

# WHITE PAPER

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Prepared By Compaq  
Windows NT Integration Team  
Compaq Computer Corporation

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## Migrating to the Compaq ProLiant 2500 Server in Microsoft Windows NT Server Environments

*This document provides system engineers and administrators with information to assist them in migrating Compaq ProLiant 1500 Servers to ProLiant 2500 Servers in a Microsoft Windows NT Server environment.*

*The information in this document focuses on servers running the Windows NT Server 3.51 operating system. If upgrading to Windows NT Server 4.0 is also a part of your migration plans, refer to the White Paper, Migrating to Microsoft Windows NT Server 4.0 on Compaq Servers (Doc. Number 467A/0197). This document provides specific operating system information.*



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**Migrating to the Compaq ProLiant 2500 Server in Microsoft Windows NT Server Environments**

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## INTRODUCTION

The Compaq ProLiant 2500 Server is the affordable business-critical server that delivers next-generation performance in the Compaq server line. The ProLiant 2500 Server is designed to exploit the performance advantages and unique characteristics of Pentium Pro processors. In addition, the ProLiant 2500 Server has the latest in high-performance options.

Key features include:

- **New Server Chassis**—improves serviceability and flexibility for rack mounting
- **180- and 200-MHz Pentium Pro Processor**—delivers high performance at an aggressive price
- **ECC Memory**—supports up to 1 Gigabyte using industry-standard DIMMs
- **Integrated Remote Console**—delivers seamless remote console and full remote server reboot capabilities
- **Integrated Wide-Ultra SCSI Controller**—transfers data at rates of up to 40 Megabytes per second, doubling the transfer data rates of the Fast-Wide SCSI-2 controllers
- **Integrated 10/100 Mb/s Ethernet Controller**—high-performance NIC that “autosenses” both 10 Megabits/second and 100 Megabits/second data transfer speeds
- **8X CD-ROM Drive and SmartStart**—makes configuration and software installation faster, easier and more reliable
- **Compaq Insight Manager**—simplifies management of your servers regardless of the size or location of your network
- **Full support for dual processing**—takes advantage of multiprocessing operating systems such as Windows NT 3.51 and 4.0

This White Paper presents several migration scenarios that are based on configurations tested in the Compaq Integration Test Lab. This document addresses potential issues with common configurations of ProLiant 1500 Servers migrating to similar configurations of the ProLiant 2500 Server.

There are many options that you can add to your configuration once you complete the initial migration process. However, this White Paper does not focus on or discuss performance results. Instead, it addresses considerations associated with a successful migration.

## Additional Resources

Visit the Compaq Online World Wide Web site. This site contains value information about Compaq products, options, documentation and customer support. Here are a few URL addresses that include more information about the ProLiant 2500 Server and options:

[//www.compaq.com](http://www.compaq.com) - Compaq Home Page

[//www.compaq.com/productinfo/systems/spd/pl2500/tower.html](http://www.compaq.com/productinfo/systems/spd/pl2500/tower.html) - This site provides overview information and links to more detailed specs about the ProLiant 2500 Server.

[//www.compaq.com/support/techpubs/whitepapers](http://www.compaq.com/support/techpubs/whitepapers) - Compaq White Papers

[//www.compaq.com/solutions/frontline](http://www.compaq.com/solutions/frontline) - Compaq/Microsoft Frontline Partnership site - this site includes a library of technical documentation that supports Compaq server products in a Windows NT environment.

The Compaq/Microsoft Frontline Partnership site also contains information on ordering the Compaq Resource Paq for Windows NT CD-ROM. This CD contains numerous valuable documents, utilities, and technical support software for Compaq and Windows NT environments.

Other, related documents which are available on the Compaq Web Site are:

*Compaq ProLiant 2500 Server Technology* Doc ID 201A/1196

*Migrating to Windows NT Server 4.0 on Compaq Servers* Doc ID 467A/0197

## GETTING STARTED

Before migrating to a new platform, complete a thorough planning session to understand possible considerations and anticipate unexpected issues. Be sure to have a backup plan so you can return to your original configuration in the event of an unexpected issue.

To assist with this migration, the following table identifies incompatible items that require updating and compatible items that have optional updates available.

**TABLE 1 - MIGRATION CHECKLIST**

<b>ProLiant 1500 Pre-Migration Description</b>	<b>Priority</b>	<b>ProLiant 2500 Update Available</b>	<b>Comments</b>
Windows NT Server 3.51	Optional	Service Pack 1-5	Service Packs 1-5 are supported
Windows NT SSD, version 1.17 and earlier	Required	Windows NT SSD, version 1.19B or later	Updated HAL and drivers required
Compaq SMART-2/E Array Controller (EISA)	Optional	Compaq SMART-2/P Array Controller (PCI)	ProLiant 2500 Server is optimized for PCI Drive Array Controllers
(4) Compaq Fast-Wide SCSI-2 Hard Drives (2.1-GB Hot Pluggable, 1.6-inch height) internal to ProLiant 1500 server	No	(4) Compaq Fast-Wide SCSI-2 Hard Drives (2.1-GB Hot Pluggable, 1.6-inch height)	RAID 5 drive array configuration
ProLiant Storage System	Optional	External storage for the 1.6-inch height hard drives (1-inch drives also supported)	Provides a means of maintaining the drive array configuration from the ProLiant 1500
Compaq SIMM memory options	Required	Compaq EDO DIMM memory options	SIMM memory options are not compatible with EDO DIMM options
NetFlex, NetFlex-2, and NetFlex-3/E family of network Controllers	Optional	NetFlex-3/P and Netelligent PCI Controllers	ProLiant 2500 Server is optimized for PCI network controllers
ProLiant 1500 Server Pentium processor board options	Required	ProLiant 2500 Server (Pentium Pro processor board options)	ProLiant 2500 Server with Pentium Pro processor board provides increased performance
SCSI CD-ROM Drive	Required	IDE CD-ROM Drive standard with the ProLiant 2500 server	The IDE CD-ROM driver must be enabled prior to the migration for Windows NT to recognize the IDE CD-ROM drive in the new configuration.
Compaq Tape Drive options	No	N/A	All Compaq tape drive options are supported. (Requires SCSI spare part option kit #300909-001 for installation.)

Do not consider the checklist shown in Table 1 to be complete - individual configurations can vary. Network servers based on multiprocessing operating systems such as Windows NT Server 3.51 are extremely complex. Use the migration scenarios illustrated in this document as examples only. Your configuration and results can vary.

## **MIGRATION SCENARIOS**

Many migration scenarios were successfully tested in the Compaq Integration Test Lab. To illustrate the broadest range of possible migration scenarios, five migration scenarios based on the ProLiant 1500 Server were selected for this document. Although your exact configuration might not be included, the information provided is applicable to other ProLiant servers and addresses all known issues of migrating from previous models and options to the ProLiant 2500 Server.

The following describes some issues that need to be considered in most scenarios. A list of considerations for each individual migration scenario is discussed under the each Migration Scenario. The following information is provided to assist you with the planning stage.

### **Processor and Memory**

Processor and memory incompatibility are issues addressed during the planning that occurs before a purchase is made. Pentium processors cannot be installed in the same system with Pentium Pro processors. The same is true for SIMM and DIMM memory modules. In most cases, there is a plan for the continued use of the old hardware.

### **HAL Downgrade to Uniprocessing**

To migrate a dual processor system to a uniprocessor system you must downgrade the HAL in the ProLiant 1500 before migrating to the ProLiant 2500 Server. This is accomplished with the Windows NT SSD. Compaq also recommends that you install the Compaq HAL Recovery Option on the Windows NT SSD. This feature allows systems to recover from blue-screen traps that might occur as a result of mismatched hardware, HAL and kernel file incompatibility, or HAL file corruption. Refer to the Windows NT SSD Help file for more information. Follow the detailed instructions for updating the system partition utilities in the "Step-by-Step Instructions" section of this document.

### **HAL Upgrade to Multiprocessing**

To migrate to a ProLiant 2500 Server with a dual processor from a uniprocessor, you must use the Windows NT SSD. Compaq also recommends that you install the Compaq HAL Recovery Option on the Windows NT SSD. This feature allows multiprocessor systems to recover from blue-screen traps that might occur as a result of mismatched hardware, HAL and kernel file incompatibility, or HAL file corruption. Refer to the Windows NT SSD Help file for more information. Follow the detailed instructions for updating the system partition utilities in the "Step-by-Step Instructions" section of this document.

**TIP:**  
ProLiant 2500 Server models shipped with "703" and greater as the second, third, and fourth digits of the serial number contain all necessary cabling.

