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# Microsoft Windows 2000 Release Candidate 2 with Compaq Server Products

**Abstract:** This document provides information concerning Microsoft Windows 2000 Release Candidate 2 (RC2) and Compaq server products, including

- supported configurations of Compaq x86 ProLiant and Prosignia Server products
- supported Compaq-specific software and drivers
- supported storage options and network adapters
- installation steps for Compaq x86 Server products
- considerations when moving to Windows 2000
- issues customers could encounter

This document does not provide information for Alpha platforms running Microsoft Windows 2000.

Compaq continues to test its products with Windows 2000. At the time of publication, this document was complete and accurate. You might encounter other issues not known at the time of writing this document.

For current information and details about the Compaq and Microsoft partnership and Windows 2000, check our website at <http://www.compaq.com/partners/microsoft/Windows2000/index.html>

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](mailto:CompaqNT@compaq.com)

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## Introduction

Compaq recognizes that customers might want (or need) to install pre-release versions of Microsoft Windows 2000. The release candidate phase is an ideal time to understand the new features of Windows 2000 and develop migration plans for future deployment. It is, however, important to recognize the potential impact before committing time and resources to the test effort.

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**IMPORTANT:** Review this entire document before you begin testing with your Compaq server products.

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Most of the issues described in this document are Compaq-specific issues that involve Compaq ROMs, drivers, service applications, and support code. Compaq recommends that you test pre-released software in non-production environments only. Backup any necessary data before your testing begins, and document your current computer configuration before attempting any installation of pre-released software.

Please notify us of issues encountered with Windows 2000 on Compaq ProLiant and Prosignia Server products using the email address [CompaqNT@compaq.com](mailto:CompaqNT@compaq.com). Please note that this email address is not product support and you might not receive a reply. Compaq will review and evaluate submissions during the release candidate-testing phase of Microsoft Windows 2000.

For the latest information and updates concerning Windows 2000 on Compaq platforms, visit <http://www.compaq.com/partners/microsoft/Windows2000/index.html>. In addition, a support forum is available at <http://forum.compaq.com/mb5/system/login.html>. Through this forum, Compaq will answer your email questions regarding Windows 2000 for supported Compaq platforms. Telephone support is not available for Windows 2000 for RC2.

At the time of publication, this document was complete and accurate. Other issues could arise after publication. If necessary, updated information will be posted to the Compaq website at [http://www.compaq.com/support/techpubs/Customer\\_advisories/index.html](http://www.compaq.com/support/techpubs/Customer_advisories/index.html). If you want to be notified about newly released information regarding Windows 2000, sign up for the Compaq Info Messenger service at <http://www.compaq.com/infomessenger> and complete a profile for this free service.

## Supported Configurations

Microsoft Windows 2000 should load and run with virtually any Compaq product that meets the minimum hardware requirements for Windows 2000; however, it is not possible for all hardware and software configurations to be tested and supported by Compaq during the release candidate phase. 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. A comparison table of some Compaq features developed for Microsoft Windows NT 4.0 that are in development, implemented differently, or otherwise changed in Windows 2000 can be found on page 14.

Carefully review the minimum requirements and possible issues you might encounter outlined in this document. This will make the best use of your Compaq resources in testing scenarios. Do not use this document as your sole source of information. In addition to Compaq websites mentioned, you might also want to visit the Microsoft website at <http://www.microsoft.com>.

## System platforms

Table 1 lists Compaq servers and minimum ROMPaq revisions Compaq will support running Windows 2000. For your convenience, the latest available ROMPaq version is also listed.

Refer to the following documents available on the Compaq website to assist in determining the ROM version and family of your Compaq Server products:

### ***Determining System ROM family code and version***

<http://www.compaq.com/support/files/server/softpaqs/Rompaq/ROMhowto.html>

### ***System ROM family table***

<http://www.compaq.com/support/files/server/softpaqs/Rompaq/romtabl.html>

### ***Supported platforms***

**Table 1. Supported system platforms for Windows 2000**

Server Platform	ROM Family	Minimum ROMPaq Revision	ROM Date	Latest ROMPaq Revision	ROM Date
ProSignia 200	P01	4.02A	12/30/98	4.02A	12/30/98
	P05	4.02A	12/30/98	4.03A	6/28/99
Prosignia Server 720	D01/F01	N/A	12/2/98	4.02A	7/28/99
Prosignia Server 740	S01	N/A	8/18/99	N/A	8/18/99
ProLiant 400	D01/F01	N/A	12/2/98	4.02A	7/28/99
ProLiant 800	P02	4.02A	12/30/98	4.02A	12/30/98
	P14/P18	N/A	8/18/99	N/A	8/18/99
ProLiant 850R	P04	4.02A	12/30/98	4.02A	12/30/98
ProLiant 1200	E35	4.02A	12/30/98	4.04A	6/28/99
ProLiant 1500	E12/E27	4.01A	8/17/98	4.01A	8/17/98

*continued*

**Table 1. Supported system platforms for Windows 2000** (continued)

ProLiant 1600	E34	4.02A	12/30/98	4.04A	6/28/99
	P08	N/A	8/18/99	N/A	8/18/99
ProLiant 1850R	P07	N/A	8/18/99	N/A	8/18/99
ProLiant 2500	E24	4.02A	12/30/98	4.04A	6/28/99
	E50	4.02A	12/30/98	4.05A	6/28/99
ProLiant 3000	P09	N/A	8/18/99	N/A	8/18/99
	E39	4.02A	12/30/98	4.04A	6/28/99
ProLiant 4500	E14	4.01A	8/17/99	4.01A	8/17/99
ProLiant 5000	E16	4.03A	4/30/99	4.03A	4/30/99
ProLiant 5500	E39	4.02A	12/30/98	4.04A	6/28/99
ProLiant 5500 Xeon	P12	N/A	8/18/99	N/A	8/18/99
ProLiant 6000	E20	4.03A	4/30/99	4.03A	4/30/99
ProLiant 6000 Xeon	P40/P43	4.04A	2/26/99	4.06A	8/5/99
ProLiant 6400R	P11	N/A	8/18/99	N/A	8/18/99
ProLiant 6500	E25	4.03A	4/30/99	4.03A	4/30/99
ProLiant 6500 Xeon	P11	N/A	8/18/99	N/A	8/18/99
ProLiant 7000	E40	4.03A	4/30/99	4.03A	4/30/99
ProLiant 7000 Xeon	P40/P43	4.04A	2/26/99	4.06A	8/5/99
ProLiant 8000	P41	N/A	9/4/99	4.00	10/11/99
ProLiant 8500	P42	N/A	8/28/99	4.00	10/11/99

**Note 1:** Many of these devices have firmware upgrades available through the Options ROMPaq. The latest version Options ROMPaq is on the Compaq website at <http://www.compaq.com/support/files/server/ROMPAQ/index.html>.

