

# Migrating to Microsoft Windows 2000 on ProLiant servers

integration note, 2<sup>nd</sup> Edition



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## Abstract

This document presents information regarding hardware migrations on HP 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 and the other involving servers with dissimilar disk subsystems. The appendices provide information on supported HP systems, workarounds, and HP information products.



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**IMPORTANT:** Read and thoroughly understand this document before attempting any migration on your equipment.

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Other documents with information regarding HP ProLiant servers and Windows 2000 include *Implementing Microsoft Windows 2000 with Service Pack 4 on ProLiant servers*, *Upgrading to Microsoft Windows 2000 on ProLiant servers*, and *Tips on evaluating, planning, preparing, and piloting your Windows 2000 environment*. These papers are located on the ISS Technology Papers website at [www.hp.com/servers/technology](http://www.hp.com/servers/technology).

Other sources of information include the HP Frontline Partnership site at [www.hp.com/go/microsoft](http://www.hp.com/go/microsoft). The following symbols can be found in the text of this document:



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**WARNING:** Text set off in this manner indicates that failure to follow directions in the warning could result in bodily harm or loss of life.

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**CAUTION:** Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.

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**IMPORTANT:** Text set off in this manner presents clarifying information or specific instructions.

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**NOTE:** Text set off in this manner presents commentary, sidelights, or interesting points of information.

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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. HP servers provide the highest levels of scalability, performance, and availability on X86 platforms. They have been tested extensively running Windows 2000 both in the HP 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. Also become familiar with PCI Bus Balancing and Optimization on Compaq ProLiant Servers available through our website

Your strategy should include checking the [HP Windows 2000 website](#) for new information on a regular basis. [HP 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 migration checklist.

**Table 1.** Migration checklist

Description	Comments	Location
Options ROMPaq	By option	<a href="http://h18023.www1.hp.com/support/files/server/us/index.html">http://h18023.www1.hp.com/support/files/server/us/index.html</a>
SmartStart CD	Release 4.60 or later	<a href="http://h18023.www1.hp.com/support/files/server/us/smartstartinfo.html">http://h18023.www1.hp.com/support/files/server/us/smartstartinfo.html</a>
ProLiant Support Pack for Microsoft Windows NT 4.0	Update via HP website	<a href="http://h18023.www1.hp.com/support/files/server/us/locate/2559.html">http://h18023.www1.hp.com/support/files/server/us/locate/2559.html</a>
ProLiant Support Pack for Microsoft Windows 2000	Update via HP website	<a href="http://h18023.www1.hp.com/support/files/server/us/locate/1989.html">http://h18023.www1.hp.com/support/files/server/us/locate/1989.html</a>
System Configuration Utility	Update via HP website	<a href="http://h18023.www1.hp.com/support/files/server/us/locate/1950.html">http://h18023.www1.hp.com/support/files/server/us/locate/1950.html</a>
System ROMPaq	By server	<a href="http://h18023.www1.hp.com/support/files/server/us/index.html">http://h18023.www1.hp.com/support/files/server/us/index.html</a>
Windows 2000 website	For the latest information	<a href="http://h71028.www7.hp.com/enterprise/cac/he/8181-0-0-0-121.aspx">http://h71028.www7.hp.com/enterprise/cac/he/8181-0-0-0-121.aspx</a>
Internet access	For system updates	
Minimum requirements met		See table of contents
Platforms supported		See table of contents

Description	Comments	Location
Sufficient backup media	Enough for a full backup and in excellent condition	
Compaq Primer Utility for Microsoft Windows 2000 from HP	Erases non-compatible utilities	<a href="http://h18023.www1.hp.com/support/files/server/us/locate/2751.html">http://h18023.www1.hp.com/support/files/server/us/locate/2751.html</a>
Windows 2000 Server or Advanced Server CD-ROM	See upgrade path requirements before trying to upgrade to Windows 2000 Advanced Server	

## 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 Windows 2000 Advanced Server result 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 that run 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 to their website.



**IMPORTANT:** HP does not support the use of Windows 2000 Professional Edition on HP 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)
- 4.0 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

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 (HP 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 will need this if you have to restore your complete system. The Repair Disk Utility accomplishes this task. The steps to complete the procedure are:

1. Type **RDISK** from a command prompt, and 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 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..

1. Create a Windows NT boot disk by using the **FORMAT** command in Windows NT.
2. Copy the **NTLDR**, **NTDETECT.COM**, and **BOOT.INI** files from the server boot drive to the formatted disk.
3. Before proceeding, make certain you verify the boot disk by inserting it into the disk drive and restarting the system.

## HP 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, the [Compaq Primer Utility for Microsoft Windows 2000](#) will remove several utilities and drivers. If the files are not updated during this stage, they might not be properly removed from the Windows Registry when the Primer Utility runs.

### ProLiant Support Pack for Microsoft Windows NT 4.0

Upgrade to the latest [ProLiant Support Pack \(PSP\) for Microsoft Windows NT 4.0](#) before attempting the migration. The PSP contains the latest updates for the drivers and Management agents included in your system for use with Windows NT. Check our website for the latest version.

To install the PSP, complete the following steps:

1. Run the **SETUP.EXE** program included with the Support Pack.



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**NOTE:** By default, all software is selected for installation. In most circumstances this default selection should not be altered.

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2. Click the **Install** button to proceed with the installation.



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**NOTE:** Even when selected, only software that is appropriate for the system it is being run on will actually be installed. After installation of the appropriate software, the utility will display its results, including indication of software successfully installed, software not needed for the current system configuration, and any installation failures.

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## Configuration documentation

Before preparing the system, carefully document all the operating system network settings:

1. To start the Network Settings dialog box, select **Start | Settings | Control Panel | Network**.
2. Select each protocol and service from the **Protocol** and **Services** tabs.
3. Select **Properties**.
4. Write down all configuration details (or print the screen).
5. Document all protocols and services used by your system.
6. 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 HP server can be located through our website at <http://h18023.www1.hp.com/support/files/server/us/index.html>. This site provides special firmware upgrades for HP 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.


## Configuration update

To install Windows 2000, your system requires an updated version of the ROM-Based Setup Utility or 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 SmartStart CD Releases 4.60 through 5.50.

Current ProLiant systems use the ROM-Based Setup Utility (RBSU.) Information on RBSU addresses features, configuration options and startup procedures. RBSU will automatically configure the system based on the operating system selected. RBSU supports a wide range of customizable configuration features. RBSU replaces the System Configuration Utility feature on older servers.

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 **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 still must run the System Configuration Utility, but do not upgrade the system partition.

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To ensure that the correct versions are installed, follow the instructions below.

You can obtain the ProLiant Support Pack for Microsoft Windows 2000 through the website at <http://h18023.www1.hp.com/support/files/server/us/locate/1989.html>.

