COMPAQ
Integration Note

Contents

Migrating to Microsoft Windows 2000 on Compaq ProLiant Servers

Abstract: This document presents information regarding hardware migrations on Compaq ProLiant servers while upgrading to Microsoft Windows 2000. It describes tested and proven procedures for managing a migration for field service engineers and network administrators. Instructions provided include planning for the migration, preparing your software and hardware, moving hardware, migrating the components, restoring your server, installing Microsoft Windows 2000, and troubleshooting.

This document includes two migration scenarios, one involving servers with similar disk subsystems, the other involving servers with dissimilar disk subsystems. The appendices provide information on supported Compaq systems, workarounds, and Compaq information products.

IMPORTANT: We suggest you read and thoroughly understand this document before attempting any migration on your equipment.

Other documents on the subject of Compaq servers and Microsoft Windows 2000 include the following:

- *[Upgrading to Microsoft Windows 2000 on Compaq ProLiant Servers](#)*

- *[Compaq Tips on Evaluating, Planning, Preparing, and Piloting Your Windows 2000 Environment](#)*

- *[Implementing Microsoft Windows 2000 on Compaq Server Products](#)*

Other sources of information include the Compaq and Microsoft Frontline Partnership sites at http://www.compaq.com/partners/microsoft and http://www.microsoft.com/enterprise/alliances/compaq.htm. The Compaq Resource Paq for Microsoft Windows 2000 and Windows NT *contains white papers, ROMPaqs, and other information regarding Windows 2000 and Compaq equipment. Obtain the Resource Paq through our website at http://www.compaq.com/partners/microsoft/resourcepaq.html.*

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Notice

Planning the Migration

Windows 2000 does not provide just an upgrade; its radical new design changes the way you manage your network. New hardware might be needed to efficiently manage and optimize this new operating system. Compaq servers provide the highest levels of scalability, performance, and availability on X86 platforms. They have been tested extensively running Windows 2000 both in the Compaq and Microsoft test labs.

Designing a strategy for a migration project is a critical piece in its success. It might seem extremely complex at first, but good planning eliminates much of the difficulty. Take time with each piece of the process to make sure you cover all the bases.

The first step involves understanding your current network configuration. This includes finding and updating your network map. What domains do you have and why? Does the structure work internally? What changes could make network use easier? Will certain changes make your network administrators more efficient? What are your security needs? What are your bandwidth needs? How do you use or plan to use the Internet within your organization?

The second step encompasses assessing your current applications. Determine if they will operate in a Windows 2000 environment or if you need an upgrade or replacement. How are the applications used? Which groups use them? Will this make a difference in your network structure? Are there similar applications more likely to be Windows 2000 compatible in use elsewhere in your organization?

The third step includes evaluating your hardware to determine which hardware migrates and which upgrades. Review the migration scenarios featured in this document to determine what upgrades you might need to make to maintain functionality after the migration. How will new hardware help you take advantage of the features of Windows 2000? Count your server expansion slots. Are you using EISA or PCI peripherals? What would transfer to new equipment? What does the new equipment support? What new hardware features would be useful? What is the easiest transition to make?

Establish functional teams with experts in directory services, administration and management, core OS, networking, applications, and hardware compatibility. Have these teams evaluate Windows 2000 and your new hardware. Take the time to correctly plan your migration strategy. Make clear assignments and verify progress along the way.

Verify that your Windows Internet Naming Service (WINS) works properly. WINS will be necessary on your system until all clients are Active Directory aware. Identify resource domains to be collapsed into the Active Directory-based domain structure. Check for duplicate names across the entire network. Audit your security environment and determine how global groups can help with the upgrade process.

IMPORTANT: Read this entire document and refer to your specific hardware documentation and configuration before proceeding with a hardware migration and operating system upgrade. We also recommend that you become familiar with *PCI Bus Balancing and Optimization on Compaq ProLiant Servers* available through our website.

Your strategy should include checking the Compaq Windows 2000 website for new information on a regular basis. Compaq Services can help you plan your hardware migration with Windows 2000.

Migration Checklist

Make a checklist to ascertain that each step is completed once you are ready to begin the migration process. Table 1 provides a sample upgrade checklist.

Table 1. Migration checklist

√	Description	Comments	Location
√	Compaq Options ROMPaq	By option	http://www.compaq.com/support/files/server/us/index.html
√	Compaq SmartStart and Support Software CD	Release 4.60 or later	http://www.compaq.com/products/servers/smartstart/index.html
√	Compaq SSD for Windows NT	Via Compaq Support Software	http://www.compaq.com/support/files/server/us/index.html
√	Compaq Support Software for Windows 2000	Via Compaq Support Software	http://www.compaq.com/support/files/server/us/index.html
√	Compaq System Configuration Utility	Via Compaq Support Software	http://www.compaq.com/support/files/server/us/index.html
√	Compaq System ROMPaq	By server	http://www.compaq.com/support/files/server/us/index.html
√	Compaq Windows 2000 website	For the latest information	http://www.compaq.com/partners/Microsoft/Windows2000/index.html
√	Internet access	For system updates	
√	Minimum requirements met		See Table of Contents.
√	Platforms supported		See Table of Contents.
√	Sufficient backup media	Enough for a full backup and in excellent condition	
√	Windows 2000 Primer Utility from Compaq	Erases non-compatible Compaq utilities	http://www.compaq.com/partners/Microsoft/Windows2000/index.html
√	Windows 2000 Server or Advanced Server CD ROM	To install operating system	
√	Windows 2000 support on third-party hardware	Hardware supported	http://www.microsoft.com/hcl/default.asp

Supported Upgrade Paths

Make sure you understand the upgrade paths from Windows NT to Windows 2000. Attempts to upgrade Windows NT 3.51 or 4.0 to Advanced Server results in a dual-booting system with your users and groups not transferring to Windows 2000. Table 2 provides the Microsoft supported upgrade paths for Windows 2000.

Table 2. Supported upgrade paths

Current Server Operating System	Upgraded Server Operating System
Microsoft Windows NT 3.51 Server	Windows 2000 Server Edition
Microsoft Windows NT 4.0 Server	Windows 2000 Server Edition
Microsoft Windows NT 4.0 Enterprise Server	Windows 2000 Advanced Server Edition

Minimum Requirements

The minimum requirements listed here pertain to the Windows 2000 network operating system only and do not include the requirements for software applications running on your system. Please check your application requirements to make certain your system can run both the operating system and your software. Most software vendors have this information posted on their website.

IMPORTANT: Compaq does not support use of Windows 2000 Professional Edition on Compaq server platforms.

To use Microsoft Windows 2000 Server, your equipment must meet the following requirements:

- 166-MHz or higher Pentium-compatible CPU

- One to four CPUs on one machine

- 256 MB of RAM recommended (64 MB supported as a minimum; 4 GB supported as a maximum)

- 4 GB of free space on the hard disk

To use Microsoft Windows 2000 Advanced Server, your equipment must meet the following requirements:

- 166-MHz or higher Pentium-compatible CPU

- One to eight CPUs on one machine

- 256 MB of RAM recommended (128 MB supported as a minimum; 8 GB supported as a maximum)

- 4 GB of free space on the hard disk

Note: Available disk space refers to free disk space on the partition to contain the system files. Additional space is required if you copy the Windows 2000 CD contents to the hard disk during installation.

Preparing the System

In order to prepare your system to migrate to new Compaq hardware, the software must be updated, as older system drivers might not recognize servers designed since they were developed. Preparation includes backing up the system, preparing for system recovery, updating the system software, and documenting the operating system and system configuration settings.

System Backup

Compaq Insight Manager allows you to copy the database files it has generated if you want copies separate from your backup file.

Perform a complete backup of your system and verify it. Use the same backup program (Compaq Enterprise Backup Solution, BackupExec, ArcServe, or other program) you normally use on your system. Follow the instructions included with your backup software to enable the Verify After Backup option. This ensures that you can return to the starting point with all of your data if a problem arises. Test your backup to make certain it can be restored.

If your migration involves servers with dissimilar disk subsystems, a backup and restore must be performed to maintain your data. Because the hard drives cannot be migrated, data must be copied from the first server to the second server through the backup and restore process. If you perform a sector-by-sector backup to get all information from your original server, you can save some configuration work on the new server.

Recovery Preparation

To prepare for problems that could arise during the migration and to make certain that you can recover your system, create an emergency repair disk (ERD) and a Windows NT boot disk.

Emergency Repair Disk

After the backup completes, update your emergency repair disk (ERD) or create a new one. You might need this if you have to restore your complete system. The Repair Disk Utility accomplishes this task. Complete the procedure as indicated below.

- Type RDISK at a command prompt, then press **Enter**.

- Select *Create Repair Disk* to create a new repair disk or select *Update Repair Info* to update an existing repair disk.

- Follow the onscreen instructions to complete the task.

Windows NT Boot Disk

The boot disk allows access to a drive with a faulty boot sequence, such as a corrupted boot sector, corrupted master boot record, or corrupted boot files. The boot disk can restart your system under almost any circumstance.

Note: Make sure the disk is formatted under Windows NT. You can copy files to a DOS-formatted disk but you cannot boot from it.

- Create a Windows NT boot disk by using the **FORMAT** command in Windows NT.

- Copy the *NTLDR*, *NTDETECT.COM*, and *BOOT.INI* files from the server boot drive to the formatted disk.

- Make certain you verify the boot disk before proceeding by inserting it into the disk drive and restarting the system.

If you are unsure which device is your boot device, are unable to find the correct driver, or are using different types of controllers, use the [Compaq Boot Partition and Boot Driver Detection Utility](#) available through our website and on the *Compaq Resource Paq for Microsoft Windows 2000 and Windows NT*.

Compaq Software Update

The system software should be updated before migrating your hardware and upgrading your operating system. You need these files to make certain that your drivers correctly recognize the new server's configuration. In addition, during the Windows 2000 installation process, several utilities and drivers will be removed by the Windows 2000 Primer Utility from Compaq. If the files are not updated during this stage, they might not be properly removed from the Windows Registry when the Windows 2000 Primer Utility from Compaq runs.

Compaq Server Software for Microsoft Windows NT (Compaq SSD for Windows NT)

Upgrade to the latest Compaq Server Software for Microsoft Windows NT (Compaq SSD for Windows NT) before attempting the migration. The Compaq SSD for Windows NT contains the latest updates for the drivers included in your system for use with Windows NT. Check our website for the latest version.

To install the Compaq SSD for Windows NT, complete the following:

- Obtain four formatted 1.44-MB diskettes.