**Note 2:** During the RC2 phase, cluster configurations running Windows 2000 RC2 will not be supported.

## Supported software

Table 2 lists supported Compaq utilities, and the minimum version needed for Windows 2000.

**Table 2. Supported Compaq utilities for Windows 2000**

Utility	Version	Location
Compaq Array Configuration Utility	2.21B	<a href="http://www.compaq.com/support/files/server/softpaqs/Rompag/arrayconfig.html">http://www.compaq.com/support/files/server/softpaqs/Rompag/arrayconfig.html</a>
Compaq Insight Manager	4.40K	<a href="http://www.compaq.com/partners/Microsoft/Windows2000/BetaSupport/servers.html">http://www.compaq.com/partners/Microsoft/Windows2000/BetaSupport/servers.html</a>
Compaq Server Diagnostics	10.23A	<a href="http://www.compaq.com/support/files/server/softpaqs/Rompag/SERVDIAG.html">http://www.compaq.com/support/files/server/softpaqs/Rompag/SERVDIAG.html</a>
Compaq System Configuration Utility	2.44A	<a href="http://www.compaq.com/support/files/server/softpaqs/Rompag/SYSCONFIG.html">http://www.compaq.com/support/files/server/softpaqs/Rompag/SYSCONFIG.html</a>

## Supported storage options

Table 3 lists supported Compaq storage options and driver revisions needed to interface with Windows 2000. SP10633 refers to SoftPaq 10633, available on the Compaq website.

**Table 3. Supported Compaq Storage Options for Windows 2000**

Option	Driver	Location
Compaq 4.3 - 36-GB Hard Disk Drives	N/A	No driver required
Compaq 4/8-GB SLR Tape Drive	<i>TANDQIC.SYS</i>	Included on Windows 2000 CD
Compaq 4x-32x CD-ROM Drives		Included on Windows 2000 CD
Compaq DDS2 4/16-GB Autoloader		Included on Windows 2000 CD
Compaq DDS3 12/24-GB DAT Autoloader		Included on Windows 2000 CD
Compaq DAT Tape Drives		Included on Windows 2000 CD
Compaq DLT Autoloader M35/70		Included on Windows 2000 CD
Compaq DLT Library 7000		Included on Windows 2000 CD
Compaq DLT Tape Array		Included on Windows 2000 CD
Compaq Fibre Channel Host Controller /E	<i>CPQFCALM.SYS</i>	SP10633
Compaq Fibre Channel Host Controller /P	<i>CPQFCALM.SYS</i>	SP10633
Compaq Fibre Channel Filter Driver	<i>CPQFCFTR.SYS</i>	SP10633
Compaq Fibre Channel Array	No driver supplied; base functionality only; version 1.22 minimum firmware required	
Compaq ProLiant Storage System	No driver supplied; base functionality only	
Compaq Smart Array 4200, Smart Array 4250ES, and Integrated Smart Array Controllers	<i>CPQARRAY2.SYS</i>	SP10633
Compaq SMART SCSI, SMART-2, Smart Array 221 RAID, Smart Array 3100ES RAID and SMART Array 3200 RAID Controllers	<i>CPQARRAY.SYS</i>	SP10633; see Notes 2 and 3
Compaq 32-bit Fast-Wide SCSI-2 Controller /E	<i>CPQ32FS2.SYS</i>	CPQFWS2E driver included on Windows 2000 CD
Compaq 32-bit Fast-Wide SCSI-2 Controller /P	<i>CPQ32FS2.SYS</i>	SP10633; Symbios driver included on Windows 2000 CD
Compaq 64-bit Fast Ultra-2 SCSI Controller	<i>CPQ32FS2.SYS</i>	SP10633; Symbios driver included on Windows 2000 CD
Compaq Dual Channel Wide-Ultra SCSI-3 Controller	<i>CPQ32FS2.SYS</i>	SP10633; Symbios driver included on Windows 2000 CD
Compaq Wide-Ultra SCSI-2 Controller	<i>CPQ32FS2.SYS</i>	SP10633; Symbios driver included on 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 on the Compaq website at <http://www.compaq.com/support/files/server/softpaqs/Rompag/OPTROM.html>.

**Note 2:** *CPQARRAY.SYS* is included on the Windows 2000 CD. After installing Windows 2000, update the driver with the *CPQARRAY.SYS* included on SP10633 to ensure the highest level of service and reliability.

## Supported network adapters

Table 4 lists supported Compaq network adapters, including the minimum firmware and driver revisions for Windows 2000 RC2. SoftPaq 10633 (SP10633) is available on the Compaq website.

