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integration note
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upgrading to Microsoft Windows Server 2003 on ProLiant servers

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abstract

This integration note provides system engineers and network administrators with tested information to upgrade successfully from Microsoft® Windows NT® 4.0 and Microsoft® Windows® 2000 to Microsoft® Windows® Server 2003 on HP ProLiant servers. This document includes information on planning, preparing, and upgrading the operating system to Windows Server 2003.

The focus of this document does not include installing new installations of Windows Server 2003. For information of this nature, refer to the integration note titled *implementing Microsoft Windows Server 2003 on ProLiant servers*. This document and others pertaining to Windows Server 2003 can be found on the HP Windows Server 2003 website at

<http://h18001.www1.hp.com/partners/microsoft/windowsserver2003/support.html>.

symbols in text

The following symbols can be found in the text of this document:



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



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



Text set off in this manner contains tips that make it easier to perform a certain task.

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

planning the upgrade

Microsoft Windows Server 2003 is the next generation Windows operating system that takes the best of Windows Server 2000 technology and makes it easier for you to deploy, manage, and use. To effectively plan for the change, you need to understand the differences between your current configuration and your Windows Server 2003 configuration. Moving from Windows NT 4.0, 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.

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 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 Server 2003 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 in use elsewhere in your organization that are more likely to be compatible with Windows Server 2003? Take time to investigate Windows Server 2003, your hardware, and your applications.



Microsoft developed the Application Compatibility Toolkit to help users determine which applications in their environments support Windows Server 2003. You can obtain the associated white paper and download the utility from the Microsoft website at www.microsoft.com/windowsserver2003/compatible/appcompat.mspx.

Establish functional teams with experts in directory services, administration and management, core operating system (OS), networking, applications, and hardware compatibility. Have these teams evaluate Windows Server 2003. 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 4.0 and/or Windows 2000 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 Server 2003 as seen in Table 1.

table 1. supported upgrade paths

current server operating system	upgraded server operating system
Windows 2000 Server	Windows Server 2003, Standard Edition
Windows 2000 Advanced Server	Windows Server 2003, Enterprise Edition
Windows 2000 Datacenter Server	Windows Server 2003, Datacenter Edition
Windows NT 4.0 Server	Windows Server 2003, Standard Edition
Windows NT 4.0 Enterprise Server	Windows Server 2003, Enterprise Edition



IMPORTANT: You must move to an equivalent or higher operating system during the upgrade. Downgrading to a less powerful operating system is not recommended.

Also, while upgrading from Release Candidate 1 or Release Candidate 2 to RTM (or the final OS release) is possible, it is not a supported scenario unless you have a pre-existing agreement with Microsoft to support your upgrades from beta to RTM. Note that Techbeta agreements do not include support for that upgrade path. Microsoft strongly recommends that you clean install this build.

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 [HP Windows Server 2003 website](#) on a regular basis for new information. [HP Services](#) can help you plan your upgrade to Windows Server 2003.

Reasons to upgrade or to perform a new installation and other useful planning resources are available at the following areas of the Microsoft website:

- **for existing Windows 2000 environments:**
www.microsoft.com/windowsserver2003/evaluation/whyupgrade/win2k/w2ktows03-2.msp.
- **for existing Windows NT 4.0 environments:**
www.microsoft.com/windowsserver2003/evaluation/whyupgrade/nt4/default.msp.

preparing for the upgrade

To prepare for a successful upgrade, it is important to ensure that your server meets the system configuration and supported platform requirements and you have all of the software and tools necessary to complete the tasks at hand. The following sections provide guidelines to help prepare you for this endeavor.

recommended system configuration

Table 2 lists the recommended minimum system configuration established by Microsoft for Windows Server 2003. Make sure that your server meets the requirements of the Windows Server 2003 edition you are upgrading to and that it is one of the servers listed in appendix a of this document.