1. Follow the instructions provided with the ProLiant Support Pack.

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

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2. Select Upgrade System Partition from the HP Systems Utility menu.

3. Click **Next** | **Continue**.

4. Select **System Configuration** | **Diagnostics** | **Drive Array Configuration**.

5. Select **Exit**.

6. Remove any diskettes.


7. Restart the server.

## Moving the hardware

Before moving the hardware components to the new server, verify that your original server functions correctly and back it up.

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.

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 **CAUTION:** 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.

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Review the following two scenarios for additional information regarding hardware migration and upgrade.

### Scenario 1: migrating similar disk subsystems

In this 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 which hardware and software components from the ProLiant 5000 would be supported by the ProLiant 7000 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.** HP 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			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 network interface controllers (NICs) were not recognized by Windows NT 4.0 after the migration.

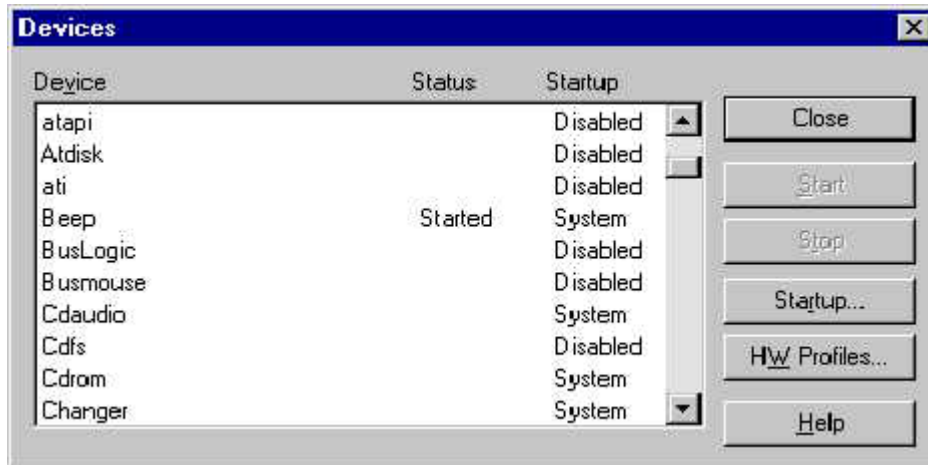
### Disk controllers

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 had to be replaced with a SMART-2DH. The other two SMART controllers could 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

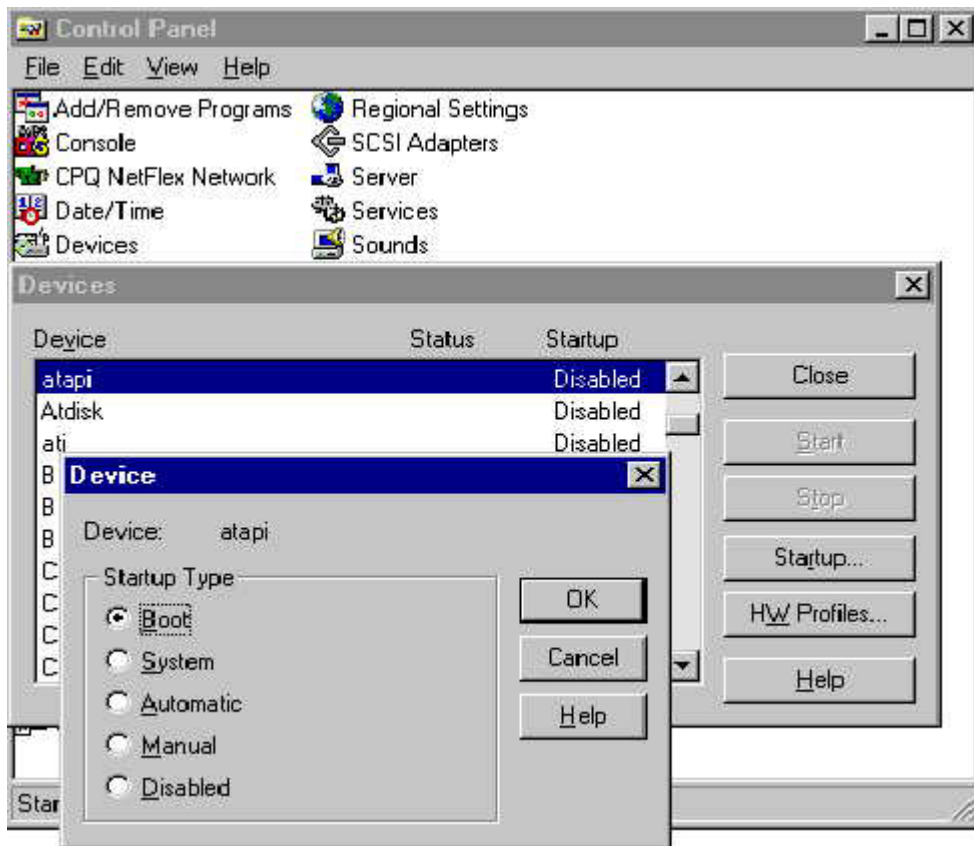


To load Windows 2000, we needed to activate the CD-ROM drive. To make the necessary device changes:

1. Open **Control Panel | Devices | Startup**.
2. Select the **Startup Type as Boot** for both ATAPI and CDFS as shown in Figure 2.
3. 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.

**Figure 2.** CD-ROM device changes



### Video chipsets

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

1. Right click on the desktop.
2. Select **Properties | Settings | Display Type | Detect**.

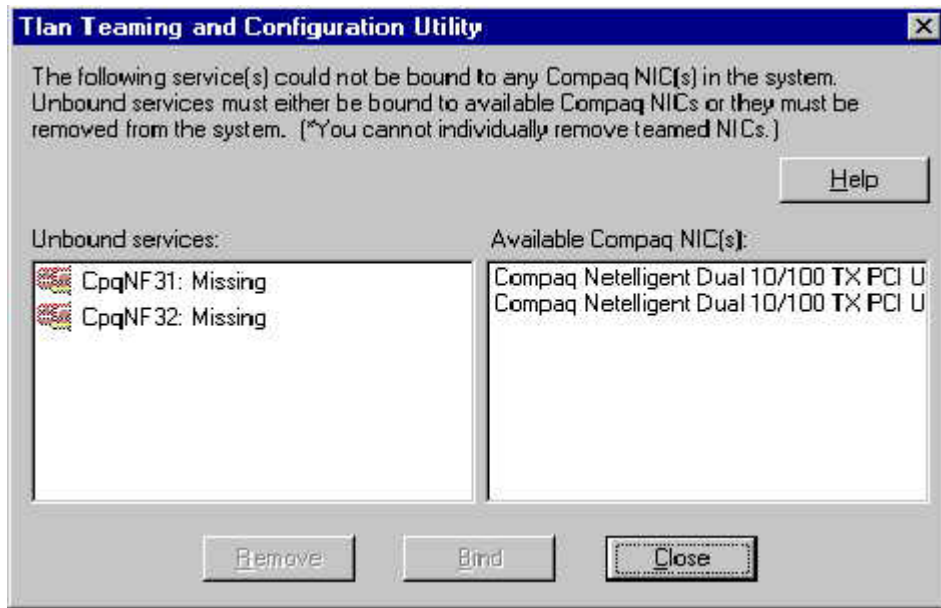
This allows Windows NT 4.0 to correct any problems with the video settings.

