

February 2000
11QU-0100A-WWEN

Prepared by OS Integration

Compaq Computer Corporation

Contents

Planning the Upgrade.....	3
Upgrade Checklist.....	4
Minimum Requirements	5
Preparing the System.....	5
Backup	6
Recovery Preparation	6
ROM Updates	7
Compaq Software Update.....	7
Configuration Documentation.....	8
Configuration Update	8
Upgrading to Windows 2000.....	9
Hardware Configuration	9
Utility Removal	9
Windows 2000 Installation	11
Compaq Support Paq for Windows 2000	12
Reviewing Upgrade	
Scenarios	16
PCI Hot Plug	17
Mixed Stepping Processor	17
Multiple Array Controllers.....	19
Teamed NICs.....	21
Troubleshooting	23
Appendix A—Compaq Supported Systems	24
Appendix B—Workarounds.....	28
Appendix C—Compaq Information Products	32

Upgrading to Microsoft Windows 2000 on Compaq ProLiant Servers

Abstract: This document provides system engineers and network administrators with tested information to upgrade successfully from Microsoft Windows NT to Microsoft Windows 2000 on Compaq ProLiant servers. This document includes information on planning, preparing, and installing the operating system for Windows 2000. It also includes four upgrade scenarios and a troubleshooting section, as well as three appendices. Appendix A lists the supported Compaq platforms; Appendix B discusses workarounds; and Appendix C lists resources on the Compaq website.

IMPORTANT: We suggest you read and thoroughly understand this document before attempting an upgrade to Windows 2000.

Other documents with information regarding Compaq servers and Windows 2000 include [Implementing Microsoft Windows 2000 on Compaq Server Products](#), [Migrating to Microsoft Windows 2000 on Compaq ProLiant Servers](#), and [Compaq Tips on Evaluating, Planning, Preparing, and Piloting Your Windows 2000 Environment](#).

The Compaq Resource Paq 6.5 for Microsoft Windows 2000 and Windows NT contains white papers, ROMPaqs, and other information regarding Windows 2000. You can obtain the Resource Paq through our website at <http://www.compaq.com/partners/microsoft/resourcepaq.html>.

Visit the [Compaq Windows 2000 website](#) for the latest information about Compaq products, options, customer support, and documentation regarding Microsoft Windows 2000 products. Check the Compaq and Microsoft Frontline Partnership sites at <http://www.compaq.com/partners/microsoft> and <http://www.microsoft.com/enterprise/alliances/compaq.htm>

Help us improve our technical communication. Let us know what you think about the technical information in this document. Your feedback is valuable and will help us structure future communications. Please send your comments to: CompaqNT@compaq.com

Notice

Copyright ©2000 Compaq Computer Corporation. All rights reserved. Printed in the U.S.A.

Compaq, Compaq Insight Manager, ProLiant, ROMPaq, SmartStart, and NetFlex registered United States Patent and Trademark Office.

Netelligent, ProSignia, and Prosignia, are trademarks and/or service marks of Compaq Computer Corporation.

ActiveAnswers, Active Directory, Microsoft, Windows, Windows NT, Windows NT Server and Workstation, Microsoft SQL Server for Windows NT are trademarks and/or registered trademarks of Microsoft Corporation.

Product names mentioned herein may be trademarks and/or registered trademarks of their respective companies.

The information in this publication is subject to change without notice and is provided "AS IS" WITHOUT WARRANTY OF ANY KIND. THE ENTIRE RISK ARISING OUT OF THE USE OF THIS INFORMATION REMAINS WITH RECIPIENT. IN NO EVENT SHALL COMPAQ BE LIABLE FOR ANY DIRECT, CONSEQUENTIAL, INCIDENTAL, SPECIAL, PUNITIVE OR OTHER DAMAGES WHATSOEVER (INCLUDING WITHOUT LIMITATION, DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION OR LOSS OF BUSINESS INFORMATION), EVEN IF COMPAQ HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

The limited warranties for Compaq products are exclusively set forth in the documentation accompanying such products. Nothing herein should be construed as constituting a further or additional warranty.

This publication does not constitute an endorsement of the product or products that were tested. The configuration or configurations tested or described may or may not be the only available solution. This test is not a determination of product quality or correctness, nor does it ensure compliance with any federal state or local requirements.

Upgrading to Microsoft Windows 2000 on Compaq ProLiant Servers
Integration Note prepared by OS Integration

First Edition (February 2000)
Document Number 11QU-0100A-WWEN

Planning the Upgrade

Windows 2000 does not provide just an upgrade; its radical new design changes the way you manage your network. To effectively plan for the change, you need to understand the differences between your current configuration and your Windows 2000 configuration. DNS becomes the primary method of name resolution and your network administration becomes much more granular and localized. It might seem extremely complex at first, but good planning eliminates much of the difficulty.

In order to effectively plan for these changes, find and update your network map to determine how and why your network looks as it does. What domains do you have and why? Does the structure work internally? What changes could be made to 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?

Look at the entire network infrastructure to establish what improvements should be made before the upgrade begins. Look at your current applications and 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? Take time to investigate Windows 2000, your hardware, and your applications.

Windows 2000 provides an Upgrade Compatibility Verification Tool.
Type

[CD-ROM drive]:\1386\WINNT32.EXE /CHECKUPGRADEONLY
to start the batch file.

Establish functional teams with experts in directory services, administration and management, core OS, networking, applications, and hardware compatibility. Have these teams evaluate Windows 2000. Plan on four to six months to correctly plan your upgrade strategy. Make clear assignments and verify progress along the way. The planning process for a project of this scope is a critical piece in its success.

Fix any problems in your Windows NT environment and 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 the resource domains to be collapsed into the Active Directory domain structure and check for duplicate names across the entire network. Audit your security environment and determine how global groups can help with the upgrade process.

Understand the Microsoft supported upgrade paths for Windows 2000 as seen in Table 1.

IMPORTANT: Attempts to upgrade Windows NT 3.51 or 4.0 to Advanced Server results in a dual-booting system and your users and groups will not transfer to Windows 2000.

Table 1. 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

If you need hardware documentation for your Compaq equipment, it's available at <http://www.compaq.com/products/servers/platforms/index.html>.