The recommendations listed here pertain to the Windows Server 2003 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.

table 2. recommended minimum system configuration for Windows Server 2003

parameter	Web Edition	Standard Edition	Enterprise Edition	Datacenter Edition
processor	550 MHz	550 MHz	733 MHz	733 MHz
RAM	256 MB	256 MB	256 MB	1 GB
monitor	VGA or higher resolution	VGA or higher resolution	VGA or higher resolution	VGA or higher resolution
available disk space ¹	1.5 GB	1.5 GB	1.5 GB for x86-based computers	1.5 GB for x86-based computers
<p>Note 1: 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 Server 2003 CD contents to the hard disk during installation.</p> <p>Note 2: For the latest system requirements for each of the four editions of the Windows Server 2003 family, visit www.microsoft.com/windowsserver2003/evaluation/sysreqs/default.msp.</p>				

upgrade checklist

Before you begin the upgrade, ensure that you have access to the support software and other tools detailed in Table 3.

table 3. upgrade checklist

√	description	comments	location
	Options ROMPaq	By option	http://h18007.www1.hp.com/support/files/server/us/index.html
	SmartStart CD	Release 6.30 or later	http://h18023.www1.hp.com/support/files/server/us/smartstartinfo.html
	ProLiant Support Pack for Windows 2000	Release 6.30A	http://h18023.www1.hp.com/support/files/server/us/locate/1989.html
	System Configuration Utility	Provided on the SmartStart for Servers CD Release 5.50 (or earlier) and on the HP website	http://h18023.www1.hp.com/support/files/server/us/locate/1950.html
	System ROMPaq	By server	http://h18023.www1.hp.com/support/files/server/us/romtabl.html
	HP Smart Array Multipath Software Version 2.0	For customers with multipath hardware	www.hp.com/products/sharedstorage
	HP Windows Server 2003 website	For the latest information	http://h18001.www1.hp.com/partners/microsoft/windowsserver2003/support.html
	Internet access	For system updates	
	Minimum requirements met		See the "recommended system configuration" section.
	Platforms supported		See appendix a.
	Sufficient backup media	Enough for a full backup and in excellent condition	
	Windows 2000 Primer Utility	Erases non-compatible ProLiant utilities	http://h18023.www1.hp.com/support/files/server/us/download/10776.html
	Windows Server 2003 CD		See the "planning the upgrade" section for the upgrade path requirements before trying to upgrade to Windows Server 2003.
	Windows 2003 support on third-party hardware	For hardware supported	http://www.microsoft.com/hcl/default.asp

upgrading from Windows NT 4.0

The procedures detailed in this section support upgrading from Windows NT 4.0 to Windows Server 2003 on ProLiant servers. Follow the prerequisites and choose either of the installation paths to complete the upgrade: (1) manual install or (2) unattended/scripted install.

During a manual upgrade from Window NT 4.0, there are five drivers that produce a warning (cpqcisce, cpqdaen, cpqfcac, prlntss and cpqfcfr), if installed. With an unattended/scripted install, these warnings do not stop or hinder the upgrade.

prerequisites

Follow the steps below to prepare for a successful upgrade.

1. Select a supported system platform from the server platforms listed in appendix a.
2. Download the Primer Utility from the following website:
<http://h18023.www1.hp.com/support/files/server/us/download/10776.html>. The Primer Utility removes previously installed utilities not supported under Windows 2000 or Windows Server 2003.
3. Extract the file on the system that you want to upgrade.
4. Read the Help file if you have any questions regarding this utility.
5. Execute *PRIMER.EXE* to run this utility. Then, reboot the server.
6. Use the ROM-Based Setup Utility (RBSU) or the System Configuration Utility to set the OS to **Microsoft Windows 2000/Windows .NET**. If there is a selection for Microsoft Windows Server 2003, choose this option instead.
7. Choose either of the following installation paths and proceed to the associated section to complete the upgrade:
 - manual install
 - unattended/scripted install

manual install

After completing the tasks identified in the prerequisites section, continue the upgrade, as follows, to perform a manual install:

1. Insert the Windows Server 2003 CD and start the upgrade within the Windows NT 4.0 operating system.



CAUTION: If you boot from the Windows Server 2003 CD, the CD will perform a clean install, not an upgrade.

2. Accept the End User License agreement and enter the license key provided by Microsoft.
3. Click **Next** and the installation will continue.

4. After Windows Server 2003 has been installed, install the Simple Network Management Protocol (SNMP), if you want to use the functionality of the ProLiant Management Agents.
 - Select the **Control Panel** from the Start menu.
 - Select **Add/Remove Programs**.
 - Click the **Add/Remove Windows Components** button.
 - Select **Management and Monitoring Tools** from the list of components.
 - Click the **Details** button.
 - Select **Simple Network Management Protocol** so that a checkmark is displayed in the checkbox.
 - Click the **OK** button and then the **Next** button.
 - Click the **Finish** button.
5. Download and install the latest ProLiant Support Pack (PSP) from HP website:
<http://h18001.www1.hp.com/partners/microsoft/windowsserver2003/support.html>.

unattended/ scripted install

After completing the tasks identified in the prerequisites section, for an unattended install, create an answer file (*UNATTEND.TXT*) and a distribution point (I386 folder) where you can save all the necessary files for installation.