You can visit the following web site for more information about SCSI Cabling Guidelines:

[//www.compaq.com/productinfo/systems/spd/pl2500/scsiguide](http://www.compaq.com/productinfo/systems/spd/pl2500/scsiguide)

**NOTE:**  
If your configuration consists of four or five 1-inch drives, the ProLiant Storage System is not necessary to migrate this configuration.

Refer to the Compaq ProLiant 2500 Server Technology Brief to read about other supported hard drive configurations.

## SCSI Controllers

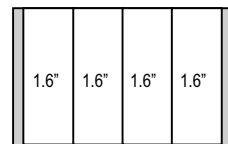
The SMART-2/P Controller can take full advantage of the advanced architecture of the ProLiant 2500 Server.

You must have a 32-Bit SCSI-2 Controller or Wide-Ultra Controller for tape drives installed in hot-plug ProLiant 2500 Server models. To connect the controller to the tape drive you also need Option Kit #300909-001 for any required cables not shipped with the server.

## ProLiant Storage System

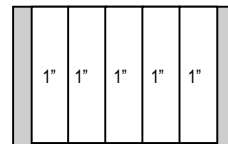
The ProLiant 2500 Server supports up to three internal, 1.6-inch hot-plug drives. The ProLiant Storage System was included as part of the migration scenario to the ProLiant 2500 Server because Compaq chose to migrate a configuration with four arrayed, 1.6-inch hot pluggable drives.

Using the ProLiant Storage System allows you to migrate the current RAID configuration without changing the hard drive options. Including the ProLiant Storage System in the configuration also provides additional storage capacity to your network configuration.



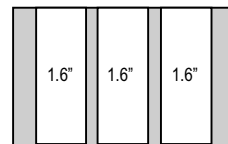
### Non-Hot-Plug Drive Cage

- Standard on ProLiant 2500 6/200 N models
- Optimized for four 1.6-inch non-hot-plug drives
- Upgradable to hot-plug



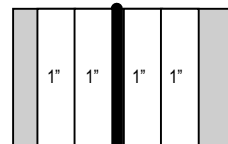
### Hot-Plug Drive Cage (5x1-inch)

- Standard on ProLiant 2500 6/200 H models
- Optimized for five 1-inch hot-plug drives
- Backward compatible with 1.6-inch hot-plug drives



### Hot-Plug Drive Cage (3x1.6-inch)

- Optimized for three 1.6-inch hot-plug drives



### Hot-Plug Duplex Drive Cage

- Optimized for four 1-inch hot-plug drives or two 1.6-inch hot-plug drives

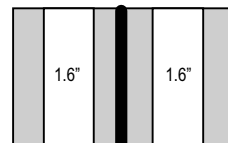


Figure 1 Available Drive Cage Configurations for the Compaq ProLiant 2500 Server

You can update all of the drivers automatically by using the Express Setup option on the Windows NT SSD. For this migration, Windows NT SSD, version 1.20B was used to perform the upgrade.

**Tip:** The NetFlex-3 Controller (10 Base-T) can function in the new configuration. The NetFlex-3/P Controller can be added to the ProLiant 2500 Server to provide secondary NIC support. Refer to the Advanced Network Control Utility on the Windows NT SSD to configure this option.

### NetFlex-3 Network Driver Suite

The ProLiant 2500 Server configuration contains an integrated 10/100 TX Ethernet Network Interface Controller on the PCI bus for high-performance network throughput. The Integrated 10/100 TX Ethernet Network Interface Controller provides 10/100 autoswitch capability.

The Compaq Support Software for Windows NT SSD, version 1.19B or later contains all the drivers you need to support the ProLiant 2500 Server hardware. To bind the NetFlex-3 driver to the Integrated 10/100 TX PCI Controller, you must upgrade the system with the new drivers.

### System Configuration and Diagnostics, and Device Drivers

The ProLiant 2500 Server requires updated versions of the System Configuration and Diagnostics utilities. The Compaq Support Software CD that shipped with your new system includes the correct versions of these utilities, as well as device driver updates for the ProLiant 2500 Server. Follow the detailed instructions for updating the system partition utilities in the “Step-by-Step Instructions” section of this document.

### Device Drivers and Insight Management Agents

The ProLiant 2500 Server requires updated versions of several device drivers and the Compaq Insight Management Agents. The Compaq Support Software CD that shipped with your new system includes the correct versions of these device drivers. The Compaq Management CD that shipped with your new system includes the correct versions of the Insight Agents that are supported on the ProLiant 2500 Server. Follow the detailed instructions for performing this updates in the “Step-by-Step Instructions” section of this document.

### CD-ROM Drive

The ProLiant 2500 Server contains an IDE CD-ROM drive, and the ProLiant 1500 Server contains a SCSI CD-ROM device. You must enable the IDE device driver under the *Device* option of the Control Panel for Windows NT before migrating to the ProLiant 2500 Server. Follow the detail instructions in the “Step-by-Step Instructions” section of this document.

### Migration Scenario 1 - EISA Controller to PCI Controller

Table 2 illustrates a migration scenario that utilizes as many of the options that were installed in the ProLiant 1500 Server as possible. This configuration results in a successful migration with improved processor performance after migrating to the ProLiant 2500 Server and upgrading the disk subsystem to the SMART-2/P Controller. Refer to Table 2 below for more detail. Options that you can upgrade to optimize performance are identified for upgrading in the Table 1 Migration Checklist.

TABLE 2  
SCENARIO 1 - COMPAQ PROLIANT 2500 SERVER MIGRATION  
EISA CONTROLLER TO PCI CONTROLLER

Hardware and Software	ProLiant 1500 Server	ProLiant 2500 Server
System Processor	Single 166-MHz Pentium	Single 200-MHz Pentium Pro
Memory	64 MB (SIMM)	64 MB (DIMM)
Disk Controller	SMART-2/E Controller (EISA)	SMART-2/P Controller (PCI)
Hard Drive	(4) Fast-Wide SCSI-2, 2.1-GB drives	(4) Fast-Wide SCSI-2, 2.1-GB drives
External Hard Drive Storage Unit	N/A	External hard drive storage using the ProLiant Storage System
Internal Tape Drive SCSI Controller	4/16-Gigabyte TurboDAT Drive	4/16-Gigabyte TurboDAT Drive (include 32-Bit Wide-Ultra SCSI-2 Controller in hot-plug models)
CD-ROM Drive	Internal CD-ROM (SCSI)	Internal CD-ROM drive (IDE)
File System(s)	500-MB FAT (boot), 5467 MB NTFS	500-MB FAT (boot), 5467 MB NTFS
Network Controller	NetFlex-3/P Controller (10 Base-T)	Integrated 10/100 TX PCI Controller
Operating System	From Compaq SmartStart - Windows NT Server Version 3.51, Service Pack 5	From Compaq SmartStart - Windows NT Server Version 3.51, Service Pack 5
Compaq Software	Compaq SSD for Windows NT, Version 1.18 and Compaq Insight Management Agents Version 2.60	Compaq SSD for Windows NT, Version 1.20B and Compaq Insight Management Agents Version 3.20

The following items from the checklist in the “Getting Started” section were isolated for consideration in this migration scenario:

- ProLiant 1500 Server Pentium system processor options are not compatible with the ProLiant 2500 Server Pentium Pro processor options. Pentium and Pentium Pro processors are not compatible in the same server configuration.
- ProLiant 1500 Server SIMM memory options are not compatible with the ProLiant 2500 Server DIMM memory options. SIMMs and DIMMs cannot be mixed in the same server configuration.
- System Configuration and Diagnostics:
  - Run the Systems Configuration utilities to properly configure the ProLiant 2500 Server.
  - Run the Systems Diagnostic utilities to ensure that there are no configuration errors in the ProLiant 2500 Server configuration.
- Windows NT SSD and Compaq Insight Agents require updates:
  - Run the Windows NT SSD to update, configure, and bind network drivers.
  - Run the Compaq Management CD that contains the Insight Agents to update the configuration.



- SMART-2/E Controller is compatible in the ProLiant 2500 Server configuration. However, the ProLiant 2500 Server is optimized for PCI and the SMART-2/P Controller provides enhanced disk subsystem performance.
- If the current drive configuration consists of four *1.6-inch* Fast-Wide SCSI-2 drives, you must have a ProLiant Storage System; the ProLiant 2500 Server can hold three 1.6-inch drives internally. However, if the current drive configuration consists of four *1-inch* Fast-Wide SCSI-2 drives, you can migrate the drives to the ProLiant 2500 Server without a ProLiant Storage System.
- The NetFlex-3/P Controller (10-Base T) is compatible, however, the 10/100 TX PCI Controller is integrated in the ProLiant 2500 Server and provides 10/100 auto switch support.
- ProLiant 1500 Server has a SCSI CD-ROM drive, which is different from the ProLiant 2500 Server configuration. The ProLiant 2500 Server ships standard with an IDE CD-ROM drive. Before you migrate the hardware over to the ProLiant 2500 Server you must enable the appropriate IDE device driver in Windows NT. If not, the Windows NT operating system will not recognize the new CD-ROM drive in the ProLiant 2500 Server.
- An additional SCSI controller is required in the ProLiant 2500 Server to support internal tape drives in Hot-Plug models only.