Once you decide where you are, how you got there, and what is available, determine where you want to be and how to get there. Who will upgrade first? How will you determine when the next group is ready to upgrade? What security issues are most important? How long can you allow for the full upgrade?

Develop a roadmap with clearly defined action programs to

make sure you have a strategy that can work. Your strategy should include checking the [Compaq Windows 2000 website](#) for new information on a regular basis. [Compaq Services](#) can help you plan your upgrade to Windows 2000.

Upgrade Checklist

Make a checklist to make certain each step is completed once you are ready to begin the actual process of upgrading. Table 2 provides a sample upgrade checklist.

Table 2. Upgrade 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	Update via Compaq Support Software.	http://www.compaq.com/support/files/server/us/index.html
✓	Compaq Support Software for Windows 2000	Update via Compaq Support Software.	http://www.compaq.com/support/files/server/us/index.html
✓	Compaq System Configuration Utility	Update 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	See upgrade path requirements before trying to upgrade to Windows 2000 Advanced Server	
✓	Windows 2000 support on third-party hardware	For hardware supported.	http://www.microsoft.com/hcl/default.asp

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: 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)
- 4.0 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)
- 4.0 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

Appendix A lists the server platforms Compaq supports. Make sure you have a system platform supported by Compaq and inspect the system to confirm that it conforms to the platform-specific configuration listed. The system will be updated and the necessary ROMPaqs installed during the preparation process.

Preparation for the upgrade to Windows 2000 includes the following:

- Backing up the system
- Preparing for system recovery
- Saving configuration information
- Updating the system software
- Documenting settings

- Updating the firmware
- Updating the system configuration

After these items are completed, you are ready to upgrade. Appendix B provides a flow chart of the upgrade process.

CAUTION: Before installing Windows 2000, verify support for any mixed-processor steppings through our website at <http://www.compaq.com/products/servers/processor-mixing/>. See Appendix A.

Backup

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

You must first 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 necessary.

Recovery Preparation

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

Create an Emergency Repair Disk

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

- ✓ Type **RDISK** from 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.

Create a 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, unable to find the correct driver, or use different types of controllers, check 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*.

ROM Updates

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 firmware upgrades for Compaq ProLiant servers and server options. Update your system according to the instructions included with the ROMPaq.

Compaq Software Update

The system software must be updated prior to upgrading your operating system to Windows 2000. Updating the software ensures that Windows 2000 adapts to your desired configuration after the upgrade. During the 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 to upgrade to Windows 2000. The Compaq SSD for Windows NT contains the latest updates for the drivers and utilities included in your system for use with Windows NT. Check our website [Compaq SSD for Windows NT](#) for the latest version.

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

- ✓ Obtain four formatted 1.44-MB diskettes.
- ✓ 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.

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

Compaq Management Agents for Servers

Update your [Management Agents](#) through our website before attempting to upgrade to Windows 2000. To complete the update, perform the following steps:

- ✓ 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.

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.

To record the system configuration settings, press the **F10** key when restarting the system.

- ✓ Record the configuration settings.
- ✓ Close the Network Settings dialog box.

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 still must 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* → *Drive Array Configuration*.
- ✓ Select *Exit*.
- ✓ Remove any diskettes.
- ✓ Restart the server.

Upgrading to Windows 2000

To produce a Windows 2000 Server or Advanced Server installation supported by Compaq, follow the procedure described below when setting up the system.

IMPORTANT: Before beginning the installation process, check the [Compaq Windows 2000](#) website for the most recent information concerning Windows 2000 and Compaq products.

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 using the following steps.

- ✓ Power up the server.
- ✓ 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)

- ✓ Select *Windows 2000*.
- ✓ Exit the System Configuration Utility.
- ✓ Save your changes.

The server restarts automatically.

- ✓ 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).

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 1 illustrates the initial popup screen of the Primer Utility.

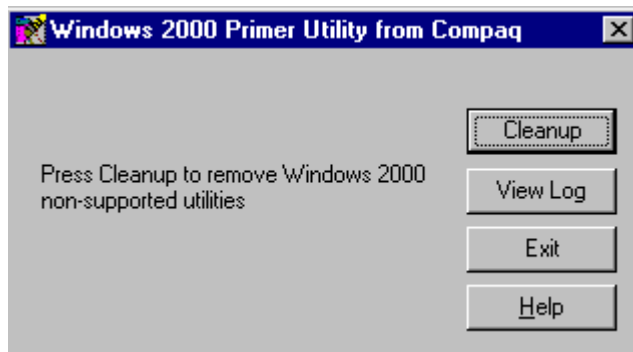
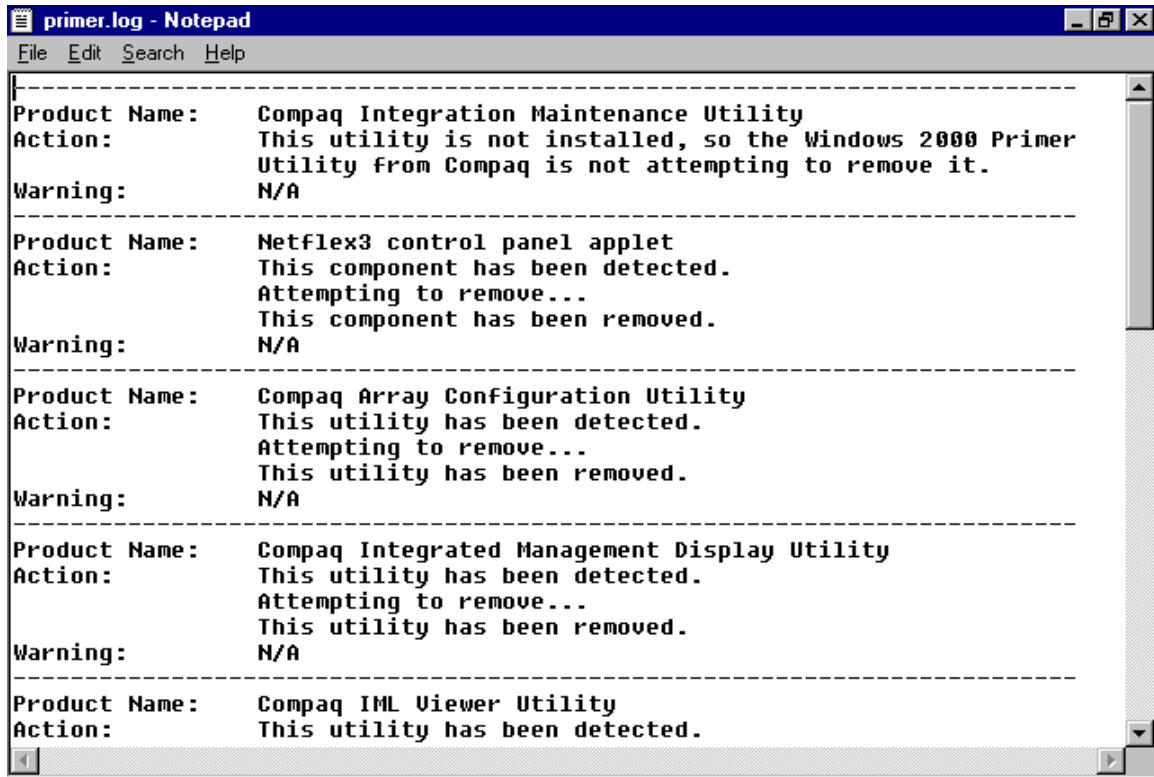


