjusted to the values specified for Alpha.					

<b>Problem</b>	When the PATHWORKS Server is running, using the UCX command STOP COMMUNICATIONS in interactive mode causes a system crash.
<b>Resolution</b>	The STOP COMMUNICATIONS command should be used only in the UCX\$\$SHUTDOWN command file, which is available on the distribution kit. The logic in the UCX\$\$SHUTDOWN command file ensures that the network traffic will be quiescent before the STOP COMMUNICATIONS command is executed.

---

### CAUTION

---

The STOP COMMUNICATIONS command should not be used interactively.

---

As a workaround, UCX Engineering supplied the following procedure for shutting down UCX:

1. Stop PATHWORKS with the PATHWORKS shutdown procedure.
2. Stop all communications by using the UCX\$\$SHUTDOWN command file.

<b>Problem</b>	The UCX PWIP process issues the following message: Large buffer quota depleted, blocking PWIPdriver transmission.
<b>Resolution</b>	<p>This message indicates that the large buffers need to be increased. To avoid this problem, monitor the small and large buffers. The following UCX command will display the small and large buffers, along with any drops:</p> <pre>UCX&gt; SHOW COMMUNICATION/MEM</pre> <p>Refer to the <i>Digital TCP/IP Services for OpenVMS Command Reference Manual</i> for information on the SET COMMUNICATION command, which is used to adjust the small and large buffers.</p>



# A

---

## Detailed Hardware Configuration

This appendix describes the minimum and maximum hardware configuration as tested for the following:

- System Diagrams
- AlphaServer 4x00 configurations, including:
  - System Motherboard
  - PCI Slot Usage
- Configuration Cabling
- Disk Configuration

System Diagrams

Figure A-1 shows a diagram of the minimum configuration for the entire DIGITAL Enterprise Integration Package OpenVMS AlphaServer 4x00 HiTest Suite.

Figure A-1: System Diagram for Minimum Configuration

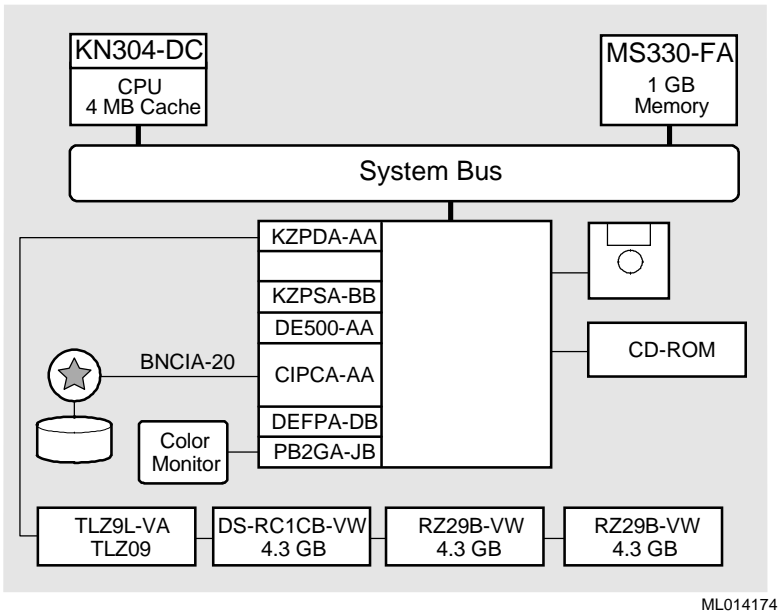
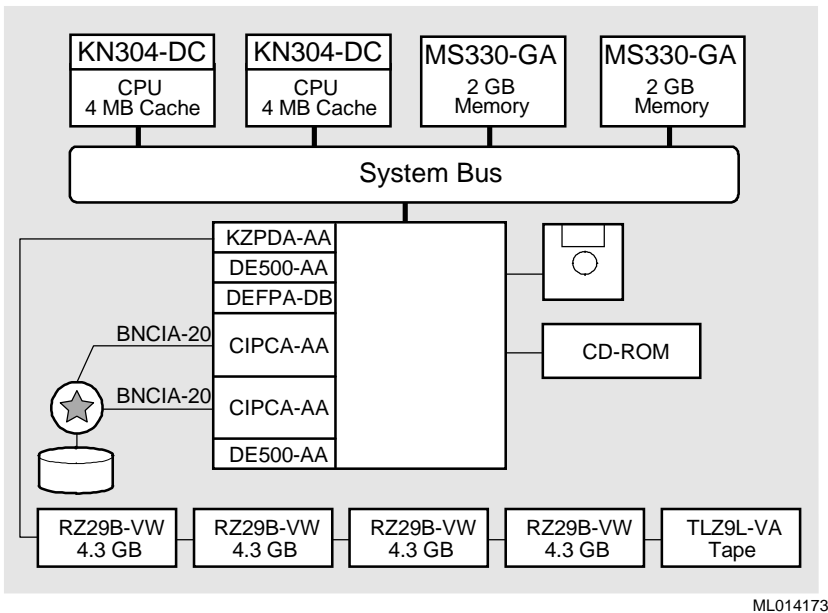


