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MS Exchange
Windows NT AlphaServer 800

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 Microsoft Exchange Windows NT AlphaServer 800 HiTest Suite.

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 solutions 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-HESNF-HN. B01) 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 low- to medium-end MS Exchange users.

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 (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 Microsoft Exchange Windows NT AlphaServer 800 HiTest Suite consists of the following software components:

- Windows NT Server

- MS Exchange

  Using MS Exchange you can share information with anyone, anywhere, and at anytime. Using the features of MS Exchange, you can process and organize information, and optimize all kinds of communication tasks related to your daily work.

- MS Internet Information Server (IIS)

  Microsoft Internet Information Server 3.0 includes high-performance HTTP, FTP, and Gopher engines. The WWW service is a native Windows NT implementation of the current open, Internet HTTP 1.0 standard for Web Servers. Moreover, Internet Information Server is fully integrated into the operating system.

- System Management Server (SMS)

This Suite will meet the needs of low- to medium-end MS Exchange users.

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.

Table 2-1 lists the revision levels of the components.

Table 2-2 lists the systems management console hardware and software.

Table 2-3 lists 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 low- to medium-end MS Exchange users.

- **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.

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

Table 2-1: MS Exchange Windows NT AlphaServer 800 HiTest Template

<table>
<tr><td colspan="5" align="center">MS Exchange HiTest AppSet
Windows NT, AlphaServer 800 5/400 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 hardcopy of this Suite's HiTest Notes, order EK–HESNF–HN.</td></tr>
<tr><td>Line Item</td><td>Description</td><td>Part Number</td><td colspan="2">HiTest Range</td></tr>
<tr><td></td><td></td><td></td><td>Min</td><td>Max</td></tr>
<tr><td colspan="5" align="center">AppSet Software</td></tr>
<tr><td>1</td><td>MS Exchange
For more information contact Microsoft at:
http://www.microsoft.com</td><td></td><td>1</td><td>1</td></tr>
<tr><td>2</td><td>MS Internet Information Server (IIS) V3.0
For more information contact Microsoft at:
http://www.microsoft.com</td><td></td><td>1</td><td>1</td></tr>
<tr><td colspan="5" align="center">Foundation Hardware</td></tr>
<tr><td>3</td><td>Select one of the following base systems:

AlphaServer 800 5/400, Windows NT, 128 MB Pedestal

AlphaServer 800 5/400, Windows NT, 128 MB Rack

Hardware includes:
• CPU with 2 MB cache
• S3 SVGA integrated Graphics
• DE500-AA 10/100 Mbit Fast Ethernet
• Qlogic ISP1020A FWSE SCSI-2 and cable
• SCSI CD-ROM drive
• 2.1 GB hard drive
• LK47W-A2 PS/2 style keyboard
• Three-button PS/2 compatible mouse
Software includes:
• Windows NT Server V4.0 operating system
• ServerWORKS
• BMC Patrol Agent</td><td>

PB81B–AC

PB81P–AC</td><td>1</td><td>1</td></tr>
<tr><td>4</td><td>256 MB Memory Option
Note: Although these systems support additional memory, the maximum amount of memory tested was 384 MB.</td><td>PB8MA–AE</td><td>0</td><td>1</td></tr>
<tr><td>5</td><td>PCI three-port RAID Controller</td><td>KZPAC–CA</td><td>0</td><td>1</td></tr>
<tr><td>6</td><td>SCSI-2 RAID Controller Cable</td><td>PB8HA–DA</td><td>0</td><td>1</td></tr>
<tr><td>7</td><td>4.3 GB 7200 RPM Ultra Wide SCSI Disk Drive
Note: 2.1 GB Disk Drive (part number RZ28M-SB) was used during testing.</td><td>RZ1CB-SB</td><td>1</td><td>3</td></tr>
<tr><td>8</td><td>8 GB DAT Tape Drive</td><td>TLZ09–LK</td><td>1</td><td>1</td></tr>
<tr><td>9</td><td>PCI 10/100-Mbit Fast Ethernet Adapter</td><td>DE500–AA</td><td>0</td><td>2</td></tr>
<tr><td>10</td><td>Select one high-resolution color monitor:
15-in Flat-square with 0.28 dot pitch
17-in Trinitron aperture grille, 0.25mm
21-in Diamondtron aperture grille, 0.28 dot pitch</td><td>
SN–VRCX5–WA
SN–VRCX7–WA
SN–VRCX1–WA</td><td>1</td><td>1</td></tr>
</table>

