d i g i t a l

DIGITAL Enterprise Integration Package OpenVMS AlphaServer 8x00

DIGITAL HiTest Notes

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Digital Equipment Corporation
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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 8x00 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-HEIVB-HN. C01) in your correspondence about this document.

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

1
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.

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 8x00 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.

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)

  - Internet Product Suite V1.0

  - OpenVMS Management Tools V2.0

- 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 workgroups. This Suite covers the full product line of mid-range AlphaServer 8x00 systems running OpenVMS DIGITAL Enterprise Integration Package.

2
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 8x00 HiTest Suite. This range includes both the AlphaServer 8200 and the AlphaServer 8400 systems with one to four CPU options and 2 GB to 8 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 will 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.

Configuration Data

Table 2-1: DIGITAL Enterprise Integration Package OpenVMS AlphaServer 8x00 HiTest Template

<table>
<tr><td colspan="5" style="text-align:center">DIGITAL Enterprise Integration Package <i>HiTest AppSet</i>
OpenVMS AlphaServer 8x00 HiTest Foundation</td></tr>
<tr><td colspan="5">For documentation and updates: http://cosmo.tay.dec.com and http://www.partner.digital.com:9003
For hard copy of this Suite's HiTest Notes, order EK-HEIVB-HN.</td></tr>
<tr><td rowspan="2">Line Item</td><td rowspan="2">Description</td><td rowspan="2">Part Number</td><td colspan="2">HiTest Range</td></tr>
<tr><td>Min</td><td>Max</td></tr>
<tr><td colspan="5" style="text-align:center">AppSet Software</td></tr>
<tr><td>1</td><td>DIGITAL Enterprise Integration Package</td><td>Included with item 2</td><td>1</td><td>1</td></tr>
<tr><td></td><td colspan="4">Note: 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:

• Netscape Communications Server – License is supplied by DIGITAL under DIGITAL part number QL-57BA9-AA.

• Purveyor Encrypted Server – License is supplied by DIGITAL under the following DIGITAL part numbers:
– QL-57HA9-AA (International)
– QL-57GA9-AA (US and Canada)

• Datametrics ViewPoint – License is supplied by the third-party software supplier. For more information, contact Datametrics at 1-888-436-6300.</td></tr>
<tr><td colspan="5" style="text-align:center">Foundation Hardware</td></tr>
<tr><td>2</td><td><i>Select just one base system:</i>
AlphaServer 8200 5/440 System
AlphaServer 8400 5/440 System

<i>Hardware for both the 8200 and 8400 systems includes</i>:
• Two 5/440 MHz CPUs; 4 MB cache
• I/O module with four I/O channels (KFTHA-AA)
• 2 GB of memory
• DS-RZ1CB-VW 4.3 GB 7200 RPM UltraSCSI disk
• One BN21K-02 PCI FWD SCSI cable
• One DWZZB-VW SCSI signal converter
• 600 MB CD-ROM drive
• One KZPSA-BB, PCI FWD SCSI controller
• KZPAA-AA, PCI FNSE SCSI controller, for CD-ROM only
• BN21H-02 2-meter SCSI cable
• DE500-AA 10/100 Mbit Ethernet 32-bit NIC
• Shielded console cable

<i>8200 Only Hardware includes</i>:
• BA656 Internal Storage Drawer & BA356-JB SCSI-2 16-bit wide StorageWorks shelf
• One DWLPB-CA PCI Shelf Mount Box
• Universal single phase power, 48 VDC supply

<i>8400 Only Hardware includes</i>:
• BA660-AB StorageWorks Plug-in-unit
• One DWLPB-AA, PCI 12-slot Plug-in-unit (8400)
• Two H7263-A<i>x</i> non-BBU capable 48 VDC power regulators; includes power cord</td><td>DY-282FF-D9
DY-292FF-DA</td><td>1</td><td>1</td></tr>
</table>

Line Item	Description	Part Number	HiTest Range	
			Min	Max

	Software includes:
	• Factory Installed Software
	• OpenVMS operating system license and media
	• DIGITAL Enterprise Integration Package, consisting of the following services:
	  – Management
	  – Network Transport and Connectivity
	  – File and Print
	  – Internet
	  – Presentation			