Figure A-2 shows a diagram of the maximum configuration for the entire DIGITAL Enterprise Integration Package OpenVMS AlphaServer 4x00 HiTest Suite.

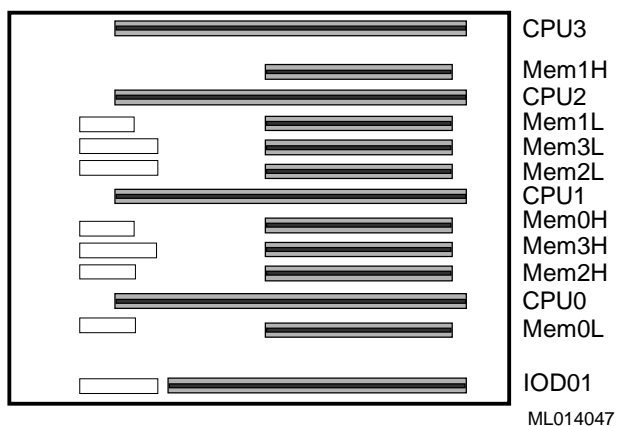
Figure A-2: System Diagram for Maximum Configuration



## AlphaServer 4x00 Configurations

Figure A-3 and Table A-1 show the AlphaServer 4x00 system motherboard and describe the minimum and maximum hardware configurations used in this HiTest Template.

**Figure A-3: AlphaServer 4x00 Motherboard**



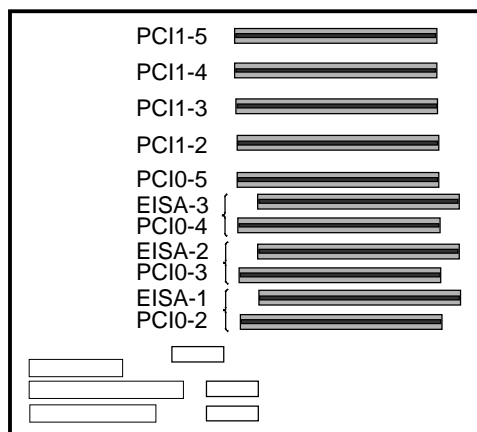
**Table A-1: AlphaServer 4x00 Usage (Minimum and Maximum Configurations)**

Slot	Minimum Configuration Options	Maximum Configuration Options	Description
CPU3*	open	open	
Mem1H	open	MS330-FA	board 2 of 2
CPU2*	open	open	
Mem1L	open	MS330-FA	board 1 of 2
Mem3L*	open	open	
Mem2L*	open	MS330-FA	
CPU1	open	KN304-DC	466 MHz CPU 2 MB cache
Mem0H	MS330-FA	MS330-GA	board 2 of 2
Mem3H*	open	open	
Mem2H*	open	MS330-FA	
CPU0	KN304-DC	KN304-DC	466 MHz CPU 2 MB cache
Mem0L	MS330-FA	MS330-GA	Memory pair 0 (1 of 2)
* These slots do not exist on the AlphaServer 4000 system.			