<table>
<tr><td colspan="5" align="center">MS Exchange HiTest AppSet
Windows NT, AlphaServer 800 5/400 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 hardcopy of this Suite's HiTest Notes, order EK–HESNF–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" align="center">Foundation Software</td></tr>
<tr><td colspan="5">Note: This HiTest Suite supports the use of a systems management console. 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 console option may be omitted without invalidating the HiTest Suite.</td></tr>
<tr><td>11</td><td>Service Pack 3 (SP3) for Windows NT
For more information contact Microsoft at:
http://www.microsoft.com</td><td></td><td>1</td><td>1</td></tr>
<tr><td>12</td><td>System Management Console</td><td>See Table 2-2</td><td>0</td><td>1</td></tr>
</table>

Table 2-2: System Management Console Template

<table>
<tr><td colspan="5" align="center">MS Exchange HiTest AppSet
System Management Console</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 hardcopy of this Suite's HiTest Notes, order EK–HESNF–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" align="center">System Management Console Hardware</td></tr>
<tr><td>1</td><td>Prioris XL 6200 Server
Hardware includes:
• 200 MHz CPU, 256 KB cache
• Integrated Fast Ethernet
• 12 X CD-ROM
• 2.1 GB wide SCSI disk drive
• 1.44 MB diskette drive
• 32 MB 60 Ns EDO DIMM memory
Note: Customers that want to run Windows NT Server 4.0 must purchase Windows NT Server separately from a Microsoft authorized distributor.
Note: The substitution of any equivalently configured Intel based PC does not invalidate this HiTest configuration.</td><td>FR–B60WW–XD</td><td>1</td><td>1</td></tr>
<tr><td>2</td><td>Country Kit
Select country-specific kit which includes keyboard.
Note: Non North American orders should substitute the appropriate country kit</td><td>FR–PC94K–AA</td><td>1</td><td>1</td></tr>
<tr><td>3</td><td>32 MB 60 Ns EDO DIMM Memory</td><td>FR-PCSMA–AC</td><td>1</td><td>1</td></tr>
<tr><td>4</td><td>Select one high resolution color monitor (the 17" is recommended):
15 inch flat-square 0.28 dot pitch

17 inch flat-square 0.28 dot pitch
Note: YW and ZW=Northern Hemisphere
   YY and ZY=Southern Hemisphere
   TZ and UZ=European</td><td>FR–PCXBV –YW/YY/TZ

FR–PCXBV –ZW/ZY/UZ</td><td>1</td><td>1</td></tr>
</table>

MS Exchange *HiTest AppSet*				
System Management Console				
For documentation and updates: http://cosmo.tay.dec.com *and* http://www.partner.digital.com:9003 *For hardcopy of this Suite's HiTest Notes, order* EK–HESNF–HN.				
Line Item	**Description**	**Part Number**	**HiTest Range**	
			Min	**Max**
System Management Console Software				
5	**Windows NT Server, Version 4.0** For more information contact Microsoft at: http://www.microsoft.com	Microsoft	1	1
6	**SQL server, Version 6.5** For more information contact Microsoft at: http://www.microsoft.com	Included with item 5	1	1
7	**System Management Server, Version 1.2** For more information contact Microsoft at: http://www.microsoft.com	Microsoft	1	1
8	**Service Pack 3 (SP3) for Windows NT** For more information contact Microsoft at: http://www.microsoft.com	Microsoft	1	1

Table 2-3: Component Revision Levels

Hardware Component	Hardware	Firmware	Software
SCSI RAID Controller (KZPAC-CA)	E02	2.42	n/a
Fast Ethernet Adapter (DE500-AA)	A01	1.1	n/a
AlphaBIOS	–	5.28	n/a
8 GB DAT Tape Drive TLZ09-LK)	–	0167	n/a
Software Component	**Version/ Revision**	**Patch Level**	
Windows NT Server	4.0	Service Pack 3 (SP3)	
MS Exchange	5.0	–	
Internet Information Server	3.0	–	
System Management Server	1.2	–	
EISA Configuration Utility (ECU)	1.10	–	
RAID Configuration Utility (RCU)	4.27	–	
RAID Management Utility for NT	1.26	–	

Special Configuration Rules

The special configuration rules for the MS Exchange NT AlphaServer 800 are as follows:

For the maximum configuration, connect the internal RAID controller to the storage backplane using SCSI-2 RAID cable part number PB8HA-DA.