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**NOTE:** *The migrations in this document are based on ProLiant 2500 Hot Plug Server models.*

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## Migration Scenario 2 - Backup and Restore

Table 3 illustrates a migration scenario that utilizes PCI bus I/O architecture and as many of the options that were installed in the ProLiant 1500 Server as possible. Options that can be upgraded to optimize performance are identified for upgrading in the Table 1 Migration Checklist.

Scenario 2 was migrated using the Windows NT tape backup option. As with all the other scenarios, the ProLiant 1500 Server was backed up prior to migrating the hardware. In this scenario the backup tape was used to restore the operating system and applications after the hardware was migrated to the ProLiant 2500 Server.

The hardware configuration of this scenario is only slightly different than the configuration in Scenario 1. Refer to Table 3 for more information.

**TABLE 3**  
**SCENARIO 2- COMPAQ PROLIANT 2500 SERVER MIGRATION**  
**USING BACKUP AND RESTORE**

Hardware and Software	ProLiant 1500 Server	ProLiant 2500 Server
System Processor	Single 166-MHz Pentium	Single 200-MHz Pentium Pro
Memory	64 MB (SIMM)	64 MB (DIMM)
Disk Controller	SMART-2/P Controller	SMART-2/P Controller
External Hard Drive Storage Unit	N/A	External hard drive storage using the ProLiant Storage System
Hard Drive	(4) Fast-Wide SCSI-2, 2.1-GB drives	(4) Fast-Wide SCSI-2, 2.1-GB drives
Internal Tape Drive SCSI Controller	4/16-Gigabyte TurboDAT Drive	4/16-Gigabyte TurboDAT Drive (include 32-Bit Wide-Ultra SCSI-2 Controller in hot-plug models)
CD-ROM Drive	Internal CD-ROM (SCSI)	Internal CD-ROM drive (IDE)
File System(s)	500-MB FAT (boot), 5467 MB NTFS	500-MB FAT (boot), 5467 MB NTFS
Network Controller	NetFlex-3/P Controller (10 Base-T)	Integrated 10/100 TX PCI Controller
Operating System	Compaq SmartStart - Windows NT Server Version 3.51, Service Pack 5	Compaq SmartStart - Windows NT Server Version 3.51, Service Pack 5
Compaq Software	Compaq SSD for Windows NT, Version 1.18 and Compaq Insight Management Agents Version 2.60	Compaq SSD for Windows NT, Version 1.20B and Compaq Insight Management Agents Version 3.20

The following items from the checklist in the “Getting Started” section were isolated for consideration in this migration scenario:

- ProLiant 1500 Server Pentium system processor options are not compatible with the ProLiant 2500 Server Pentium Pro processor options. Pentium and Pentium Pro processors are not compatible in the same server configuration.
- ProLiant 1500 Server SIMM memory options are not compatible with the ProLiant 2500 Server DIMM memory options. SIMMs and DIMMs cannot be mixed in the same server configuration.
- System Configuration and Diagnostics:
  - Run the Systems Configuration utilities to properly configure the ProLiant 2500 Server.
  - Run the Systems Diagnostic utilities to ensure that there are no configuration errors in the ProLiant 2500 Server configuration.
- Windows NT SSD and Compaq Insight Agents require updates:
  - Run the Windows NT SSD to update, configure, and bind network drivers.
  - Run the Compaq Management CD that contains the Insight Agents to update the configuration.

- SMART-2/E Controller is compatible in the ProLiant 2500 Server configuration. However, the ProLiant 2500 Server is optimized for PCI and the SMART-2/P Controller provides enhanced disk subsystem performance.
- If the current drive configuration consists of four 1.6-inch Fast-Wide SCSI-2 drives, you must have a ProLiant Storage System; the ProLiant 2500 Server can hold three 1.6-inch drives internally. However, if the current drive configuration consists of four 1-inch Fast-Wide SCSI-2 drives, you can migrate the drives to the ProLiant 2500 Server without a ProLiant Storage System.
- The NetFlex-3/P Controller (10-Base T) is compatible, however, the 10/100 TX PCI Controller is integrated in the ProLiant 2500 Server and provides 10/100 auto switch support.
- ProLiant 1500 Server has a SCSI CD-ROM drive, which is different from the ProLiant 2500 Server configuration. The ProLiant 2500 ships standard with an IDE CD-ROM drive. Before you migrate the hardware over to the ProLiant 2500 Server you must enable the appropriate IDE device driver in Windows NT. If not, the Windows NT operating system will not recognize the new CD-ROM drive in the ProLiant 2500 server.
- An additional SCSI controller is required in the ProLiant 2500 Server to support internal tape drives in Hot-Plug models only.
- Tape Backup in this migration scenario consisted of a 4/16-Gigabyte TurboDAT Drive and the Windows NT Backup Program. The backup hardware and software that you use depends on your hardware and software configuration. However, a well-planned backup strategy is the most important part of any scenario.

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**NOTE:** The migrations in this document are based on ProLiant 2500 Hot Plug Server models.

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### Migration Scenario 3 - Single Processor to Dual Processors

This migration scenario is similar to the procedure used in the Scenario 2 migration. The ProLiant 1500 Server configuration included PCI bus I/O architecture. However, you should update the ProLiant 1500 Server with the latest available Windows NT SSD and Insight Agents software before migrating the hardware. Updating the support software ensures the correct drivers are installed to take advantage of the ProLiant 2500 Server features.

The most significant aspect of this scenario upgrade is the addition of the second processor in the ProLiant 2500 Server. This requires a HAL upgrade to make the second processor functional. However, you cannot upgrade the HAL until the hardware is migrated to the ProLiant 2500 Server. Refer to Table 4 for a list of hardware and software components that require update in this scenario.

**TABLE 4**  
**SCENARIO 3- COMPAQ PROLIANT 2500 SERVER MIGRATION**  
**SINGLE PROCESSOR TO DUAL PROCESSOR**

Hardware and Software	ProLiant 1500 Server	ProLiant 2500 Server
System Processor(s)	Single 166-MHz Pentium	Dual 200-MHz Pentium Pro
Memory	64 MB (SIMM)	64 MB (DIMM)
Disk Controller	SMART-2/P Controller	SMART-2/P Controller
Hard Drive	(4) Fast-Wide SCSI-2, 2.1-GB drives	(4) Fast-Wide SCSI-2, 2.1-GB drives
External Hard Drive Storage Unit	N/A	External hard drive storage using the ProLiant Storage System
Internal Tape Drive SCSI Controller	4/16-Gigabyte TurboDAT Drive	4/16-Gigabyte TurboDAT Drive (include 32-Bit Wide-Ultra SCSI-2 Controller in hot-plug models)
CD-ROM Drive	Internal CD-ROM (SCSI)	Internal CD-ROM drive (IDE)
File System(s)	514-MB FAT (boot), 5467 MB NTFS	514-MB FAT (boot), 5467 MB NTFS
Network Controller	NetFlex-3/P Controller (10 Base-T)	Integrated 10/100 TX PCI Controller
Operating System	From Compaq SmartStart - Windows NT Server Version 3.51, Service Pack 5	From Compaq SmartStart - Windows NT Server Version 3.51, Service Pack 5
Compaq Software	Compaq SSD for Windows NT, Version 1.17B and Compaq Insight Management Agents Version 3.00	Compaq SSD for Windows NT, Version 1.20B and Compaq Insight Management Agents Version 3.20

The following items from the checklist in the “Getting Started” section were isolated for consideration in this migration scenario:

- HAL update is required to migrate to a dual processor system.
- ProLiant 1500 Server Pentium system processor options are not compatible with the ProLiant 2500 Server Pentium Pro processor options. Pentium and Pentium Pro processors are not compatible in the same server configuration.
- ProLiant 1500 Server SIMM memory options are not compatible with the ProLiant 2500 Server DIMM memory options. SIMMs and DIMMs cannot be mixed in the same server configuration.
- System Configuration and Diagnostics:
  - Run the Systems Configuration utilities to properly configure the ProLiant 2500 Server.
  - Run the Systems Diagnostic utilities to ensure that there are no configuration errors in the ProLiant 2500 Server configuration.