- Download the Compaq Server Support Software to a directory on your hard drive and change to that directory.

- Execute the *SETUP.EXE* file.

- Follow the onscreen instructions.

After the disks are created, you can delete the downloaded file and the other files it created from your hard drive.

If your migration scenario changes from uniprocessor to multiprocessor or multiprocessor to uniprocessor, install the HAL Recovery Option in the Compaq SSD for Windows NT.

Compaq Management Agents for Servers

If you use them, update your Compaq Management Agents through our website before attempting the migration. To complete the update, perform the following:

- Download the Compaq Support Software to a directory on your hard drive and change to that directory.

- Execute the *SETUP.EXE* file.

- Follow the onscreen instructions.

The screen displays the number of files to be created and the total file size. You can specify the target directory for the files or default to the download directory. After the files unpack, you can delete the self-extracting file. For installation instructions, refer to the *README.TXT* in the created directory. After a successful installation, you can delete the unpacked files.

Configuration Documentation

You should carefully document all the operating system network settings before preparing the system. These settings would include IP addresses, NIC information, protocols used, and so forth.

- Select **Start** → *Settings* → *Control Panel* → *Network* to start the Network Settings dialog box.

- Select each protocol and service from the *Protocol* and *Services* tabs.

- Select *Properties*.

- Write down all configuration details (or print the screen).

- Document all protocols and services used by your system.

- Close the Network Settings dialog box.

Additionally, record all the system configuration settings. Press the **F10** key when restarting the system to locate these settings.

System ROM and Options ROM Update

The latest Windows 2000-compatible firmware for your Compaq server can be located through our website at http://www.compaq.com/support/files/server/us/index.html. This site provides special firmware upgrades for Compaq ProLiant servers and server options. Update your system according to the instructions included with the firmware to ensure your migrating hardware recognizes the new server.

System Configuration Update

To install Windows 2000, your system requires an updated version of the System Configuration Utility and other utilities stored in the system partition of your hard disk. Even if your hard drive does not contain a system partition, run the System Configuration Utility from a diskette or from the SmartStart and Support Software CD release 4.60 or higher.

CAUTION: Your system partition must be at least 36 MB to contain the utilities upgraded during this operation. **Do not upgrade the utilities if your system partition is less than 36 MB.** You must still run the System Configuration Utility but do not upgrade the system partition.

To ensure that the correct versions are installed, follow the instructions below. You can obtain the Compaq Support Software through our website at http://www.compaq.com/support/files/server/us/index.html.

- Follow the instructions provided with the Compaq Support Software.

IMPORTANT: Do not run the Compaq System Erase Utility. **Running this utility erases all of your hard disks and configuration memory.**

- Select *Upgrade System Partition* from the Compaq Systems Utility menu.

- Click **Next** →   **Continue**.

- Select *System Configuration*, *Diagnostics*, and *Drive Array Configuration*.

- Select *Exit*.

- Remove any diskettes.

- Shut down the server.

Moving the Hardware

Prepare for the hardware migration by turning off power to both servers. Carefully label each piece of hardware involved in the migration before you remove it from the older system. Make sure all the drives remain in the same order during the migration.

WARNING: Reinstall hot-plug drives in the exact order of the previous installation to preserve the array configuration during migration. Failure to do so can result in the loss of all data.

Be sure you purchased appropriate hardware for your needs. Count the slots in your new server, determine the type of slots, and verify again that the new system supports all the migrating hardware. Some hardware might not be supported on the new system; for instance, you might have to upgrade EISA peripherals to PCI peripherals. Become familiar with PCI Bus Balancing and Optimization on Compaq ProLiant Servers through the document on our website. This white paper identifies the importance of PCI bus balancing and provides technical configurations for achieving high performance and high availability for your server.

Review the scenarios described below for additional information regarding hardware migration and upgrade.

Migrating Similar Disk Subsystems

In the first scenario, similar disk subsystems made it possible to remove the hard disk drives from the first server and place them into the second server. This migration took a ProLiant 5000 server running Windows NT 4.0 with Microsoft Service Pack 5 installed and migrated to a ProLiant 7000 server.

In our planning for this migration, we checked what hardware and software components the ProLiant 7000 would support from the ProLiant 5000 to determine what we had to upgrade before beginning the migration. Table 3 provides the configuration data for the ProLiant 5000 as well as available and required upgrades.

Table 3. Compaq ProLiant 5000 configuration

Hardware and Software	ProLiant 5000 Configuration	Upgrade Available on ProLiant 7000	Upgrade Required	Notes
System processor	4 Pentium Pro; 3 stepping 9, 1 stepping 7	Pentium Xeon III	No	Lowest stepping must be bootstrap processor
RAM	512 MB	Up to 4 GB with Pentium Pro, 8 GB with Xeon	No	RAM compatible only if Pentium Pro processors are used in the ProLiant 7000
Disk controller	3 SMART-2/P, 1 Fibre Controller (EISA), 1 32-Bit Fast-Wide SCSI (embedded)	SMART-2DH or Fibre	Yes for Smart-2/P	Fibre controller cannot be boot controller. Fibre controller requires new storage system.
NIC team one	1 NetFlex 10BaseT PCI UTP and NetFlex 10/100 TX PCI UTP		No	Intel based NICs have more features than the ThunderLAN NICs (including bonding).
NIC team two	NetFlex Dual 10/100 TX PCI UTP		No	
Drive configuration	10 disks totaling 40.15 GB RAID 1 on disks 1, 2 RAID 5 on disks 3, 4, 5 RAID 0 on disks 6, 7, 9 RAID 5 on disks 8, 9, 10	Yes	No	The three internal drive bays on the ProLiant7000 eliminate the need for external storage. Each array can be expanded using larger drives, but it is not required.
Applications	Microsoft Sequel Server 6.5 from Microsoft BackOffice	Yes	Yes	

This scenario brought up the following issues:

- The SMART-2/P Controllers in the ProLiant 5000 were not supported on the ProLiant 7000.

- The CD-ROM drivers between the systems were not compatible.

- The embedded video chipset needed to be redetected after the migration.

- The NICs were not recognized by Windows NT 4.0 after the migration.

Disk Controllers

The ProLiant 7000 did not support our SMART-2/P disk controllers. Our choices for the upgrade included the SMART-2DH controllers or a fibre channel controller. Since one of the SMART-2/P controllers was the boot controller, it could not be replaced with a fibre channel controller. Therefore, at least one of the SMART-2/P controllers must be replaced with a SMART-2DH. The other two SMART controllers can be replaced with a fibre channel controller. Please note that the fibre channel controllers require a new storage system.

SCSI Drivers

We encountered a problem with the CD-ROM during our migration. The ProLiant 5000 used a SCSI driver for the CD-ROM and the ProLiant 7000 uses an IDE driver. Windows NT did not recognize the CD-ROM in the new equipment so ATAPI and CDFS show as disabled devices. When we selected on the My Computer applet, the display did not show the CD-ROM drive at all. We reviewed the Control Panel, Devices screen; Figure 1 shows the screen indicating that the devices are disabled.
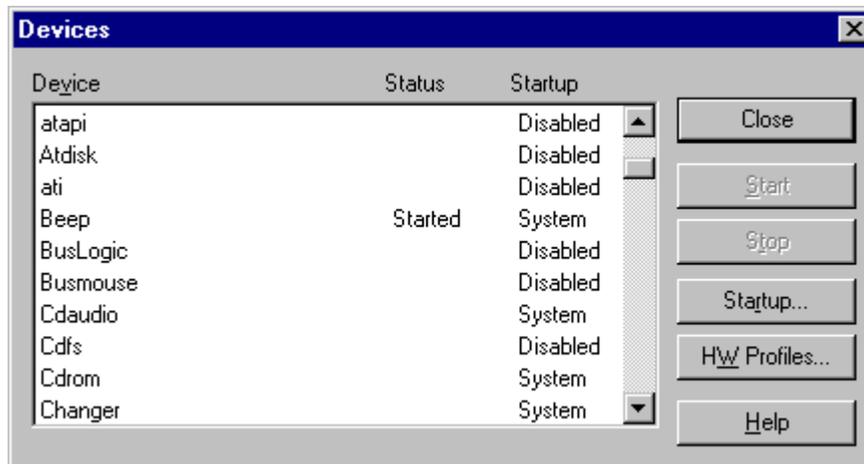
Figure 1. Devices screen with CD-ROM disabled

In order to load Windows 2000, we needed to activate the CD-ROM drivel. To make the necessary device changes:

- Open Control Panel → Devices → Startup.

- Select the *Startup Type* as Boot for both ATAPI and CDFS as shown in Figure 2.
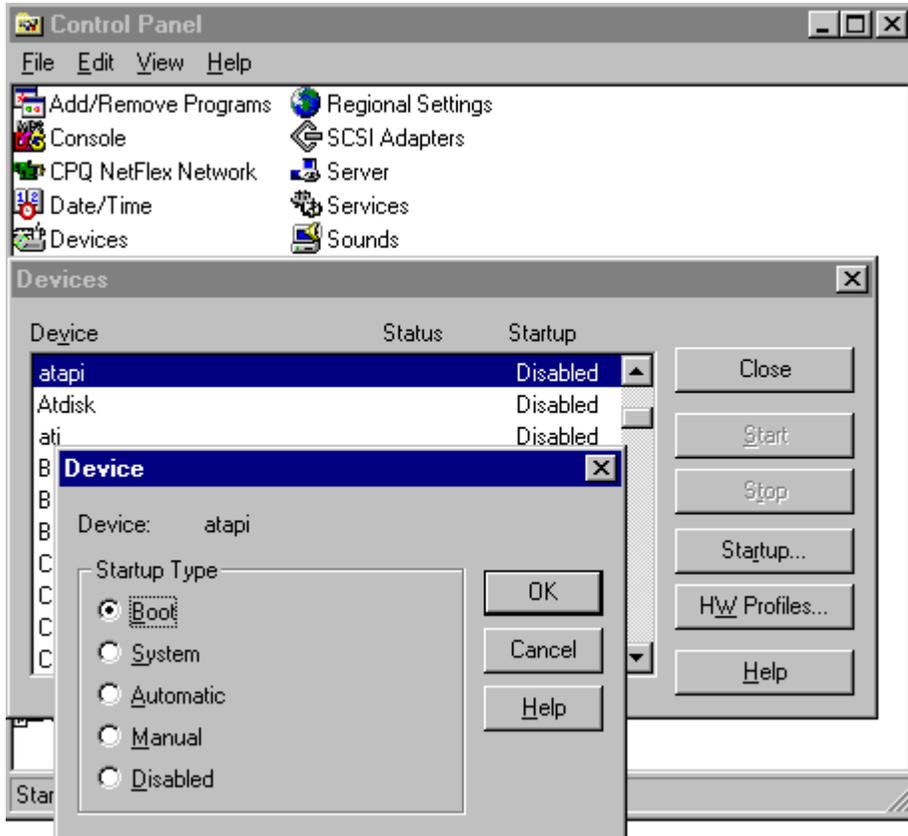
Figure 2. CD-ROM device changes

- Restart the server.