3	*Choose one of the following optional CPU upgrades:* **Additional dual 5/440 CPU module for 8200** **Additional dual 5/440 CPU module for 8400** **Note:** The CPU upgrade includes the OpenVMS SMP Base Extension License.	**756P1-AX**	0 0	2 3
4	**PCI Plug-in Unit with one PCI box**	**DWLPB-BA**	0	1
5	*Choose one of the following optional memory upgrades:* **Additional 2 GB Memory Module for 8200** **Additional 2 GB Memory Module for 8400**	**MS7CC-FA**	0 0	2 3
6	**Power Cord (8200 only)**	**BN23H-4E**	1	1
7	**Console Terminal**	**VT510-KA**	1	1
8	**Console Keyboard**	**LK46W-A2**	1	1
9	**PCI to CI Adapter**	**CIPCA-BA**	1	4
10	**CI Cables conforming to customer needs** **Note:** Consult DIGITAL Technical Support for the correct cable length and corresponding part number for customer site.	**BNCIA-20**	1	4
11	**10/100 Mbit PCI Fast Ethernet NIC**	**DE500-AA**	0	1
12	**PCI/FDDI Adapter**	**DEFPA-DB**	0	2
Foundation Software				
13	**OpenVMS, Version 7.1, base license and factory-installed software**	**Included with item 2**	1	1
14	**OpenVMS Media and documentation on CD-ROM** **Note:** Media and documentation is required for the first system at the site.	**QA-MTIAA-H8**	0	1
15	**OpenVMS, Version 7.1 Concurrent Use License** **Note:** 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.	**QL-MT3AA-3***	0	1

Table title (above the table):

DIGITAL Enterprise Integration Package *HiTest AppSet*
OpenVMS AlphaServer 8x00 HiTest Foundation

For documentation and updates: http://cosmo.tay.dec.com and http://www.partner.digital.com:9003
For hard copy of this Suite's HiTest Notes, order EK-HEIVB-HN.

<table>
<tr><td colspan="5" align="center">DIGITAL Enterprise Integration Package HiTest AppSet
OpenVMS AlphaServer 8x00 HiTest Foundation</td></tr>
<tr><td colspan="5" align="center">For documentation and updates: http://cosmo.tay.dec.com and http://www.partner.digital.com:9003
For hard copy of this Suite's HiTest Notes, order EK-HEIVB-HN.</td></tr>
</table>

Line Item	Description	Part Number	HiTest Range Min	HiTest Range Max
16	*Order the appropriate Volume Shadowing License:* **Volume Shadowing License for OpenVMS Alpha** **Volume Shadowing License for OpenVMS Alpha** **Note:** 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.	**QL-2A1AA-3B** **QL-2A1AQ-AA**	0 0	*n* 1
17	**OpenVMS Cluster Software License**	**QL-MUZAC-AA**	1	1
18	**Layered Products CD-ROM** **Note:** Media and documentation is required for the first system at the site.	**QA-03XAA-H8**	0	1
19	**System Management Station**	**See Table 2-2**	0	1

Table 2-2: System Management Station Template

<table>
<tr><td colspan="5" align="center">DIGITAL Enterprise Integration Package HiTest AppSet
System Management Station</td></tr>
</table>

Line Item	Description	Part Number	HiTest Range Min	HiTest Range Max
	System Management Station Hardware			
	Note: This HiTest Suite supports the use of a systems 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	**DIGITAL PWS 200i Personal Workstation for Windows NT** *Hardware includes*: • 200 MHz CPU with 256 KB cache • 64 MB memory • Matrox Millenium 3D graphics • 10BaseT/10Base2 Ethernet • 2.0 GB UW disk • EIDE CD-ROM • 1.44 MB floppy • PS/2 style keyboard • Two-button PS/2 compatible mouse *Software includes*: • Windows NT 4.0 **Note:** A functionally equivalent Intel system may be substituted without invalidating this HiTest Template.	**SN-B3KAP-EL**	1	1
2	*Select one high-resolution color monitor (the 21" is recommended)*: **15-inch monitor** **17-inch monitor** **21-inch monitor**	**SN-VRCX5-WA** **SN-VRCX7-WA** **SN-VRCX1-WA**	1	1

DIGITAL Enterprise Integration Package *HiTest AppSet* System Management Station				
Line Item	Description	Part Number	HiTest Range	
			Min	Max
System Management Station Software				
3	**Windows NT Client, Version 4.0 media, documentation and license**	**Included with item 1**	1	1
4	**Windows NT Service Pack 3**	**Microsoft**	1	1
5	**DIGITAL PATHWORKS 32, Version 7.0A Media and Documentation** **Note:** Media and documentation are required for each installation site. **Note:** From November 21, 1997, PATHWORKS 32 will be included on the OpenVMS Software Library Package.	**QA-5LKAA-H8**	1	1
6	**DIGITAL PATHWORKS 32, Version 7.0A system license** *Includes*: • PATHWORKS 32 networking components • eXcursion for Windows 95 and Windows NT 4.0 • PowerTerm 525 terminal emulator	**Included with item 1 in Table 2-1**	1	1
7	**OpenVMS Management Tools (OMT) V2.0**	**Included with base system**	1	1