Figure 1. Windows 2000 Primer Utility popup screen

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

The process notifies you when it has successfully completed. 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 2 illustrates the log file format and the data provided.



```

-----
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 2. 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.

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.

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 by selecting Uninstall from the Control Panel. In the case of Compaq Management Agents, run Compaq Insight Manager and go to its Uninstall File.

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/>.

We received the screen shown in Figure 3 after Windows 2000 Advanced Server checked our system compatibility.

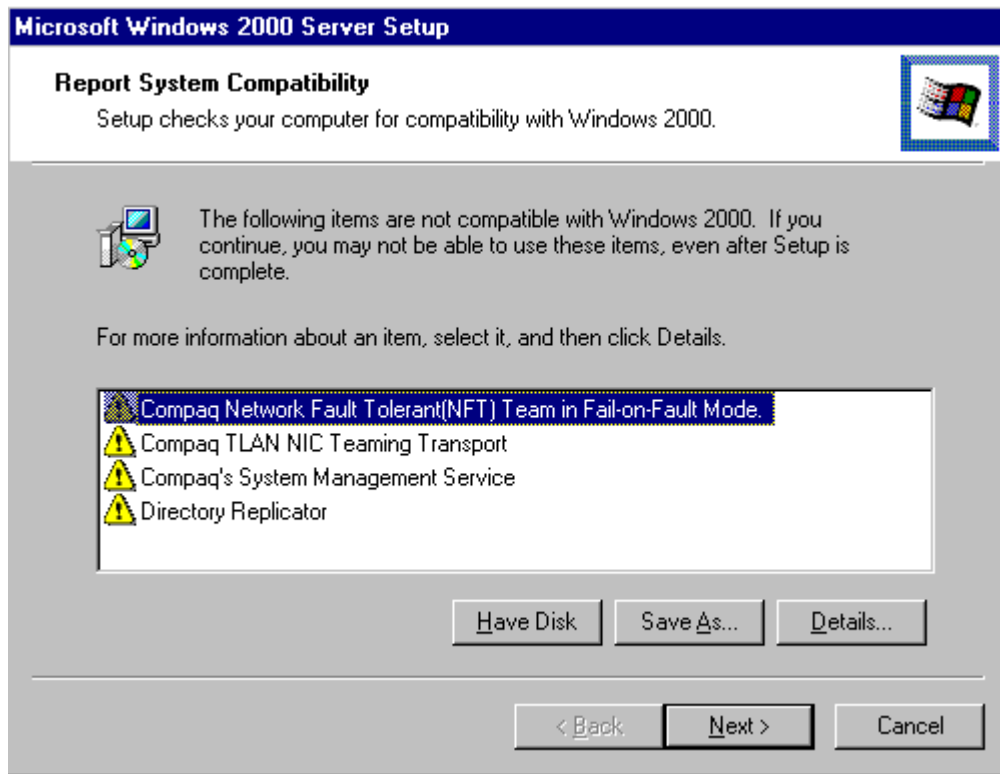


Figure 3. System Compatibility Report

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 “Reviewing Upgrade Scenarios”), 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 as part of 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 after the operating system installation completes.

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 Compaq Support Paq for Windows 2000 version 5.01.00 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 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 Compaq 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.

- ✓ Select *Install*.

You might see the screen in Figure 4 during the installation process.