With these drivers enabled to start at the reboot, the My Computer applet displayed the CD-ROM drive and the Devices screen indicated both ATAPI and CDFS enabled.

Video Chipsets

The embedded video chipset might need to be redetected. To redetect the device:

- Right click on the desktop.

- Select *Properties → Settings → Display Type → Detect*.

This allows Windows NT 4.0 to correct any problems with the video settings.

Network Interface Controllers (NICs)

The hardware move might not translate the NIC location to Windows NT because Windows NT searches for the NICs in the slot location from the older server. To correct this problem, go to the Compaq TLAN Teaming and Configuration Utility as shown in Figure 3.
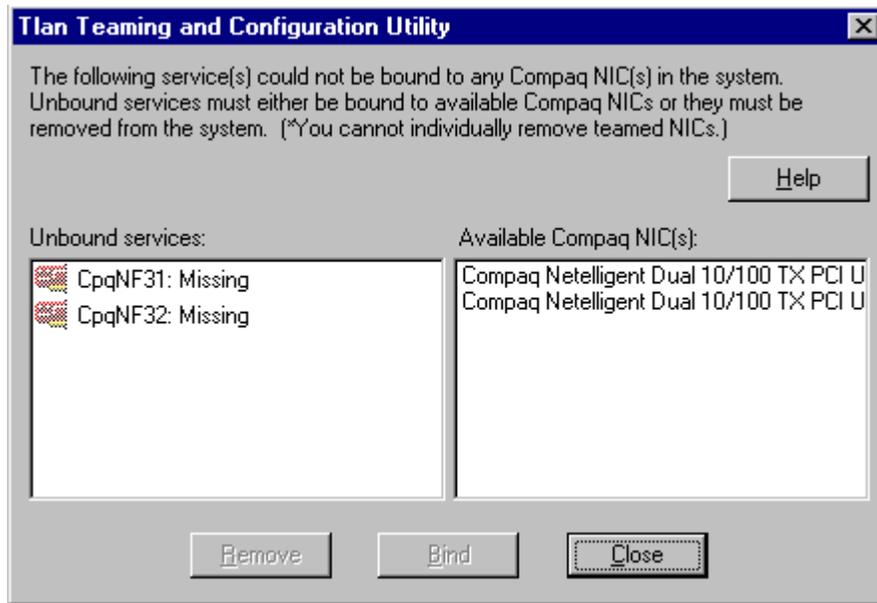
Figure 3. TLAN Teaming and Configuration Utility screen

This screen shows the available NICs on the right side and the missing NICs on the left. Rebind the NICs as indicated below.

- Select NICs on left side of screen → **Remove**.

- Select NICs on right side of screen → **Bind**.

- Reissue IP addresses.

- Redefine the NICs with their original values.

Migrating Dissimilar Disk Subsystems

The second migration included servers with dissimilar disk subsystems; it included a ProLiant 6500 running Windows NT 4.0 Enterprise and Service Pack 3 and a migration to a ProLiant 8500. Table 4 details configuration information for the ProLiant 6500 in addition to the available and required upgrades for this migration.

Table 4. Compaq ProLiant 6500 configuration

Hardware and Software	ProLiant 6500 Configuration	Upgrade Available on ProLiant 8500	Upgrade Required	Notes
System processor	4 Pentium Pro; all the same steppings	Pentium Xeon III	Yes	
RAM	512 MB	Up to 8 GB	Yes	The existing RAM is not compatible with the new server.

(continued)

Table 5. Compaq ProLiant 6500 configuration *(continued)*

Hardware and Software	ProLiant 6500 Configuration	Upgrade Available on ProLiant 8500	Upgrade Required	Notes
Disk controller	1 SMART 2/P; 1 SMART 2DH; 1 Fibre Controller; 1 embedded Wide-Ultra SCSI	Integrated Smart Array Controller Smart Array 3200 Smart Array 4200 or Smart Array 221	Yes except for Fibre Controller	The embedded Wide-Ultra SCSI-3 option on the ProLiant 8500 does not support a RAID configuration
NIC team one	2 NetFlex Dual 10/100 TX PCI UTP		No	
NIC team two	2 NetFlex Dual 10/100 TX PCI UTP		No	
Drive configuration	10 disks totaling 40.15 GB RAID 0 on disks 8, 9, 10 RAID 1 on disks 1, 2, 6, 7 RAID 5 on disks 3, 4, 5		No	
Applications	Proxy Server 2.0 Microsoft Sequel 6.5 Internet Information Server 4.0		Yes Yes Yes	

This scenario brought up the following issues:

- The internal drives cannot be swapped between systems.

- The SMART-2DH controller is not supported on the ProLiant 8500.

Internal Drives

The ProLiant 6500 and ProLiant 8500 use different hard disk drive types. Consequently, the data located on the internal drives of the ProLiant 6500 must be backed up and restored to the internal drives of the ProLiant 8500.

- Download the Compaq Array Configuration Utility.

- Configure the ProLiant 8500 RAID array in the same manner as the RAID on the ProLiant 6500.

- In our migration, the internal drives in the ProLiant 6500 were configured as a RAID 1 mirror, so the same RAID level was selected for the internal drives attached to the Integrated Smart Array controller in the ProLiant 8500. Configuring a RAID level for the embedded array controller in the ProLiant 8500 can be accomplished through a ROM-based setup routine also.

Disk Controllers

The external hard disk drives connected to the ProLiant 6500 via a Smart-2DH Array controller (and housed in a ProLiant Storage System-U2) contain user data and the Windows NT Boot partition. To move this data to a disk subsystem supported by the ProLiant 8500, a 4200 Smart Array Controller and an Ultra2 storage system was used.

- Download the Compaq Array Configuration Utility.

- Configure the Compaq 4200 Smart Array Controller similar to the configuration of the SMART-2DH controller in the ProLiant 6500.

Configuration

The procedures described above produce a ProLiant 8500 configuration essentially identical to the original ProLiant 6500 configuration, with your data intact.

- Refer to your tape backup software documentation for precise instructions on tape backup and restore procedures.

- Restore your data to the new server.

Restoring the Server

Before moving the hardware components to the new server, verify that your original server functions correctly and back it up. After moving the hardware components to the new server, power up the new server with the Compaq SmartStart and Support Software CD Release 4.60 or later. If you did not perform a sector-by-sector backup, completely reestablish your system on the new server by:

- Run the System Configuration Utility to identify the hardware on the new server.

- Load the most recent Compaq SSD for Windows NT to load all drivers.

- Reinstate your system settings.

- Reload your Compaq management software.

If you backed up your original server using a sector-by-sector and restored it after updating the system, this process is unnecessary.

Verify that your configuration on the new server matches the configuration on the previous server. After completing configuration of your software and system settings, restart your server and verify that your software, applications, and server are operating properly. Check network connections, Event Viewer, and data for functionality.

Installing Microsoft Windows 2000 Server

Before beginning the installation process, make sure you have your Windows 2000 product key code and license information available. Also, check the Compaq Windows 2000 website for the most recent information concerning Windows 2000 and Compaq products. To produce a Windows 2000 Server installation supported by Compaq, set up the system as follows.

The Compaq Support Software files mentioned are available through the Compaq website at http://www.compaq.com/support/files/server/us/index.html.

Hardware Configuration

Change the operating system selection to Windows 2000.

- Power up the server with the SmartStart and Support Software CD release 4.60 or later or press the **F10** key to launch the Compaq System Configuration Utility.

- Select *System Configuration → Configure Hardware → Review or Modify Hardware Settings*

- Select *Step 3: View or Edit Details* from the Steps in Configuring Your Computer dialog box.

Changing your OS selection to Windows 2000 in the System Configuration Utility enables the following settings:

APIC Mode = Full Table

*Hot Plug Reservation Mode = Extensive (for SMART-2 Array Controllers) **or** = Normal (for all types of PCI Controllers)*

- Press **Enter** at the Primary Operating System prompt

- Select *Windows NT* at the Primary Operating System menu (selecting Windows NT displays a submenu that includes Windows 2000.)

- Select *Windows 2000***.**

- Exit the System Configuration Utility.

- Save your changes.

The server restarts automatically.

IMPORTANT: If Windows 2000 does not appear as one of the operating system selections, you might not have upgraded your server's system partition properly. See "System Configuration Update" for more information.

Utility Removal

The [Windows 2000 Primer Utility](#) from Compaq can be found through our website. This utility removes the Compaq drivers that are not Windows 2000 compliant and might have been installed with prior Compaq SSD for Windows NT packages. The components removed include the following:

- Compaq Advanced Network Control Utility

- Compaq Array Configuration Utility

- Compaq Cluster Verification Utility (if Windows NT SSD Version 2.12C or earlier)

- Compaq Integrated Management Display Utility

- Compaq Integrated Management Log Viewer Utility

- Compaq Integration Maintenance Utility

- Compaq Management Foundation Agents

- Compaq Management Server Agents

- Compaq Management Storage Agents

- Compaq Network Teaming and Configuration Utility

- Compaq NT Management

- Compaq Online Storage Controller Recovery Utility

- Compaq PCI Hot Plug Utility

- Compaq Power Down Manager

- Compaq Power Supply Viewer

- Compaq Remote Monitor Service

- Compaq System Management Services

- Compaq System Partition Upgrade Utility

- Compaq TLAN Network Teaming and Configuration Utility

IMPORTANT: The Windows 2000 Primer Utility from Compaq does not remove non-compliant drivers for third-party options, such as Adaptec controllers or EMC storage devices. Contact the manufacturer directly for information on driver compatibility with Windows 2000.
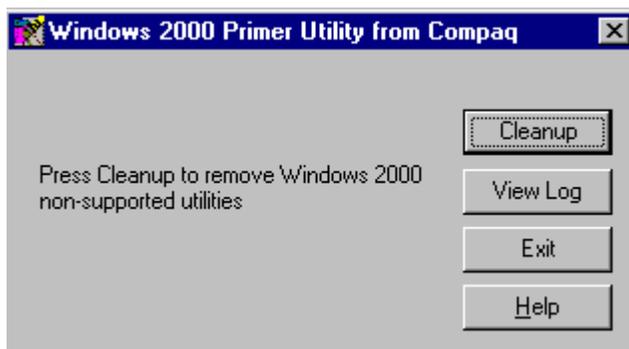
Figure 5 illustrates the initial popup screen of the Primer Utility.