Table 2-3: Hardware Component Revision Levels

Hardware Component	Hardware	Firmware	Software
SRM Console	–	V4.8-6	–
4.3 GB disk (RZ29B-VW)	–	0014	–
DE500	A01	–	–
PALcode	–	–	V1.19-5
AlphaBIOS	–	5.14-5	–
PCI-SCSI Host Bus Adapter, FNS (KZPAA-AA)	A01	–	–
PCI-Host Bus Adapter (FWD) (KZPSA-BB)	A09	A10	–
PCI/FDDI Network Adapter (DEFPA-DB)	A01	3.10	–
PCI to CI Adapter (CIPCA-BA)	D	3.15	–
6-channel CI Controller, 128 MB Cache (HSJ50-AJ)	B01	V50J-2	–
StorageWorks Shelf Power Supply (DS-BA35X-HH)	B01 or greater	–	–

Configuration Data

Table 2-4 lists the software component revision levels. All of the software components listed in this table (except OpenVMS) are part of the DIGITAL Enterprise Integration Package, Version 1.0. The ECOs mentioned in this table can be downloaded from the following web site:

```
http://www.service.digital.com:8031
```

Table 2-4: Software Component Revision Levels

Software Component	Version/Revision	Patch Level
OpenVMS	7.1	–
Management Services, which consists of the following:	2.0	–
• OpenVMS Management Station	2.1	–
• DECamds	7.1	–
• Archive/Backup System for OpenVMS Management Tools	2.1	–
• Archive/Backup Agent for Windows NT	1.0	–
• Datametrics ViewPoint OpenVMS Data Collector	4.2	–
• Datametrics ViewPoint Performance Management Console	4.2	–
• eXcursion	3.0	–
Network Transport and Connectivity Services, which consists of the following:		
• DECnet Plus for OpenVMS Alpha End System	7.1	ECO 1
• DIGITAL TCP/IP Services for OpenVMS	4.1-12	ECO 6
• DIGITAL PATHWORKS 32	7.0A	–
Note: 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 20 in Table 2-1).		
File and Print Services, which consists of PATHWORKS for OpenVMS (LAN Manager)	5.0F	–
Note: 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 20 in Table 2-1).		
Internet Services, which consists of the following:	Internet Product Suite, Version 1.1	
• Purveyor Encrypt WebServer for OpenVMS Alpha	1.2B	–
• Netscape Communications Server for OpenVMS Alpha	1.12	–
• Netscape Navigator for OpenVMS Alpha	2.021	–
Note: 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.)		
Note: 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 20 in Table 2-1).		
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 SBB Shelf (BA356-S Series) User's Guide* (Order # EK-BA356-UG).

3
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

- – 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 8x00 Installation Procedure

The following sections describe how to install the operating system and layered products on the AlphaServer 8x00. 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 8x00. (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 Version 2.0, and the Internet Product Suite. They are installed on the AlphaServer 8x00.

The following procedure describes how to install DECnet Plus, PATHWORKS, and OpenVMS Management Tools Version 2.0. After these products are installed, the Internet Suite Components must also be installed on the AlphaServer 8x00. Refer to the section Installing Internet Suite Components for information on installing the Internet Suite Components.

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 Version 2.0

To install DECnet Plus, PATHWORKS, and OpenVMS Management Tools Version 2.0 on the AlphaServer 8x00, 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 DECamds.

   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 sls$system:sls$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 SLS$DBX object is defined. If the SLS$DBX object is *not* defined, run sys$manager:net$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 OpenVMS Management Tools Version 2.0 installation media. The *ABS Installation Guide* is in the file `[OMT020.OMT020_DOC]ABS_INST.PS` on the OpenVMS Management Tools Version 2.0 installation media.

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

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 1.2 for OpenVMS

_____ **Note** _____

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.

_____

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: OVMSIPS12 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 corresponding subdirectories of `CD:[INTERNET_PRODUCT_SUITE]`.

4. The actual install is accomplished by the command procedure "Internet Products Install," which is located in the `[000000]` directory of the CD. To invoke this command 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 from a procedure like the one in the section Sample HTTP$Startup.com Procedure.