- Windows NT SSD and Compaq Insight Agents require updates:
  - Run the Windows NT SSD to update, configure, and bind network drivers.
  - Run the Compaq Management CD that contains the Insight Agents to update the configuration.
- SMART-2/E Controller is compatible in the ProLiant 2500 Server configuration. However, the ProLiant 2500 Server is optimized for PCI and the SMART-2/P Controller provides enhanced disk subsystem performance.
- If the current drive configuration consists of four *1.6-inch* Fast-Wide SCSI-2 drives, you must have a ProLiant Storage System; the ProLiant 2500 Server can hold three 1.6-inch drives internally. However, if the current drive configuration consists of four *1-inch* Fast-Wide SCSI-2 drives, you can migrate the drives to the ProLiant 2500 Server without a ProLiant Storage System.
- The NetFlex-3/P Controller (10-Base T) is compatible, however, the 10/100 TX PCI Controller is integrated in the ProLiant 2500 and provides 10/100 auto switch support.
- ProLiant 1500 Server has a SCSI CD-ROM drive, which is different from the ProLiant 2500 Server configuration. The ProLiant 2500 ships standard with an IDE CD-ROM drive. Before you migrate the hardware over to the ProLiant 2500 Server you must enable the appropriate IDE device driver in Windows NT. If not, the Windows NT operating system will not recognize the new CD-ROM drive in the ProLiant 2500 server.
- An additional SCSI controller is required in the ProLiant 2500 Server to support internal tape drives in Hot-Plug models only.

---

**NOTE:** *The migrations in this document are based on ProLiant 2500 Hot Plug Server models.*

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#### **Migration Scenario 4 - Dual Processor to Dual Processor**

This migration scenario is similar to the procedure followed in scenario 2 and 3. The ProLiant 1500 Server configuration includes PCI bus I/O architecture. However, you should update the ProLiant 1500 Server with the latest available Windows NT SSD and Insight Agents software before migrating the hardware. Updating the support software ensures the correct drivers are installed to take advantage of the ProLiant 2500 features.

The most significant upgrade in this scenario is the addition of the second processor in the ProLiant 2500 Server. Refer to Table 5 for a list of hardware and software components that require updating in this scenario.

TABLE 5  
SCENARIO 4- COMPAQ PROLIANT 2500 SERVER MIGRATION  
DUAL PROCESSOR TO DUAL PROCESSOR

Hardware and Software	ProLiant 1500 Server	ProLiant 2500 Server
System Processor(s)	Dual 133-MHz Pentium	Dual 200-MHz Pentium Pro
Memory	64 MB (SIMM)	64 MB (DIMM)
Disk Controller	SMART-2/P Controller	SMART-2/P Controller
Hard Drive	(4) Fast-Wide SCSI-2, 2.1-GB drives	(4) Fast-Wide SCSI-2, 2.1-GB drives
External Hard Drive Storage Unit	N/A	External hard drive storage using the ProLiant Storage System
Internal Tape Drive SCSI Controller	4/16-Gigabyte TurboDAT Drive	4/16-Gigabyte TurboDAT Drive (include 32-Bit Wide-Ultra SCSI-2 Controller in hot-plug models)
CD-ROM Drive	Internal CD-ROM (SCSI)	Internal CD-ROM drive (IDE)
File System(s)	514-MB FAT (boot), 5467 MB NTFS	514-MB FAT (boot), 5467 MB NTFS
Network Controller	NetFlex-3/P Controller (10 Base-T)	Integrated 10/100 TX PCI Controller
Operating System	From Compaq SmartStart - Windows NT Server Version 3.51, Service Pack 5	From Compaq SmartStart - Windows NT Server Version 3.51, Service Pack 5
Compaq Software	Compaq SSD for Windows NT, Version 1.17B and Compaq Insight Management Agents Version 3.21	Compaq SSD for Windows NT, Version 1.20B and Compaq Insight Management Agents Version 3.20

The following items from the checklist in the “Getting Started” section were isolated for consideration in this migration scenario:

- ProLiant 1500 Server Pentium system processor options are not compatible with the ProLiant 2500 Server Pentium Pro processor options. Pentium and Pentium Pro processors are not compatible in the same server configuration.
- ProLiant 1500 Server SIMM memory options are not compatible with the ProLiant 2500 Server DIMM memory options. SIMMs and DIMMs cannot be mixed in the same server configuration.
- System Configuration and Diagnostics:
  - Run the Systems Configuration utilities to properly configure the ProLiant 2500 Server.
  - Run the Systems Diagnostic utilities to ensure that there are no configuration errors in the ProLiant 2500 Server configuration.
- Windows NT SSD and Compaq Insight Agents require updates:
  - Run the Windows NT SSD to update, configure, and bind network drivers.
  - Run the Compaq Management CD that contains the Insight Agents to update the configuration.

- SMART-2/E Controller is compatible in the ProLiant 2500 Server configuration. However, the ProLiant 2500 Server is optimized for PCI and the SMART-2/P Controller provides enhanced disk subsystem performance.
- If the current drive configuration consists of four *1.6-inch* Fast-Wide SCSI-2 drives, you must have a ProLiant Storage System; the ProLiant 2500 Server can hold three 1.6-inch drives internally. However, if the current drive configuration consists of four *1-inch* Fast-Wide SCSI-2 drives, you can migrate the drives to the ProLiant 2500 Server without a ProLiant Storage System.
- The NetFlex-3/P Controller (10-Base T) is compatible, however, the 10/100 TX PCI Controller is integrated in the ProLiant 2500 Server and provides 10/100 auto switch support.
- ProLiant 1500 Server has a SCSI CD-ROM drive, which is different from the ProLiant 2500 Server configuration. The ProLiant 2500 Server ships standard with an IDE CD-ROM drive. Before you migrate the hardware over to the ProLiant 2500 Server you must enable the appropriate IDE device driver in Windows NT. If not, the Windows NT operating system will not recognize the new CD-ROM drive in the ProLiant 2500 Server.
- An additional SCSI controller is required in the ProLiant 2500 Server to support internal tape drives in Hot-Plug models only.

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**NOTE:** *The migrations in this document are based on ProLiant 2500 Hot Plug Server models.*

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### **Migration Scenario 5 - Dual Processor to Single Processor**

This migration scenario is similar to the procedure followed in scenario 4. The ProLiant 1500 Server configuration includes PCI bus I/O architecture. However, you should update the ProLiant 1500 Server with the latest available Windows NT SSD and Insight Agents software before migrating the hardware. Updating the support software ensures the correct drivers are installed to take advantage of the ProLiant 2500 Server features.

This scenario requires downgrading the HAL to uniprocessor in the ProLiant 1500 Server before migrating the hardware to the ProLiant 2500 Server. Refer to Table 5 for a list of hardware and software components that require updating in this scenario. The table below illustrates the hardware and software components used in this migration scenario.

**TABLE 6**  
**SCENARIO 5- COMPAQ PROLIANT 2500 SERVER MIGRATION**  
**DUAL PROCESSOR TO SINGLE PROCESSOR**

Hardware and Software	ProLiant 1500 Server	ProLiant 2500 Server
System Processor(s)	Dual 133-MHz Pentium	Single 200-MHz Pentium Pro
Memory	64 MB (SIMM)	64 MB (DIMM)
Disk Controller	SMART-2/P Controller	SMART-2/P Controller
External Hard Drive Storage Unit	N/A	External hard drive storage using the ProLiant Storage System
Internal Tape Drive SCSI Controller	4/16-Gigabyte TurboDAT Drive	4/16-Gigabyte TurboDAT Drive (include 32-Bit Wide-Ultra SCSI-2 Controller in hot-plug models)
CD-ROM Drive	Internal CD-ROM (SCSI)	Internal CD-ROM drive (IDE)
File System(s)	514-MB FAT (boot), 5467 MB NTFS	514-MB FAT (boot), 5467 MB NTFS
Network Controller	NetFlex-3/P Controller (10 Base-T)	Integrated 10/100 TX PCI Controller
Operating System	From Compaq SmartStart - Windows NT Server Version 3.51, Service Pack 5	From Compaq SmartStart - Windows NT Server Version 3.51, Service Pack 5
Compaq Software	Compaq SSD for Windows NT, Version 1.17B and Compaq Insight Management Agents Version 3.00	Compaq SSD for Windows NT, Version 1.20B and Compaq Insight Management Agents Version 3.20

The following items from the checklist in the “Getting Started” section were isolated for consideration in this migration scenario:

- HAL update is required to migrate to a Pentium Pro uniprocessor system.
- ProLiant 1500 Server Pentium system processor options are not compatible with the ProLiant 2500 Server Pentium Pro processor options. Pentium and Pentium Pro processors are not compatible in the same server configuration.
- ProLiant 1500 Server SIMM memory options are not compatible with the ProLiant 2500 Server DIMM memory options. SIMMs and DIMMs cannot be mixed in the same server configuration.
- System Configuration and Diagnostics:
  - Run the Systems Configuration utilities to properly configure the ProLiant 2500 Server.
  - Run the Systems Diagnostic utilities to ensure that there are no configuration errors in the ProLiant 2500 Server configuration.



