

Support for Microsoft® Windows® 2000 Professional on the HP xw4300 Workstation



Legal notices

©2005 Hewlett-Packard Development Company, L.P.

The information contained herein is subject to change without notice.

The only warranties for HP products are set forth in the express limited warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Microsoft® and Windows® are registered trademarks of Microsoft Corporation in the United States and/or other countries. Intel® and Pentium® are registered trademarks of Intel Corporation or its subsidiaries in the U.S. and other countries and are used under license.

<http://www.hp.com/workstations>

First edition: September 2005

Contents

Introduction	4
Executive summary	4
Testing on the HP xw4300	5
Tests performed	5
Components Tested	5
Items excluded from testing	8
Known issues and resolutions	9
Other limitations and considerations	9
Driver Information	10
Installation Guide for Windows 2000 Pro SP4 on xw4300	11
Support Plan	13
Microsoft support	13
HP support	14

Introduction

Although Microsoft® no longer permits OEMs (such as HP) to deliver new systems with the Microsoft® Windows® 2000 Professional operating system preinstalled, there are a significant number of customers who have not yet completed the migration from Windows 2000 to one of Microsoft's newer operating systems. To provide those customers with the best possible experience when purchasing new HP xw4300 Workstation systems, HP has developed a plan to assist customers using these systems while they complete their migration from the Windows 2000 environment.

Executive summary

This white paper outlines the tests performed on the HP xw4300 Workstation in the Windows 2000 Pro SP4 environment, the issues found, and the steps recommended for resolving those issues. A chart lists the specific drivers that were tested under this program and a later section provides a complete step-by-step guide for installing Windows 2000 Professional SP4 on the HP xw4300 Workstation. The support plan section notes that HP is not allowed to escalate OS issues back to Microsoft on behalf of customers. To escalate non-security-related OS problems to Microsoft, the customer must have purchased a Windows 2000 Extended Hotfix Support Contract from Microsoft before September 30, 2005.

Testing on the HP xw4300

Tests performed

HP tested the effect of users loading and running Windows 2000 Professional Service Pack 4 on HP xw4300 Workstation products, which are normally delivered with the Microsoft® Windows® XP Professional operating system pre-installed. Testing covered basic operation of the OS from a user perspective. Mainline functionality of the OS components and drivers was lightly tested. In addition, the following test tools were utilized to stress the English OS and drivers:

- PassMark™ stress tests
- Sleep cycles
- Reboot cycles
- SPEC CPU2000

Testing covered US English, French, German, Italian, Japanese, Korean and Spanish versions of the base OS using US English drivers.

Components Tested

The following chart shows the HP xw4300 Workstation components that were specifically tested to function with Windows 2000 Pro as part of this program, as well as those components that were not tested. Only basic functionality was tested, i.e., a simple “sanity test” was performed. Each tested component was included in at least one hardware configuration with at least one Windows 2000 language. HP did not test all possible combinations of these components and languages. Testing was performed with system BIOS version 1.02.

Table 1 List of tested and untested HP xw4300 components

Tested		Untested	
Operating system:		Operating system:	
	MS Windows 2000 Pro SP4 with Update Rollup 1 (KB 891861)		Any other service packs
	Standard Encryption		
Processors:			
	Intel® Pentium® 4 3.0 GHz/800		
	Intel Pentium 4 3.2 GHz/800		

Table 1 List of tested and untested HP xw4300 components

Tested		Untested	
	Intel Pentium 4 3.4 GHz/800		
Processors (cont):	Intel Pentium 4 3.6 GHz/800		
	Intel Pentium 4 3.8 GHz/800		
	Intel Pentium D 3.2 GHz/800		
Graphics:		Graphics:	
	ATI Radeon® X300SE		NVIDIA Quadro FX 4500
	ATI FireGL™ V3100		NVIDIA® SLI™
	ATI FireGL V5100		Any other graphics cards
	NVIDIA Quadro® NVS 280 PCIe		
	NVIDIA Quadro NVS 280 PCI		
	NVIDIA Quadro NVS 285 PCIe		
	NVIDIA Quadro FX 540		
	NVIDIA Quadro FX 1400		
	NVIDIA Quadro FX 3400		
	NVIDIA Quadro FX 3450		
System memory:		System memory:	
	256 MB 533 MHz non- ECC		Over 4 GB
	512 MB 533 MHz ECC		
	1 GB 533 MHz ECC		
	1 GB 533 MHz non-ECC		
	2 GB 533 MHz ECC		
	2 GB 667 MHz ECC		