Enter the following command to start the Purveyor Encrypt WebServer:

```
@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 def 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.

4

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 8x00 DIGITAL HiTest Suite. The tests verified that the business processes functioned correctly.

Test Environment

The DIGITAL Enterprise Integration Package OpenVMS AlphaServer 8x00 DIGITAL HiTest System was tested in an established clustered environment and connected via a Cluster Interconnect (CI) interface. The installed base 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
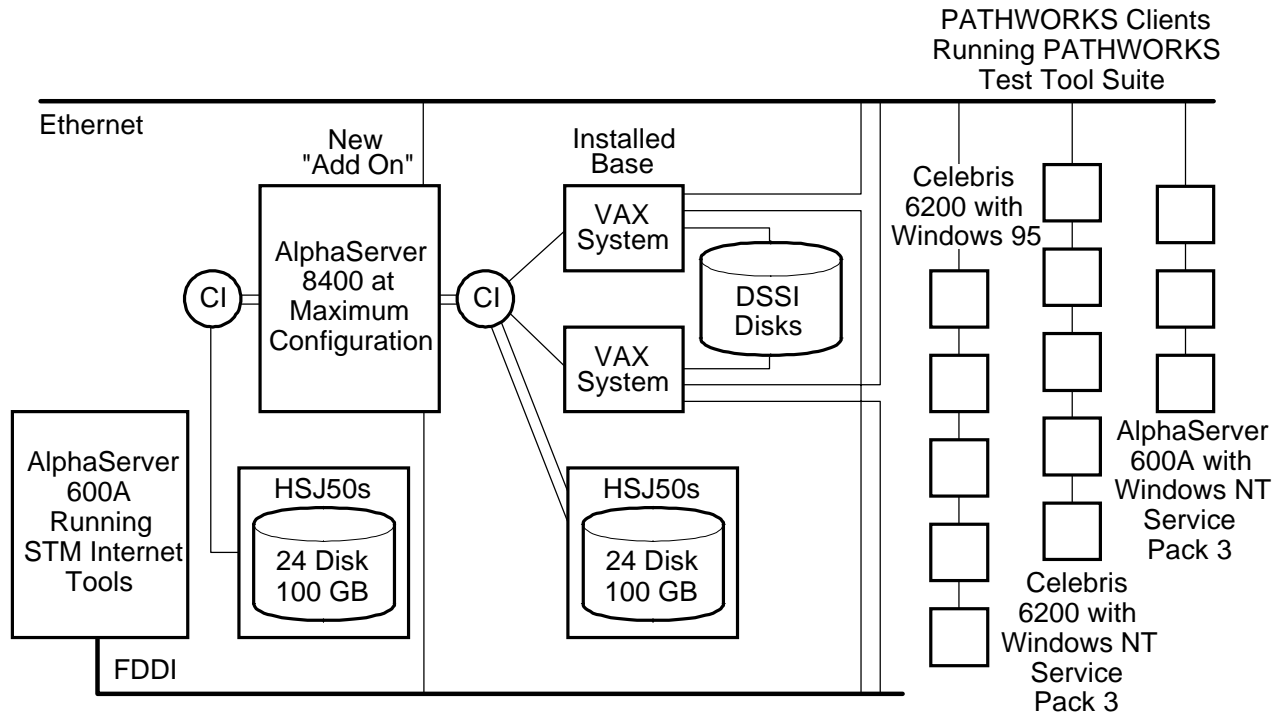
ML014181

_____ **Note** _____

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

Test Tools

The tools used for interoperability testing include the following:

- **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 both Microsoft Windows NT 4.0, with Service Pack 3, and Microsoft Windows 95 configured with a mix of TCP/IP, NetBEUI, and DECnet 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. The RZ28M-VW disks are used for the clusterwide storage.

Table 4-1: Common (Clusterwide) Storage

Quantity	Capacity (GB)	Disk Content/Data	Disk Controller
2	2.1	Alpha 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 RAID)	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	KZPSA-BB
1	4.3	PATHWORKS ODS shares	KZPSA-BB

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
3	4.3	Paging and swapping disk	KZPSA-BB
1	4.3	PATHWORKS ODS shares	KZPSA-BB
5	4.3	Stripeset for PATHWORKS ODS shares	HSJ50-AJ*
3	4.3	RAIDset for PATHWORKS ODS shares	HSJ50-AJ*
3	4.3	RAIDset for PATHWORKS ODS shares	HSJ50-AJ*
2	4.3	PATHWORKS ODS shares (shadowed)	HSJ50-AJ*
1	4.3	PATHWORKS ODS shares	HSJ50-AJ*
4	4.3	Web tool test pages	HSJ50-AJ*
3	4.3	Hot spares (for RAID)	HSJ50-AJ*
1	4.3	System dump file	HSJ50-AJ*
2	4.3	Spares – unused	
* The disks are hosted by dual redundant HSJ50 controllers connected to a second star coupler. The second star coupler is also connected to the AlphaServer 8400 which serves these disks to the rest of the cluster. For more information, refer to Table A-5 in Appendix A.			

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.

    - A print queue was stopped and restarted during the test using 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 an RZ29 Drive** – An RZ29 drive was pulled from a RAIDset (hosted by the HSJ50 controllers) 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 an RZ29 Drive** – Testing continued without errors; a hot spare disk assumed the role of the "failed drive."

- **Failing HSJ50 Controllers and Disks** – 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.

5

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.

6

Problems and Resolutions

This chapter describes any problems that may have been encountered during the testing that have not been fixed and eliminated. 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