### Network interface controllers

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 HP TLAN Teaming and Configuration Utility as shown in Figure 3. This screen shows the available NICs on the right side and the missing NICs on the left. Rebind the NICs as indicated below.

1. On left side of screen, select **NICs**, and click **Remove**.
2. On right side of screen, select **NICs**, and click **Bind**.
3. Reissue IP addresses.
4. Redefine the NICs with their original values.

**Figure 3.** TLAN Teaming and Configuration Utility screen



## Scenario 2: migrating dissimilar disk subsystems

The second migration included servers with dissimilar disk subsystems: a ProLiant 6500 running Windows NT 4.0 Enterprise and Service Pack 3 migrating 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.** HP 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.
Disk controller	1 SMART 2/P; 1 SMART 2DH; 1 Fibre Controller; 1 embedded Wide-UltraSCSI	Integrated Smart Array Controller Smart Array 3200 Smart Array 4200 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	

Hardware and software	ProLiant 6500 configuration	Upgrade available on ProLiant 8500	Upgrade required	Notes
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 types of hard disk drives. 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.

1. Download the hp ProLiant Array Configuration Utility for Windows.
2. 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 were used.

1. Download the HP ProLiant Array Configuration Utility for Windows.
2. Configure the Compaq 4200 Smart Array Controller in a similar way to 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 the data intact. Refer to your tape backup software documentation for precise instructions on tape backup and restore procedures. Then restore your data to the new server.

## Restoring the server

After moving the hardware components to the new server, power up the new server with the SmartStart 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 completing these steps:

1. Run the ROM-Based Setup Utility to identify the hardware on the server. Retired servers use the System Configuration Utility.
2. Load the most recent ProLiant Support Pack for Microsoft Windows NT 4.0 to load all drivers.
3. Reinststate your system settings.
4. Reload your HP management software.

If did perform a sector-by-sector backup of your original server 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 [HP Windows 2000](http://www.hp.com/go/windows2000) website for the most recent information concerning Windows 2000 and HP products. To produce a Windows 2000 Server installation supported by HP, set up the system as follows.

The HP Support Software files mentioned are available through the HP website at <http://h18023.www1.hp.com/support/files/server/us/index.html>.

### Hardware configuration

Change the operating system selection to Windows 2000.



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**NOTE:** 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).

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1. Power up the server with the SmartStart CD Release 4.60 or later, or press the **F10** key to launch the HP System Configuration Utility.
2. Select **System Configuration | Configure Hardware | Review or Modify Hardware Settings**.
3. Select **Step 3: View or Edit Details from the Steps in Configuring Your Computer** dialog box.
4. Press **Enter** at the Primary Operating System prompt.
5. Select **Windows NT** at the Primary Operating System menu (selecting Windows NT displays a submenu that includes Windows 2000.)
6. Select **Windows 2000**.
7. Exit the System Configuration Utility.
8. Save your changes. The server restarts automatically.



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

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## Utility removal

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

- Advanced Network Control Utility
- Array Configuration Utility
- Cluster Verification Utility (if Windows NT SSD Version 2.12C or earlier)
- Integrated Management Display Utility
- Integrated Management Log Viewer Utility
- Integration Maintenance Utility
- Management Foundation Agents
- Management Server Agents
- Management Storage Agents
- Network Teaming and Configuration Utility
- NT Management
- Online Storage Controller Recovery Utility
- PCI Hot Plug Utility
- Power Down Manager
- Power Supply Viewer
- Remote Monitor Service
- System Management Services
- System Partition Upgrade Utility
- TLAN Network Teaming and Configuration Utility



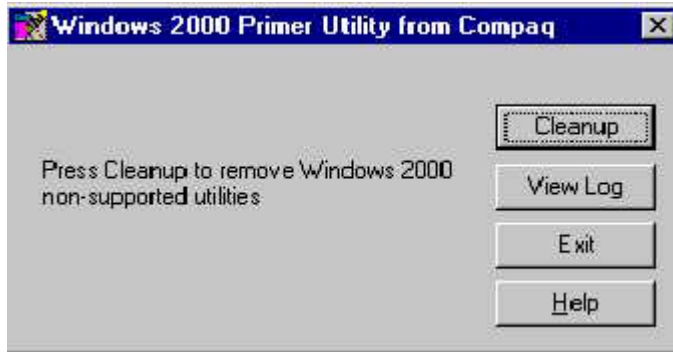
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**IMPORTANT:** The Compaq Primer Utility for Microsoft Windows 2000 from HP does not remove non-compliant drivers for third-party options, such as Adaptec controllers or EMC storage devices. Contact the manufacturer directly for information on driver compatibility with Windows 2000.

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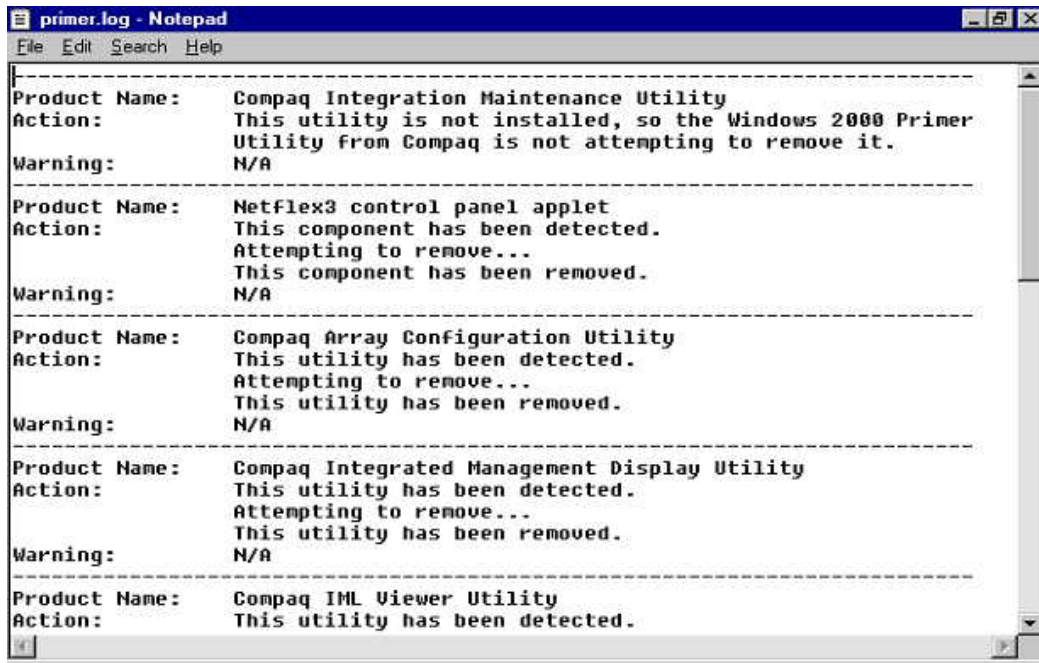
Figure 4 illustrates the initial popup screen of the Primer Utility. Click Cleanup to start the utility.