Table 1 List of tested and untested HP xw4300 components

Tested		Untested	
	4 GB 533 MHz ECC		
	4 GB 667 MHz ECC		
Hard drives:		Hard drives:	
	36 GB 10,000rpm U320 SCSI		multiple drive configurations
	73 GB 10K rpm U320 SCSI		RAID
	146 GB 10K rpm U320 SCSI		
	300 GB 10K rpm U320 SCSI		
	74 GB SATA		
	80 GB SATA		
	80 GB SATA 3Gb/s		
	160 GB SATA 3Gb/s NCQ		
	250 GB SATA 3Gb/s NCQ		
	500 GB SATA 3Gb/s (single drive only)		
Optical drives:			
	48X CD-ROM		
	16X DVD-ROM		
	48X CD-RW		
	48X CD-RW/DVD-ROM Combo		
	16X DVD+/-RW with Lightscribe™ Direct Disc Labeling		
Optical applications:			
	Dantz® Retrospect™ Express v 7.0		

Table 1 List of tested and untested HP xw4300 components

Tested		Untested	
	Roxio® DigitalMedia™ Plus v 7.2		
	Roxio CinePlayer™ v 2.3		
FDD:			
	1.44MB, 3.5 inches		
Networking:		Networking:	
	Broadcom® BCM5752 NetXtreme™ Gigabit Ethernet LOM		Broadcom BCM5751 NIC
			other PCI/PCIe plug-in NIC cards
IO:		IO:	
	HP PS/2 standard keyboard		USB devices other than keyboard/mouse
	HP PS/2 3-button mouse		Parallel port
	HP PS/2 scroll mouse		
	USB optical scroll mouse		
	USB standard keyboard		
	(2) serial ports		
	IEEE 1394a PCI card		
Audio:		Audio:	
	HP PS/2 standard keyboard		Sound Blaster® Audigy® 2 ZS audio card
	HP PS/2 3-button mouse		other 3rd party cards

Items excluded from testing

- non-standard keyboard functions (such as Internet hot-keys)
- multiple HDD configurations
- recovery media
- Microsoft Windows Hardware Quality Labs (WHQL) suites
- diagnostics
- audio/video write to CD/DVD

- audio playback from CD/DVD
- Lightscribe functionality
- Microsoft Office
- Symantec® Anti-Virus

Known issues and resolutions

HP identified the following issues during the testing regimen described on the previous pages.

Table 2

issue	resolution / workaround
Installation of the Windows 2000 "Update Rollup 1" KB891861 can hang during its final "Finishing installation - " phase. The user must End Task and Reboot in order to recover.	If this update is installed before installing any other drivers/updates, the hang will not occur. If this update is reinstalled after the End Task & Reboot, the install completes without hanging.
On large SATA HDD systems, the full capacity of the drive is only accessible if the BIOS SATA Emulation mode is set to AHCI. In the Combined or Separate mode, the HDD capacity is capped at ~137 GB.	See Microsoft Knowledge Base article 305098 which discusses enabling 48-bit LBA support in the Windows 2000 registry.

Other limitations and considerations

Functionality that is not natively supported under Windows 2000 Professional will not be supported on the HP xw4300 Workstation products.