- Windows NT SSD and Compaq Insight Agents require updates:
  - Run the Windows NT SSD to update, configure, and bind network drivers.
  - Run the Compaq Management CD that contains the Insight Agents to update the configuration.
- SMART-2/E Controller is compatible in the ProLiant 2500 Server configuration. However, the ProLiant 2500 Server is optimized for PCI and the SMART-2/P Controller provides enhanced disk subsystem performance.
- If the current drive configuration consists of four *1.6-inch* Fast-Wide SCSI-2 drives, you must have a ProLiant Storage System; the ProLiant 2500 Server can hold three 1.6-inch drives internally. However, if the current drive configuration consists of four *1-inch* Fast-Wide SCSI-2 drives, you can migrate the drives to the ProLiant 2500 Server without a ProLiant Storage System.
- The NetFlex-3/P Controller (10-Base T) is compatible, however, the 10/100 TX PCI Controller is integrated in the ProLiant 2500 Server and provides 10/100 auto switch support.
- ProLiant 1500 Server has a SCSI CD-ROM drive, which is different from the ProLiant 2500 Server configuration. The ProLiant 2500 Server ships standard with an IDE CD-ROM drive. Before you migrate the hardware over to the ProLiant 2500 Server you must enable the appropriate IDE device driver in Windows NT. If not, the Windows NT operating system will not recognize the new CD-ROM drive in the ProLiant 2500 server.
- An additional SCSI controller is required in the ProLiant 2500 Server to support internal tape drives in Hot-Plug models only.

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**NOTE:** *The migrations in this document are based on ProLiant 2500 Hot Plug Server models.*

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### STEP-BY-STEP INSTRUCTIONS

This section provides basic step-by-step instructions for migrating the scenarios described earlier in this document. Detailed instructions for performing many of the tasks listed in previous sections, such as using the system partition utilities, updating the HAL, and deleting and reinstalling a NetFlex-3 Controller instance are also included here.

The following list identifies the steps associated with each of the five documented scenarios. Use this list to guide you through the scenario steps that best describe your environment:

<b>Step 1:</b> Backup the System	All scenarios
<b>Step 2:</b> Update System Partition, Drive Array Configuration and Run Diagnostics	All scenarios
<b>Step 3:</b> Update with the Windows NT SSD	All scenarios
<b>Step 4:</b> Enable the IDE CD-ROM Driver for the ProLiant 2500 Server	All scenarios
<b>Step 5:</b> Install the HAL Recovery Option	Scenarios 3, 4, 5
<b>Step 6:</b> Downgrade the HAL	Scenario 5
<b>Step 7:</b> Configure the New System	All scenarios
<b>Step 8:</b> Run the Compaq Systems Configuration Utility	All scenarios
<b>Step 9:</b> Run the Compaq Array Configuration Utility	All scenarios
<b>Step 10:</b> Restore ProLiant 1500 Server Configuration from Tape Backup to ProLiant 2500 Server	Scenario 2
<b>Step 11:</b> Reinstall the NetFlex-3 Controller	All scenarios
<b>Step 12:</b> Upgrade HAL in the ProLiant 2500 Server	Scenarios 3
<b>Step 13:</b> Upgrade the Compaq Insight Management Agents in the ProLiant 2500 Server	Scenarios 3, 4, 5
<b>Step 14:</b> Verify the ProLiant 2500 Server Configuration	All scenarios

### **Step 1: Backup the System (All Migration Scenarios)**

You must first perform a complete backup of your system and verify it. Follow the instructions included with your backup software to enable the *Verify After Backup* option. This ensures your data will not be lost during the migration.

After the backup is complete, update your Emergency Repair Disk or create a new one. You will need this if you have to restore your complete system. The Repair Disk Utility accomplishes this task. Follow these steps:

1. From a command prompt, type  
RDISK  
then press **Enter**.
2. Select *Create Repair Disk* to create a new repair disk, or select *Update Repair Info* to update an existing repair disk.
3. Follow the instructions given to complete the task.
4. Record all the configuration information and directory tree structure on paper so that you can reenter the information during the ProLiant 2500 Server migration and configuration.

## Step 2: Update the System Partition, Drive Array Configuration, and Run Diagnostics (All Migration Scenarios)

The upgraded system requires an updated version of System Configuration and other utilities stored in the system partition of your hard disk. To ensure that the correct versions are available to your new system, follow the instructions below to update the utilities with the version provided with the new server.

1. Shutdown the server and place the Compaq SmartStart/Support Software CD shipped with your new server in the CD-ROM drive of your existing server and reboot.

---

**WARNING:** If the Compaq System Erase Utility starts automatically, select *Exit* and contact customer support. Your system partition is not properly configured. *Running this utility will erase all of your hard disks and configuration memory!*

---

2. From the Compaq Systems Utility menu, select *Upgrade System Partition*, click *Next* followed by *Continue* to update the partition utilities.
3. Check System Configuration, Diagnostics, Drive Array Configuration, and so on.
4. When the update is complete, select *Exit from this utility*.
5. Remove the Compaq SmartStart/Support Software CD and reboot the server.

## Step 3: Update with the Windows NT SSD (All Migration Scenarios)

Complete this step while the original system is still functional and before the HAL is updated for the new system. If you are migrating to the SMART-2 /P Controller, you must use the Windows NT SSD, version 1.19B or later for the SMART-2 Controller to function properly in the new system.

### Build the Windows NT SSD Diskettes

You can build an updated version of the Windows NT SSD from the Compaq SmartStart/Support Software CD shipped with your new server by following these steps:

1. Insert the Compaq SmartStart/Support Software CD in the CD-ROM drive.
2. Select *File* → *Run* from the Windows Program Manager.
3. Enter:  

```
<drive>:\cpqsupsw\diskbldr\setup.exe
```

where <drive> is the drive letter of your CD-ROM drive.
4. Select *OK* after you enter the desired path to install Diskette Builder. After the application is installed you can launch Diskette Builder from within the application or exit the install program. A new program group for Diskette Builder has been placed on your desktop.
5. Select the *Compaq Diskette Builder* icon in the Diskette Builder program group.
6. Follow the instructions in the Diskette Builder application to create diskettes.

---

**NOTE:**  
The Windows NT SSD can be accessed directly from the CD if you do not want to create the diskettes.

---

### Update the ProLiant 2500 Server with the Windows NT SSD Diskettes

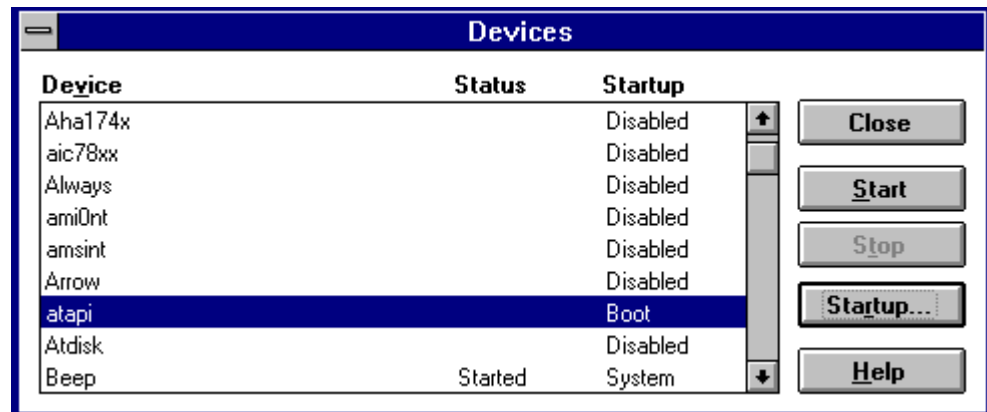
After creating the latest version of the Windows NT SSD diskettes, upgrade the device drivers. Follow these steps:

1. Insert the Windows NT SSD (Diskette # 1) into the diskette drive.
2. Select *File* → *Run* from Program Manager.
3. Enter the following:  
A:\setup  
where A: is the letter of the diskette drive.
4. Select the *Express* button to automatically update all of the drivers. A window displays a list of the devices detected in your system that require updating.
5. Follow the instructions to update all drivers.
6. Select the *Update* button.
7. Remove the Windows NT SSD diskette and restart the computer to enable the drivers.