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.

Hardware Installation

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

System Firmware

Upgrade console firmware to the current release SRM 3.0-10 and AlphaBIOS 5.28 if necessary. The firmware is available on the Alpha Systems Firmware Update CD-ROM Version 3.9 and on the Internet at the following URL:

```
ftp://ftp.digital.com/pub/Digital/Alpha/firmware/v3.9/alpha800/
```

Date and Time

From the AlphaBIOS Setup screen, select CMOS Setup to set the date and time.

Disk Storage Configuration

Format the disks on the system. From AlphaBIOS Setup, select Hard Disk Setup. Do a quick format of all disks connected to SCSI controllers. Unformatted disks connected to the SCSI controllers will cause the NT installation to fail with the status code (0x4, 0x1, 0,0).

RAID Configuration

Configure and setup RAID arrays (RAIDsets) using the RAID Configuration Utility (RCU). Refer to the *RAID Array 230/Plus Subsystem RAID Configuration Utility* manual provided with the PCI three-port RAID Controller (KZPAC–CA) for details on using the RAID Configuration Utility and RAID.

EISA Configuration Utility (ECU)

Even if EISA options are not present on the system, running ECU ensures that the NVRAM data is in a format compatible with Windows NT. Follow these steps:

1. Insert the floppy containing the ECU into the floppy drive.

2. From AlphaBIOS Setup, select Utilities.

3. Select Run ECU from floppy.

4. Save and exit the configuration when done.

Operating System

Perform the following steps:

1. Load the Windows NT Server Version 4.0 CD-ROM into the CD drive.

2. From AlphaBIOS Setup, select Install Windows NT, and press Enter.

3. Follow the prompts to complete the installation.
   One of the prompts is, "`Do you want to install IIS`". Make sure this option is selected.

4. Install Service Pack 3 for Windows NT 4.0

_____ **Note** _____

The service packs and hot fixes are available on the Microsoft support page located at:
`ftp://ftp.microsoft.com/bussys/winnt/winnt-public/fixes/usa/nt40/`

_____

Applications

Install the following software:

- MS Exchange. Accept all default values as appropriate.

- Reinstall Service Pack 3 for Windows NT 4.0.

_____ **Note** _____

Table 4–2 shows the disk/RAIDset for installing these applications.

_____

4

Interoperability Tests and Results

This chapter 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.

This chapter describes:

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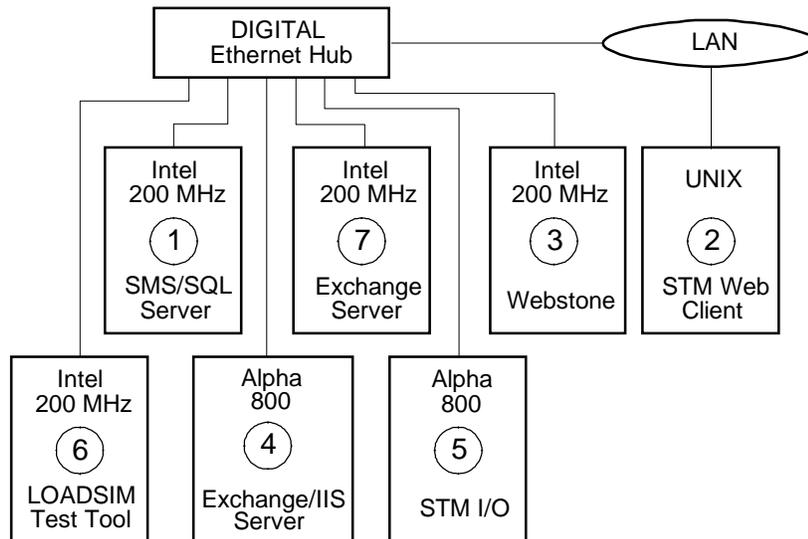- Test Configuration
- Test Process and Results

Overview of Results

Interoperability testing was performed successfully on the MS Exchange NT AlphaServer 800 HiTest Suite. The tests verified that the business processes functioned correctly.