Microsoft offers a utility, *SETUPMGR.EXE* that allows you to create an answer file and helps you set up a distribution point. For additional information, refer to the following Microsoft document: [HOW TO: Use Setup Manager to Create an Answer File in the Windows Server Family \(Q323438\)](#).



CAUTION: Make sure you add the following line in the unattended section of the *UNATTEND.TXT* file.

```
[UNATTEND]
NtUpgrade=Yes
```

Note: If you do not add this line, then Setup will continue with a fresh install, not an upgrade.

CAUTION: If you are using the *OEMPreinstall* flag with the *UNATTEND.TXT* file, remove the following:

```
[UNATTEND]
OEMPREINSTALL=YES
```

Note: Upgrades may fail if the *OEMPREINSTALL=YES* option is enabled.

Depending on the requirement for the applications being installed, a system administrator can write a very detailed script file to perform many tasks. In our scenario, HP engineers created two batch files that performed a fully automated upgrade by performing the following steps:

1. Allow administrator to log on without entering the password.
2. Launch the upgrade (*WINNT32.EXE*) from the distribution point/server.

3. Provide the license key provided by Microsoft and other necessary information until the installation completes.
4. If you want to use the functionality of the ProLiant Management Agents, install the Simple Network Management Protocol (SNMP) as follows:
 - Select the **Control Panel** from the Start menu.
 - Select **Add/Remove Programs**.
 - Click the **Add/Remove Windows Components** button.
 - Select **Management and Monitoring Tools** from the list of components.
 - Click the **Details** button.
 - Select **Simple Network Management Protocol** so that a checkmark is displayed in the checkbox.
 - Click the **OK** button and then the **Next** button.
 - Click the **Finish** button.
5. Download and install the latest ProLiant Support Pack (PSP) from HP website:
<http://h18001.www1.hp.com/partners/microsoft/windowsserver2003/support.html>.

**upgrading
from
Windows
2000
prerequisites**

The procedures detailed in this section support upgrading from Windows 2000 to Windows Server 2003 on ProLiant servers.

When upgrading from Windows 2000 with NIC teaming installed and active, an issue with a .DLL file that halts the manual install exists. This issue is not seen during an unattended/scripted install.

Follow the steps below to prepare for a successful upgrade.

1. Select a supported system platform from the server platforms listed in appendix a.
2. Double-click on **My Computer**, then select **Help** from the menu bar and click on the **About Windows** option. Verify whether the system has the latest Microsoft Service Pack installed. If this is not the case, download the latest service pack from the Microsoft website (www.microsoft.com/windows2000/downloads/servicepacks/sp3/default.asp) and install it on your server. This action ensures that the server has the latest software components Microsoft supplied prior to the upgrade.
3. Download and install ProLiant Support Pack for Microsoft Windows 2000 Version 6.30A from the software and drivers website at <http://h18023.www1.hp.com/support/files/server/us/locate/1989.html>. This action ensures that all drivers and utilities provided by HP are suitable for upgrading to Windows Server 2003.



IMPORTANT: Failure to update drivers provided by HP before beginning the upgrade process might result in unexpected failures during the upgrade to Windows Server 2003.

4. If Compaq Network Teaming is installed, unteam currently teamed network interface controllers prior to the upgrade.
5. If installed, uninstall HP Smart Array Multipath Software Version 1.0 before proceeding with either upgrade method.
 - Select the **Control Panel** from the Start | Settings menu.
 - Select **Add/Remove Programs**.
 - Select **Compaq Smart Array Redundancy Filter Driver** from the list of components.
 - Click the **Change/Remove** button.
 - Click the **OK** button.
 - Click the **Cancel** button.
 - Shut down the server.
 - Disconnect the SCSI cable from the redundant Host Bus Adapter (HBA).
6. Choose either of the following installation paths and proceed to the associated section to complete the upgrade:
 - manual install
 - unattended/scripted install

manual install

After completing the tasks identified in the prerequisites section, continue the upgrade, as follows, to perform a manual install:

1. Insert the Windows Server 2003 CD into CD-ROM drive to begin installation. Follow all instructions for upgrading the server.
2. When prompted, choose to **download updated setup files from Microsoft**.