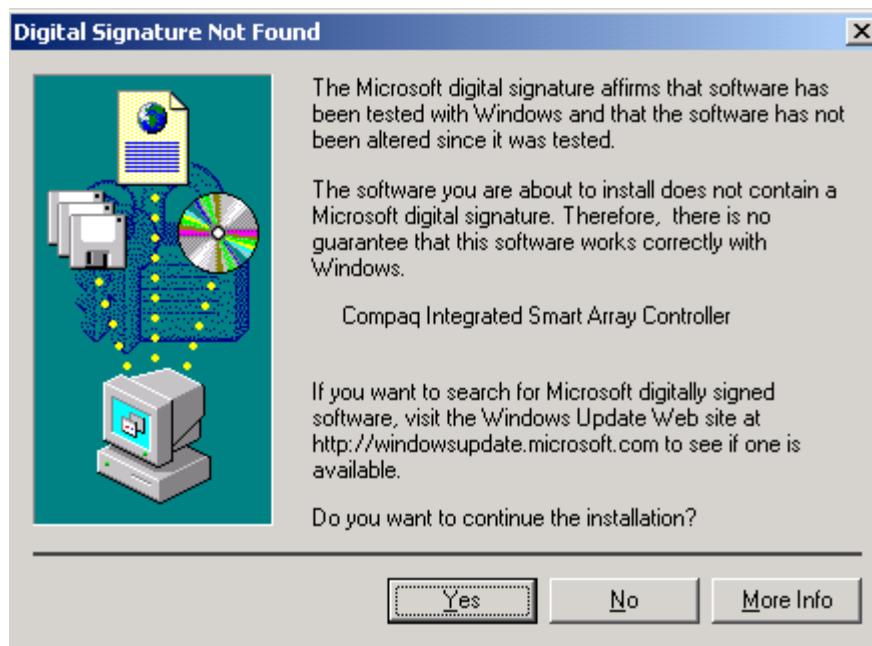


Figure 4. Digital Signature Not Found screen

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 any 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 5 shows a sample Results Screen Log.

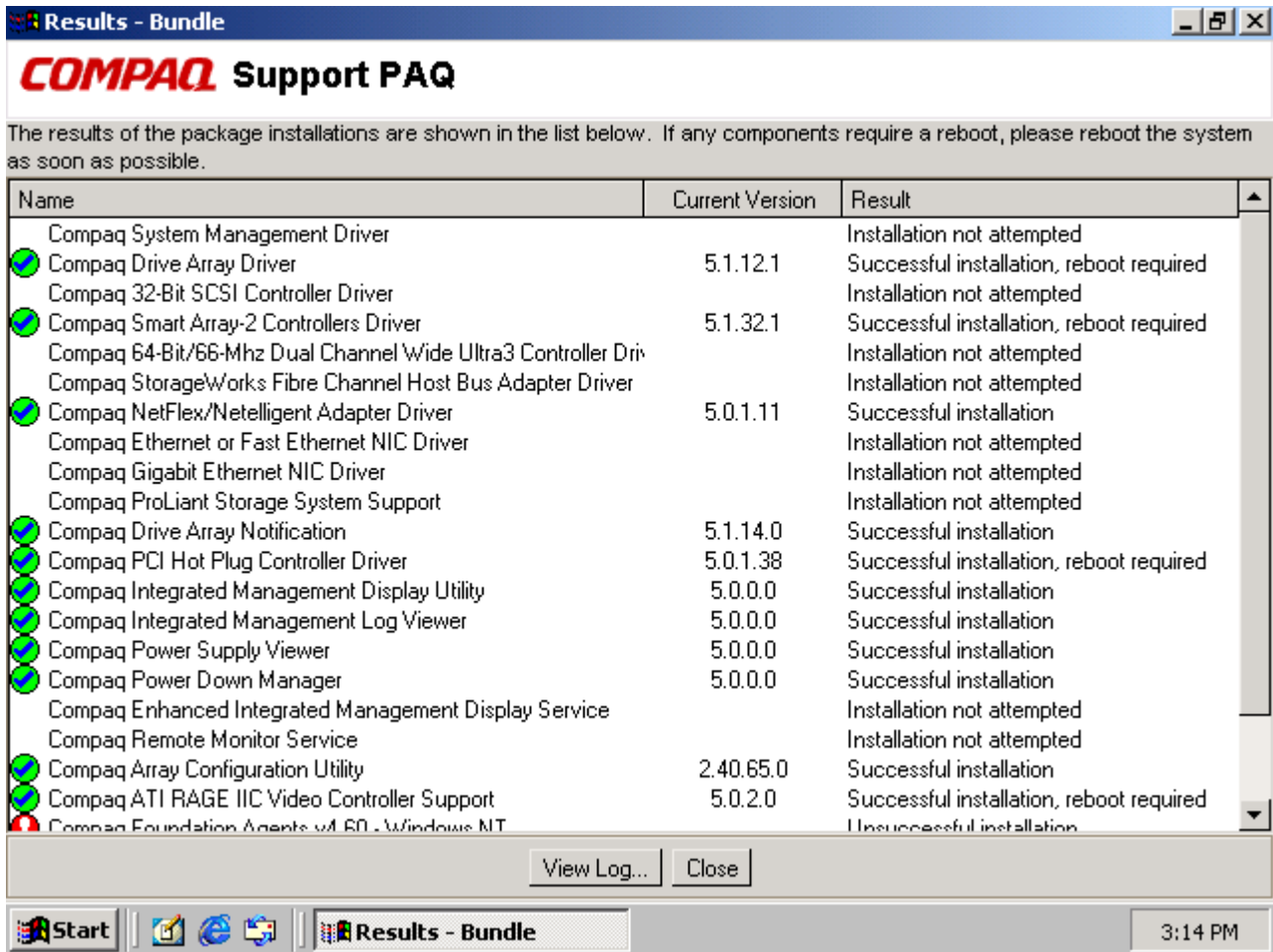


Figure 5. Results from Compaq Support Paq installation

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 6.

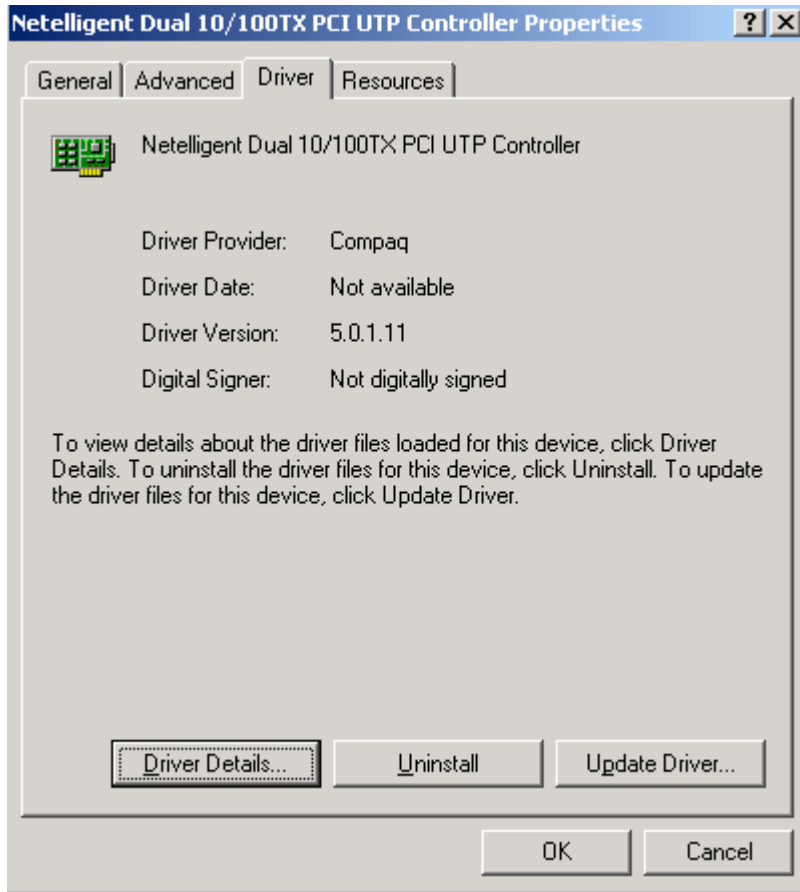


Figure 6. Verification of driver provider

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

Reviewing Upgrade Scenarios

Several upgrade scenarios were tested in the Compaq Integration Test Lab using Windows 2000 and the Compaq Support Paq for Windows 2000. To illustrate the broadest range of possible upgrade scenarios, four upgrade scenarios from the ProLiant server family were selected for this document. Although your exact configuration might not be included, the information provided applies to all supported Compaq ProLiant servers and addresses all known issues with upgrading to Windows 2000. Our scenarios included equipment operating with Windows NT 3.51 Server, Windows NT 4.0 Server, and Windows NT 4.0 Enterprise Server Edition. The equipment included a ProLiant 850R, a ProLiant 4500, and a ProLiant 7000 in various configurations. We used single and teamed NICs, as well as single and multiple array controllers. We tested various Compaq software settings and used equipment that was hot-plug capable and equipment that was not.