Test Environment

Figure 4-1 shows the MS Exchange test environment.

Figure 4-1: MS Exchange Test Environment

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❶ SMS Server polls/audits AlphaServer 800

❷ Client making Web page requests

❸ Client making Web page requests

❹ AlphaServer 800 Exchange/IIS Server under test

❺ File Share testing

❻ Creating and deleting folders and performing general mail tasks

❼ Exchange Server for test environment

Test Tools

Interoperability testing was performed using the following tools:

- **Microsoft LoadSim, Version 4.0.837.0** (MS Exchange test tool)

  The LoadSim tool performs a range of MS Exchange functions including sending, reading, forwarding, deleting, and moving messages within folders. Microsoft has specific criteria that define acceptable performance. Client response time must be under one second and the system under test must have the MS Exchange IS Send Queue size of zero at test completion.

- **STM Webclient**, **Version 1.1** (Internal Digital Equipment Corporation test tool)

  The STM Webclient tool generates Web page accesses. The page sizes accessed ranged from 1–64 Kbytes. This tool performs data integrity checks on every page accessed.

- **STM I/O Tool, Version 1.1-002** (Internal Digital Equipment Corporation test tool)

  STE_IO.EXE generates and copies data to the File Shares and performs data integrity checking on the data copied.

- **Webstone, 2.0c** (Ziff-Davis WWW Benchmark tool)

   Webstone is a benchmark tool that generates continuous access to Web pages on a specified server. The page sizes accessed ranged from 1–500 Kbytes. For more specific information on Webstone 2.0c, see the Web page located at:

   ```
   http://www.sgi.com/Products/WebFORCE/Resources
   ```

Test Configuration

The test load was generated as follows:

- The average test duration was 40 hours.

- Windows NT workstations running Microsoft LoadSim generated MS Exchange client workload.

- STM Webclient ran several processes, each performing accesses to Web pages as often as every 0.01 seconds.

- STM I/O Tool ran continuously throughout the test.

- Windows NT workstations and NT servers running Webstone ran several processes performing continuous accesses to Web pages.

- Windows NT Backup was used to perform data backup during the test.

- SMS performed routine tasks during the test.

Minimum Configuration

The minimum configuration includes two disks connected to the on-board SCSI controller, as shown in Table 4-1. One disk served as the Windows NT system and paging disk. The other disk contained MS Exchange mail data, IIS, file shares, and log files.

Table 4-1: Disk Configuration for the Minimum Configuration

Quantity	Capacity	Disk Content/Data	Disk Controller	RAID Configuration
1	2.1 GB	Windows NT system and paging disk	Onboard	n/a
1	2.1 GB	MS Exchange (Application and Data), IIS, file shares, and log files	Onboard	n/a

Maximum Configuration

The maximum configuration includes four disks connected to the SCSI RAID controller as shown in Table 4-2.

Table 4-2: Disk Configuration for the Maximum Configuration

Quantity	Capacity	Disk Content/Data	Disk Controller	RAID Configuration
1	2.1 GB	Windows NT System, paging file, and log files	KZPAC-CA	JBOD
3	4 GB RAIDset	MS Exchange, IIS, and file shares	KZPAC-CA	RAID 5

Test Process and Results

Interoperability testing of the MS Exchange systems was divided into the following sections:

- **MS Exchange** – The simulated MS Exchange clients (LoadSim processes) reported no errors. The system under test and the Exchange clients met Microsoft's criteria for acceptable performance.

- **Internet Information Server** – During the test, the system served about 3.5 million Web pages. Webstone client processes read about 3.0 million pages. The STM Webclient tool read about 0.5 million pages.

- **File Shares** – STM I/O tool reported no errors and found no data corruption.

- **Windows NT Backup** – Windows NT Backup performed the data backup and verification with no errors. Backup and restoration of the MS Exchange databases was successful.

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. Areas covered include:

- **RAID** – When configuring the RAID disk sets using the RAID Array 200 RAID Configuration (RA200RCU.EXE) Utility, the initializing of disks can take approximately one hour per drive to initialize.