Figure 5. Windows 2000 Primer Utility popup screen

- Click **Cleanup** to start the utility.

This process notifies you when it successfully completes. The generated log provides information on which drivers the utility found and removed. It can be viewed with any text reader and printed in hard copy. Figure 6 displays a sample log file.
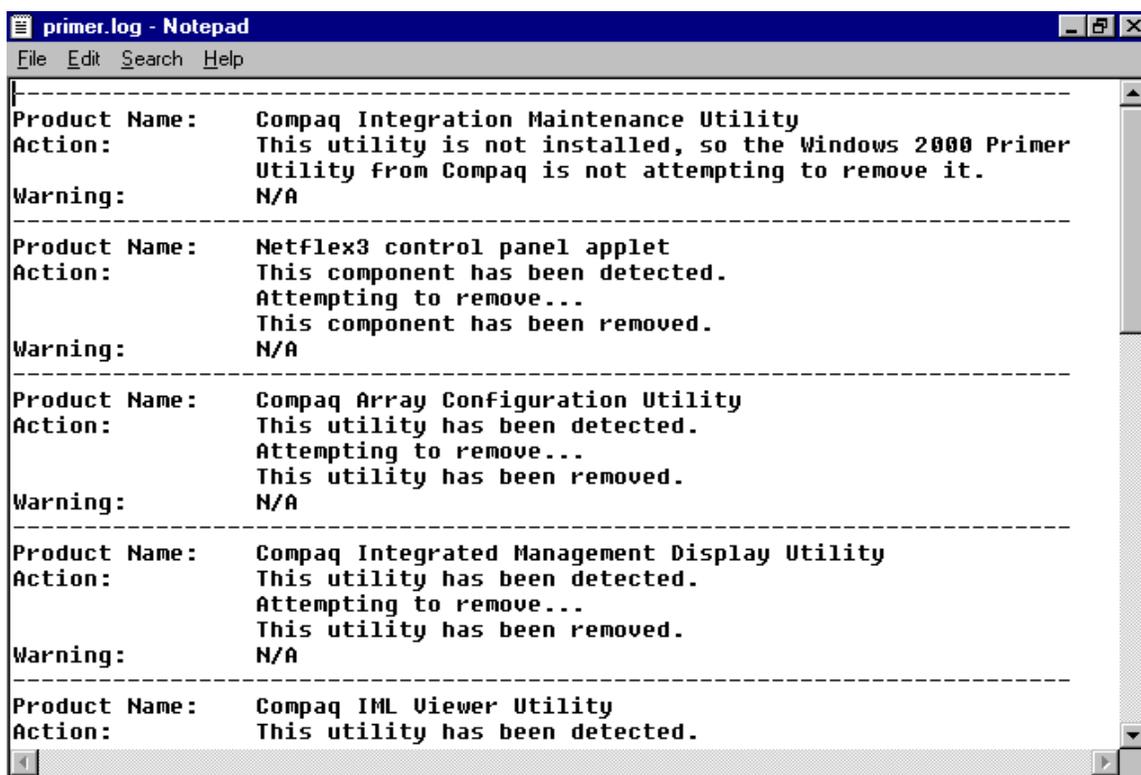
```
primer.log - Notepad
File  Edit  Search  Help
|-----------------------------------------------------------------
Product Name:     Compaq Integration Maintenance Utility
Action:           This utility is not installed, so the Windows 2000 Primer
                  Utility from Compaq is not attempting to remove it.
Warning:          N/A
-----------------------------------------------------------------
Product Name:     Netflex3 control panel applet
Action:           This component has been detected.
                  Attempting to remove...
                  This component has been removed.
Warning:          N/A
-----------------------------------------------------------------
Product Name:     Compaq Array Configuration Utility
Action:           This utility has been detected.
                  Attempting to remove...
                  This utility has been removed.
Warning:          N/A
-----------------------------------------------------------------
Product Name:     Compaq Integrated Management Display Utility
Action:           This utility has been detected.
                  Attempting to remove...
                  This utility has been removed.
Warning:          N/A
-----------------------------------------------------------------
Product Name:     Compaq IML Viewer Utility
Action:           This utility has been detected.
```

Figure 6. Windows 2000 Primer Utility log file

After you run this utility, the associated applets are removed from the Control Panel and the program group prior to the reboot. This means that the affected utilities are not operational after completion. In our testing, we actually started some of the utilities slated for removal, then ran the Primer Utility, and the utilities were still removed, although the files were in use.

You could receive a warning message if the utility could not be removed because of a registry problem. In that case, manually remove the utility.

- Select *Uninstall* from the Control Panel.

- Run Compaq Insight Manager and go to its Uninstall file to remove Compaq Management Agents.

After the hardware migration and before the Windows 2000 Server installation, we ran the Compaq Primer Utility for Windows NT. It removed the applet for the NetFlex-3 driver but not the driver itself. We uninstalled the driver manually.

> **IMPORTANT:** Third-party drivers and hardware are not necessarily Windows 2000 compatible. Check with the manufacturer of these devices. The Windows 2000 Primer Utility from Compaq is only guaranteed to remove Compaq drivers that are not Windows 2000 compatible.

Windows 2000 Installation

Restart the system from the Windows 2000 CD and install the operating system or insert the CD and it will automatically run with a popup screen asking if you want to upgrade. Help files are available on the Windows 2000 CD and through the Microsoft website at http://www.microsoft.com/windows2000/en/server/help/ and http://www.microsoft.com/windows2000/en/advancedserver/help/.

In our testing, we received the screen shown in Figure 7 after Windows 2000 Advanced Server checked our system compatibility.
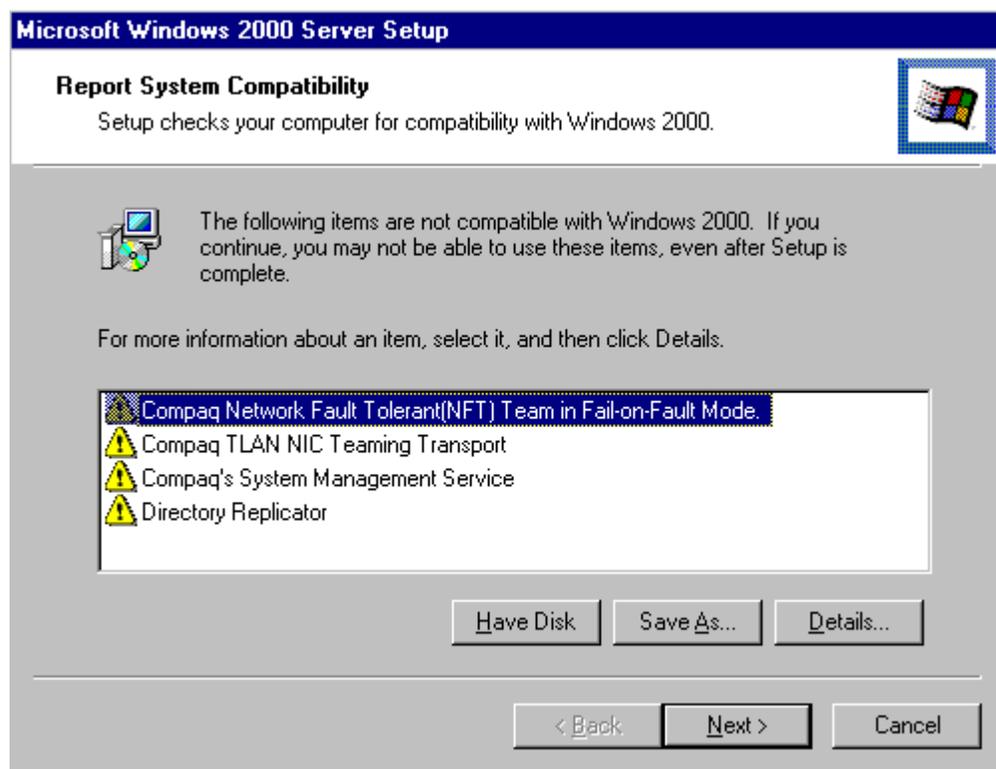
Figure 7. System Compatibility Report

Clicking on the **Details** button brought up a screen that stated Windows 2000 was disabling the software during setup. We also knew that we needed to dissolve the NIC teaming (See "Teamed NICs" under "Changes for Windows 2000"), and we needed to remove some management agents. You could receive a similar screen if you opt to run the Windows 2000 Primer Utility from Compaq after the installation of Windows 2000. The File Replication System in Windows 2000 replaces Directory Replicator during the installation process.

Follow the instructions on the screen to complete the Windows 2000 installation. During this process, install the Windows 2000 drivers; Compaq drivers will be installed through the Compaq Support Paq for Windows 2000 later.

Compaq Support Paq for Windows 2000

The Compaq Support Paq for Windows 2000 replaces the Compaq SSD for Windows NT and can be located through our website or through the Compaq SmartStart and Support Software CD release 4.60 or later.

Note: If you copy the Compaq Support Paq for Windows 2000 to your hard drive from the website, do not copy it to the boot partition or you will copy over the Windows 2000 default drivers.

Bundle Components

The Compaq Support Paq for Windows 2000 includes the following components.

Controller Drivers

- Compaq 32-Bit SCSI Controller Driver

- Compaq 64-Bit/66 MHz Dual Channel Wide Ultra3 Controller Driver

- Compaq ATI Rage IIC Video Controller Support

- Compaq Drive Array Driver

- Compaq Ethernet or Fast Ethernet NIC Driver

- Compaq Gigabit Ethernet NIC Driver

- Compaq NetFlex/Netelligent Adapter Driver

- Compaq PCI Hot Plug Controller Driver

- Compaq ProLiant Storage System Support

- Compaq SMART Array-2 Controllers Driver

- Compaq StorageWorks Fibre Channel Host Bus Adapter Driver

Management Agents

- Compaq Foundation Agents v4.60 – Windows 2000

- Compaq NIC Agents v4.60 – Windows 2000

- Compaq Server Agents v4.60 – Windows 2000

- Compaq Storage Agents v4.60 – Windows 2000

System Tools and Utilities

- Compaq Array Configuration Utility

- Compaq Drive Array Notification

- Compaq Enhanced Integrated Management Display Service

- Compaq Integrated Management Display Utility

- Compaq Integrated Management Display Log Viewer

- Compaq NIC Teaming Driver

- Compaq Power Down Manager

- Compaq Power Supply Viewer

- Compaq Remote Monitor Service

- Compaq System Management Driver

The version of the Compaq Support Paq for Windows 2000 on the SmartStart and Support Software CD release 4.60 does not include the Compaq NIC Teaming driver. If you use teamed NICs, download the latest Compaq Support Paq for Windows 2000 version 5.01.0 or later from http://www.compaq.com/support/files/server/us/index.html.