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 with 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 7.

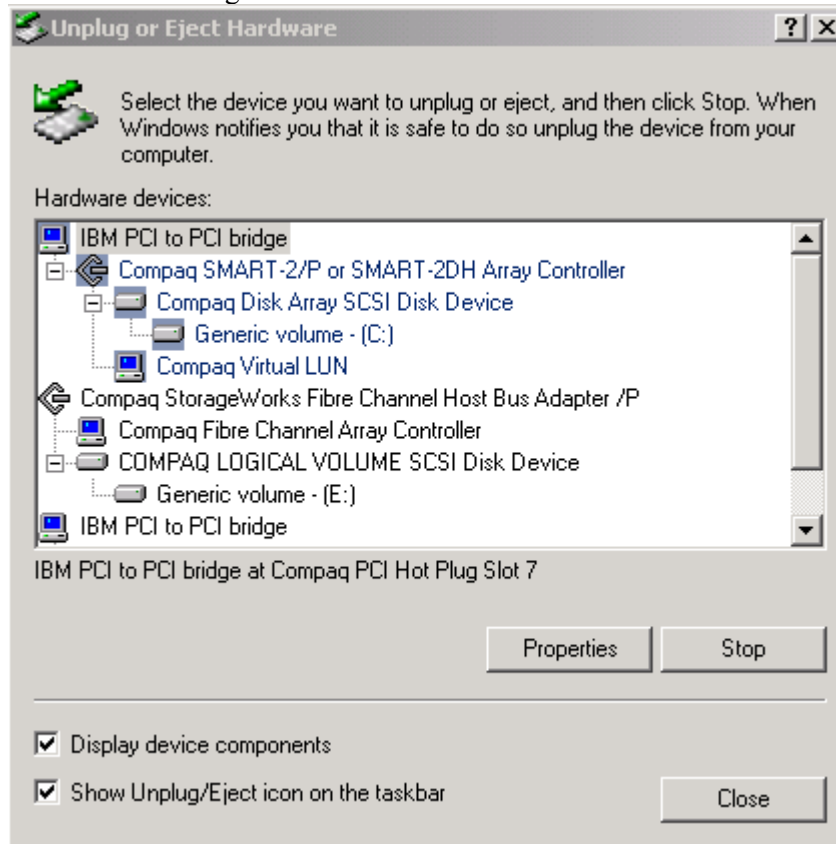


Figure 7. PCI Hot Plug interface

For a detailed discussion of PCI Hot Plug technology in the Windows 2000 environment, see the white paper [PCI Hot Plug Technology with Microsoft Windows Architecture](#).

Mixed Stepping Processor

Compaq supports mixed stepping processors with different cache sizes for Windows 2000, although Microsoft, Intel, and other hardware vendors do not. As part of the Compaq internal testing program, ProLiant servers pass the same WHQL certification test under combinations of mixed cache sizes as they pass on non-mixed processor steppings. Compaq provides this additional level of testing as added value for customers eager for the cost benefits of successfully mixing processors.

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. The following general conditions apply to this support:

- All processors of the same processor family and model
 - Core frequency of all processors set to frequency of slowest processor
 - No processor core frequency set to a higher frequency than its rating allows
 - Cache sizes installed in pairs if different cache sizes used
- Lowest step processor is the bootstrap processor

CAUTION: 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.