**Figure 4.** Windows 2000 Primer Utility popup screen



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 5 displays a sample log file.

**Figure 5.** Windows 2000 Primer Utility log



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, and then ran the Primer Utility. The utilities were 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:

1. Select **Uninstall** from the Control Panel.
2. Run Insight Manager and go to its Uninstall file to remove Management Agents.



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

## 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>.

In our testing, we received the screen shown in Figure 6 after Windows 2000 Advanced Server checked our system compatibility.

**Figure 6.** 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 Compaq Primer Utility for Microsoft Windows 2000 from HP 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; drivers will also be installed through the HP Support Pack for Windows 2000 later.

# ProLiant Support Pack for Microsoft Windows 2000

The ProLiant Support Pack for Microsoft Windows 2000 replaces the Compaq SSD for Windows NT and can be located through the HP website or through the SmartStart CD release 4.60 or later.



**NOTE:** If you copy the ProLiant Support Pack for Microsoft 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.

The [ProLiant Support Pack for Microsoft Windows 2000](#) includes the following components.

## Controller drivers

- HP ProLiant iLO Advanced System Management Controller Driver for Windows 2000
- HP ProLiant Advanced System Management Controller Driver for Windows 2000
- HP ProLiant Integrated System Management Controller Driver for Windows 2000
- HP ProLiant System Management Controller Driver for Windows 2000/Server 2003
- HP ProLiant 32-Bit SCSI Controller Driver for Windows 2000/Server 2003
- HP ProLiant 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Controller Driver for Windows 2000
- HP ProLiant 64-Bit/133-MHz Dual Channel Ultra320 Adapter for Windows 2000
- HP ProLiant Drive Array Driver for Windows 2000/Server 2003
- HP ProLiant Smart Array-2 Controller Driver for Windows 2000
- HP ProLiant Smart Array 5x and 6x Controller Driver for Windows 2000/Server 2003
- HP StorageWorks Fibre Channel Support for Windows 2000/Server 2003
- HP ProLiant CMD 0649 IDE Ultra DMA Controller Driver for Windows 2000/Server 2003
- HP ProLiant Integrated Ultra ATA-100 Dual Channel Driver for Windows 2000/Server 2003
- HP ProLiant Storage System Driver for Windows 2000/Server 2003
- HP ProLiant Drive Array Notification for Windows 2000/Server 2003
- HP StorageWorks Fibre Channel Array Notification Driver for Windows 2000/Server 2003
- HP ProLiant Remote Monitor Service for Windows 2000/Server 2003
- HP ProLiant PCI Hot Plug Controller Driver for Windows 2000/Server 2003
- HP ProLiant Hot Plug Memory Driver for Windows 2000
- HP ProLiant Remote Insight Board Driver for Windows 2000/Server 2003
- HP ProLiant Integrated Lights-Out Management Interface Driver for Windows 2000/Server 2003
- HP ProLiant Remote Insight Lights-Out II Board Driver for Windows 2000/Server 2003
- HP ProLiant ATI RAGE IIC Video Controller Driver for Windows 2000
- HP ProLiant Rack Infrastructure Interface Service for Windows 2000/Server 2003
- HP ProLiant Serial Console for Windows 2000 Server
- HP ProLiant Legacy Port Configuration Component for Windows 2000
- HP ProLiant Enhanced Integrated Management Display Service for Windows 2000/Server 2003
- HP ProLiant NetFlex/Netelligent Adapter Driver for Windows 2000
- HP ProLiant NC31xx Fast Ethernet NIC Driver for Windows 2000
- HP ProLiant NC61xx/NC71xx Gigabit Ethernet NIC Driver for Windows 2000
- HP ProLiant NC67xx/NC77xx Gigabit Ethernet NIC Driver for Windows 2000
- HP ProLiant Network Teaming and Configuration for Windows 2000

### Management agents

- Version Control Agent for Windows
- HP Management Agents for Windows 2000/Server 2003

### System tools and utilities

- Remote Deployment Utility Setup DLL
- ProLiant Remote Deployment Utility
- ProLiant Remote Deployment Console Utility
- ProLiant Support Pack XML File
- ProLiant Support Pack Command File
- ProLiant Support Pack TXT File
- Microsoft XML Parser 3.0 Release
- HP ProLiant Integrated Management Display Utility for Windows 2000/Windows Server 2003
- HP ProLiant Integrated Management Log Viewer for Windows 2000/Server 2003
- HP ProLiant Power Supply Viewer for Windows 2000/Server 2003
- HP ProLiant Power Down Manager for Windows 2000/Server 2003
- HP ProLiant Integrated ATA RAID Management Utility for Windows
- HP ProLiant Array Configuration Utility for Windows
- Survey Utility for Windows

### Installation steps

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

1. Open the ProLiant Support Pack for Microsoft Windows 2000 by selecting **SETUP.EXE**.

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

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

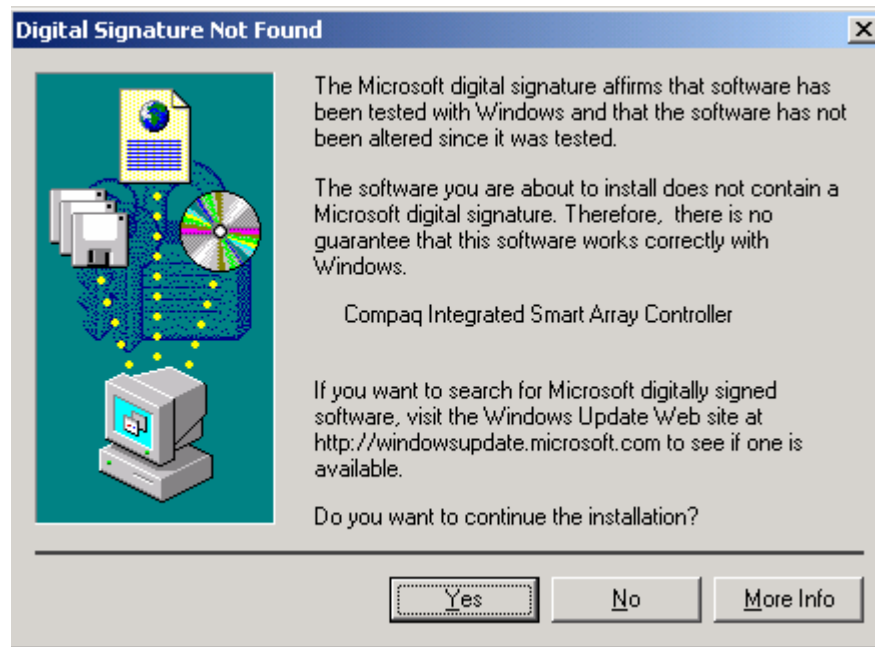
2. Select **Install**.