**Table 4. Supported Compaq Network Adapters for Windows 2000**

Compaq NIC	Driver	Location
Compaq 32-Bit DualSpeed Token Ring Controller	NETFLX.SYS	Windows 2000 CD
Compaq 100 FDDI PCI DAS Fiber-SC Controller	SKFPWIN.SYS	Windows 2000 CD
Compaq 100 FDDI PCI DAS UTP Controller	SKFPWIN.SYS	Windows 2000 CD
Compaq 100 FDDI PCI SAS Fiber-SC Controller	SKFPWIN.SYS	Windows 2000 CD
Compaq 100 FDDI PCI SAS Fiber-MIC Controller	SKFPWIN.SYS	Windows 2000 CD
Compaq 100 FDDI PCI SAS UTP Controller	SKFPWIN.SYS	Windows 2000 CD
Compaq NC1120 Ethernet	N100NT5.SYS	Windows 2000 CD
Compaq NC3120 Fast Ethernet	N100NT5.SYS	Windows 2000 CD
Compaq NC3121 Fast Ethernet	N100NT5.SYS	Windows 2000 CD
Compaq NC3122 Fast Ethernet	N100NT5.SYS	Windows 2000 CD
Compaq NC3123 Fast Ethernet	N100NT5.SYS	Windows 2000 CD
Compaq NC3131 Fast Ethernet	N100NT5.SYS	Windows 2000 CD
Compaq NC3132 Fast Ethernet Upgrade Module	N100NT5.SYS	Windows 2000 CD
Compaq NC3133 Fast Ethernet Upgrade Module	N100NT5.SYS	Windows 2000 CD
Compaq NC3160 Fast Ethernet (Embedded)	N100NT5.SYS	Windows 2000 CD
Compaq NC3161 Fast Ethernet (Embedded)	N100NT5.SYS	Windows 2000 CD
Compaq NC3162 Fast Ethernet (Embedded)	N100NT5.SYS	Windows 2000 CD
Compaq NC3163 Fast Ethernet (Embedded)	N100NT5.SYS	Windows 2000 CD
Compaq NC4621 Token Ring NIC	CPQTRND5.SYS	Windows 2000 CD
Compaq NC6132 Gigabit Module	E1000NT5.SYS	Windows 2000 CD
Compaq NC6133 Gigabit Module	N1000NT5.SYS	Windows 2000 CD
Compaq NC6134 Gigabit NIC	N1000NT5.SYS	Windows 2000 CD
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	<a href="http://www.compaq.com/support/files/server/WINNT/index.html">http://www.compaq.com/support/files/server/WINNT/index.html</a>
Netelligent 10/100 TX Embedded UTP	NETFLX3.SYS	<a href="http://www.compaq.com/support/files/server/WINNT/index.html">http://www.compaq.com/support/files/server/WINNT/index.html</a>
Netelligent 10/100 TX Embedded UTP/AUI	NETFLX3.SYS	<a href="http://www.compaq.com/support/files/server/WINNT/index.html">http://www.compaq.com/support/files/server/WINNT/index.html</a>
Netelligent 10/100 TX Embedded UTP/Coax	NETFLX3.SYS	<a href="http://www.compaq.com/support/files/server/WINNT/index.html">http://www.compaq.com/support/files/server/WINNT/index.html</a>

*continued*

**Table 4. Supported Compaq Network Adapters for Windows 2000** (continued)

Netelligent 10/100 TX PCI Dual UTP	NETFLX3.SYS	<a href="http://www.compaq.com/support/files/server/WINNT/index.html">http://www.compaq.com/support/files/server/WINNT/index.html</a>
Netelligent 10/100 TX PCI UTP	NETFLX3.SYS	<a href="http://www.compaq.com/support/files/server/WINNT/index.html">http://www.compaq.com/support/files/server/WINNT/index.html</a>
Netelligent 10/100 TX UTP	NETFLX3.SYS	<a href="http://www.compaq.com/support/files/server/WINNT/index.html">http://www.compaq.com/support/files/server/WINNT/index.html</a>
Netelligent 10/100 TX WOL PCI UTP – Intel	N100NT5.SYS	Windows 2000 CD
Netelligent 10 T/2 PCI UTP Coax Controller	NETFLX3.SYS	
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 (see Note)	NETFLX3.SYS	<a href="http://www.compaq.com/support/files/server/WINNT/index.html">http://www.compaq.com/support/files/server/WINNT/index.html</a>
NetFlex-3/P (see Note)	NETFLX3.SYS	<a href="http://www.compaq.com/support/files/server/WINNT/index.html">http://www.compaq.com/support/files/server/WINNT/index.html</a>
NetFlex-3 Embedded (see Note)	NETFLX3.SYS	<a href="http://www.compaq.com/support/files/server/WINNT/index.html">http://www.compaq.com/support/files/server/WINNT/index.html</a>

**IMPORTANT:** The drivers for the network adapters are on the Windows 2000 CD and have undergone some preliminary testing by Microsoft and Compaq. However, only the embedded network adapters have undergone extensive functional testing.

**Note:** The Windows 2000 CD includes NETFLX3.SYS. However, after installing Windows 2000, update the driver to the version on the SoftPaq to ensure the highest level of service and reliability.

## Installation procedure

You should be able to upgrade systems running Microsoft Windows NT 4.0 or Microsoft Windows NT 3.51 to Windows 2000 RC2 Server Edition.

**IMPORTANT:** Compaq does *not* recommend upgrading to, or installing, Windows 2000 RC2 in a production environment. Windows 2000 RC2 tests should only be performed in isolated test environments. Before attempting an installation or upgrade, review the section, "FYI: Moving to Windows 2000."

## Minimum System requirements

Table 5 lists minimum system requirements for Windows 2000.

**Table 5. Minimum System requirements for Windows 2000**

Parameter	Server Edition	Advanced Server Edition
Processor	166 MHz Pentium Pro	166 MHz Pentium Pro
RAM	64 MB	128 MB
Monitor	VGA or higher resolution	VGA or higher resolution
Available Disk Space	1 GB	1 GB

**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).

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

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## Compaq-supported installation

To produce a Windows 2000 Server Edition installation that is supported by Compaq, follow these steps when setting up the system. Read the sequence completely before you start. SoftPaq files are available on the Compaq website at <http://www.compaq.com/support/files/index.html>.

1. Select a supported system platform from the server platforms listed in Table 1. Supported system platforms for Windows 2000.
2. Inspect the system to confirm that it conforms to the platform-specific configuration listed in Table 1. Supported system platforms for Windows 2000. If necessary, update the system and option ROMs as specified in Table 1, and Table 3. Supported Compaq Storage Options.

Table 6 lists special mode settings that must be changed in your BIOS file.

**Table 6. Special Mode Settings for Windows 2000**

Hardware	Field Name	Value	Requirement
Multiprocessor system	APIC Mode	<b>Full Table</b>	Compaq System Configuration Utility in Advanced Mode
PCI Smart Array Controller	Hot Plug Reservation Mode	<b>Extensive</b>	
Other PCI adapters	Hot Plug Reservation Mode	set to <b>Normal</b>	Compaq System Configuration Utility in Advanced Mode

**Note:** To run the Compaq System Configuration Utility in Advanced Mode, press **CTRL+A** at the System Configuration main menu. In addition, be sure to select Windows 2000 as the operating system in System Configuration.

3. Obtain SoftPaq 10633 (SP10633), which contains the device drivers provided to support Windows 2000.
4. If you plan to use or test the Compaq Management Agents for Servers - Windows 2000, obtain the following:
  - Compaq Foundation Agent (SP10636)
  - Compaq Server Agent (SP10637)
  - Compaq Storage Agent (SP10638)
  - Compaq NIC Agent (SP10639)
  - Compaq Survey Utility (SP10640)

Once the Compaq Management Agents for Server are installed, you can use Compaq Insight Manager (SP10600) to manage your Windows 2000 servers. Compaq Insight Manager Console currently runs under Microsoft Windows 95, Microsoft Windows 98, and Microsoft Windows NT 4.0.