A multiprocessor system can contain processors with mixed steppings or processors with mixed L2 cache sizes but they must all be the same speed. At startup, Windows 2000 writes an information message in the event log regarding mixed processors. See Figure 8 for the source and location of the message in the Event Viewer and Figure 9 to see the message. This is not an error message. It is provided for information purposes only.

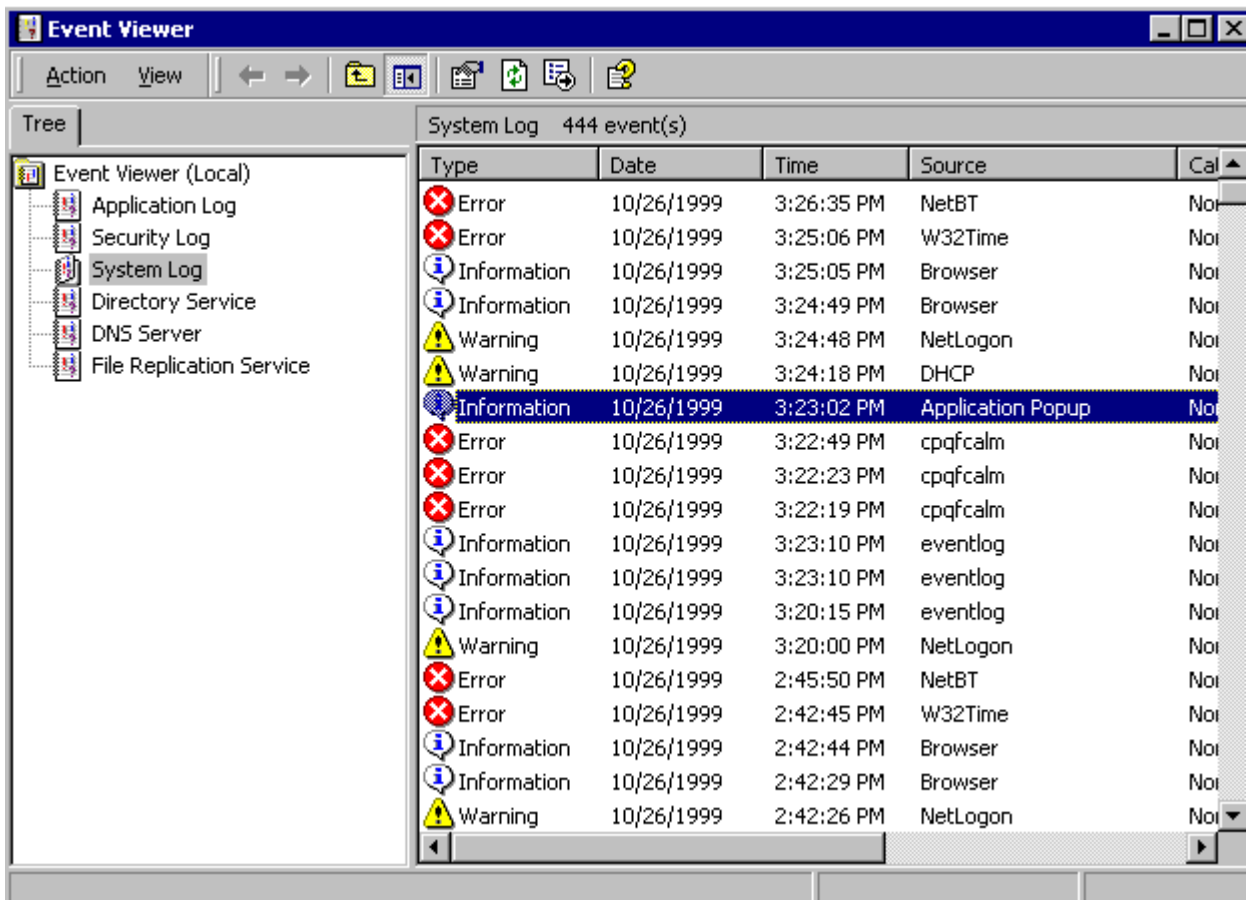


Figure 8. Event Viewer screen

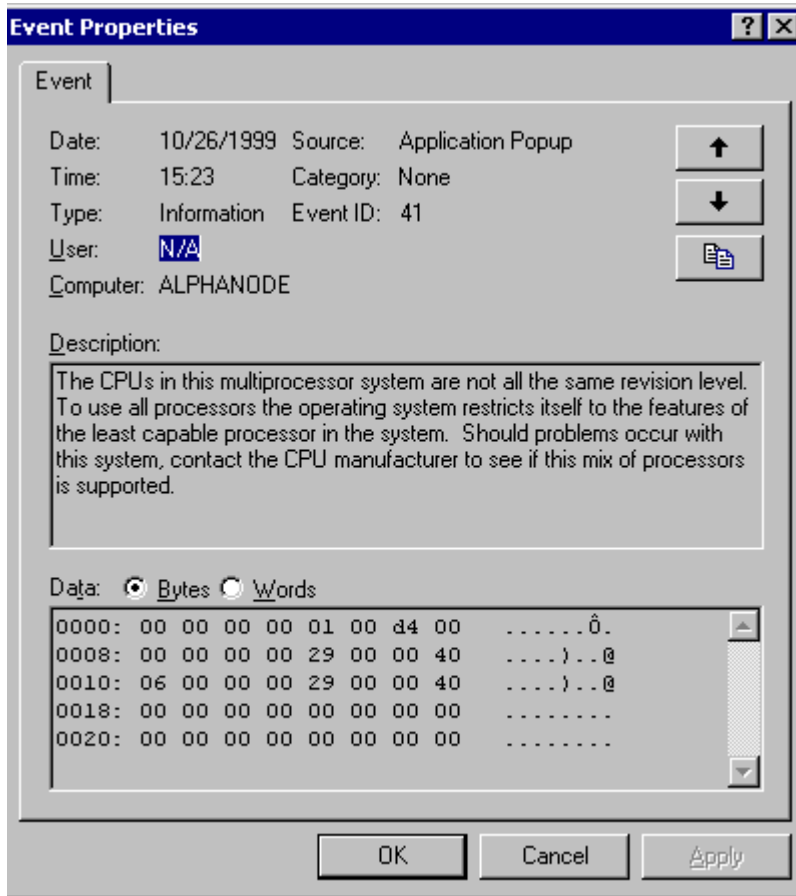


Figure 9. Mixed stepping informational message

The Bootstrap Processor (BSP) is in the first slot.

Make certain that the lowest stepping processor is the Bootstrap Processor (BSP), or problems can result as Windows 2000 initializes the processors.

Some mixed processor configurations can cause the system to hang during installation of Windows 2000. This issue has been corrected with new BIOS on systems with programmable slot ordering. For legacy systems without programmable slot ordering, locate the lowest stepping processor and place it in the first processor slot. For additional information, please see the document entitled [Support for Mixing Intel 6 Processors in Compaq Servers Running Windows NT or Windows 2000](http://www.compaq.com/support/techpubs/whitepapers/index.html) at <http://www.compaq.com/support/techpubs/whitepapers/index.html> through our website.

Multiple Array Controllers