Driver Information

The following chart describes the specific Windows 2000 Professional drivers for HP xw4300 Workstation products that were tested as part of this program:

Table 3 Tested drivers

Product	Rev.	SoftPkg	Date
ATI FireGL graphics: Radeon X300SE FireGL V3100 FireGL V5100	8.103.2.1.1	SP30520	30 May 2005
Network: Broadcom NetXtreme	8.27.1.0	SP30742	27 Jun 2005
Audio: Realtek HD non-retasking	5.10.0.5121	SP30343	30 May 2005
Audio: Microsoft Fix for HD Audio	Q888111	SP30651	10 Aug 2005
Intel Chipset	7.0.0.1019	SP30521	15 Aug 2005
Intel Matrix Storage Manager	5.0.0.1032	SP30441	30 May 2005
LSI Logic® 20320 Ultra320 SCSI	1.08.22	SP2815	09 Aug 2005
NVIDIA Quadro graphics: 280 NVS 285 NVS FX540 FX1400 FX3400 FX3450	72.13	SP30452	26 May 2005

Installation Guide for Windows 2000 Pro SP4 on xw4300

This document describes the process used at HP to install Microsoft Windows 2000 Professional Service Pack 4 on the xw4300. Use this as a guide for your own installation. The customer will need to supply the Win2K Pro SP4 OS and Update Rollup CDs. Note that HP used an OS installation CD containing Windows 2000 Professional with SP4 already included, i.e., "slipstreamed".

The drivers used are available at <http://www.hp.com/go/workstationsupport>. Select 'HP xw4300 Workstation', then 'download drivers & software', and choose 'Microsoft Windows 2000 Pro' under Operating System.

Steps for SATA boot disk with system BIOS "SATA emulation" set to "Separate IDE controller" or "Combined IDE controller":

1. Boot the xw4300 from the CD "Windows 2000 Professional with Service Pack 4".
2. Continue with step 8 in the section below "Steps common to all boot disk types".

Steps for SATA boot disk with system BIOS "SATA emulation" setting of "AHCI":

1. Unpack the SATA AHCI driver onto a floppy disk as follows:
On another computer, unpack Softpaq SP30441 ("Intel Matrix Storage Manager"). Go to the directory containing the unpacked files and run "*F6_Install-32bit.exe*". Copy the 6 files from `..\F6_Install\Driver\` to a floppy diskette. All six (including *txtsetup.oem*) should be in the root directory of the diskette.
2. Boot the xw4300 from the CD "Windows 2000 Professional with Service Pack 4".
3. **CRITICAL STEP: Press F6 when the message 'Press F6 if you need to install a third party SCSI or RAID driver...' appears. This happens almost immediately after the CD boots.**
4. Take the setup option to specify additional mass storage drivers (press 's').
5. When prompted, insert the floppy disc that contains the SATA AHCI driver, created in Step 1.
6. Select "Intel® 82801GR/GH SATA AHCI Controller (Workstation xw4300 AHCI)" and continue.
7. Continue with step 8 in the section below "Steps common to all boot disk types".

Steps for SCSI boot disk (LSI Logic 20320 Ultra 320 SCSI controller):

1. Unpack the LSI U320 SCSI driver onto a floppy disk as follows:
On another computer, unpack Softpaq SP28150 ("LSI Logic Ultra320 SCSI Adapter Driver for Windows 2000").
Go to the directory containing the unpacked files and copy the files to a floppy diskette. All files (including *txtsetup.oem*) should be in the root directory of the diskette.
2. Boot the xw4300 from the CD "Windows 2000 Professional with Service Pack 4".
3. **CRITICAL STEP: Press F6 when the message 'Press F6 if you need to install a third party SCSI or RAID driver...' appears. This happens almost immediately after the CD boots.**
4. Take the setup option to specify additional mass storage drivers (press 's').
5. When prompted, insert the floppy disc that contains the LSI U320 SCSI driver, created in Step 1.
6. Select the SCSI driver and continue.
7. Continue with step 8 in the section below "Steps common to all boot disk types".