AlphaServer 8x00 CPU Startup Problem

Problem   If the AlphaServer 8x00 system has multiple CPU modules with different hardware revisions, some of the CPUs may not start during VMS startup.

Resolution   Retrieve and install the patch `alpcpuc02_071.a-dcx_axpexe` from the following location:

`ftp://ftp.service.digital.com/public/vms/axp/v7.1/`

The installation procedure for the patch is explained in the README file `alpcpuc02_071.README`, which is also available at this location.

Network Infrastructure/DE500 Problem

Problem   Testing DE500s set to "FAST" mode using an EtherWORKS switch sometimes causes network errors.

Resolution   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 Problems

Problem   PATHWORKS performance was sluggish with the initial system configuration.

Resolution   The following steps were taken to improve performance:

- The network traffic was distributed by using the following logicals to direct the DECnet traffic over a specific network adapter.

  `$ DEFINE/SYSTEM/EXEC NETBIOS$DEVICE EWB0:`

  Other logicals to direct NetBEUI and TCP/IP communications are:

  `$ DEFINE/SYSTEM/EXEC NETBEUI_DEVICE EWB0:`

  `$ DEFINE/SYSTEM/EXEC PWRK$KNBDAEMON_DEVICE EWB0:`

- 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.)

Internet Suite

Netscape Navigator Problems

Problem   When attempting to send a mail message, Netscape fails with the following message:

    Unable to create FCC file

Resolution   Retrieve and install Version 3.X of Netscape Navigator Gold from the following Digital Web site:

    http://www.openvms.Digital.com/

Follow the hints for Netscape Version 3.X for OpenVMS. Note the "Before You Begin" section.

Also note that there are two .EXE files for Version 3.X of Netscape Navigator Gold which are available from this web site. The two .EXE files are the following:

    NETSCAPE-EXPORT-Alpha-V30B?-??????.EXE
    NETSCAPE-EXPORT-VAX-V30B?-??????.EXE

where the wildcard strings ? and ?????? represent the beta version number and beta version date of the .EXE file.

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 `NETSCAPE-EXPORT-Alpha-V30B?-??????.EXE`. On VAX systems, install `NETSCAPE-EXPORT-VAX-V30B?-??????.EXE`.

The versions of the Netscape Navigator Gold .EXE files that were tested for this HiTest Suite were the following:

    NETSCAPE-EXPORT-Alpha-V30B5-041597.EXE
    NETSCAPE-EXPORT-VAX-V30B5-041597.EXE;1

_____**Note** _____

Netscape Navigator for OpenVMS, Version 3.X is a beta release.

_____

Netscape Server Problem

Problem	Netscape Server occasionally halted on servers such as the AlphaServer 8400 system.
Resolution	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.)

Purveyor Encrypt WebServer Problems

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

Problem	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."
Resolution	Rename the file to include a filename extension. For example, the following commands could be used to rename the filename "file":