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**Note:** Read the associated Help files available on each SoftPaq. These files contain information needed for proper installation

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5. Obtain the latest Compaq System Configuration Utility (by downloading it from the URL referenced in Table 2. Supported Compaq utilities for Windows 2000), and create the

associated bootable diskette set. Invoke the utility and verify in Table 1. Supported system platforms for Windows 2000 that all system configuration options conform to those listed for the platform you have chosen.

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**Note:** The Prosignia Server 720 and ProLiant 400 do not need the Compaq System Configuration Utility because they have ROM-based setup, and there is no option for, nor is there a need to, specify the operating system on these servers.

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**IMPORTANT:** Executing the following step (Step 6) destroys any existing data on the system. System partitions will automatically upgrade to NT File System 5 (NTFS 5, see “NTFS formatted partitions automatically upgrade to NTFS 5,” in the section, “FYI: Moving to Windows 2000,” on page 13 of this document).

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6. Change the operating system selection to Windows 2000.
7. If you plan to use Compaq Array Controllers in your test environment, obtain the latest Compaq Array Configuration Utility (by downloading it from the URL listed in Table 2. Supported Compaq utilities for Windows 2000), and create the associated bootable diskette set. Follow the instructions presented in the *NTREADME.TXT* file on the Compaq Array Configuration Utility diskettes.
8. If you plan to upgrade a system that
  - a. has Windows NT installed, and
  - b. has any version of Compaq Server Support for Windows NT (SSD) installed, the SSD utilities must be uninstalled before attempting to upgrade to Windows 2000. If, in addition, the system also
    - c. has any version of the Compaq Management Agents installed, the Compaq Management Agents must be removed before removing the Compaq SSD.

### Removing the Compaq Management Agents

To remove the Compaq Management Agents

- a. Determine the version by opening the Compaq Management Agents control panel applet. (Depending on the version, the control panel applet will be called “Compaq Management Agents for Server,” or, “Compaq Insight Agents.”) The version information is located in the Window Title Bar of the open applet window.
- b. Locate the Compaq Management CD with the same version as the installed agents. Insert the CD, and select Explore from the Compaq Management CD screen that appears after the CD is detected. Select the “Agents” folder, then select the “Win-nt” folder, and then, select the “Eng” folder.
  - If running version 4.23 or earlier, double-click on the Setup icon to run the uninstall utility. Select the “Remove” option.
  - If running version 4.30 or later, select the “cpqmgmt” folder. Double click on the “Install” icon to run the uninstall utility. Select the “Uninstall” option.

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**Note:** If you attempt to use a different version of the uninstall utility, you must upgrade to the latest agent, then uninstall.

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### Removing the SSD Utilities

A Primer Utility, available in SoftPaq 10652, removes all Compaq SSD for Windows NT utilities. Be certain to read the Help file for the Primer Utility.

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**IMPORTANT:** The Primer Utility 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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9. Boot from the Windows 2000 CD and install the operating system. Detailed instructions on installing or upgrading to Windows 2000 are found in Help files on the Windows 2000 CD.
10. Install the drivers from SP10633 after the base operating system installation is complete. Follow all of the instructions provided in the text file *README.IST*, and the Help file *README.CHM*.

The installation is now complete.

## FYI: Moving to Windows 2000

Many features that were designed for Microsoft Windows NT 4.0 have changed. The information provided in this section will help you as you move to Windows 2000.

### Compaq ROM revisions

Before installing Windows 2000, update your system and option ROMs to the latest revision. The latest ROM revisions contain enhancements and changes that might help avoid potential system lockups during or after installation.

A server ROM update might also prevent the message "*CD-ROM not bootable on this system*". Download the latest Compaq Server ROMPaq at no charge from the Compaq website at <http://www.compaq.com/support/files/server/ROMPAQ/index.html>. The minimum ROM revisions are listed in Table 1. Supported system platforms for Windows 2000.

The latest Option ROMPaq is available at no charge from the Compaq website at <http://www.compaq.com/support/files/server/softpaqs/Rompaq/OPTROM.html>.

### Compaq SmartStart support limited for Windows 2000

Installing Windows 2000 via SmartStart is not supported for pre-release versions of Windows 2000. Compaq SmartStart does not provide an option to install Windows 2000 RC2. In fact, selecting *Other* as the operating system in the Compaq System Configuration Utility forces a default that causes the system to act in an unpredictable manner.

SmartStart can be used to perform a simple system configuration. Once the simple system configuration is done, review the instructions found on page 9 of this document, then load the operating system.

### Compaq PCI Hot Plug functionality changes

PCI Hot Plug functionality is implemented differently in Windows 2000 from Windows NT 4.0. The Compaq implementation for Windows 2000 now enables hot add, hot replace, and hot upgrade in all PCI Hot Plug-capable slots. However, it requires more care when installing the PCI Hot Plug software.

The Compaq PCI Hot Plug Filter driver (*CPQPHP.SYS*) provides PCI Hot Plug functionality for Windows 2000. Both the PCI Hot Plug Filter Driver and the Compaq System Management Driver (included with SoftPaq 10633) must be installed properly to obtain maximum functionality from the PCI Hot Plug bus. For instructions on correct installation procedures, refer to the *README.IST* file included with SoftPaq 10633, as well as the Help file *README.CHM* describing the driver installation procedures.

When properly installed, the PCI Hot Plug functionality for Windows 2000 **does** include hot add, hot remove and hot upgrade capabilities, as mentioned. However, you must avoid *surprise style* hot removal operations, especially on older servers that do not have Compaq PCI Slot Service Request buttons. A device must be powered down before removing it from the PCI Hot Plug slot. Device removal must be done via the Eject/Remove applet of Windows 2000 or the Compaq PCI Slot Service Request button.

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**IMPORTANT:** The Compaq Storage Agents v 4.40K (for Windows 2000 RC2 support) do not support hot adding or removing storage controllers. Users should stop the agents before a hot-plug operation. After all hot add or removes are completed, the agents should be restarted.