You will then get two yellow bangs (which is expected and should not halt the upgrade from going forward). One message tells you that Internet Information Services (IIS) is going to be disabled during the upgrade, and the other message is for the Fax service.

The upgrade proceeds through copying the install files, and then reboots the server. The install continues smoothly through the following phases: preparing installation, installing Windows, and installing devices.

If you have Compaq Network Teaming installed, see the information below:

- During the Installing Network phase, the installation stops (approximately with 32 minutes left of the install to complete) and a dialog pops up specifying Insert Disk (see actual message below).

Please insert the compact Disk labeled 'Compaq Network Teaming Disk' into your CD-ROM and then click 'OK'.

- When dialog pops up, click **Cancel** for the installation to proceed. After this point, the installation proceeds uninterrupted until it is complete.

3. Install ProLiant Support Pack (PSP) for Microsoft Windows Server 2003 Version 6.30A (or later), which is available at <http://h18001.www1.hp.com/partners/microsoft/windowsserver2003/support.html>. The PSP contains numerous files. All files must be present in the same directory as the *SETUP.EXE* program for the PSP to be installed properly.

Note: During the PSP installation, the HP ProLiant Network Teaming and Configuration for Windows Server 2003 utility will be installed. Use this utility to reteam your network interface controllers if you were previously using network teaming.

4. If HP Smart Array MultiPath Software Version 1.0 was uninstalled prior to the upgrade, install HP Smart Array MultiPath Software Version 2.0. Then, reconnect the SCSI cable to the redundant HBA.

unattended/ scripted install

After completing the tasks identified in the prerequisites section, continue the upgrade, as instructed below to perform an unattended/scripted install:

1. Using *SETUPMGR.EXE*, create a distribution on a remote server (or any server that does not contain the OS being upgraded). The *SETUPMGR.EXE* program can be found in `\support\tools\deploy.cab` of the Windows Server 2003 CD.
2. Choose **Completely Unattended Install** and proceed through the Setup Wizard until it completes.
 - Add the following in the [UNATTEND] section of the *UNATTEND.TXT* file:

```
[UNATTEND]
NTUpgrade=Yes
```



CAUTION: The *UNATTEND.TXT* file created must be modified to allow unattended upgrade installs. If you do not put the string specified above into the file, the install will automatically default to a clean install.

- If you are using the OEMPreinstall flag with the *UNATTEND.TXT* file, remove the following:

```
[UNATTEND]
OEMPREINSTALL=YES
```

Note: Upgrades may fail if the OEMPREINSTALL=YES option is enabled.

3. Start the unattended upgrade. Copy the *UNATTEND.TXT* file and *UNATTEND.BAT* file created in steps 1 and 2 to the server you are planning to upgrade.

Note: If the upgrade is being performed over the network, the *UNATTEND.TXT* and *UNATTEND.BAT* files need to run off of the local server that is being upgraded.

4. Verify that you have network connectivity so that you can run and install the files off the network. Also, verify that you have the correct privileges to run from the Windist folder. (This should have been configured when you ran *SETUPMGR.EXE*, but should be verified.)

5. Execute *UNATTEND.BAT* locally. There will be a brief pause, but then the graphical user interface (GUI) should run and proceed with no interruptions if everything was set correctly when you ran the *SETUPMGR.EXE* file and modified the *UNATTEND.TXT* file. The server should reboot once.
6. Pay close attention to the *BOOT.INI* options that pop up. Verify that the installation is performing an upgrade and not a clean install at this point.
7. After the upgrade has completed and you are logged into Windows Server 2003, install Version 6.30 of the ProLiant Support Pack (PSP) for Microsoft Windows Server 2003, which is available at <http://h18001.www1.hp.com/partners/microsoft/windowsserver2003/support.html>. The PSP contains numerous files. For the PSP to be installed properly, all files must be present in the same directory as the *SETUP.EXE* program.
8. If HP Smart Array MultiPath Software Version 1.0 was uninstalled prior to the upgrade, install HP Smart Array MultiPath Software Version 2.0. Then, reconnect the SCSI cable to the redundant HBA.

appendix a: supported servers

All ProLiant servers with Pentium III and Pentium III Xeon and later processors are supported and will be qualified by HP with Windows Server 2003. This includes all ProLiant ML, DL, and BL server models.

From the following families, only select legacy servers that meet the Pentium III and Pentium III Xeon and later processors criteria are supported.