You might see the screen in Figure 7 during the installation process.

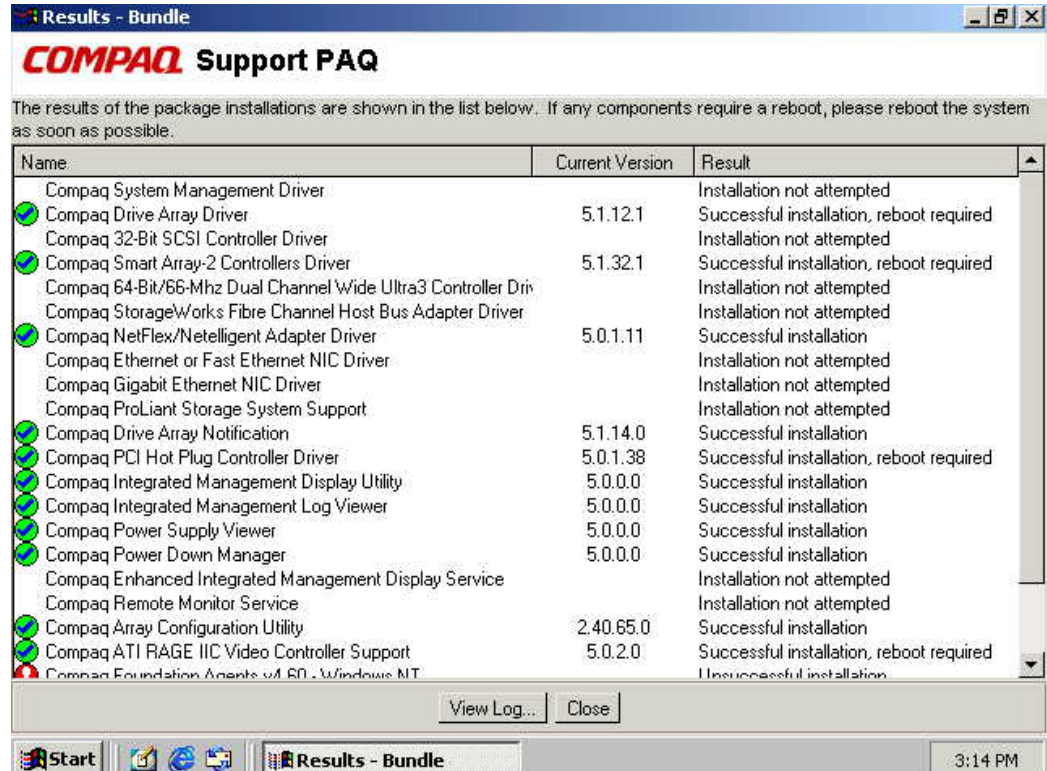
The drivers provided by HP, though unsigned, have been thoroughly tested and are more functionally complete than the versions on the Microsoft Windows 2000 media. When installing the drivers from the ProLiant Support Pack for Microsoft Windows 2000, or any other HP Support Software, you can safely ignore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

The Results screen indicates which drivers were installed and provides messages regarding installation. Figure 8 shows a sample Results screen log.

**Figure 7.** Digital Signature Not Found screen



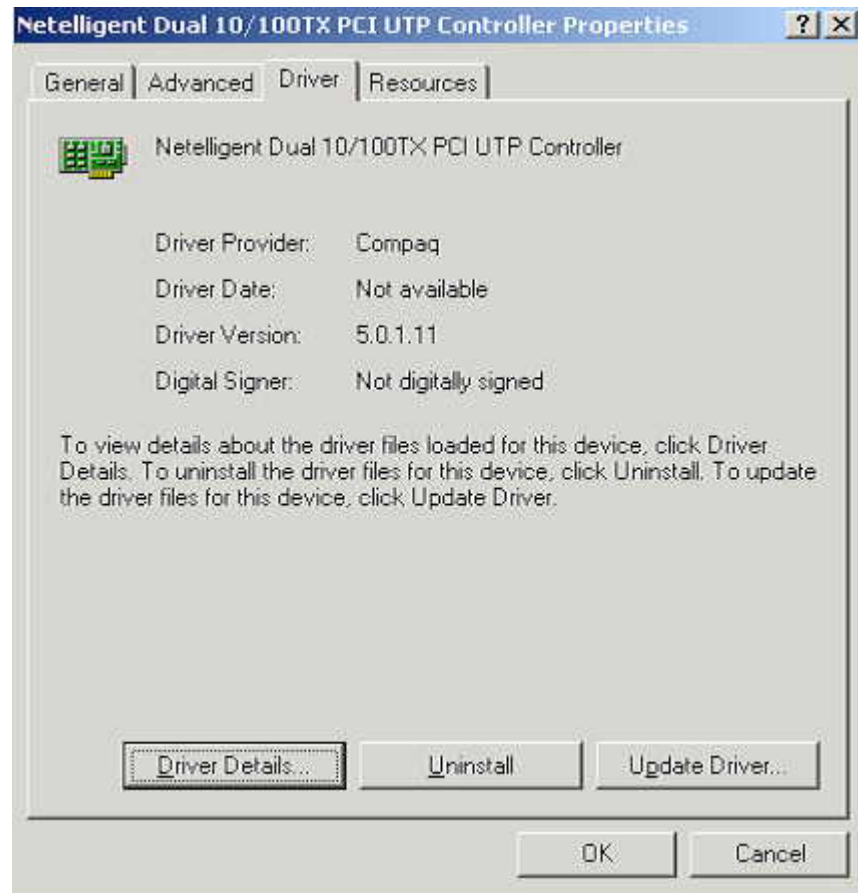
**Figure 8.** Results from ProLiant Support Pack installation



3. Reboot the system to ensure proper installation.
4. Verify that the proper drivers for your system were installed with the Support Pack. Select **My Computer | Properties | Device Manager | [specific device]**.