To stop the agents, type the following at a command prompt: `Net Stop SNMP /y`

To restart the agents, type the following at a command prompt: `Net Start CpqWebMgmt`

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A detailed discussion of PCI Hot Plug Technology in the Windows 2000 environment is available in the white paper *PCI Hot Plug Technology with Microsoft Windows Architecture* at <http://www.compaq.com/support/techpubs/whitepapers/ECG0710399.html>.

## Mixed processor steppings/speeds under Windows 2000

Compaq servers have historically supported mixing processor speeds and/or steppings under Windows NT. Windows 2000 defines the first processor slot as the Bootstrap Processor (BSP). If the BSP is not the lowest stepping processor in the mix, problems can result as Windows 2000 initializes the processors.

If a multiprocessor system contains processors from multiple manufacturers, processors with mixed steppings, or processors with mixed L2 cache sizes, at bootup Windows 2000 will write an information message in the event log telling the user to contact the hardware vendor if problems arise. Then Windows 2000 will attempt to run using the processor with the lowest stepping as the boot processor.

Some mixed processor configurations can cause the system to hang during installation of Windows 2000. This issue has been corrected with new BIOS on most newer systems that have programmable slot ordering.

For older legacy systems which do not have programmable slot ordering, locate the lowest stepping processor and place it in the first processor slot. If you cannot determine which processor is the slowest, the safest approach is to test Windows 2000 on systems in which all processors have the same speed and stepping values.

## Compaq Fibre Channel Storage Controllers cannot be used as a boot device

Compaq Fibre Channel Storage Controllers cannot be used as a boot device. If attempted, it will cause a blue screen error condition. This is expected behavior. No boot capability exists for Fibre

Channel devices. Logical drives created on Fibre Channel devices should not be used as boot devices, nor as system devices.

## **NTFS formatted partitions automatically upgrade to NTFS 5**

Any partition formatted with NTFS (NT File System) from Windows NT 4.0 and earlier converts to NTFS 5 without warning during the upgrade process. Windows NT 4.0 systems cannot access or use NTFS 5 partitions unless the *NTFS.SYS* driver is replaced with the version included on Service Pack 4 or later. Windows NT 3.51 systems cannot access NTFS 5 partitions.

This limitation should only affect partitions that have been converted to NTFS 5. Any data required by downlevel systems and clients should be stored on a separate partition that will not be affected by the upgrade. If your system partition file system is presently File Allocation Table (FAT), the best choice is to continue to use FAT rather than upgrade to NTFS. If your system partition file system is presently NTFS, it will convert to NTFS 5 regardless of what answer you give when prompted to update to NTFS 5.

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**WARNING:** Any attempt to reload a downlevel operating system on a system disk formatted with NTFS 5 renders that disk unbootable. This affects dual-boot configurations.

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To reset your test system to Windows NT 4.0 or earlier, you will need to reinstall the operating system and, during the setup process, delete any system partition that converted to NTFS 5.

## **TCP/IP protocol stack required to login to Windows 2000**

To successfully login to a Windows 2000 system, the TCP/IP protocol stack is required. Many components of Windows 2000, including the Active Directory, used to authenticate logins, require the TCP/IP protocol stack.

## **Domain names when installing TCP/IP on Windows 2000 systems**

There are many references to domains when installing network support for Windows 2000. Incorrectly identifying your network domain can result in unpredictable network behavior. Read the Microsoft documentation carefully before installing Windows 2000 and become familiar with the differences between the Windows NT domain concept, the Active Directory domain, and the DNS domain. Read each prompt carefully, and make sure you know which is being requested. When asked for Active Directory domain or DNS domain, use the Fully Qualified Domain Name (FQDN).

## **Default video resolution not retained after installation completes**

After installation of, or upgrade to Windows 2000, default video resolution might not be retained.

If the Display Properties screen appears, ensure the settings are correct and click on Apply. Otherwise, reset the video settings after installation of Windows 2000 is complete by right-clicking on the background and selecting Properties.

## Anomalies associated with adding on EISA/ISA bus systems

When adapters are added after the operating system is installed, non-Plug and Play devices (EISA and ISA bus systems) might show up as *Unknown Device* in the Device Manager. Ignore these unknown device messages. The functionality of the controllers is not affected.

You can correct this manually through the Add New Hardware Wizard. Select non-Plug and Play. Two devices will be displayed, one with a yellow exclamation mark. Delete the driver marked with the yellow exclamation mark.

## Windows 2000 anomalies if the IRQ of the Compaq SMART-2 Array Controller /E is changed

For these older controllers, Windows 2000 might behave unpredictably, or hang, if the Interrupt Request setting (IRQ) of a SMART-2 Array Controller /E is changed in system configuration. At this time, IRQ setting should not be changed, as no known workaround is available. Compaq is investigating and will work with Microsoft to develop a solution.

## Compaq feature comparison in Windows 2000

Table 7 lists some Compaq features developed for Windows NT 4.0 and describes how they are implemented in Windows 2000.

**Table 7. Compaq Features for Windows NT 4.0 in Windows 2000**

Compaq Feature in Windows NT 4.0	Windows 2000 Implementation
Advanced Network Control Utility (NIC redundancy)	ANCU will not be ported to Windows 2000. A new "teaming" approach will be implemented
Compaq SSD for Windows NT (versions for Windows NT 3.51 or 4.0)	SoftPaq 10633 contains current files
Integrated Management Log Viewer	in development
Integrated Management Display	in development
Integrated Remote Console	Insight Management Console XE is under development
Power Manager (for Compaq Uninterruptible Power Supplies)	this third party feature will not be ported to Windows 2000
Power Down Manager	ACPI Compliant PCs will support new advanced power management capabilities found in Windows 2000. Compaq PCs that are not ACPI ready will continue to support power management. See "Enabling ACPI ROM support" in the README.1ST file in SoftPaq 10633
Remote Monitor Service	in development
Remote Insight Board	in development
Pentium class and older servers	Windows 2000 was not developed to run on these older legacy platforms
Recovery Server Options (Standby Recovery Server, On-line Recovery Server, and Online Storage Controller Recovery Option)	a new feature is slated for future development
ServerNet adapter	in development
SmartStart	SmartStart will be supported at version 4.70

## Value Add: Issues resolved from Beta 3

If you have been tracking the issues discussed in the white paper “Microsoft Windows 2000 Beta 3 with Compaq Server Products” (ECG022/0499), Table 8 provides the location of current information.