### Step 4: Enable the IDE CD-ROM Driver for the ProLiant 2500 Server (All Migration Scenarios)

Before you migrate the hardware from the ProLiant 1500 Server to the ProLiant 2500 Server, you must enable a driver to support the IDE CD-ROM drive in the ProLiant 2500 Server.

1. Select *Control Panel* for the Main Program group of the Windows NT Program Manager.
2. Select *Devices* and scroll down to the *atapi* device driver, it should display status as *Disabled*.
3. Select the *Startup* button to display the Device window.
4. Select *Boot* as the Startup Type and then *OK*. The Startup Status in the Devices window changes to *Boot*.



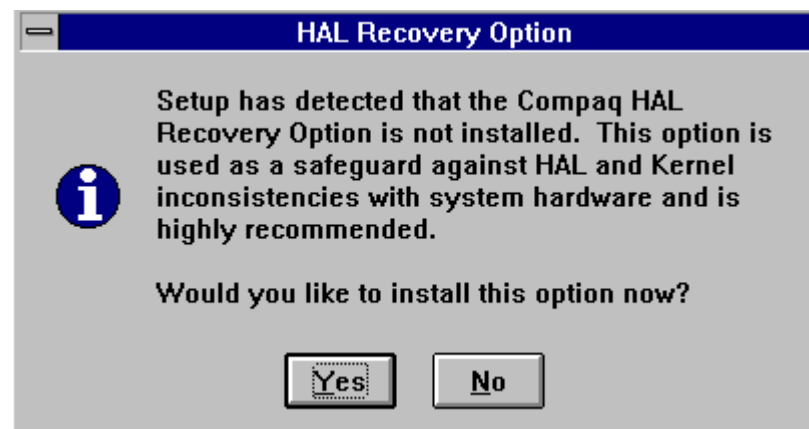
If you do not enable the driver, Windows NT cannot recognize your CD-ROM in the ProLiant 2500 Server.

## Step 5: Install the Compaq HAL Recovery Option from the Windows NT SSD

### (Scenarios 3, 4, 5)

The Windows NT SSD, version 1.19A and later also include a Compaq HAL Recovery option. The Express installation option automatically installs this option for you. If you decide to perform a Custom upgrade rather than the Express upgrade, Compaq strongly recommends that you select the Compaq HAL Recovery Option. This feature allows a user with a multiprocessor system to recover from blue-screen traps, which might occur as a result of any of the following:

- Mismatching hardware with the installed HAL (for example, a multiprocessor HAL with only one processor)
- HAL and kernel file incompatibility (for example, a multiprocessor HAL with a uniprocessor kernel)
- HAL file corruption



The three conditions listed above might result in Windows NT not being able to boot. The HAL Recovery Option allows you to be able to boot Windows NT in these types of situations, so the HAL can be repaired or properly installed. Refer to the NTREADME.HLP file on the Windows NT for more information.

## Step 6: Downgrade the HAL on the ProLiant 1500 Server Using the Windows NT SSD

### (Scenario 5)

Before you migrate the hardware from the ProLiant 1500 Server to the ProLiant 2500 Server, you must downgrade to a uniprocessor HAL before you can migrate if your scenario includes going from a Dual Processor to Single Processor.

The ProLiant 2500 Server cannot initialize without the correct HAL and kernel. To facilitate the upgrade, you must install the correct HAL for the ProLiant 2500 Server while the ProLiant 1500 Server is still functional.

The Windows NT SSD Setup Utility performs HAL downgrades and upgrades for you. The Windows NT SSD detects and installs the appropriate HAL during the installation process.

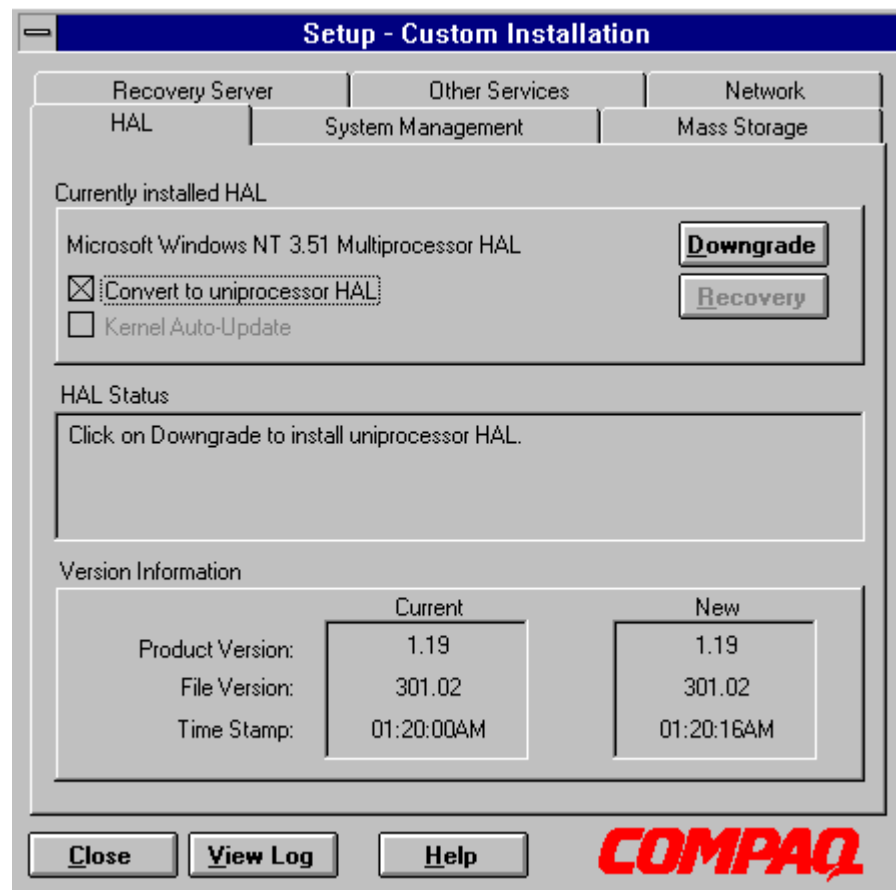
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**NOTE:**  
You also need the Windows NT Server and Service Pack media to accomplish the procedure in step 6.

---

With Windows NT Server running on the ProLiant 1500 Server, follow these instructions to downgrade to a uniprocessor HAL:

1. Insert the Windows NT SSD (Diskette # 1) into the diskette drive.
2. Select *File* → *Run* from Program Manager.
3. Enter the following:  
A:\setup  
where A: is the letter of the diskette drive.
4. Select *Custom* from the Setup Installations Options Menu.
5. Select the *HAL* tab from the Setup - Custom Installation Menu. Select the *Convert to uniprocessor HAL* check box.



6. Insert the Windows NT Server CD in the CD-ROM drive. Select the *Downgrade* button. Follow the instructions provided.
7. Remove the Windows NT SSD diskette and restart the server to enable the new HAL.

To verify that the correct HAL was successfully installed, observe the blue server initialization screen. A brief message displays to indicate that the Windows NT uniprocessor kernel and the Compaq uniprocessor HAL are initializing.

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**NOTE:**  
Depending on your configuration, you might be prompted for Windows NT Service Pack file locations. Be prepared by having these files ready.

---

---

**NOTE:**  
The initialization message should indicate that only one system processor is initializing. This is correct for the uniprocessor configuration, even if there is more than one processor installed in the system.

---

## Step 7: Configure the New System (All Migration Scenarios)

To configure the new system, follow these steps:

1. Turn off the power to both the new and old systems.
2. Remove the access covers and prepare to move the drive subsystem and other peripherals to the new system. Because the exact task depends on what options are migrated to the new system, follow the instructions included with each option that you are migrating.

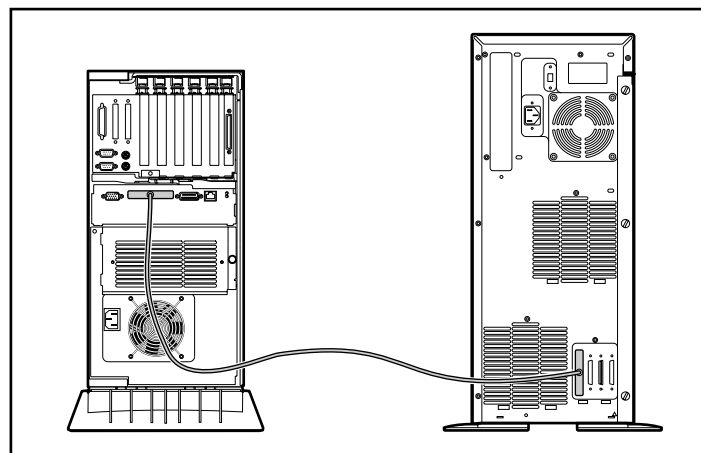
The following suggestions and warnings might save you some time:

- Take precautions against electrostatic discharge.
- Number the front of the drives before you remove them from the cabinet to make sure they remain in the same order during the migration.