## AlphaServer 4x00 PCI Slot Usage

Figure A-4 shows PCI slot usage for this HiTest Template.

**Figure A-4: AlphaServer 4x00 PCI Slot Configuration**



ML013980

Table A-2 shows the PCI slot usage for the minimum and maximum configurations of this HiTest Template.

**Table A-2: PCI Slot Usage (Minimum and Maximum)**

Slots	Minimum Configuration Options	Description	Maximum Configuration Options	Description
PCI1-5	KZPDA-AA	PCI to SCSI Adapter	KZPDA-AA	PCI to SCSI Adapter
PCI1-4	DE500-AA	PCI Ethernet Adapter	DE500-AA	PCI Ethernet Adapter
PCI1-3	KZPSA-BB	PCI to SCSI Adapter	DEFPA-DB	PCI to FDDI Network Adapter
PCI1-2	open		CIPCA-AA	PCI to CI Host Bus Adapter (link)
PCI0-5	CIPCA-AA	PCI to CI Host Bus Adapter (link)	CIPCA-AA	PCI to CI Host Bus Adapter (link)
EISA-3/ PCI0-4	CIPCA-AA	PCI to CI Host Bus Adapter (port)	CIPCA-AA	PCI to CI Host Bus Adapter (port)
EISA-2/ PCI0-3	open		CIPCA-AA	PCI to CI Host Bus Adapter (port)
EISA-1/ PCI0-2	PB2GA-JB	PCI-based S3 Trio Video Card	DE500-AA	PCI Ethernet Adapter



## Configuration Cabling

Table A-3 lists the major cables in the HiTest Template.

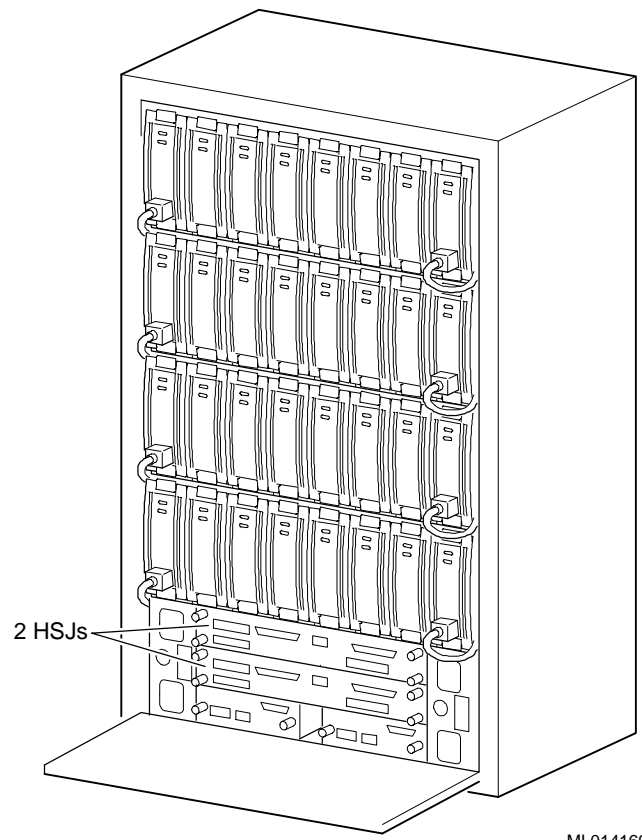
**Table A-3: Configuration Cabling**

Part Number	Qty	Description	From	To
BNCIA-20	1/2*	CI cable	Star coupler <sup>†</sup>	CIPCA-BA
BNCIA-20	2	CI cable	Star coupler <sup>†</sup>	HSJ50-AJ
BN21K-03	1	SCSI cable	KZPDA	StorageWorks Shelf
* Minimum/Maximum values <sup>†</sup> Component of existing cluster				

## Disk Configuration

Figure A-5 shows the disks and controllers in the SW300-AA Cabinet that were used for minimum and maximum configuration testing.