**Table 8. Issues resolved from Beta 3**

<b>Issue</b>	<b>Status</b>
1. Compaq ROM revisions	See FYI: Moving to Windows 2000
2. Compaq SmartStart support limited for Windows 2000 Beta 3	See FYI: Moving to Windows 2000
3. Windows NT Fault Tolerant drives are not visible under Windows 2000	Fixed
4. Compaq Fibre Channel Controller /E might stop functioning	Fixed
5. Compaq PCI Hot Plug functionality changes	See FYI: Moving to Windows 2000
6. Unknown device messages on non-Plug and Play systems	See FYI: Moving to Windows 2000
7. Compaq Fibre Channel Storage Controllers cannot be used as a boot device	See FYI: Moving to Windows 2000
8. NTFS-formatted partitions automatically upgrade to NTFS 5.	See FYI: Moving to Windows 2000
9. Compaq Power Down Manager installed on Windows NT 4.0 systems will not function after an upgrade to Windows 2000	Fixed
10. Default video resolution not retained	See FYI: Moving to Windows 2000
11. TCP/IP stack required to login to Windows 2000	See FYI: Moving to Windows 2000
12. Potential errors when installing TCP/IP on Windows 2000 systems	See FYI: Moving to Windows 2000
13. USB connector problems with some Compaq servers	See “Issue 1: “ in this paper
14. Possible unexpected reboot prompts	Fixed
15. SNMP problems	Fixed
16. F6 Key for Storage drivers	See “Issue 2: “ in this paper
17. Windows 2000 Might Hang if the IRQ of the Compaq SMART-2 Array Controller /E is changed	See FYI: Moving to Windows 2000
18. Possible issue with Compaq 9 GB hard drives and logical drive size in Windows 2000 Beta 3	Fixed
19. Dual-port storage controllers and drivers appear on only one port	See “0“ in this paper
20. Loading the System Management (SYSMGMT) driver	Fixed (new driver)
21. Adding an EISA adapter, after installing Windows 2000 Beta 3, fails	See FYI: Moving to Windows 2000
22. Setup detects incompatible hardware during an upgrade from Windows NT 4.0	See “Issue 3:” in this paper
23. Disks not detected by Compaq Array Configuration Utility during I/O Activity	See “Issue 4:” in this paper
24. Windows 2000 Beta 3 may not restart when using embedded ATI Rage IIC video on Prosignia Server 720 or ProLiant 400	Fixed
25. PCI Hot Plug operations with new 66-MHz PCI Modules	Fixed
26. Mixed processor steppings/speeds under Windows 2000 Beta 3	See FYI: Moving to Windows 2000

## Details and Solutions to Problems, Issues

Compaq has made every effort to test qualified server systems with Windows 2000. However, it is not possible to test every potential configuration. Below are issues you might encounter using Windows 2000, and workarounds, where possible. We will continue to test our products extensively with Windows 2000 releases. If new issues are discovered, these will be communicated to customers through Customer Advisories available on the Compaq website at [http://www.compaq.com/support/techpubs/Customer\\_advisories/index.html](http://www.compaq.com/support/techpubs/Customer_advisories/index.html).

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**IMPORTANT:** Read the *README.IST* and *README.CHM* files available on Compaq SoftPaq 10633 for Windows 2000 drivers. Also, review Help files on Compaq SoftPaqs 6196, 9923, and 10199 if you plan to use Compaq Insight Manager.

Help files concerning specific operating system instructions and issues are available on the Microsoft Windows 2000 CD.

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### Issue 1: USB connectors display as not supported in Device Manager with some Compaq Servers

**Problem:**

Some Compaq Servers with Universal Serial Bus (USB) hardware on the system board display a yellow exclamation mark in the Windows 2000 Device Manager.

**Solution:**

This is expected behavior. Some Compaq servers do not have USB connectors, but do have USB hardware present in the system. Windows 2000 detects the USB hardware, and reports it in Device Manager. Since these Compaq servers were not designed to implement the USB functionality, no problem actually exists.

### Issue 2: Using the F6 Key to interrupt text mode setup for installation of storage drivers

**Problem:**

When booting from the Windows 2000 Server Edition CD, a method is available to press the **F6** key to interrupt the text mode setup to install drivers. On some Compaq servers, using the **F6** key to interrupt the text mode setup might not work at this time. The OS Setup might hang after loading *CPQARRY2.SYS* driver on the ProLiant 5000 Server through **F6**. The display message is

setup is starting Windows 2000

**Solution:**

The **F6** key text mode interrupt method is being addressed by Compaq and Microsoft.

*CPQARRY2.SYS* is only to be used with Compaq Smart Array 4200 Controllers and the associated embedded array controller. ProLiant 5000 servers without Smart Array 4200 controllers will not need this driver.

Dual-port storage controllers and drivers appear on only one port in Device Manager

**Problem:**

In Device Manager, when updating the device driver for a dual-port device under Windows 2000, the newly installed driver appears only on one of the ports.

**Solution:**

For RC2, the only supported method for updating device drivers is by manually applying the driver update to each port that uses the driver. Compaq is working on a simpler method to update these devices.

### **Issue 3: Setup detects incompatible hardware during an upgrade from Windows NT 4.0**

**Problem:**

When upgrading from Windows NT 4.0, the user is notified that Windows 2000 has found incompatible hardware, the Compaq *CPQ32FS2.SYS* SCSI Controller driver. The Windows 2000 CD includes a functionally equivalent Symbios driver that will replace the *CPQ32FS2.SYS* driver during the upgrade.

**Solution:**

Compaq provides a replacement version of *CPQ32FS2.SYS* on SoftPaq 10633 that should be installed after upgrading to Windows 2000. The updated *CPQ32FS2.SYS* driver should be loaded after the Windows 2000 upgrade, to ensure the highest level of service and reliability.

### **Issue 4: Disks not detected by Compaq Array Configuration Utility during I/O activity**

**Problem:**

During heavy I/O activity, the online Compaq Array Configuration Utility may not detect the disks in the array.

**Solution:**

This issue is being actively investigated by Compaq. A workaround is not available at this time.

### **Issue 5: Windows 2000 may not go to Standby if using the ATI Rage IIC video driver on Prosignia Server 720 or ProLiant 400 Server**

**Problem:**

On a Prosignia Server 720 or ProLiant 400 Server, Windows 2000 will prevent the server from going into standby if the ATI Rage IIC video driver is being used. Attempting to initialize a standby mode will yield an error message indicating the driver is preventing this action from occurring.

**Solution:**

Compaq is working with Microsoft to resolve this problem. Current workarounds are:

- Change the video driver to the standard VGA driver.