We tested a number of different scenarios with multiple array controllers. Our combinations included SMART controllers combined with Fibre Array Controllers, SMART controllers paired with each other, SMART controllers with Wide-Ultra SCSI controllers, and configurations with integrated controllers. None of the combinations tested showed any problems after installing drivers. Drivers should be reinstalled using the drivers from the Compaq Support Paq for Windows 2000 and not from the Windows 2000 CD.

The Array Configuration Utility installation screen looks somewhat different in Windows 2000 because it uses the Windows 2000 Setup Wizard. See Figure 10.

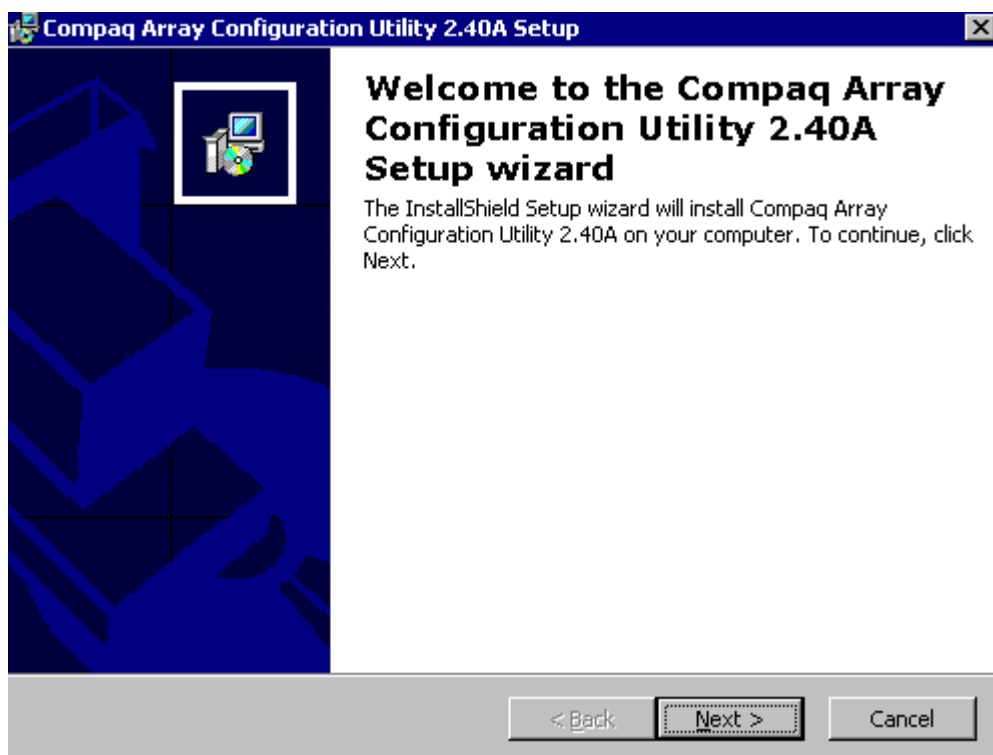


Figure 10. Compaq Array Configuration Utility installation screen 1

Click the **Next** button and you will see the screen in Figure 11. We recommend you perform the complete installation, which is the default.

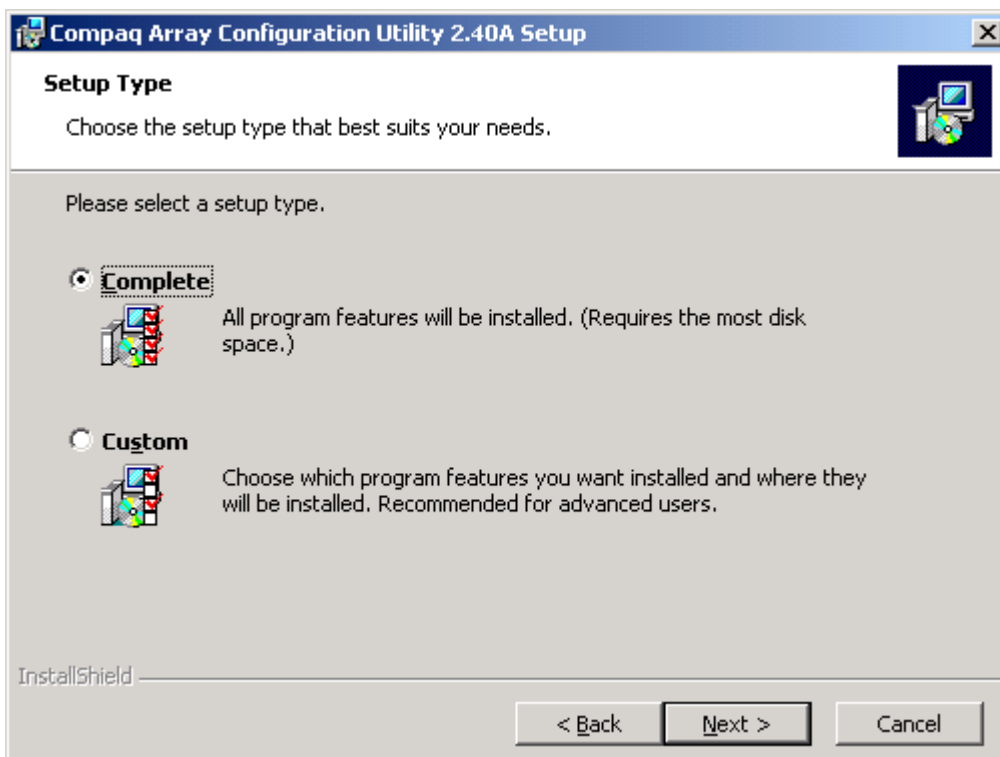


Figure 11. Compaq Array Configuration Utility installation screen 2

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 12.

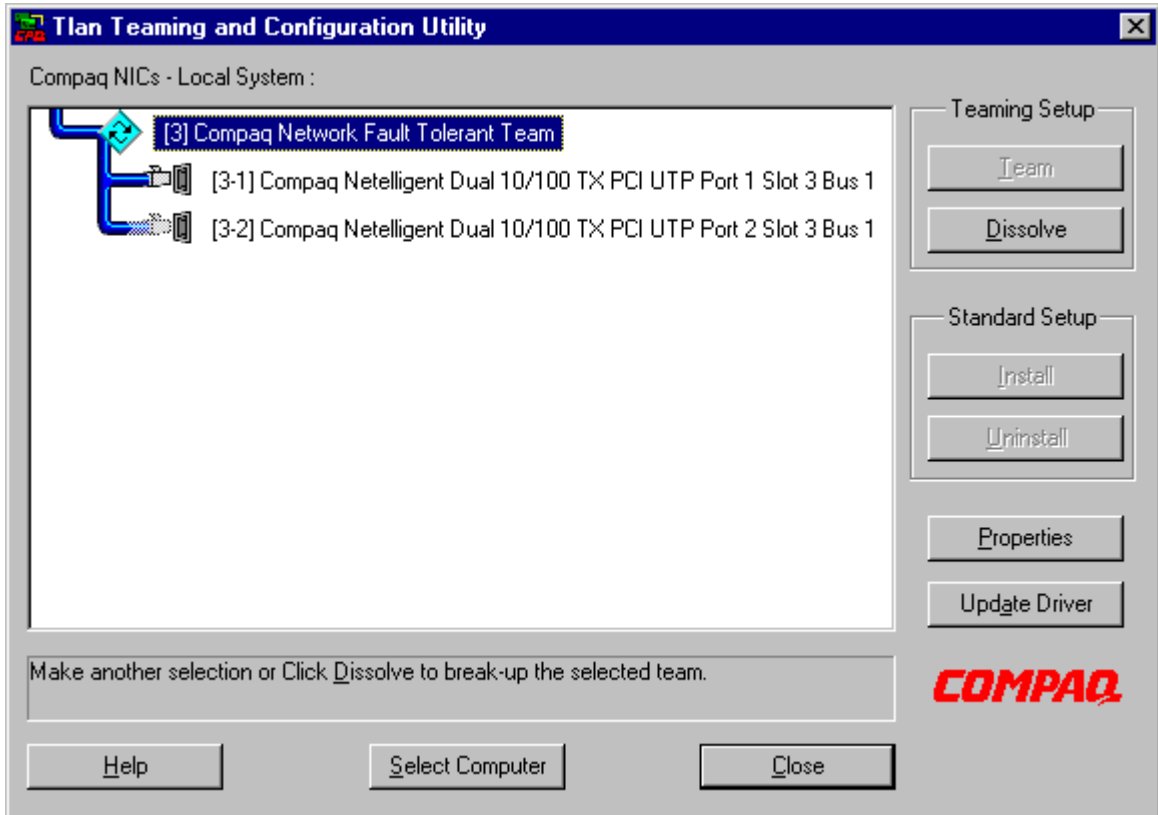


Figure 12. Teaming and Configuration Utility Screen

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 13.



Figure 13. Task bar showing broken NIC connections

Load the appropriate drivers for your NICs through Device Manager in Windows 2000. Check the box titled Install One of The Other Drivers when you see the screen in Figure 14.

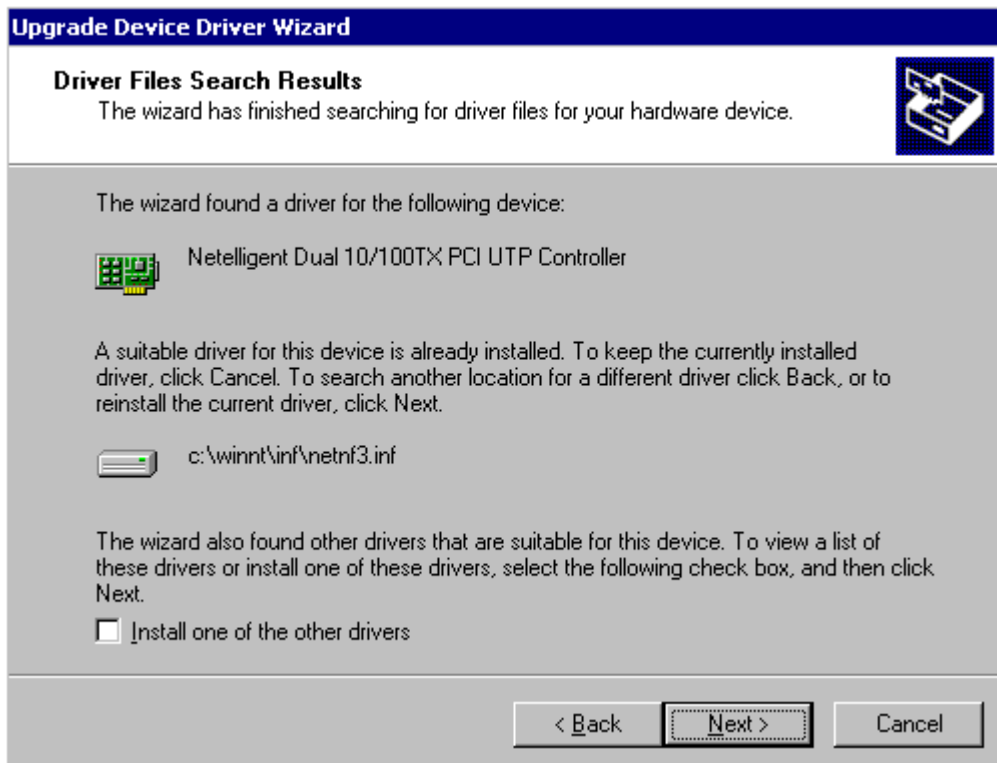


Figure 14. Driver files search results screen

Install the NIC teaming driver from the Compaq Support Paq for Windows 2000 by following the instructions provided with the Support Paq. The Compaq Support Paq for Windows 2000 on the SmartStart and Support Software CD release 4.60 does not contain the NIC teaming driver.

Download the latest Support Paq from

<http://www.compaq.com/support/files/server/us/index.html>.

Troubleshooting

This section provides tips for troubleshooting some common problems. We recommend that you check the [Compaq Windows 2000](#) website for additional information. Please read the Known Issues section of the Compaq Support Paq 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.

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

Table 3. 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	CPQARRAY2.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 4 lists supported Compaq network controllers, including the minimum firmware and driver revisions needed to interface with Windows 2000.

Table 4. Supported Compaq network controllers for Windows 2000

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

(continued)

Table 4. Supported Compaq network controllers for Windows 2000 (continued)

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

Table 4. Compaq resources

Item	Web Location
Windows 2000 on Compaq	http://www.compaq.com/partners/Microsoft/Windows2000/index.html
<i>Windows 2000 Advantage</i> online magazine	http://www.windows2000advantage.com
Compaq <i>ActiveAnswers</i>	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/MGMTSQL/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