Installation Steps

Review the Help File included with this software before beginning the installation.

- Open the Compaq Support Paq for Windows 2000 by selecting *SETUP.EXE.*

The first screen displays all the drivers available and selects them all. However, the installer only loads the drivers you need for your system.

IMPORTANT: SNMP must be running for the Compaq Management Drivers to install. If you did not load SNMP during the Windows 2000 installation process, install it from Add Programs in the Control Panel.

- Select *Install.*

You might see the screen in Figure 8 during the installation process.
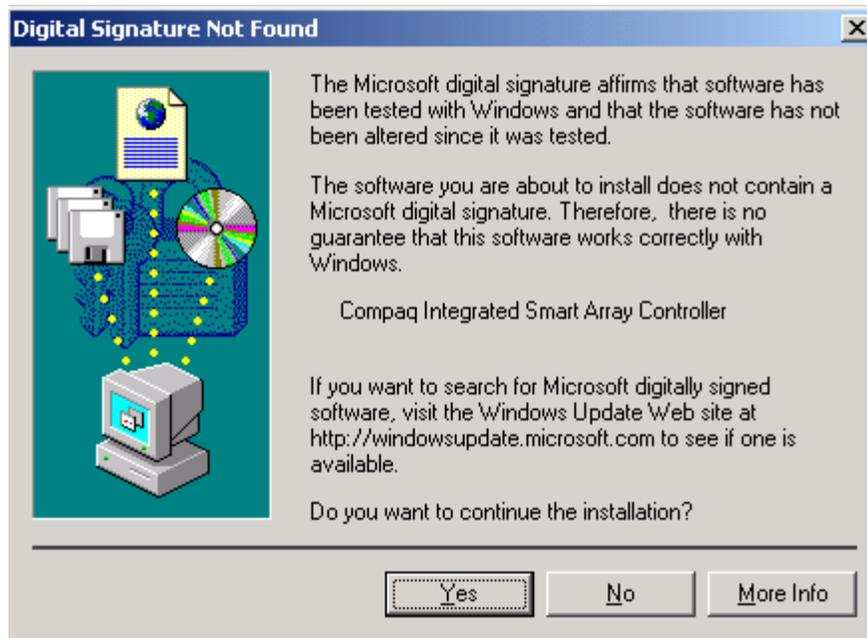
Figure 8. Digital Signature Not Found screen

The drivers provided by Compaq, though unsigned, have been thoroughly tested and are more functionally complete than the versions on the Microsoft Windows 2000 media. When installing the drivers from the Compaq Support Paq for Microsoft Windows 2000, or from other Compaq Support Software, you can safely ignore the warning message about digital signatures and continue the installation.

The Results Screen indicates which drivers installed and provides messages regarding installation. Figure 9 shows a sample Results Screen Log.
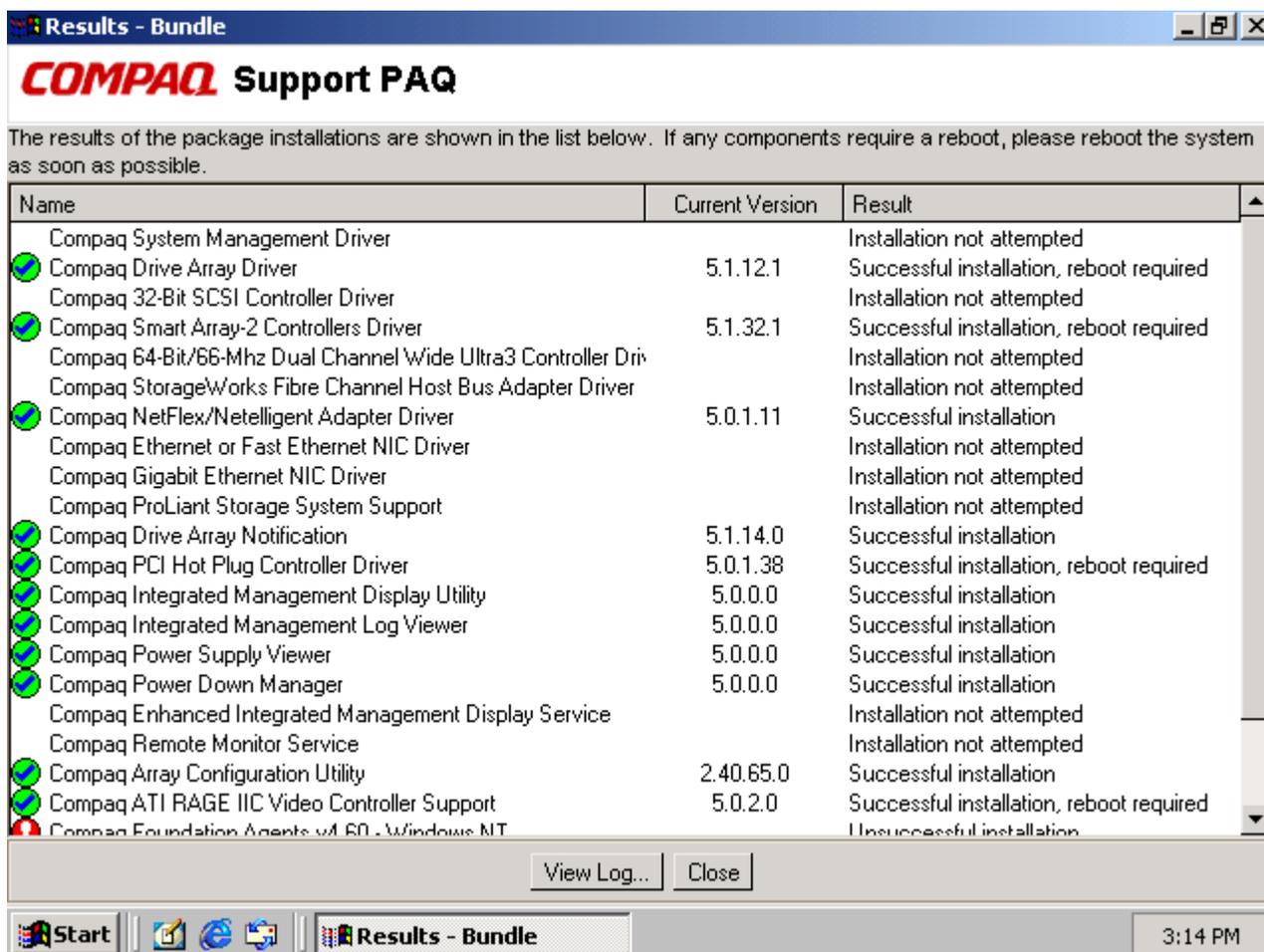
Figure 9. Results from Compaq Support Paq installation

Please note that several drivers require that you reboot the system to ensure proper installation.

You can verify that the proper drivers for your system installed with the Support Paq.

- Select *My Computer → Properties → Device Manager → [specific device]*.

The screen should indicate that Compaq provided the driver as shown in Figure 10.
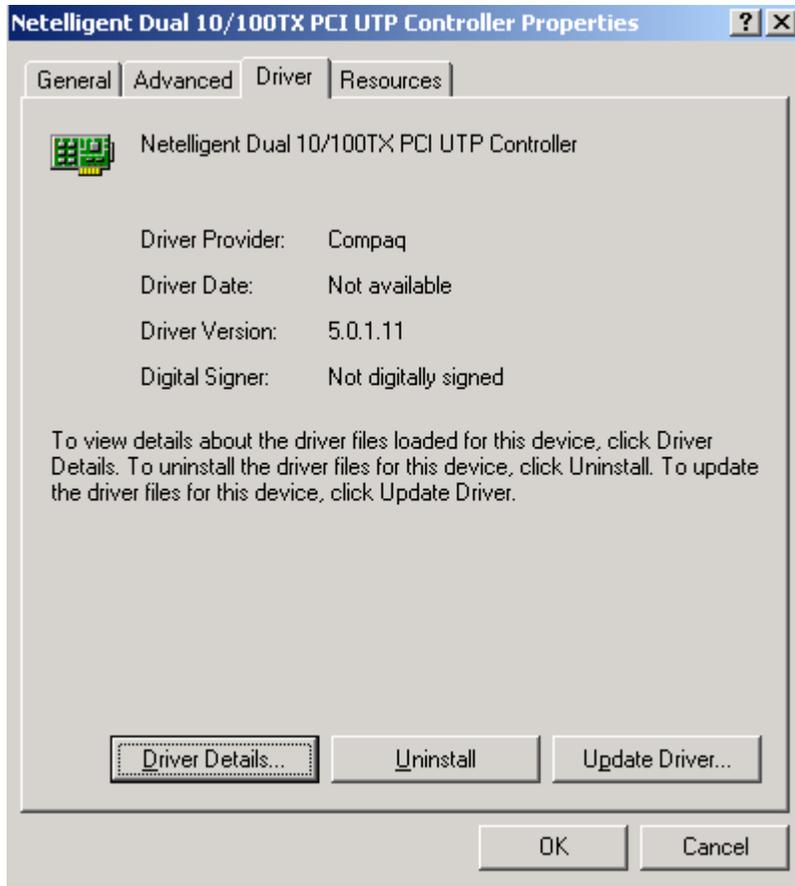
Figure 10. Verification of driver provider

You can repeat this procedure for any driver loaded in the server.

Changes for Windows 2000

Several Compaq system tools and utilities transfer without change to Windows 2000. These tools and utilities now use the Installation Wizard screen. After the initial screen, most utilize the same GUI as seen in Windows NT including the Array Configuration Utility, Integrated Management Log, Power Down Manager, and Power Supply Viewer.

You might have to reconfigure the Integrated Management Display after installing Microsoft Windows 2000 but the GUI will be familiar.

PCI Hot Plug

PCI Hot Plug functionality exists in Windows 2000 but operates differently. For Windows 2000, the Compaq implementation enables hot add, hot replace, and hot remove in all PCI Hot Plug-capable slots. Avoid surprise-style hot removal operations by powering down the device before removing it from the PCI Hot Plug slot. This can be done with the PCI Hot Plug Unplug/Eject icon, through the Eject/Remove applet of Windows 2000, or through the Compaq PCI Slot Server Request button on servers so equipped.