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**Note:** You will not be able to use the higher resolutions available with the ATI Rage IIC driver.

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- Disable the embedded ATI Rage IIC video and, in one of the available expansion slots, place either an AGP or a PCI video card that **is** compatible with Windows 2000 and the Standby feature.

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**Note:** To disable the embedded ATI Rage IIC video on the Server Feature Board, set switch 1 to the ON position. To locate the switch bank on the Server Feature Board, refer to the diagram attached inside the server cover.

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## **Issue 6: COM 3 might display as a not supported device if the Compaq 56K Netelligent ISA internal modem is installed in a Compaq Server.**

**Problem:**

After installing Windows 2000 on a server that has the Compaq 56K Netelligent ISA internal modem installed, COM 3 might be displayed as a not supported device in Device Manager. The Device Status message is

*This device cannot start. (Code 10)*

This also shows up as a problem device under the Computer Management snap-in, under System Information, Components, Problem Devices.

**Solution:**

The modem, set to Plug and Play mode, will function, even when Windows 2000 displays COM 3 as a not supported device. Compaq is working with Microsoft to resolve the problem.

## **Issue 7: Array disks not recognized after switching off an external storage device connected to a ProLiant 6500 Server**

**Problem:**

With a 64-Bit Dual Channel Wide-Ultra2 SCSI boot controller connected to a ProLiant Storage System Model UE external storage unit and a Smart Array 3200 controller, testers created logical drives. After rebooting, system testers created partitions using Disk Management, and I/O was run; after rebooting the system again, the external storage system connected to the Smart Array 3200 controller was switched off. After a third reboot, Disk Management was opened again and all logical drives were shown as "MISSING-OFFLINE". All missing disks were removed in Disk Management, and the Storage unit was switched on; after running Rescan Disks, not all array disks may appear in the Disk Management window.

**Solution:**

To get the system to recognize the disks in a rare test case like this, it may be necessary to reboot the system. Reopen Disk Management after the reboot, and ensure that all disks now appear. Refer to the Getting Started manual for more information on troubleshooting stop errors.

## **Issue 8: Device Manager falsely shows address conflicts with other resources**

### **Problem:**

Device Manager, View By Resources, indicates that IO ports 0x1800-0x18FF conflict with the keyboard ports. However, under System Resources, other information might be reported; the OS believes there is no conflict.

### **Solution:**

This issue is a known problem with no workaround at this time. Compaq is working with Microsoft to resolve the problem.

## **Issue 9: Problem with drive compression/uncompression in Windows 2000 Server**

### **Problem:**

After compressing a logical drive, the used space went from 855 MB to 629 MB. When the logical drive was uncompressed again, the used space was 1.17 GB—almost 300 MB more than the original used space.

### **Solution:**

The current workaround is to replace Windows 2000 native SCSI drivers with Compaq 32-bit Ultra SCSI drivers.

## **Issue 10: Windows 2000 Event Viewer SCSI errors**

### **Problem:**

Windows 2000 Event Viewer displays failures on SCSI controllers when the Windows 2000 native SCSI drivers are installed.

### **Solution:**

The current workaround is to replace Windows 2000 native SCSI drivers with Compaq 32-bit Ultra SCSI drivers.

## **Issue 11: Redundant NIC pair does not work when migrated to Windows 2000**

### **Problem:**

A redundant NIC pair created (using Compaq Advanced Network Control Utility) and tested in Windows NT 3.51, and migrated successfully to Windows NT 4.0, generates an error when the installation is upgraded to Windows 2000. An error is generated showing two NIC devices on the same segment, and

*server service did not start.*

The Windows 2000 upgrade identified both NIC devices, and installed them separately.

**Solution:**

This issue is a known problem with no workaround at this time. Compaq is working with Microsoft to resolve the problem.

**Issue 12: Redundant Controller error message****Problem:**

When the Array Configuration Utility 2.40 is run in Windows 2000 with redundant controllers, the primary controller functions, but the secondary controller is shown as unconfigured.

The error message is:

*controller can not be configured*

**Solution:**

This issue is a known problem with no known workaround for the RC2 timeframe. Compaq has developed a solution and is working with Microsoft to resolve the problem.

**Issue 13: Hot adding an NC3131 Fast Ethernet NIC into a ProLiant 8500 Server causes the system to power off****Problem:**

Hot adding an NC3131 Fast Ethernet Network Interface Controller into any slots on the secondary bus, other than slot 1, will cause the system to completely shutdown or power off. After about 5 seconds of being off, the system comes back up with the IML saying that a Critical Error had occurred. The IML also states that the system had generated an

*Uncorrectable memory error bank 1 slot 1*

**Solution:**

During the RC2 phase, NC3131 Fast Ethernet Network Interface Controllers should not be hot added in any bus slots other than slot 1. Compaq is working with Microsoft on resolving this issue.

**Issue 14: Logical Driver Manager reported unstable on a ProLiant 1850 Server attached to large logical drives****Problem:**

Using CPQFCALM.SYS on a ProLiant 1850 Server, a Fibre Channel Host Adapter was attached to the external storage unit; after Windows 2000 Server Edition installation was completed, an attempt was made to use the Windows 2000 logical disk manager (LDM) to write signatures to these new drives. This attempt proved unsuccessful, with the following popup appearing

*LDM config disk write error on writing signature*

after which, both disks were displayed as basic disks, giving the impression that the signature was successful. An attempt was then made to upgrade disk 0 (43 GB) to a dynamic disk, then create a S/W RAID 0 partition, which also ultimately proved unsuccessful.

**Solution:**

While this problem was not reproducible on a separate 1850R which had Windows 2000 Advanced Server Edition loaded, at this time the situation is a known problem for Windows 2000 RC2 Server Edition. Compaq is working with Microsoft to address the problem.

**Issue 15:CPQFCAC.SYS reports events inaccurately****Problem:**

When event notification is induced by pulling and replacing fans, hard drives and power supplies from the box, CPQFCAC.SYS reports events with inaccurate HBA slot number, logical driver number and SCSI ID information. This problem has been encountered on the ProLiant 6400, ProLiant 1850R and ProLiant 8500 Servers. In addition, failure to post events to the IML viewer was observed on the ProLiant 8500 Server.

**Solution:**

This issue is a known problem with no workaround at this time. Compaq is working with Microsoft to resolve the problem.