The screen should indicate that HP provided the driver as shown in Figure 9.

**Figure 9.** Verification of driver provider



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

## Changes for Windows 2000

Several HP 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 use the same GUI as seen in Windows NT.

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

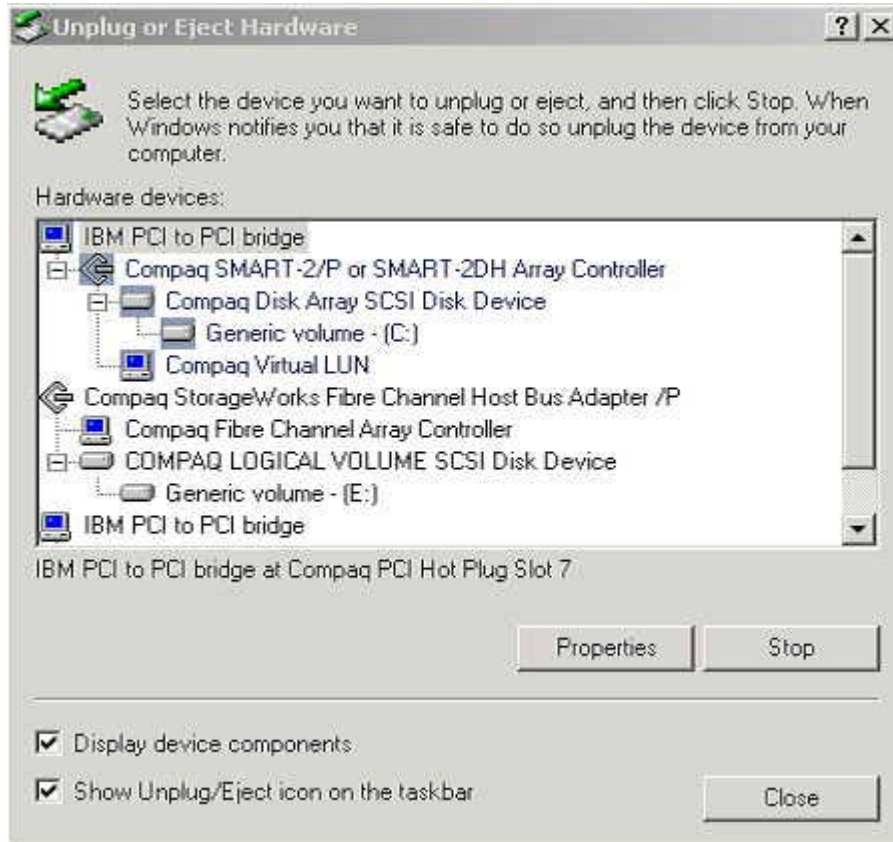
## PCI Hot Plug

PCI Hot Plug functionality exists in Windows 2000 but operates differently. For Windows 2000, the HP 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 with the HP PCI Slot Server Request button on servers so equipped.

The interface screen for PCI Hot Plug in Windows 2000 (Figure 10) looks different from the one in Windows NT.

**Figure 10.** Windows 2000 PCI Hot Plug interface screen



In Windows 2000, the PCI Hot Plug Unplug/Eject icon appears in the system tray of the task bar as shown in Figure 11.

**Figure 11.** PCI Hot Plug Unplug/Eject icon

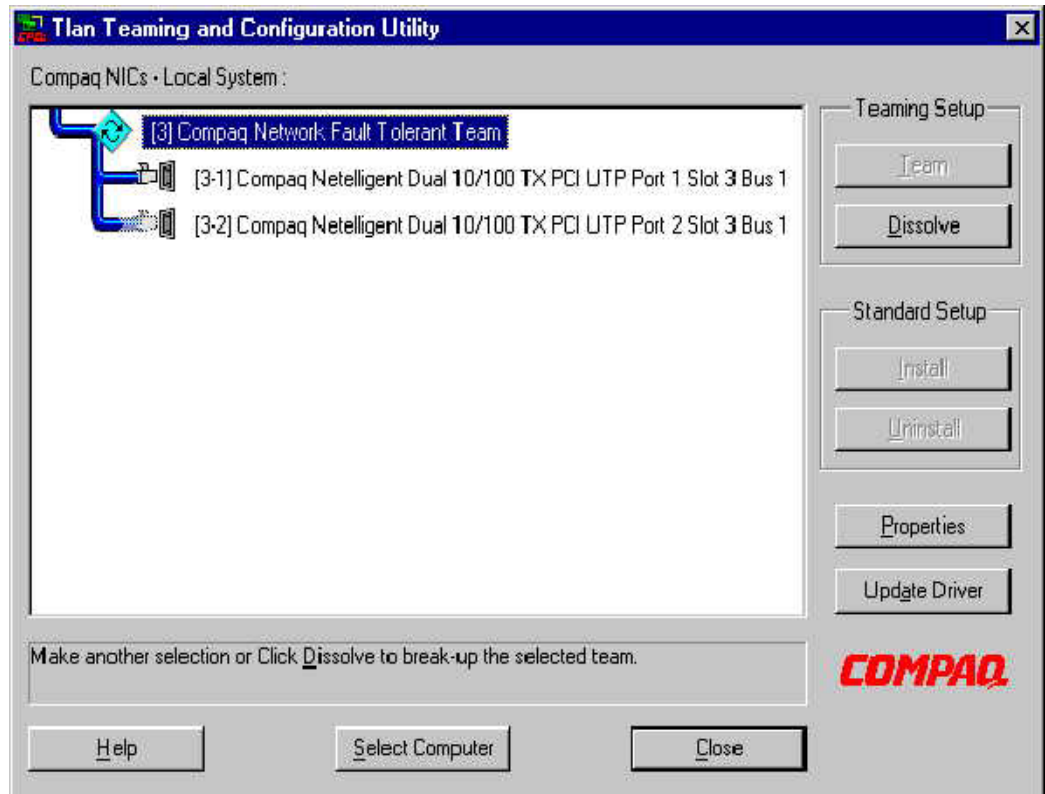


## Teamed NICs

HP engineers developed a new driver to team NICs and better utilize them in a Windows 2000 environment.

1. If you currently use teamed NICs, dissolve the teams before the upgrade to Windows 2000. See Figure 12.

**Figure 12.** Teaming and Configuration Utility screen



2. 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 13.

**Figure 13.** Windows 2000 task bar showing broken NIC connections



3. Load the appropriate drivers for your NICs through Device Manager in Windows 2000.
4. When you see the screen in Figure 14, check the box titled **Install one of the other drivers**.

**Figure 14.** Driver files search results screen



5. Install the NIC teaming driver from the ProLiant Support Pack for Windows 2000 by following the instructions provided with the Support Pack.