```
RENAME file.; file.html
RENAME file.; file.txt
```

DIGITAL TCP/IP Services Problems

Problem	The UCX PWIP process issues the following message:

```
Large buffer quota depleted, blocking PWIPdriver
transmission.
```

Resolution	This message indicates that the large buffers need to be increased. To avoid this problem, you should monitor the small and large buffers. The following UCX command will display the small and large buffers, along with any drops:

```
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.

Problem	The UCX PopServer runs out of memory and hangs.
Resolution	To prevent this problem, reset the parameters in the UCX$POP account. The parameters, and the values to which they must be reset, are 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, you should 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 work load 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.

Problem   When the PATHWORKS Server is running, using the UCX command STOP COMMUNICATIONS in interactive mode causes a system crash.

Resolution 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.

A
Detailed Hardware Configuration
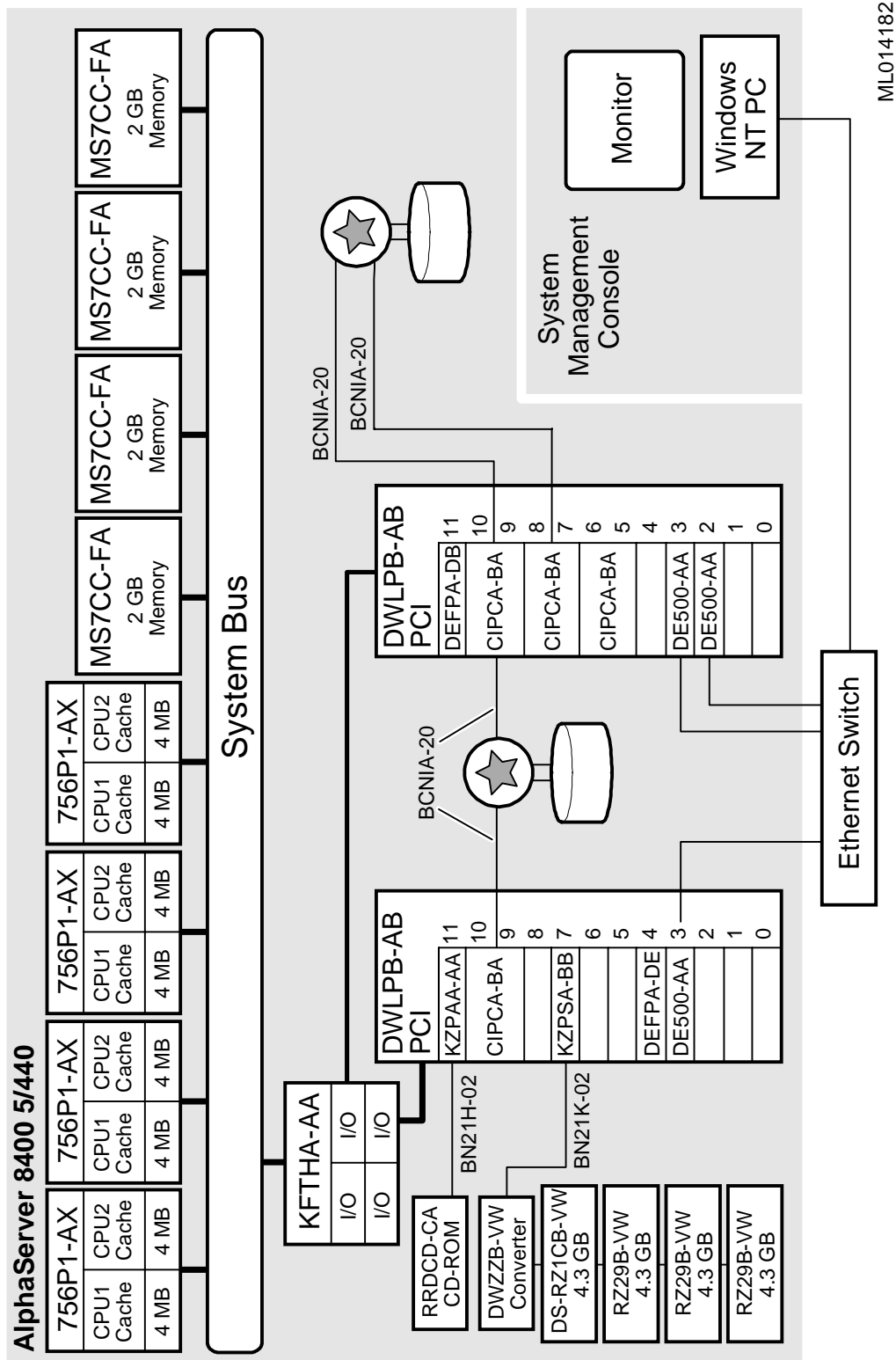
This appendix describes the minimum and maximum hardware configuration as tested for the following:

- System Diagram
- AlphaServer 8400 configuration, including:
  - System bus usage
  - Device identification
- Disk Configuration
- BA356 Storage Shelves

System Diagram

Figure A-1 shows an overview of the entire Enterprise Integration Package OpenVMS AlphaServer 8x00 HiTest Suite.

Figure A-1: System Diagram

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AlphaServer 8400 5/440

756P1-AX	756P1-AX	756P1-AX	756P1-AX	756P1-AX
CPU1 Cache	CPU1 Cache / CPU2 Cache	CPU1 Cache / CPU2 Cache	CPU1 Cache / CPU2 Cache	CPU1 Cache / CPU2 Cache
4 MB	4 MB / 4 MB	4 MB / 4 MB	4 MB / 4 MB	4 MB / 4 MB

MS7CC-FA 2 GB Memory (×5)

System Bus

KFTHA-AA
I/O I/O
I/O I/O

System Management Console

Monitor

Windows NT PC

BCNIA-20
BCNIA-20

DWLPB-AB PCI
11	DEFPA-DB
10	
9	CIPCA-BA
8	CIPCA-BA
7	
6	CIPCA-BA
5	
4	
3	DE500-AA
2	DE500-AA
1	
0	

BCNIA-20

DWLPB-AB PCI
11	KZPAA-AA
10	
9	CIPCA-BA
8	
7	KZPSA-BB
6	
5	
4	DEFPA-DE
3	DE500-AA
2	
1	
0	

BN21H-02
BN21K-02

Ethernet Switch

RRDCD-CA CD-ROM

DWZZB-VW Converter

DS-RZ1CB-VW 4.3 GB

RZ29B-VW 4.3 GB

RZ29B-VW 4.3 GB

RZ29B-VW 4.3 GB

AlphaServer 8400 Configuration

This section describes the system bus usage, PCI #0 device identification, and PCI #1 device identification for the AlphaServer 8400.