Steps common to all boot disk types:

1. Press `ENTER` to setup Windows 2000 now.
2. Press `F8` to agree to the Microsoft license agreement.
3. Construct the file system at the partition menu. We deleted the default partition, created a single 10GB partition, and formatted it as NTFS.
4. Proceed with the installation
5. Remove the floppy disk when prompted, and allow the system to reboot.
6. Answer the configuration questions: Regional Settings, Name & Organization, Product Key (must match your OS CD), Computer Name, Date & Time, etc.
7. When prompted, remove the CD and reboot
8. Answer the Network ID Wizard questions.
9. Install the Intel Chipset drivers from the SoftPaq SP30521:
 - a. Run the SoftPaq
 - b. Follow the installation process
 - c. Choose the option to restart the computer now.
10. Install the Microsoft Windows 2000 KB891861 Update Rollup 1, if desired.
 - a. Restart the computer after installing Update Rollup 1.
11. Install the Microsoft patch for High Definition Audio KB888111 from SoftPaq SP30651.
 - a. Run the SoftPaq
 - b. Follow the installation process
 - c. Click OK to reboot.

- 12.** Install the audio drivers from the Softpaq SP30651. Note that the Microsoft 888111 fix must be applied before installing the RealTek HD audio driver.
 - a. Run the SoftPaq
 - b. Follow the installation process
 - c. Click OK to reboot.
- 13.** Install the graphics drivers from the SoftPaq (pick one)
 - ATI – SP30520
 - a. Run the SoftPaq
 - b. Follow the installation process
 - c. Reboot
 - NVIDIA – SP30452
 - a. Run the SoftPaq
 - b. Follow the installation process
 - c. Reboot
- 14.** Modify the display settings to suit
- 15.** Install the Broadcom network drivers from SoftPaq SP30742.
 - d. Run the SoftPaq
 - e. Follow the installation process
- 16.** Reboot to finalize the installation.

Support Plan

HP support of Windows 2000 Professional SP4 is limited by the extent to which Microsoft will support this operating system.

Microsoft support

Windows 2000 Professional has entered the “Extended Support Phase” of its lifecycle as of June 30, 2005. It will enter “Non-Supported Phase” on June 30, 2010.

Please find phase definitions and specific information about Microsoft’s support for Windows 2000 products at this URL:

<http://support.microsoft.com/gp/lifewin>

HP support

All xw4300 system support provided by HP is subject to and governed by the terms and conditions pursuant to which you received the system and its related support package and options from HP.

Hardware support will be covered under the standard warranty and support or related upgrade option that was purchased with the system.

Software support for the HP xw4300 Workstation system running the Windows 2000 Professional SP4 environment will be provided on a “reasonable commercial efforts” basis, and may be discontinued or otherwise changed by HP at any time without notice. Users should retain the Windows XP Professional Recovery CDs which came with the system. In the event that it becomes difficult to determine whether a problem is based on a hardware or software defect, it may become necessary to reinstall the original factory software to complete this determination. In such cases, the Recovery CDs will need to be used to restore the original environment and complete the troubleshooting process.

Under most troubleshooting and support situations, “reasonable commercial efforts” support will resolve a support issue. Users should realize that currently Windows 2000 is in the “Extended Support Phase” (as defined by Microsoft in the URL above) and HP cannot escalate problems back to Microsoft on behalf of the user. The user may escalate problems back to Microsoft, but non-security-related problems require that the customer purchase a Windows 2000 Extended Hotfix Support Contract from Microsoft before September 30, 2005. Once the “Non-Supported Phase” (as defined by Microsoft in the URL above) is reached, neither HP nor the user can escalate back to Microsoft. In both phases, if a problem has been isolated to the operating system, HP will use reasonable commercial efforts to find a work around, but can not guarantee that such an issue will be resolved or resolved to the user’s satisfaction. If an issue is isolated to a driver, HP will escalate such issues to the hardware vendor. The time it takes to resolve issues escalated to hardware vendors will depend on the hardware vendor’s responsiveness and not on HP.