**Figure A-5: SW300-AA Cabinet with Disks and Controllers**



ML014169

## HSJ50-RZ28M Disk Configuration

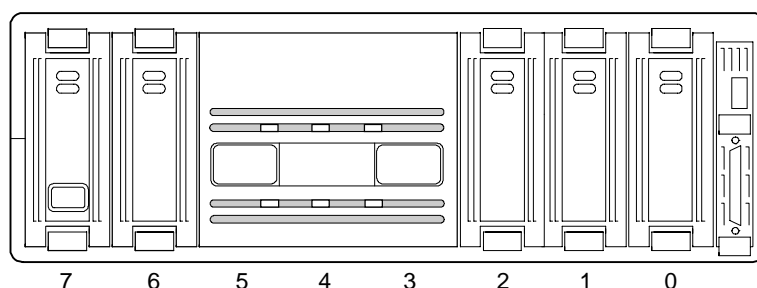
Table A-4 lists the HSJ50-RZ28M Disk Configuration for this HiTest Suite.

**Table A-4: HSJ50 - RZ28M Disk Configuration**

Slot Number							
7	6 (RZ28M-VW)	5 (RZ28M-VW)	4 (RZ28M-VW)	3 (RZ28M-VW)	2 (RZ28M-VW)	1 (RZ28M-VW)	0
Power supply	Alpha system shadow disk	RAIDset 1 ODS share	DIGITAL Enterprise Integration Package software shadow disk	DIGITAL Enterprise Integration Package software shadow disk	PATHWORKS Files and ODS shares (Shadowed)	Internet Suite software	Power supply
Power supply	PATHWORKS ODS shares	VAX system shadow disk	ABS catalog & web files shadow disk	ABS catalog & web files shadow disk	PATHWORKS Files and ODS shares (Shadowed)	Hot spare	Power supply
Power supply	AXP system shadow disk	VAX system shadow disk	RAIDset 1 ODS share	RAIDset 1 ODS share	Cluster common startup files	System Files (SYSUAF Rightslist)	Power supply
Power supply	Stripeset ODS shares	Stripeset ODS shares	Stripeset ODS shares	Stripeset ODS shares	Stripeset ODS shares	Stripeset ODS shares	Power supply
HSJ50-AJ (Controller)							
HSJ50-AJ (Controller)							

Figure A-6 shows a sample slot layout for a BA356 Storage Shelf with a tape drive.

**Figure A-6: Example of a BA356 Storage Shelf with a Tape Drive**



ML013996

## Minimum Configuration

Table A-5 lists the minimum configuration for this HiTest System.

**Table A-5: Shelf 1 (Connected to KZPDA-AA - System Cabinet, Top)**

Slot	Option/ Part Number	Description
0-2	TLZ9L-VA	32 GB 4mm DAT 5.25-inch Tape Loader
3	RZ29B-VW	Spare disk
4	RZ29B-VW	PATHWORKS ODS share
5	DS-RZ1CB-VW	Paging and swap disk
6	Open	–
7	–	Power Supply

## Maximum Configuration

Table A-6 lists the maximum configuration for this HiTest System.

**Table A-6: Shelf 1 (Connected to KZPDA-AA – System Cabinet, Top)**

Slot	Option/ Part Number	Description
0	RZ29B-VW	Spare disk
1	RZ29B-VW	Spare disk
2	DS-RZ1CB-VW	Paging and swap disk
3	RZ29B-VW	ODS share
4–6	TLZ9L-VA	32 GB 4mm DAT 5.25-inch Tape Loader
7	–	Power Supply