  RAID disk sets initialize much quicker if the write policy for the RAID drives is set to *writeback*. After initialization is complete, the write policy should be changed back to *writethrough*.

- **Network** – When operating a server that is expected to provide high-performance network services (such as the Internet, Web, and Exchange), the server should be on its own LAN segment, preferably with a high-speed interconnection such as Fast Ethernet. This can be achieved by the use of an Ethernet switch.

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

No problems were encountered.

Operating System

No problems were encountered.

Application

No problems were encountered.

A
# Detailed Hardware Configuration

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

- System Diagram
- AlphaServer 800 configurations, including:
  - System Motherboard
  - PCI backplane (slot usage)
- Storage Configuration

System Diagram

Figure A-1 shows an overview of the entire HiTest Template.

Figure A-1: System Diagram (AlphaServer 800 5/400)
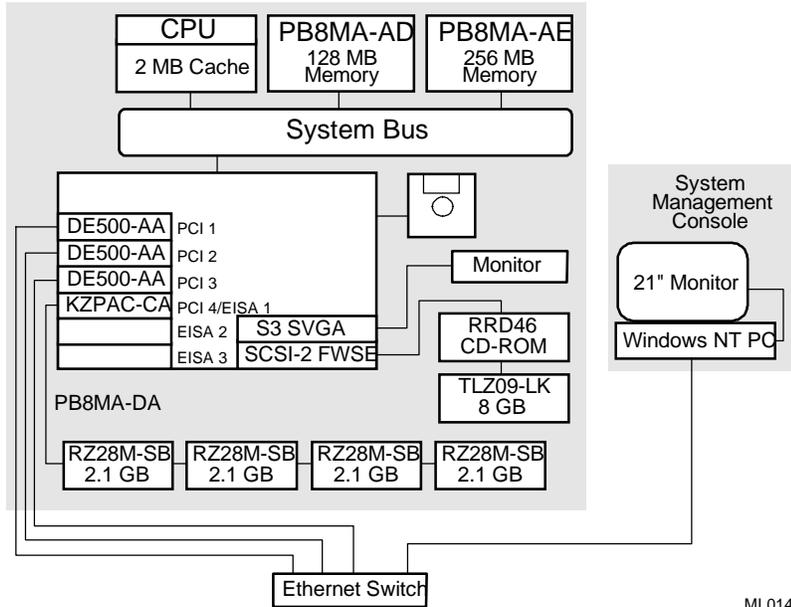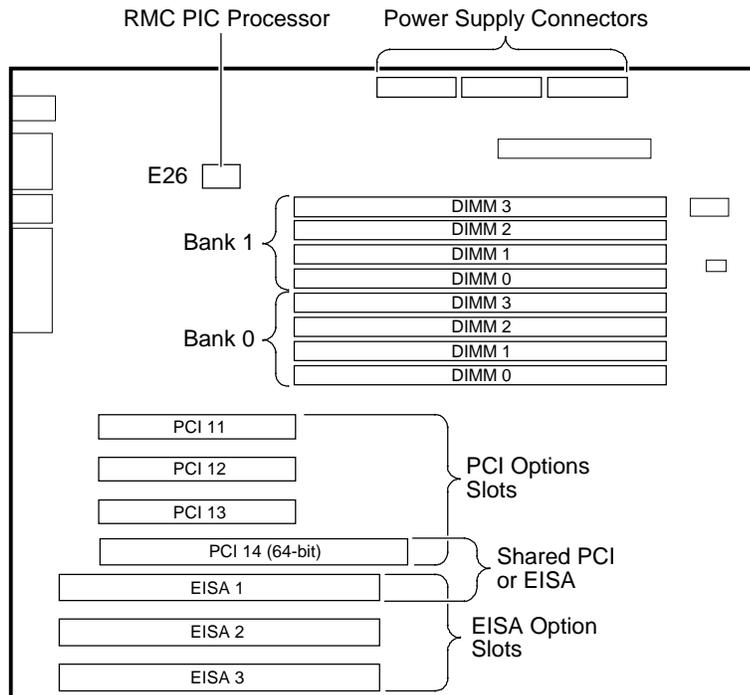

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AlphaServer 800 Configurations

Figure A-2 and Table A-1 show the AlphaServer 800 system motherboard and describe the AlphaServer 800 usage (minimum and maximum configurations) used in this HiTest Template.