The interface screen for PCI Hot Plug in Windows 2000 looks different from the one in Windows NT as shown in Figure 11.
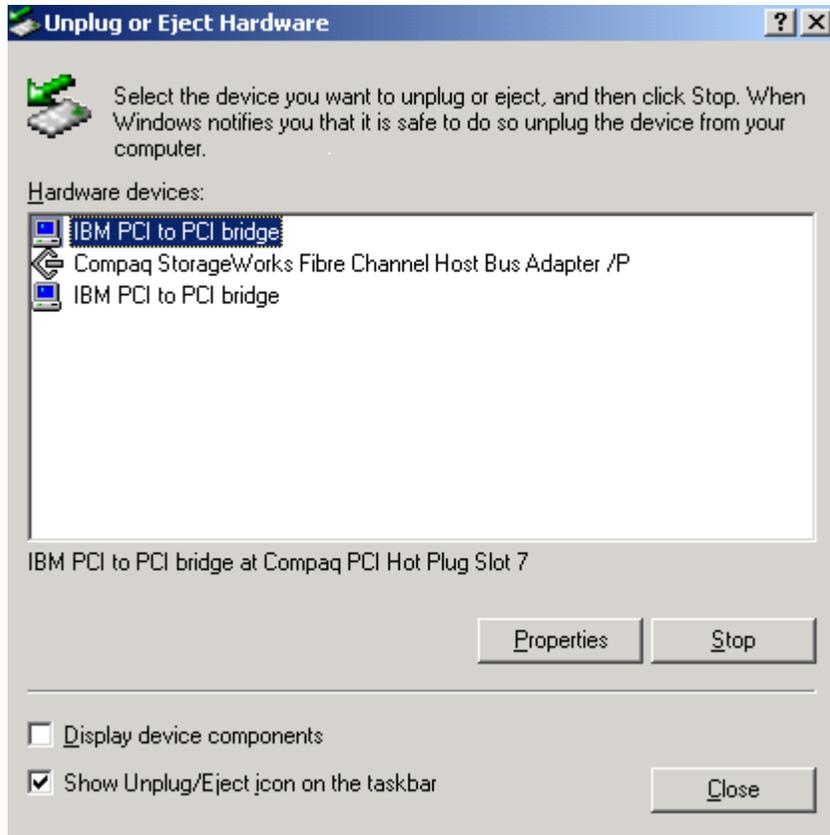
Figure 11. PCI Hot Plug interface screen

In addition, the PCI Hot Plug Unplug/Eject icon appears as shown in the system tray of the task bar in Figure 12.

Figure 12. PCI Hot Plug Unplug/Eject icon

Teamed NICs

Compaq engineers developed a new driver to team NICs and better utilize them in a Windows 2000 environment. If you currently use teamed NICs, dissolve the teams before the upgrade to Windows 2000. See Figure 13.
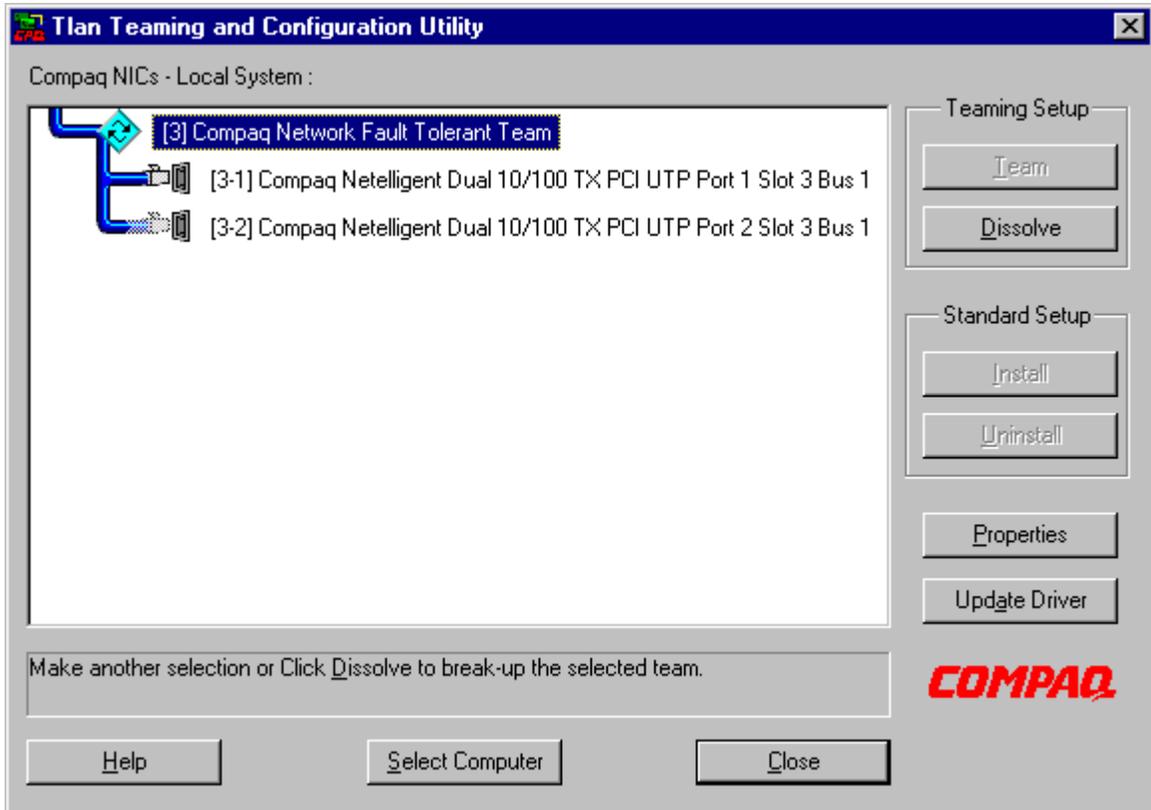
Figure 13. Teaming and Configuration Utility Screen

- Upgrade to Windows 2000 after dissolving the team.

After completing the upgrade, the NICs show as a broken connection on the lower right-hand corner of your task bar as shown in Figure 14.

Figure 14. Task bar showing broken NIC connections

- Load the appropriate drivers for your NICs through Device Manager.

- Check the box titled Install One of the Other Drivers when you see the screen in Figure 15.
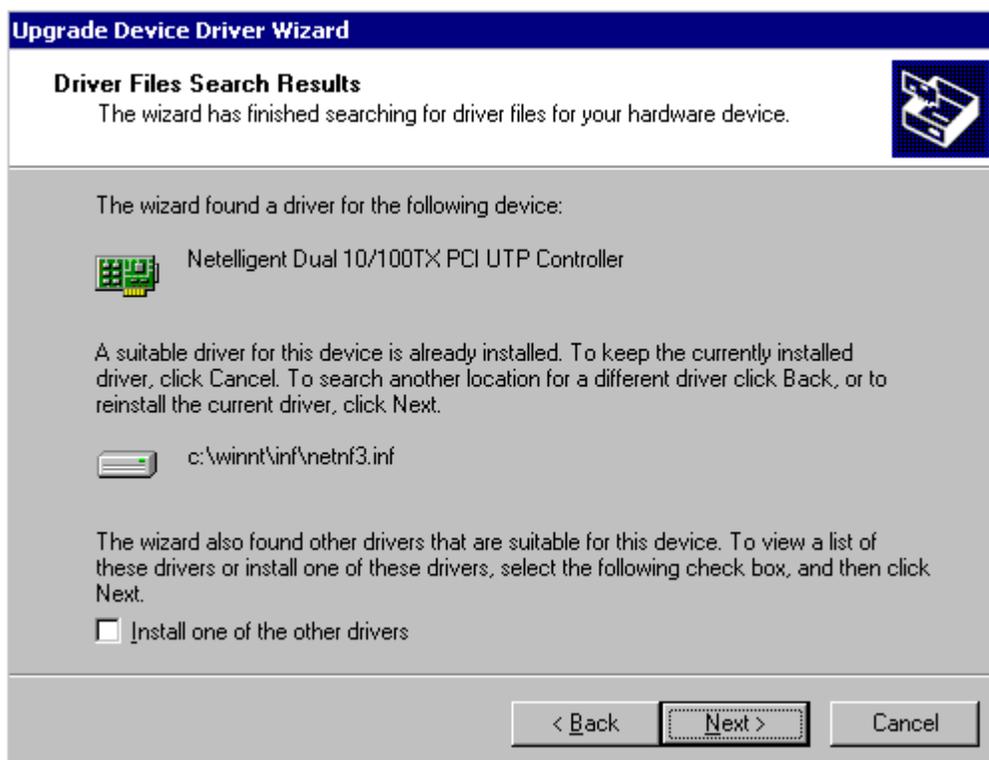
Figure 15. Driver files search results screen

- Install the NIC teaming driver from the Compaq Support Paq for Windows 2000 by following the instructions provided with the Support Paq.

Troubleshooting the System

This section provides tips for troubleshooting some common problems found in the Compaq labs regarding Compaq ProLiant Servers running Windows 2000 Server Edition and Windows 2000 Advanced Server Edition. We recommend that you check the Compaq Windows 2000 website for additional information. Please read the Known Issues section of the Compaq Support Paq for Windows 2000 for specific driver information.

This section lists basic methodology to use when troubleshooting. First, gather the information to resolve the issue. Ask the following questions:

1. Is the problem reproducible or random?

2. What hardware and/or software are involved?

3. Were any errors made in implementing steps?

4. Was more than one variable changed at a time?

5. Does the problem occur on the server or is it specific to a client?

6. Were any steps skipped or completed out of order?

7. Were any steps accidentally added?

8. Were any steps added intentionally to complete or correct another step? Place checkmarks against the steps as they are/were executed. If steps had to be added on the fly in order to proceed, record why and where.

9. Disable all services not necessary to run the OS and add them back one at a time to determine if one of them is the culprit.

After asking the questions, complete the following steps to resolve the issue:

1. Decide on one cause and possible solution at a time. Make appropriate modifications and then test those modifications. Try to minimize the number of things you change between tests.

2. Test each modification to see if it fixed the problem.

3. Write down all symptoms, causes, and solutions. Having a written record makes an excellent reference for future troubleshooting.

4. Install a new copy of the OS into a different directory. Does the problem still occur? Add software and disable all services not mandatory to run the OS. Add services and software one at a time to isolate the problem.