AlphaServer 8400 System Bus Usage

Figure A-2 shows the centerplane module layout for the AlphaServer 8400. Table A-1 describes each of the modules shown in Figure A-2.

Figure A-2: System Cabinet 8400 Centerplane Module Layout
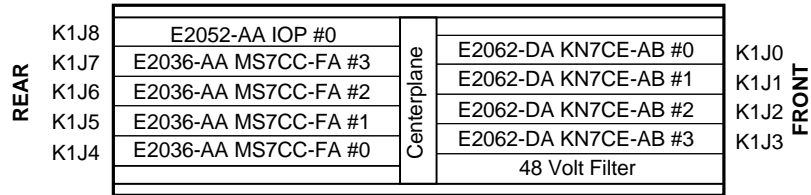
Table A-1: 8400 Centerplane Layout Table

Slot	Module	Device	Description
K1J0	E2062-DA #0	KN7CE-AB	Dual CPU Module
K1J1	E2062-DA #1	KN7CE-AB	Dual CPU Module*
K1J2	E2062-DA #2	KN7CE-AB	Dual CPU Module*
K1J3	E2062-DA #3	KN7CE-AB	Dual CPU Module*
K1J4	E2036-AA #0	MS7CC-FA	2.0 GB Memory Module
K1J5	E2036-AA #1	MS7CC-FA	2.0 GB Memory Module*
K1J6	E2036-AA #2	MS7CC-FA	2.0 GB Memory Module*
K1J7	E2036-AA #3	MS7CC-FA	2.0 GB Memory Module*
K1J8	E2052-AA #0	KFTHA-AA	System I/O Module*
* This option is used in the maximum configuration only. For the minimum configuration, this slot is empty.			

AlphaServer 8400 PCI #0 Device Identification

Table A-2 describes each of the PCI #0 Devices in an AlphaServer 8400.

Table A-2: PCI #0 Devices (DWLPB-AA)

Slot	Module/Device	Description
K0J0	KZPAA-AA	PCI to SCSI Adapter
K0J1	CIPCA-BA	PCI to CI Adapter (Port module)
K0J2	CIPCA-BA	PCI to CI Adapter (Link module)
K0J3	Open	–
K0J4	KZPSA-BB	PCI to SCSI Adapter
K0J5	Open	–
K0J6	Open	–
K0J7	DEFPA-DB	PCI to FDDI Adapter
K0J8	DE500-AA	PCI to Fast Ethernet Adapter
K0J9	Open	–
K0J10	Open	–
K0J11	Open	–

AlphaServer 8400 PCI #1 Device Identification

Table A-3 describes each of the PCI #1 Devices in an AlphaServer 8400. Note that PCI #1 is used only in the maximum configuration.

Table A-3: PCI #1 Devices

Slot	Module/Device	Description
K1J0	DEFPA-DB	PCI to FDDI Adapter
K1J1	CIPCA-BA	PCI to CI Adapter (Port module)
K1J2	CIPCA-BA	PCI to CI Adapter (Link module)
K1J3	CIPCA-BA	PCI to CI Adapter (Port module)
K1J4	CIPCA-BA	PCI to CI Adapter (Link module)
K1J5	CIPCA-BA	PCI to CI Adapter (Port module)
K1J6	CIPCA-BA	PCI to CI Adapter (Link module)
K1J7	Open	–
K1J8	DE500-AA	PCI to Fast Ethernet Adapter
K1J9	DE500-AA	PCI to Fast Ethernet Adapter
K1J10	Open	–
K1J11	Open	–

Disk Configuration

Figure A-3 shows the disks and controllers in the SW300-AA Cabinet that were used for minimum and maximum configuration testing.