### Install the SMART-2 Array Controller and Connect to a ProLiant Storage System

If you are migrating an array controller in the ProLiant 1500 Server to the ProLiant 2500 Server for drives installed in the front hot-plug bays of the server:

1. Disconnect the SCSI cable from the SCSI connection port on the SMART-2 Array Controller.
2. Install the array controller in an open slot of the ProLiant 2500 Server.
3. Attach the Wide SCSI cable to reconnect to the array controller port.
4. Install the 1.6-inch hot-plug drives from the ProLiant 1500 Server configuration in a ProLiant Storage System, keeping the same drive order.
5. Connect the SMART-2 Array Controller in the ProLiant 2500 Server to the ProLiant Storage System using the external SCSI cable kit that shipped with the ProLiant Storage System (see figure below).



---

**NOTE:**  
Refer to the documentation that shipped with your hardware to identify the appropriate cable option kits and installation instructions.

---

---

**CAUTION:** You must reinstall hot plug drives in the exact order to preserve the array configuration during migration. Failure to do so can result in the loss of all data.

---

## Install the Optional Wide-Ultra SCSI Controller in the ProLiant 2500 Server to Configure an Internal Tape Drive

ProLiant 2500 Servers models configured with hot plug drives cannot share the integrated controller with a tape device. To enable a tape backup unit in these models, you must add another SCSI controller. For the purpose of this White Paper, a Wide-Ultra SCSI Controller was used. However, you may also use a Compaq Fast-Wide SCSI-2 Controller.

1. Install the Wide-Ultra SCSI Controller in an available slot.
2. Install the 4/16-Gigabyte TurboDAT drive in an available drive bay.

To connect the controller to the tape drive you also need Option Kit #300909-001 for any required cables not shipped with the server. Follow the instructions that come with the cable option kit.

## Step 8: Run the Compaq Systems Configuration Utility (All Migration Scenarios)

1. After all the options are installed, power up the system with the Compaq SmartStart/Support Software CD in the CD-ROM drive to configure the hardware. If you are migrating a SMART Controller or a SMART-2 Controller, the system cannot access the system partition of the hard drive until after the array is configured.

---

**WARNING:** If the Compaq System Erase Utility starts automatically, select *Exit* and contact customer support. Your system partition is not properly configured. *Running this utility will erase all of your hard disks and configuration memory!*

---

2. Select *Run Systems Configuration*.
3. Click *Next*, then *Continue* and follow the instructions provided. Verify that all the hardware is configured correctly.
4. Save the configuration, remove the CD and restart the system.

## Step 9: Run the Compaq Array Configuration Utility (All Migration Scenarios)

If your system includes the SMART-2 Controller, then you must reboot from the Compaq SmartStart/Support Software CD again and select *Configure Drive Array*.

1. Run the Array Configuration Utility.
2. The SMART-2 Controllers recognize the last known configuration of the array and list it as the default configuration. Accept the configuration without change and save it.

---

**CAUTION:** Any modification to the array configuration that differs from your previous configuration results in the loss of all data.

---

3. After completing the above migration, remove the Compaq SmartStart/Compaq Software Support CD and restart the server to enable the configuration.

---

**NOTE:**

All ProLiant 2500 Server models shipped with "703" and greater as the second, third, and fourth digits of the serial number contain all necessary cabling. If your ProLiant 2500 Server was manufactured prior to this date, you must obtain Option Kit #300909-001 to complete this installation.

---



## Step 10: Restore the ProLiant 1500 Server Configuration from Tape Backup to ProLiant 2500 Server (Scenario 2)

To restore the ProLiant 1500 Server configuration from a tape backup to the ProLiant 2500 Server, you must perform the following tasks:

1. Migrate all the hardware to the ProLiant 2500 Server as described in Step 7: Configure the New System.
2. Locate the configuration information and directory tree/drive structure that you recorded before the migration. You must reenter this information for the ProLiant 2500 Server migration and configuration.
3. Boot the server with the Compaq SmartStart/Support Software CD and run the System Configuration Utility as described in Step 8: Run the Compaq Systems Configuration Utility.
4. Install Windows NT Server to the same directory structure set up on the ProLiant 1500 Server. This provides you with the ability to restore your applications from tape as they were in the ProLiant 1500 Server. The directory structures and drives *must* be the same. The applications will not work properly if the backup is not restored using the same Windows NT drive and subdirectory path as on the ProLiant 1500 Server.
5. Verify that all hardware is configured correctly.
6. Insert the ProLiant 1500 Server tape backup in the tape drive.
7. Select *Backup* from the Administrative Tools group of the Program Manager.
8. *Restore* the tape to the system following the instructions of your backup software. Enter the directories you want to reinstall and specify any other options that you require.
9. Run the Windows NT SSD to reset the software again and verify your installation.

## Step 11: Reinstall the NetFlex-3 Controller (All Migration Scenarios)

When changing from the NetFlex-3/P Controller to an Integrated 10/100 TX PCI Controller, you must delete and reinstall the controller for it to function properly. For more information on configuring NetFlex-3 Controllers and Netelligent PCI controllers, see the Compaq White Paper, *Compaq Advanced Network Error Correction Support in a Microsoft Windows NT Server Environment* (document number 114A/1196). After the new system starts, follow these steps:

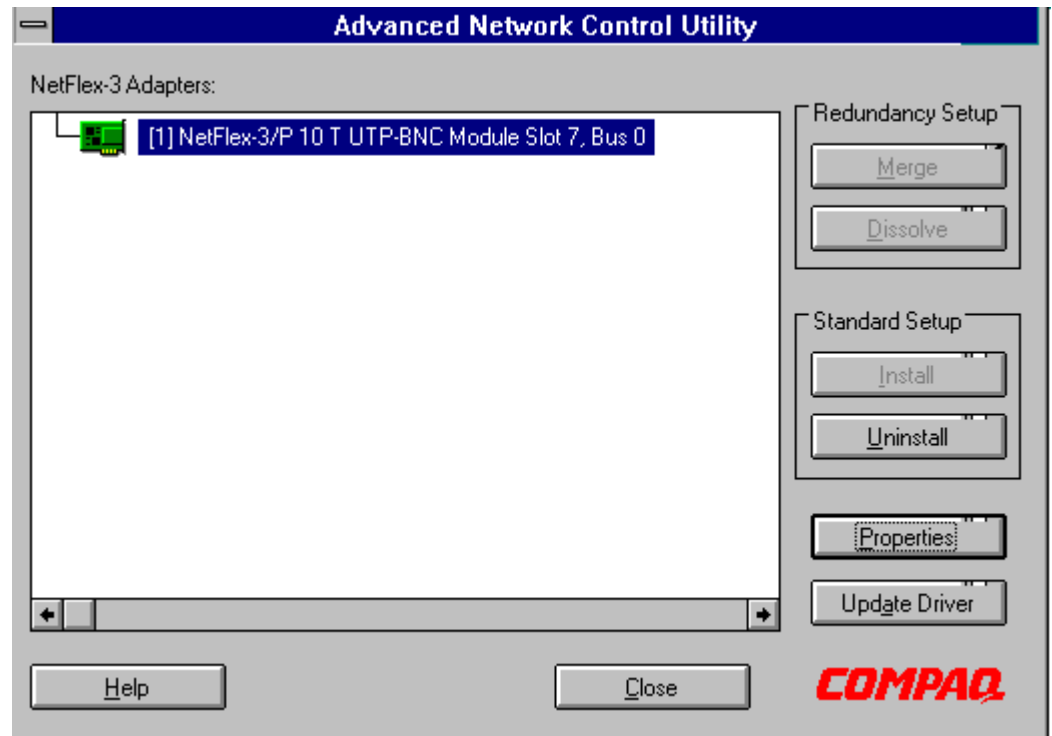
1. Select the *Control Panel* icon from the Main Program Group of the Windows NT Program Manager.
2. Select the *Compaq Net* icon to launch the Advanced Network Control Utility.
3. Highlight the *NetFlex-3/P Controller*, then select the *Uninstall* button. A message status box displays indicating the request is complete.