Appendix A–Compaq Supported Systems

Microsoft Windows 2000 might load and run with virtually any Compaq product, however, it is not possible for all hardware and software configurations to be tested by Compaq. The listing of a particular system or option in the tables that follow does not mean that all of the subsystems embedded in that system are fully supported, or that all systems and options have undergone extensive functional testing.

Carefully review the minimum requirements outlined in this document to make the best use of your Compaq resources. However, do not use this document as your sole source of information. Other information is available through the Compaq websites mentioned in Appendix C; also visit the Microsoft website at http://windows/microsoft.com/windows2000/en/server/help/.

Compaq supports mixing processors with different cache sizes for Windows 2000, although Intel, Microsoft, and other hardware vendors do not. The ProLiant servers with mixed stepping support include the ProLiant 5500 Xeon, ProLiant 6000 Xeon, ProLiant 6400R Xeon, ProLiant 6500 Xeon, ProLiant 7000 Xeon, ProLiant 8000, and ProLiant 8500.

IMPORTANT: Detailed information and warnings are available through our website at http://www.compaq.com/products/servers/processor-mixing/. Please review this information carefully before upgrading to Windows 2000.

Supported Platforms

Use the latest ROMPaq versions for your server and options available at http://www.compaq.com/support/files/servers/us/index.html. The latest ROMPaq versions support Microsoft Windows 2000.

Documents are available on the Compaq website to assist in determining the ROM version and family of your Compaq server products. You can determine your system ROM Family Code, Family Table, and version through our website. Supported ProLiant servers include the following models:

- ProLiant 400
- ProLiant 800
- ProLiant 850R
- ProLiant 1200
- ProLiant 1500
- ProLiant 1600
- ProLiant 1850R
- ProLiant 2500
- ProLiant 3000
- ProLiant 4500
- ProLiant 5000
- ProLiant 5500
- ProLiant 5500 Xeon
- ProLiant 6000
- ProLiant 6000 Xeon
- ProLiant 6400R
- ProLiant 6500
- ProLiant 6500R
- ProLiant 7000
- ProLiant 7000 Xeon
- ProLiant 8000
- ProLiant 8500
- ProLiant CL1850
- ProLiant DL380
- ProLiant ML350
- ProLiant ML370
- ProLiant ML530

Supported Storage Options

Table 6 lists supported Compaq storage options and driver revisions needed to interface with Windows 2000.

Table 6. Supported Compaq storage options for Windows 2000

Option	Driver	Location
Compaq 32-bit Fast-Wide SCSI-2 Controller /E	*CPQ32FS2.SYS*	Windows 2000 CD
Compaq 32-bit Fast-Wide SCSI-2 Controller /P	*CPQ32FS2.SYS*	Windows 2000 CD
Compaq 4.3 - 36-GB Hard Disk Drives	N/A	No driver required
Compaq 4/8-GB SLR Tape Drive	*TANDQIC.SYS*	Windows 2000 CD
Compaq 4x-32x CD-ROM Drives		Windows 2000 CD
Compaq 64-bit Fast Ultra-2 SCSI Controller	*CPQ32FS2.SYS*	Windows 2000 CD
Compaq DAT Tape Drives		Windows 2000 CD
Compaq DDS2 4/16-GB Autoloader		Windows 2000 CD
Compaq DDS3 12/24-GB DAT Autoloader		Windows 2000 CD
Compaq DLT Autoloader M35/70		Windows 2000 CD
Compaq DLT Library 7000		Windows 2000 CD
Compaq DLT Tape Array		Windows 2000 CD
Compaq Dual Channel Wide-Ultra SCSI-3 Controller	*CPQ32FS2.SYS*	Windows 2000 CD
Compaq Fibre Channel Array		Windows 2000 CD
Compaq Fibre Channel Filter Driver	*CPQFCFTR.SYS*	http://www.compaq.com/support/files/server/us/index.html
Compaq Fibre Channel Host Controller /E	*CPQFCALM.SYS*	
Compaq Fibre Channel Host Controller /P	*CPQFCALM.SYS*	
Compaq ProLiant Storage System	No driver supplied; base functionality only	
Compaq Smart Array 4200, Smart Array 4250ES, and Integrated Smart Array Controllers	*CPQARRY2.SYS*	
Compaq SMART SCSI Array, SMART-2 Array, SmartArray 221 RAID, SmartArray 3100ES RAID, and SmartArray 3200 RAID Controllers	*CPQARRAY.SYS*	Windows 2000 CD See Note 2.
Compaq Wide-Ultra SCSI-2 Controller	*CPQ32FS2.SYS*	Windows 2000 CD

Note 1: Many of these devices have firmware upgrades available through the Options ROMPaq. The latest version of the Options ROMPaq can be obtained from http://www.compaq.com/support/files/server/us/index.html.

Note 2: The Windows 2000 CD includes *CPQARRAY.SYS*. After installing Windows 2000, update the driver with the *CPQARRAY.SYS* included with the Compaq Support Software for Windows 2000 to ensure the highest level of service and reliability.

Supported Network Controllers

Table 7 lists supported Compaq network controllers, including the minimum firmware and driver revisions needed to interface with Windows 2000.

Table 7. Supported Compaq network controllers for Windows 2000

Compaq NIC	Driver	Location
Compaq 32-Bit DualSpeed Token Ring Controller	*NETFLX.SYS*	Windows 2000 CD
Compaq 100 FDDI PCI DAS Fiber-SC Controller	*SKFPWIN.SYS*	Windows 2000 CD
Compaq 100 FDDI PCI DAS UTP Controller	*SKFPWIN.SYS*	Windows 2000 CD
Compaq 100 FDDI PCI SAS Fiber-SC Controller	*SKFPWIN.SYS*	Windows 2000 CD
Compaq 100 FDDI PCI SAS Fiber-MIC Controller	*SKFPWIN.SYS*	Windows 2000 CD
Compaq 100 FDDI PCI SAS UTP Controller	*SKFPWIN.SYS*	Windows 2000 CD
Compaq NC1120 Ethernet	*N100NT5.SYS*	Compaq Support Software for Windows 2000
Compaq NC3120 Fast Ethernet	*N100NT5.SYS*	Compaq Support Software for Windows 2000
Compaq NC3121 Fast Ethernet	*N100NT5.SYS*	Compaq Support Software for Windows 2000
Compaq NC3122 Fast Ethernet	*N100NT5.SYS*	Compaq Support Software for Windows 2000
Compaq NC3123 Fast Ethernet	*N100NT5.SYS*	Compaq Support Software for Windows 2000
Compaq NC3131 Fast Ethernet	*N100NT5.SYS*	Compaq Support Software for Windows 2000
Compaq NC3132 Fast Ethernet Upgrade Module	*N100NT5.SYS*	Compaq Support Software for Windows 2000
Compaq NC3133 Fast Ethernet Upgrade Module	*N100NT5.SYS*	Compaq Support Software for Windows 2000
Compaq NC3160 Fast Ethernet (Embedded)	*N100NT5.SYS*	Compaq Support Software for Windows 2000
Compaq NC3161 Fast Ethernet (Embedded)	*N100NT5.SYS*	Compaq Support Software for Windows 2000
Compaq NC3162 Fast Ethernet (Embedded)	*N100NT5.SYS*	Compaq Support Software for Windows 2000
Compaq NC3163 Fast Ethernet (Embedded)	*N100NT5.SYS*	Compaq Support Software for Windows 2000
Compaq NC4621 Token Ring NIC	*CPQTRND5.SYS*	Windows 2000 CD
Compaq NC6132 Gigabit Module	*N1000NT5.SYS*	Compaq Support Software for Windows 2000
Compaq NC6133 Gigabit Module	*N1000NT5.SYS*	Compaq Support Software for Windows 2000
Compaq NC6134 Gigabit NIC	*N1000NT5.SYS*	Compaq Support Software for Windows 2000
Compaq NetFlex/NetFlex-2 ENET/TR Controller	*NETFLX.SYS*	Windows 2000 CD
Compaq NetFlex-2 DualPort ENET Controller	*NETFLX.SYS*	Windows 2000 CD
Compaq NetFlex-2 DualPort TR Controller	*NETFLX.SYS*	Windows 2000 CD

(continued)

Table 7. Supported Compaq network controllers for Windows 2000 *(continued)*

Compaq NIC	Driver	Location
Compaq NetFlex-2 TR Controller	*NETFLX.SYS*	Windows 2000 CD
IBM 16/4 TOKEN RING PCI SPECIAL	*IBMTRP.SYS*	Windows 2000 CD
Netelligent 10/100 TX	*NETFLX3.SYS*	Compaq Support Software for Windows 2000
Netelligent 10/100 TX Embedded UTP	*NETFLX3.SYS*	Compaq Support Software for Windows 2000
Netelligent 10/100 TX Embedded UTP/AUI	*NETFLX3.SYS*	Compaq Support Software for Windows 2000
Netelligent 10/100 TX Embedded UTP/Coax	*NETFLX3.SYS*	Compaq Support Software for Windows 2000
Netelligent 10/100 TX PCI Dual UTP	*NETFLX3.SYS*	Compaq Support Software for Windows 2000
Netelligent 10/100 TX PCI UTP	*NETFLX3.SYS*	Compaq Support Software for Windows 2000
Netelligent 10/100 TX UTP	*NETFLX3.SYS*	Compaq Support Software for Windows 2000
Netelligent 10/100 TX WOL PCI UTP – Intel	*N100NT5.SYS*	Compaq Support Software for Windows 2000
Netelligent 10 T/2 PCI UTP Coax Controller	*NETFLX3.SYS*	Compaq Support Software for Windows 2000
Netelligent 16/4 PCI IBM UTP/STP Controller	*IBMTRP.SYS*	Windows 2000 CD
Netelligent 4/16 TR PCI UTP/STP Controller	*CPQTRND4.SYS*	Windows 2000 CD
NetFlex-3/E	*NETFLX3.SYS*	Compaq Support Software for Windows 2000
NetFlex-3/P	*NETFLX3.SYS*	Compaq Support Software for Windows 2000
NetFlex-3 Embedded	*NETFLX3.SYS*	Compaq Support Software for Windows 2000

Appendix B–Workarounds

Compaq servers are the predominant hardware development platform at Microsoft and no other servers have been deployed as extensively running Windows 2000. Compaq continues to test qualified server configurations with Windows 2000, and actively works to fix or resolve every issue discovered during development of this advanced operating system.

This appendix provides known issues that you might encounter at the release of Windows 2000. It also includes workarounds and solutions for each issue addressed. As noted below, many issues reported in RC3 have been resolved. New issues and workarounds, should they arise, are communicated through Customer Advisories on the Compaq website http://www.compaq.com/support/techpubs/customer_advisories/Customer_Advisories_Windows 2000.html. Help files concerning specific operating system instructions and related issues are available on the Microsoft Windows 2000 CD.