**Issue 16:Fibre Channel device installation also causes prompt for “unknown device” and “Array Controller SCSI ASCIT8 Device” driver****Problem:**

When a Fibre Channel Host Adapter is installed under Windows 2000, the Fibre Channel device is recognized, and the Add/Remove Hardware Wizard prompts for the driver. However, after installing the driver, the Wizard also recognizes an “unknown device” and prompts for the “Compaq Array Controller SCSI ASCIT8 Device” driver.

**Solution:**

When prompted for the device for the unknown driver, simply click Cancel to exit the Wizard. Compaq is working with Microsoft to resolve the problem.

**Issue 17:Missing tape autoloader causes CPQFCFTR.SYS (version 1.01) to generate an “inaccessible boot device” blue screen****Problem:**

In testing, the tape autoloader, for which the filter driver is designed, was not hooked up to the test system. After loading the driver using the Add/Remove Hardware Wizard, and rebooting, CPQFCFTR.SYS (version 1.01) does not load properly and causes an “inaccessible boot device” blue screen. This has been observed on 6 separate systems.

**Solution:**

For the RC2 phase, do not install the driver without the tape autoloader installed. If the driver has been inadvertently installed, reboot the system into DOS. Remove the CPQFCFTR.SYS driver from the winnt\system32\drivers directory. Reboot the system; the system will be able to load normally.

## **Issue 18: On a Prosignia 200 Server, Windows 2000 Device Manager shows an error for the VGA and VGASave devices.**

### **Problem:**

Under Device Manager, Show Hidden Devices, the VGASave device is displayed with a yellow exclamation mark superimposed, and the VGA device is greyed out. Both show the same message under Device Status on the Properties screen:

This device is not present, is not working properly, or does not have all its drivers installed. (Code 24).

### **Solution:**

This issue is a known problem with no workaround at this time. Compaq is working with Microsoft to resolve the problem.

## **Issue 19: System fails to shutdown after having both fans 1 and 2 removed, if Computer Management window is open**

### **Problem:**

With the Computer Management window open, when the thermal event is initiated during testing, a warning window will show up indicating that the system will shut down in 60 seconds. However, when 60 seconds expire, the system initiates application shutdown for the Computer Management Window (an End Task program). The End Task fails, resulting in the message:

*This program is not responding*

This failure prevents the system from shutting down automatically until the End Now or Cancel buttons are clicked.

### **Solution:**

This issue is a known problem with no workaround at this time. During RC2 phase testing, the Computer Management window should be open only as necessary. Compaq is working with Microsoft to resolve the problem.

## **Issue 20: Multi-monitor display fails under Windows 2000**

### **Problem:**

When multiple monitors and video cards are connected to a Compaq Server, if the ATI Rage IIC VGA card is the second VGA device, the ATI driver cannot locate the connected monitor. However, if the ATI Rage IIC is the first VGA card, and a non-ATI VGA card is the second device (the second device VGA driver has to find its monitor), all video drivers function appropriately.

### **Solution:**

For the RC2 phase, the ATI video card should be in slot 1 for multiple monitor installations. Compaq is working with Microsoft to address the situation.

## Issue 21: Windows 2000 Standby mode errors.

### Problem:

In certain cases, Windows 2000 displays various errors coming out of Standby/Suspend Mode. If removable storage services are started, the following error will appear:

*Removable Storage Manager refused the request to hibernate or suspend the system. One or more applications have active connections open to this service. Close all applications using this service before attempting to hibernate or suspend the system.*

After stopping the removable storage services and again letting the system go into Standby mode, the following error appears:

*Windows- System Standby Failed: The driver does not support Standby mode. Updating this driver may allow the system to go into Standby mode.*

### Solution:

This issue is a known problem with no workaround at this time. Compaq is working with Microsoft to resolve the problem.

## Appendix A, 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.

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

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.

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

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 9 lists Compaq resources on the web.

**Table 9. Compaq Resources**

Item	Web Location
Compaq <i>ActiveAnswers</i>	<a href="http://www.compaq.com/activeanswers">http://www.compaq.com/activeanswers</a>
Compaq Info Messenger	<a href="http://www.compaq.com/infomessenger">http://www.compaq.com/infomessenger</a>
Compaq Insight Manager	<a href="http://www.compaq.com/sysmanage">http://www.compaq.com/sysmanage</a>
Compaq Management CD	<a href="http://www.compaq.com/support/files/server/MGMTSQL/index.html">http://www.compaq.com/support/files/server/MGMTSQL/index.html</a>
Compaq Option ROMPaq	<a href="http://www.compaq.com/support/files/server/WINNT/index.html">http://www.compaq.com/support/files/server/WINNT/index.html</a>
Compaq Resource Paq for Microsoft Windows NT	<a href="http://www.compaq.com/partners/microsoft/resourcepaq.html">http://www.compaq.com/partners/microsoft/resourcepaq.html</a>
Compaq SmartStart Subscription Service	<a href="http://www.compaq.com/support/paqfax/1233.html">http://www.compaq.com/support/paqfax/1233.html</a>
Compaq System ROMPaq	<a href="http://www.compaq.com/support/files/server/ROMPAQ/index.html">http://www.compaq.com/support/files/server/ROMPAQ/index.html</a>
Customer Advisories	<a href="http://www.compaq.com/support/techpubs/customer_advisories/Customer_Advisories_WINNT.html">http://www.compaq.com/support/techpubs/customer_advisories/Customer_Advisories_WINNT.html</a>
Press releases	<a href="http://www.compaq.com/newsroom/pr">http://www.compaq.com/newsroom/pr</a>
SoftPaqs (complete listing)	<a href="http://www.compaq.com/support/files/server/WINNT/index.html">http://www.compaq.com/support/files/server/WINNT/index.html</a>
Compaq SSD for Windows NT	<a href="http://www.compaq.com/support/files/server/WINNT/index.html">http://www.compaq.com/support/files/server/WINNT/index.html</a>
Compaq Survey Utility	<a href="http://www.compaq.com/support/files/server">http://www.compaq.com/support/files/server</a>
White Papers and other technical document (complete listing)	<a href="http://www.compaq.com/support/techpubs/whitepapers/index.html">http://www.compaq.com/support/techpubs/whitepapers/index.html</a>
Windows 2000 on Compaq	<a href="http://www.compaq.com/partners/Microsoft/Windows2000/index.html">http://www.compaq.com/partners/Microsoft/Windows2000/index.html</a>