- ProLiant 3000
- ProLiant 5500
- ProLiant 6000
- ProLiant 6400r
- ProLiant 6500
- ProLiant 7000
- ProLiant 8000
- ProLiant 8500

**appendix b:
known
issues with
workarounds**

This section details the known issues with installing Windows Server 2003 on ProLiant servers and provides information about resolving them.

table 4. known issues

**networking
issues**

issue 1		A Windows 2000 manual upgrade to Windows Server 2003 prompts message reporting the need for CPQTEAM.DLL.
description	While manually upgrading to Windows Server 2003 from Windows 2000 Server, a message pops up informing the user that <i>CPQTEAM.DLL</i> is needed.	
workaround	To continue with the upgrade, select Cancel on the popup message. After Windows Server 2003 has been installed, install the ProLiant Support Pack for Microsoft Windows Server 2003.	
solution	HP engineers are working with Microsoft to resolve this issue.	

storage issues

issue 2		HP Smart Array Multipath Software Version 1.0 is not compatible with Windows Server 2003.
description	HP Smart Array Multipath Software Version 1.0 must be uninstalled prior to upgrading to Windows Server 2003 to avoid incompatibility issues.	
workaround	See solution.	
solution	Uninstall HP Smart Array Multipath Software Version 1.0 prior to the OS upgrade. Once the Windows Server 2003 upgrade and the ProLiant Support Pack installation are complete, install HP Smart Array Multipath Software Version 2.0 (or later).	
issue 3		Software fault tolerant volumes (dynamic disks) fail during driver upgrade or rollback.
description	When a device driver is updated for a device containing dynamic disks, the software fault tolerant volumes located on these dynamic disks will fail and will require regeneration.	
workaround	No workaround is available at this time.	
solution	Scheduled to be fixed in a later Microsoft operating system release.	
issue 4		Upgrading miniport driver for secondary device requires reboot.
description	When a device driver for a secondary device is updated, the Windows Server 2003 operating system may request a reboot.	
workaround	Reboot the server as prompted.	
solution	Scheduled to be fixed in a later Microsoft operating system release.	

system health issues

issue 5		Startup and Recovery Server options revert back to default settings after an upgrade.		
description	Startup and Recovery Server options modified from default settings will automatically revert back to the default settings after upgrading from Windows 2000 Advanced Server to Windows Server 2003, Enterprise Edition (see the sample setting modifications below).			
	options	default setting	modified setting before upgrade	setting after upgrade
	automatically restart	enabled	disabled	enabled
	writing debugging information	complete memory dump	small memory dump (64kb)	complete memory dump
workaround	See solution.			
solution	This operating system feature works as designed.			
issue 6		ProLiant Advanced System Management Controller Driver for Microsoft Windows Server 2003 (CPQASM.SYS) will not load on the ProLiant 3000, 5500, or 6500.		
description	<p>The ProLiant Advanced System Management Controller Driver for Microsoft Windows Server 2003 (CPQASM.SYS) will not load on the ProLiant 3000, 5500, or 6500. The Windows Server 2003 version of this driver depends on ACPI support, and these ProLiant models do not support ACPI. Other components that depend on this driver may fail to load or may not provide full functionality.</p> <p>The following message will be displayed in CPQSETUP.LOG after the driver is installed:</p> <pre style="background-color: #f0f0f0; padding: 5px;">Name: hp ProLiant Advanced System Management Controller Driver for Windows Server 2003 New Version: 5.30.3718.0 Beginning Silent Session... The software is not installed on this system, but is supported for installation. - the component will be installed Installation failed on at least one device. One of the devices may have been deleted through Device Manager and a reboot may be necessary to complete the driver installation for this device. The operation was not successful.</pre>			

	Opening Device Manager will show a “yellow bang” on the HP ProLiant Advanced System Management Controller. Examining the properties for this device will show the following message: <code>Windows cannot load the device driver for this hardware. The driver may be corrupted or missing. (Code 39)</code>
workaround	Install version 5.30.2195.1 (or later) of the ProLiant Advanced System Management Controller Driver for Microsoft Windows 2000. The Windows 2000 version of this driver does not have a dependency on ACPI support and provides the same functionality on the affected systems as the Windows Server 2003 version of the driver.
solution	A Windows Server 2003 driver will be available shortly at the following location: http://h18001.www1.hp.com/partners/microsoft/windowsserver2003/support.html .

for more information

For more information about the Windows Server 2003 program, visit the Windows Server 2003 support page at <http://h18001.www1.hp.com/partners/microsoft/windowsserver2003/support.html> and the Microsoft website (www.microsoft.com/).

feedback

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