## Troubleshooting the system

This section provides tips for troubleshooting some common problems the HP labs found with HP ProLiant Servers running Windows 2000 Server Edition and Windows 2000 Advanced Server Edition. Check the [HP Windows 2000](#) website for additional information. Please read the Known Issues section of the ProLiant Support Pack 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:

- Is the problem reproducible or random?
- What hardware and/or software are involved?
- Were any errors made in implementing steps?
- Was more than one variable changed at a time?
- Does the problem occur on the server or is it specific to a client?
- Were any steps skipped or completed out of order?
- Were any steps accidentally added?
- 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.



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:

- 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.
- Test each modification to see if it fixed the problem.
- Write down all symptoms, causes, and solutions. Having a written record makes an excellent reference for future troubleshooting.
- 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: Systems HP supports

Microsoft Windows 2000 might load and run with virtually any HP product; however, it is not possible for HP to test all hardware and software configurations. 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 HP resources. However, do not use this document as your sole source of information. Other information is available through the HP website at [www.hp.com/go/microsoft](http://www.hp.com/go/microsoft); also visit the Microsoft website at [www.microsoft.com/windows2000/en/server/help/](http://www.microsoft.com/windows2000/en/server/help/).

HP 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 DL760 (first generation), ProLiant ML750 (first generation), ProLiant DL580 (first generation), ProLiant ML570 (first generation), ProLiant 8500 Pentium III Xeon, ProLiant 8000 Pentium III Xeon, ProLiant 7000 Pentium II/III Xeon; Pentium Pro, ProLiant 6500 Pentium II/III Xeon; Pentium Pro, ProLiant 6400R Pentium III Xeon; Pentium Pro, ProLiant 6000 Pentium II/III Xeon; Pentium Pro, and the ProLiant 5500 Pentium II Xeon; Pentium Pro.



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**IMPORTANT:** Detailed information and warnings are available through the HP website at <http://h18000.www1.hp.com/products/servers/processor-mixing/>. Please review this information carefully before upgrading to Windows 2000.

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## Supported platforms

The latest HP [ROMPaq](#) versions support Microsoft Windows Server 2003. Be sure to use the latest ROMPaq versions for your server and options. They are available at <http://h18007.www1.hp.com/support/files/server/us/index.html>.

Documents are available on the HP website to assist in determining the ROM version and family of your Compaq or HP server products. You can determine your system ROM Family Code, Family Table, and version through the HP website. Supported ProLiant servers are detailed in the ProLiant Supported OS Matrix posted at [www.hp.com/go/supportos](http://www.hp.com/go/supportos).

## Supported storage options

Table 5 lists supported HP storage options and driver revisions needed to interface with Windows 2000.

**Table 5.** Supported HP 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	<a href="http://h18023.www1.hp.com/support/files/server/us/index.html">http://h18023.www1.hp.com/support/files/server/us/index.html</a>
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 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://h18023.www1.hp.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 ProLiant Support Pack for Microsoft Windows 2000 to ensure the highest level of service and reliability.

## Supported network controllers

Table 6 lists supported HP network controllers, including the minimum firmware and driver revisions needed to interface with Windows 2000.

**Table 6.** Supported HP network controllers for Windows 2000

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

<b>NIC</b>	<b>Driver</b>	<b>Location</b>
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	ProLiant Support Pack for Microsoft Windows 2000
Compaq NC3120 Fast Ethernet	N100NT5.SYS	ProLiant Support Pack for Microsoft Windows 2000
Compaq NC3121 Fast Ethernet	N100NT5.SYS	ProLiant Support Pack for Microsoft Windows 2000
Compaq NC3122 Fast Ethernet	N100NT5.SYS	ProLiant Support Pack for Microsoft Windows 2000
Compaq NC3123 Fast Ethernet	N100NT5.SYS	ProLiant Support Pack for Microsoft Windows 2000
Compaq NC3131 Fast Ethernet	N100NT5.SYS	ProLiant Support Pack for Microsoft Windows 2000
Compaq NC3132 Fast Ethernet Upgrade Module	N100NT5.SYS	ProLiant Support Pack for Microsoft Windows 2000
Compaq NC3133 Fast Ethernet Upgrade Module	N100NT5.SYS	ProLiant Support Pack for Microsoft Windows 2000
Compaq NC3160 Fast Ethernet (Embedded)	N100NT5.SYS	ProLiant Support Pack for Microsoft Windows 2000
Compaq NC3161 Fast Ethernet (Embedded)	N100NT5.SYS	ProLiant Support Pack for Microsoft Windows 2000
Compaq NC3162 Fast Ethernet (Embedded)	N100NT5.SYS	ProLiant Support Pack for Microsoft Windows 2000
Compaq NC3163 Fast Ethernet (Embedded)	N100NT5.SYS	ProLiant Support Pack for Microsoft Windows 2000
Compaq NC4621 Token Ring NIC	CPQTRND5.SYS	Windows 2000 CD
Compaq NC6132 Gigabit Module	N100NT5.SYS	ProLiant Support Pack for Microsoft Windows 2000
Compaq NC6133 Gigabit Module	N100NT5.SYS	ProLiant Support Pack for Microsoft Windows 2000
Compaq NC6134 Gigabit Module	N100NT5.SYS	ProLiant Support Pack for Microsoft 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
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	ProLiant Support Pack for Microsoft Windows 2000
Netelligent 10/100 TX Embedded UTP	NETFLX3.SYS	ProLiant Support Pack for Microsoft Windows 2000
Netelligent 10/100 TX Embedded UTP/AUI	NETFLX3.SYS	ProLiant Support Pack for Microsoft Windows 2000
Netelligent 10/100 TX Embedded UTP/Coax	NETFLX3.SYS	ProLiant Support Pack for Microsoft Windows 2000

NIC	Driver	Location
Netelligent 10/100 TX PCI Dual UTP	NETFLX3.SYS	ProLiant Support Pack for Microsoft Windows 2000
Netelligent 10/100 TX PCI UTP	NETFLX3.SYS	ProLiant Support Pack for Microsoft Windows 2000
Netelligent 10/100 TX UTP	NETFLX3.SYS	ProLiant Support Pack for Microsoft Windows 2000
Netelligent 10/100 TX WOL PCI UTP – Intel	N100NT5.SYS	ProLiant Support Pack for Microsoft Windows 2000
Netelligent 10 T/2 PCI UTP Coax Controller	NETFLX3.SYS	ProLiant Support Pack for Microsoft 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	ProLiant Support Pack for Microsoft Windows 2000
NetFlex-3/P	NETFLX3.SYS	ProLiant Support Pack for Microsoft Windows 2000
NetFlex-3 Embedded	NETFLX3.SYS	ProLiant Support Pack for Microsoft Windows 2000

## Appendix B: Workarounds

HP servers are the predominant hardware development platform at Microsoft and no other servers have been deployed as extensively running Windows 2000. HP continues to test qualified server configurations with Windows 2000 and actively works to fix or resolve every issue discovered during development of this 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, will be communicated through Customer Advisories on the HP website [www.hp.com/go/bizsupport](http://www.hp.com/go/bizsupport). 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 ProLiant Support Pack for Microsoft Windows 2000.