IMPORTANT: Review and understand the Help files available on Compaq Support Paq for Microsoft Windows 2000. In addition, if you plan to use Compaq Insight Manager, review the Help files accompanying the Compaq Support Software or the Compaq Management CD, version 4.60.

Compaq and Microsoft are working together to resolve outstanding issues in Windows 2000 on Compaq servers. The following section provides information on installation-related topics that require a workaround, at this time, to successfully implement Windows 2000.

ProLiant 6500 Xeon hangs during the *Applying Computer Settings* screen after rebooting Windows 2000

The ProLiant 6500 Xeon requires a ROM update to P11 (12/08/99) to fix a problem with the (12/07/99) system ROM. If this ROM is not installed, on the reboot after the installation, the system may hang at the *Applying Computer Settings* screen.

This ROM update is available from the Compaq website and is required. Download Compaq Support Software with the appropriate ROMPaq, and perform the ROM update; run SmartStart and proceed with the assisted install.

Compaq Support Software can be obtained through the Compaq website at http:\\www.compaq.com/support/files/server/us/index.html.

The ProLiant Storage System hardware device (SCSI Backplane) does not appear in Device Manager

The ProLiant Storage System hardware device (SCSI backplane) does not appear with the Windows 2000 SymBIOS driver loaded.

This ProLiant Storage System device will display if the Compaq *32-bit SCSI Controller Driver* (available on Compaq Support Paq for Microsoft Windows 2000) is loaded and the system rebooted.

Unable to access Custom Configuration during Unattended Install

Custom Configuration is not directly accessible during the dialog box sequence of a SmartStart unattended install.

During the unattended install, you will enter the network setup on the second dialog box for unattended install. The default value for network setup is *Typical*. You can set up your network with Custom Configuration. When the installation sequence prompts for the domain, click the **Back** button to access dialog boxes used to configure the network, and the network controller devices.

Windows 2000 does set up the network controller devices. By default, Windows 2000 uses the Typical Configuration, which installs DHCP to configure TCP/IP.

Multi-monitor Display Configuration ATI Controller fails if not in Slot 1

When multiple monitors and video controllers are connected to a Compaq server, the ATI driver cannot locate the video controller if the ATI Rage IIC video controller is in the second slot.

If the ATI Rage IIC is the first video device, and a non-ATI video controller is the second device, all video drivers function appropriately. For multiple monitor installations, the ATI video controller should be in slot 1.

Compaq driver updates after Windows 2000 is installed

After installing a new device, when Windows 2000 boots and finds new hardware, the following message box appears:

> *"The following file is missing: xxxx"*

Compaq Support Paq for Microsoft Windows 2000 installed drivers for the device from a temporary directory. Windows is using that path rather than using the path to the existing driver.

To complete the device addition, close the message box and perform the individual driver installation manually using Compaq Support Paq. You can deselect all other drivers, then click **Install** for the remaining selected driver, disregarding the driver install log which reports that it is up-to-date. Running the installation will update the driver for the new device(s) added.

When Rescan Disks is selected after hot-plugging a hard drive, Windows 2000 might inappropriately display an *Unsafe Removal of Device* prompt

After hot plugging a hard drive in a storage drive bay, clicking **Rescan Disks** might result in Windows 2000 failing to identify the drive and displaying this error message:

> *Unsafe Removal of Device: You have unplugged or ejected a device without stopping it. Unplugging or ejecting a device without first stopping them can often cause your computer to crash or lose valuable data. To safely unplug or eject any of the following devices, first use the Hardware Wizard in the Control Panel to stop the device…*

Click **Rescan Disks** a second time to correct this problem; Windows 2000 then detects the drive properly.

No Disable feature is available for the System Management driver once the driver is installed

Do not disable the Compaq System Management driver. It is not a supported function. Doing so will cause applications which use the System Management driver, such as the Array Configuration Utility, to hang at system reboot.

Without the System Management driver, agents will not perform correctly. Any clients that depend on the System Management driver will hang indefinitely or cause Windows 2000 to blue screen at reboot. If you have disabled the System Management driver, you should reboot and use the spacebar to invoke the Last Known Good configuration.

However, Uninstall of the System Management driver is supported. After rebooting to the Last Known Good configuration, uninstall the System Management driver as well as removing and disabling it.

System locks up during Support Paq installation on servers with Compaq System Management Application-Specific Integrated Circuit (CSM ASIC)

Compaq servers that contain the Compaq System Management Application-Specific Integrated Circuit (CSM ASIC) require manual installation of the System Management driver contained on Compaq Support Paq for Microsoft Windows 2000. These servers include:

- Compaq Prosignia 200   (P05 System ROM)

- Compaq ProLiant 800   (P02 System ROM)

- Compaq ProLiant 850R (P04 System ROM)

- Compaq ProLiant 1200 (E35 System ROM)

- Compaq ProLiant 1500 (E27 System ROM)

- Compaq ProLiant 1600 (E34 System ROM)

- Compaq ProLiant 2500 (E24 and E50 System ROM)

- Compaq ProLiant 3000 (E39 System ROM)

- Compaq ProLiant 5500 (E39 System ROM)

- Compaq ProLiant 4500 (E14 System ROM)

- Compaq ProLiant 5000 (E16 System ROM)

If you have a Compaq server with CSM ASIC and have experienced a system hang while installing Compaq Support Paq for Microsoft Windows 2000, cycle the system power, allow the operating system to load, and open the Support Paq. In the Compaq Support Paq for Windows 2000 - Bundle window, deselect the *System Management driver*, and click the **Install** button to re-run the Support Paq installer.

For Servers with Compaq System Management Application-Specific Integrated Circuit (CSM ASIC), Compaq Insight Agents do not report CPU Fans, but do correctly report any fan failure events

On Compaq servers that contain the Compaq System Management Application-Specific Integrated Circuit, Management Agents do not report the CPU fans. Despite the fact that the fans are not reported, any failure of the fan's normal operation is reported by Compaq Insight Manager.

Compaq Management Agents require SNMP Community Security default setting changed to *READ WRITE*

When installing SNMP communities in Windows 2000, the default security setting is *READ ONLY*. Because the Compaq Management Agents require read-write access to the community, the default security setting must be changed after the creation of the SNMP community. When creating new SNMP communities, verify that the community rights are set to *READ WRITE*. Verify that any SNMP communities already created (such as the default *public* community) are set to *READ WRITE*.

Follow this procedure to set the SNMP Community rights to *READ WRITE*:

1. Select *Start → Programs → Administrative Tools → Component Services.*

2. Locate and right click on *SNMP Service*.

3. Select the *Security* tab.

4. Select the community name you wish to change, then click the **Edit...** button to alter the selected community (or click the **Add...** button to create a new one).

5. Access the *Community rights* selector dropdown menu, and select *READ WRITE.*

6. Click the **OK** button to accept the new setting.

7. Click the **Apply** button to activate the security settings.

8. Close the dialog box.

Appendix C–Compaq Information Products

In addition to hardware and software products, Compaq also provides information enabling you to stay current on the latest developments and assisting you in making deployment decisions.

The Compaq Windows 2000 website provides the latest information available on upgrading and testing Microsoft Windows 2000 on your Compaq products.

Windows 2000 Advantage is a free online magazine designed to be your primary source of timely, useful information for planning and implementing Microsoft Windows NT on Compaq hardware.

Compaq *ActiveAnswers*™ gives you the benefit of our experience to help manage your system and reduce the time, risks, and complexity associated with deploying solutions.

Compaq ActiveUpdate offers proactive notification and delivery of the latest software updates. Don't waste time searching the web. Subscribe to Compaq ActiveUpdate for automatic delivery of software updates for your Compaq servers, desktops, workstations, and portables.

If you require more timely access to information products, Compaq provides a service called Compaq Info Messenger, which can be accessed through the Compaq website. If you submit a profile to Compaq Info Messenger, telling it what platforms and operating systems you are interested in, the service tracks your areas of interest and advises you when related information products are released.

Customer Advisories inform you of any known problems and workarounds because of a Service Pack release.

Communiqués and press releases announce the availability of new products and versions.

Service Advisories notify Compaq resellers and retailers of any known service-related issues and provide them with the information they need to effectively support their customers.

Solution Stories describe how Compaq customers have addressed their business needs through the combination of Compaq products and third-party software products.

TechNotes and Tech Briefs update customers on the latest developments in Compaq products.

White papers inform you of ways to optimize your environment and obtain the maximum benefit from software enhancements.

These information products range from those with no specific OS focus to those that address specific OS issues and answers. Information products specific to Microsoft are also collected and distributed as part of the Compaq Resource Paq for Microsoft produced twice a year.

Table 7 lists Compaq resources on the web.

Table 7. Compaq resources

Item	Web Location
Windows 2000 on Compaq	http://www.compaq.com/partners/Microsoft/Windows2000/index.html
Windows 2000 Advantage online magazine	http://www.windows2000advantage.com
Compaq *ActiveAnswers*	http://www.compaq.com/activeanswers
Compaq ActiveUpdate	http://www.compaq.com/products/servers/management/activeupdate/index.html
Compaq Info Messenger	http://www.compaq.com/infomessenger
Compaq Insight Manager	http://www.compaq.com/sysmanage
Compaq Management CD	http://www.compaq.com/support/files/server/MGMTSOL/index.html
Compaq Option ROMPaq	http://www.compaq.com/support/files/server/us/index.html
Compaq Resource Paq for Microsoft Windows 2000 and Windows NT	http://www.compaq.com/partners/microsoft/resourcepaq.html
Compaq SmartStart Subscription Service	http://www.compaq.com/support/paqfax/1233.html
Compaq System ROMPaq	http://www.compaq.com/support/files/server/us/index.html
Customer Advisories	http://www.compaq.com/support/techpubs/Customer_advisories/index.html
Microsoft Frontline Partnership	http://www.compaq.com/partners/Microsoft
Press releases	http://www.compaq.com/newsroom/pr
Support software (complete listing)	http://www.compaq.com/support/files/server/us/index.html
Compaq Support Software for Windows 2000	http://www.compaq.com/partners/Microsoft/Windows2000/support/servers.html
Compaq SSD for Windows NT	http://www.compaq.com/support/files/server/us/index.html
Compaq Survey Utility	http://www.compaq.com/support/files/server/us/index.html
White Papers and other technical document (complete listing)	http://www.compaq.com/support/techpubs/whitepapers/index.html