Figure A-2: AlphaServer 800 Motherboard

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Table A-1: Minimum and Maximum Configuration

Slot	Minimum Configuration Options	Maximum Configuration Options	Description
DIMM3	open	PB8MA-AB	Memory Bank 1 (4 of 4)
DIMM2	open	PB8MA-AB	Memory Bank 1 (3 of 4)
DIMM1	open	PB8MA-AB	Memory Bank 1 (2 of 4)
DIMM0	open	PB8MA-AB	Memory Bank 1 (1 of 4)
DIMM3	PB8MA-AB	PB8MA-AC	Memory Bank 0 (4 of 4)
DIMM2	PB8MA-AB	PB8MA-AC	Memory Bank 0 (3 of 4)
DIMM1	PB8MA-AB	PB8MA-AC	Memory Bank 0 (2 of 4)
DIMM0	PB8MA-AB	PB8MA-AC	Memory Bank 0 (1 of 4)

Table A-2 lists the PCI slot usage (minimum and maximum configurations) used in this HiTest Template.

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

Slots	Minimum Configuration Options	Maximum Configuration Options	Description
PCI-11	KZPAC-CA	KZPAC-CA	PCI RAID Controller
PCI-12	open	DE500-AA	Ethernet Adapter
PCI-13	open	DE500-AA	Ethernet Adapter
PCI-14	DE500-AA	DE500-AA	Ethernet Adapter
EISA-1	open	open	
EISA-2	open	open	
EISA-3	open	open	

Storage Configuration

Figure A-3 shows the storage configuration used in this HiTest Template. The slots in this figure are described in the following tables.

Figure A-3: Storage Configuration
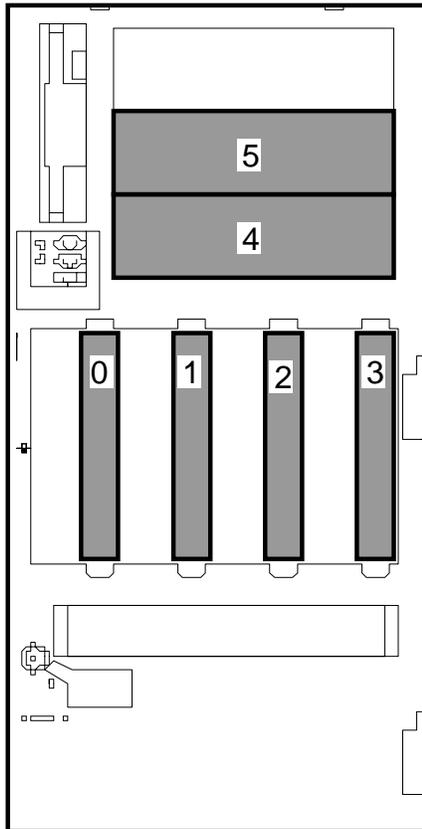
IP00-79A

Minimum Configuration

Table A-3 lists the SCSI storage (minimum configuration) for this HiTest Template.

Table A-3: SCSI Storage (Minimum Configuration)

Slot	Option/ Part Number	Description
0	RZ28M-SB	Windows NT, paging, and log files
1	RZ28M-SB	MS Exchange, IIS, and file shares
4	DS-RRD46-VA	600 MB 12X SCSI CD-ROM Drive
5	TLZ09-LK	8 GB DAT SCSI Tape Drive

Maximum Configuration

Table A-4 lists the SCSI storage (maximum configuration) for this HiTest Template.

Table A-4: SCSI Storage (Maximum Configuration)

Slot	Option/ Part Number	Description
0	RZ28M-SB	Windows NT, paging, and log files
1	RZ28M-SB	MS Exchange, IIS, and file shares (RAIDset member)
2	RZ28M-SB	MS Exchange, IIS, and file shares (RAIDset member)
3	RZ28M-SB	MS Exchange, IIS, and file shares (RAIDset member)
4	DS-RRD46-VA	600 MB 12X SCSI CD-ROM Drive
5	TLZ09-LK	8 GB DAT SCSI Tape Drive