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

**Table 7.** Known issues

<b>Issue 1</b>	ProLiant 6500 Xeon hangs during the <b>Applying Computer Settings</b> screen after rebooting Windows 2000
Description	On the reboot after the installation, the system may hang at the Applying Computer Settings screen.
Solution	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.

	<p>This ROM update is available from the HP website and is required. Download Support Software with the appropriate ROMPaq, and perform the ROM update; run SmartStart and proceed with the assisted install. Support Software can be obtained through the HP website at <a href="http://h18023.www1.hp.com/support/files/server/us/index.html">http://h18023.www1.hp.com/support/files/server/us/index.html</a>.</p>
<b>Issue 2</b>	The ProLiant Storage System hardware device (SCSI backplane) does not appear in Device Manager
Description	The ProLiant Storage System hardware device (SCSI backplane) does not appear with the Windows 2000 SymbIOS driver loaded.
Solution	This ProLiant Storage System device will display if the Compaq 32-bit SCSI Controller Driver (available on ProLiant Support Pack for Microsoft Windows 2000) is loaded and the system is rebooted.
<b>Issue 3</b>	Unable to access Custom Configuration during Unattended Install
Description	Custom Configuration is not directly accessible during the dialog box sequence of a SmartStart unattended install.
Solution	<p>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 <b>Back</b> button to access dialog boxes used to configure the network, and the network controller devices.</p> <p>Windows 2000 does set up the network controller devices. By default, Windows 2000 uses the Typical Configuration, which installs DHCP to configure TCP/IP.</p>
<b>Issue 4</b>	Multi-monitor Display Configuration ATI Controller fails if not in slot 1
Description	When multiple monitors and video controllers are connected to an HP server, the ATI driver cannot locate the video controller if the ATI Rage IIC video controller is in the second slot.
Solution	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.
<b>Issue 5</b>	Compaq driver updates after Windows 2000 is installed
<b>Description</b>	<p>After installing a new device, when Windows 2000 boots and finds new hardware, the following message box appears:</p> <p><b>"The following file is missing: xxxx"</b></p>
Solution	<p>ProLiant Support Pack 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.</p> <p>To complete the device addition, close the message box and perform the individual driver installation manually using ProLiant Support Pack. You can deselect all other drivers, and then click <b>Install</b> 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.</p>

<b>Issue 6</b>	When Rescan Disks is selected after hot-plugging a hard drive, Windows 2000 might inappropriately display an Unsafe Removal of Device prompt
Description	<p>After hot plugging a hard drive in a storage drive bay, clicking <b>Rescan Disks</b> might result in Windows 2000 failing to identify the drive and displaying this error message:</p> <p><i>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...</i></p>
Solution	Click <b>Rescan Disks</b> a second time to correct this problem; Windows 2000 then detects the drive properly.
<b>Issue 7</b>	No Disable feature is available for the System Management driver once the driver is installed
Description	Do not disable the System Management driver. It is not a supported function. Doing so will cause applications that use the System Management driver, such as the Array Configuration Utility, to hang at system reboot.
Solution	<p>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, reboot and use the spacebar to invoke the Last Known Good configuration.</p> <p>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.</p>
<b>Issue 8</b>	System locks up during Support Pack installation on servers with Compaq System Management Application-Specific Integrated Circuit (CSM ASIC)
Description	<p>Compaq or HP servers that contain the Compaq System Management Application-Specific Integrated Circuit (CSM ASIC) require manual installation of the System Management driver contained on ProLiant Support Pack for Microsoft Windows 2000.</p> <p>These servers include:</p> <ul style="list-style-type: none"> <li>Prosignia 200 (P05 System ROM)</li> <li>ProLiant 800 (P02 System ROM)</li> <li>ProLiant 850R (P04 System ROM)</li> <li>ProLiant 1200 (E35 System ROM)</li> <li>ProLiant 1500 (E27 System ROM)</li> <li>ProLiant 1600 (E34 System ROM)</li> <li>ProLiant 2500 (E24 and E50 System ROM)</li> <li>ProLiant 3000 (E39 System ROM)</li> <li>ProLiant 5500 (E39 System ROM)</li> <li>ProLiant 4500 (E14 System ROM)</li> <li>ProLiant 5000 (E16 System ROM)</li> </ul>
Solution	If you have a server with the CSM ASIC and have experienced a system hang while installing ProLiant Support Pack for Microsoft Windows 2000, cycle the system power, allow the operating system to load, and open the Support Pack. In the ProLiant Support Pack for Microsoft Windows 2000 - Bundle window, deselect the System Management driver, and click the Install button to re-run the Support Pack installer.

<b>Issue 9</b>	For Servers with Compaq System Management Application-Specific Integrated Circuit (CSM ASIC), Insight Agents do not report CPU 2 <sup>nd</sup> Edition Fans, but do correctly report any fan failure events
Description	On servers that contain the Compaq System Management Application-Specific Integrated Circuit, Management Agents do not report the CPU fans.
Solution	Despite the fact that the fans are not reported, Insight Manager reports any failure of the fan's normal operation.
<b>Issue 10</b>	Management Agents require SNMP Community Security default setting changed to READ WRITE
Description	When installing SNMP communities in Windows 2000, the default security setting is READ ONLY.
Solution	<p>Because the 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.</p> <p>Follow this procedure to set the SNMP Community rights to READ WRITE:</p> <ol style="list-style-type: none"> <li>1. Select Start   Programs   Administrative Tools   Component Services.</li> <li>2. Locate and right click on SNMP Service.</li> <li>3. Select the Security tab.</li> <li>4. Select the community name you wish to change, and then click the Edit... button to alter the selected community (or click the Add... button to create a new one).</li> <li>5. Access the Community rights selector dropdown menu, and select READ WRITE.</li> <li>6. Click the OK button to accept the new setting.</li> <li>7. Click the Apply button to activate the security settings</li> <li>8. Close the dialog box.</li> </ol>

## For more information

Visit the HP Windows 2000 website at [www.hp.com/go/microsoft](http://www.hp.com/go/microsoft) for the latest information about HP products, options, customer support, and documentation regarding Microsoft Windows 2000 products.

## Call to action

To help us better understand and meet your needs for ISS technology information, please send comments about this paper to: [TechCom@HP.com](mailto:TechCom@HP.com).

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