Figure A-3: SW300-AA Cabinet with Disks and Controllers

2 HSJs
OR
2 HSZs

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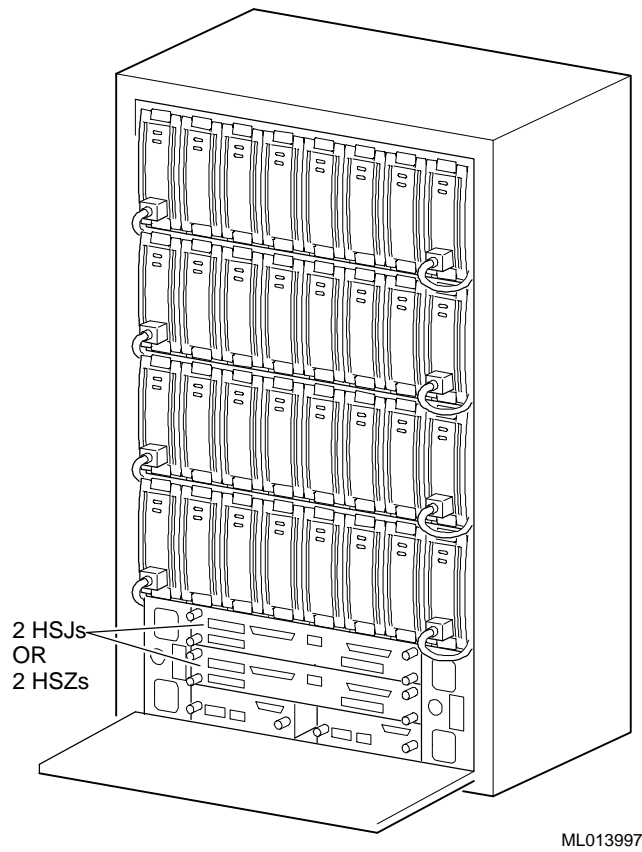
Table A-4 lists the disk configuration in the cabinet connected to the main star coupler.

Table A-4: Disk Configuration in the Cabinet Connected to the Main Star Coupler

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	EIP software shadow disk	EIP 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	Alpha system shadow disk	VAX system shadow disk	RAIDset 1 ODS share	RAIDset 1 ODS share	Cluster common startup files	System Files (i.e. SYSUAF Rightslist)	Power supply
Power supply	Stripe Set ODS shares	Stripe Set ODS shares	Stripe Set ODS shares	Stripe Set ODS shares	Stripe Set ODS shares	Stripe Set ODS shares	Power supply
HSJ50-AJ (Controller)							
HSJ50-AJ (Controller)							

Table A-5 lists the disk configuration in the cabinet connected to the secondary star coupler.

Table A-5: Disk Configuration in the Cabinet Connected to the Secondary Star Coupler

Slot Number							
7	**6** (**RZ29B-VW**)	**5** (**RZ29B-VW**)	**4** (**RZ29B-VW**)	**3** (**RZ29B-VW**)	**2** (**RZ29B-VW**)	**1** (**RZ29B-VW**)	**0**
Power supply	RAIDset 1 PATHWORKS ODS Shares	RAIDset 1 PATHWORKS ODS Shares	RAIDset 1 PATHWORKS ODS Shares	Web tool test pages	Web tool test pages	Hot Spare	Power supply
Power supply	Hot Spare	Dump file	Unused	RAIDset 2 PATHWORKS ODS Shares	RAIDset 2 PATHWORKS ODS Shares	RAIDset 2 PATHWORKS ODS Shares	Power supply
Power supply	PATHWORKS ODS Shares	PATHWORKS ODS Shares Shadow Disk	PATHWORKS ODS Shares Shadow Disk	Web tool test pages	Web tool test pages	Unused	Power supply
Power supply	Stripe Set PATHWORKS ODS Shares	Stripe Set PATHWORKS ODS Shares	Hot Spare	Stripe Set PATHWORKS ODS Shares	Stripe Set PATHWORKS ODS Shares	Stripe Set PATHWORKS ODS Shares	Power supply
HSJ50-AJ (Controller)							
HSJ50-AJ (Controller)							

BA356 Storage Shelves

Figure A-4 shows the BA356 Storage Shelves, which are used in this HiTest System.

Figure A-4: BA356 Storage Shelves
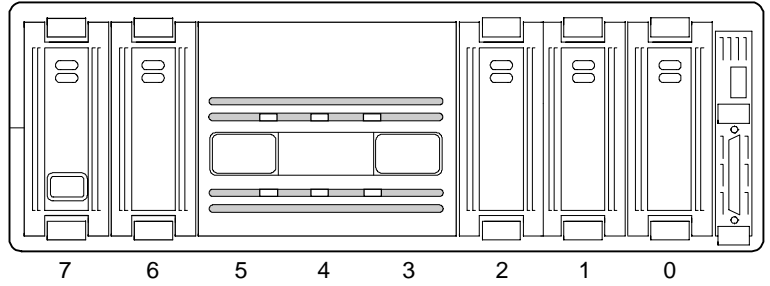
ML013996

Configuration of Shelf 1

Table A-6 lists the disk configuration of Shelf 1 of the BA356 Storage Shelves for this HiTest System.

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

Slot	Option/Part Number	Description
0	RZ29B-VW	PATHWORKS ODS Share
1	Open	–
2	DS-RZ1CB-VW	Paging and swap disk
3	RZ29B-VW	Extended page disk*
4	RZ29B-VW	Extended page disk*
5	Open	–
6	Open	–
7	–	Power Supply
* The extended page disks are used in the maximum configuration only.		