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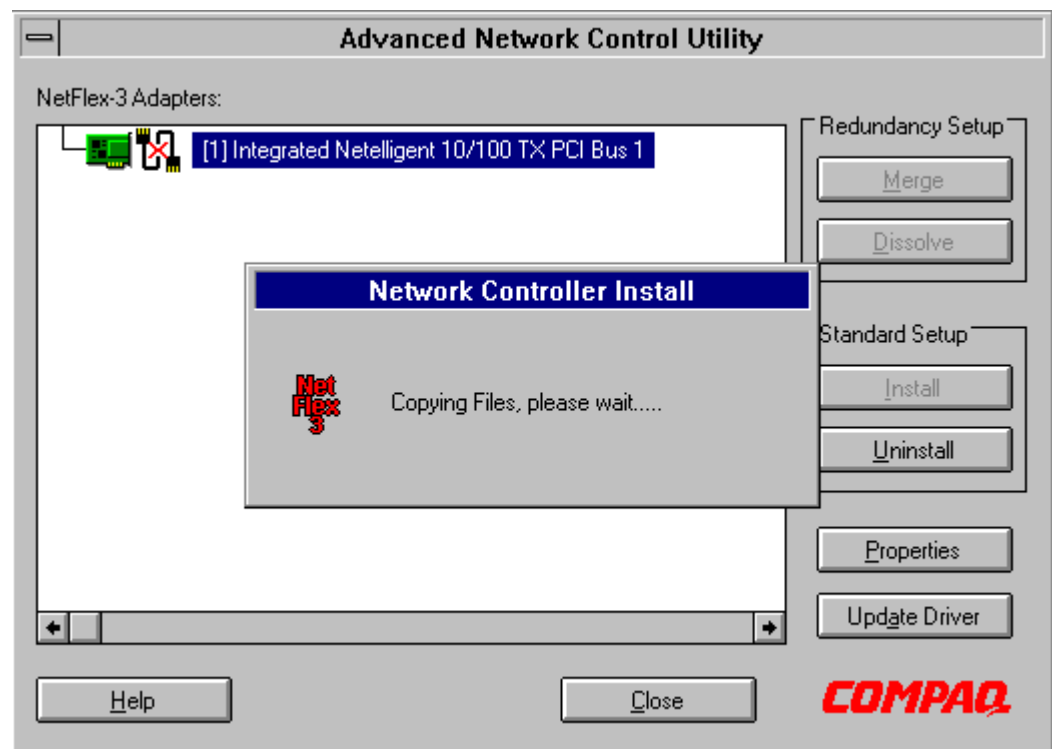
**IMPORTANT!**

When you uninstall a network controller, all protocol-related information for the controller you are disconnecting is lost.

---



4. Highlight the *Integrated Netelligent 10/100 TX PCI Controller*, then select the *Install* button. A message box displays indicating the files are being copied.



5. Select the *Close* button when finished. The changed configuration is immediately written to the registry. You must restart the server for the changes to take effect.

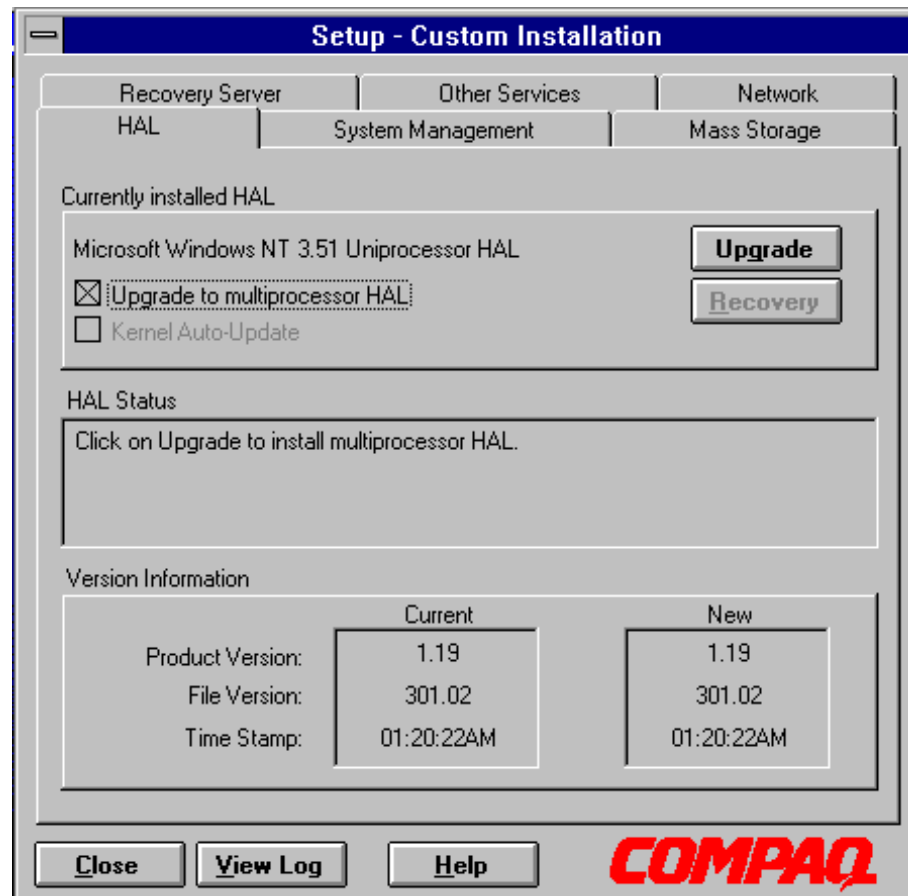
## Step 12: Upgrade the HAL in the ProLiant 2500 Server (Migration Scenarios 3, 4, 5)

After you fully configure the ProLiant 2500 Server and verify that it is functioning properly, you must upgrade the HAL and kernel to the multiprocessing versions. The Windows NT SSD Setup Utility performs the upgrade to the multiprocessor HAL. You need the Windows NT Server and Service Pack media to accomplish the procedure that follows.

**CAUTION:** If you encounter a HAL problem and a blue screen trap occurs, use the HAL Recovery Option or your Emergency Repair diskette to get the Windows NT Server operational again.

With Windows NT Server running on the ProLiant 2500 Server, follow these steps:

1. Insert the Windows NT SSD (Diskette # 1) into the diskette drive.
2. Select *File* → *Run* from Program Manager.
3. Enter the following:  
A:\setup  
where A: is the letter of the diskette drive.
4. Select *Custom* from the Setup Installations Options Menu.
5. Select the *HAL* tab from the Setup - Custom Installation menu.



---

**NOTE:**

Depending on your configuration, you might be prompted for Windows NT Service Pack file locations. Be prepared by having these files ready.

---

6. Select the *Upgrade to multiprocessor HAL* check box.
7. Insert the Windows NT Server CD in the CD-ROM drive. Select the *Upgrade* button. Follow the instructions provided.
8. Remove the Windows NT SSD diskette from the drive and restart the server.

To verify the correct HAL was successfully installed, observe the blue server initialization screen. A brief message displays to indicate that the Windows NT multiprocessor kernel and the Compaq multiprocessor HAL are initializing.

### **Step 13: Upgrade the Compaq Insight Management Agents in the ProLiant 2500 Server**

#### **(All Migration Scenarios)**

Your ProLiant 2500 Server ships with a Compaq Insight Agents Management CD Version 3.1 or later. You must update your Management Agents after you have completed migrating and configuring all the other hardware and software.

1. Insert the Compaq Insight Agents Management CD in the CD-ROM drive.
2. Select *File* → *Run* and type: `x\agents\win-nt\eng\setup`.
3. Select *Continue* at the Insight Agents Setup screen, and follow the installation instructions.

### **Step 14: Verify the ProLiant 2500 Server Configuration**

#### **(All Migration Scenarios)**

After you migrate the hardware and upgrade the software on the ProLiant 2500 Server, Compaq suggests that you verify your system configuration.

The Event Viewer in the Windows NT Administrative Tools Group provides an easy to use tool that logs all errors detected by the system. As you view and correct problems, you can go back to the Event Viewer to verify that they are no longer active problems on the server. Compaq Insight Manager also provide alerts on the Insight Manager console once the Insight Agents are properly configured.

Backup your ProLiant 2500 system again once you have obtained the desired configuration.

#### **Summary**

After following the steps outlined in this document, your ProLiant 2500 Server should be fully configured with an upgraded HAL and kernel, if necessary. For more information on installing a new server, obtaining peak performance from you ProLiant 2500 Server, or increasing network availability, see the section, “Additional Resources” on page 3.